SAFETY COMPLIANCE TESTING FOR
FMVSS NO. 202aS
HEAD RESTRAINTS – STATIC REQUIREMENTS

MAZDA MOTOR CORPORATION
2010 MAZDA 6, PASSENGER CAR
NHTSA NO. CA5403

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

August 30, 2010
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
### Abstract

Compliance tests were conducted on the subject, 2010 Mazda 6 4-door Passenger Car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-202aS-00 for the determination of FMVSS 202a compliance. Test failures identified were as follows:

NONE

### Key Words

Compliance Testing  
Safety Engineering  
FMVSS 202aS

### Distribution Statement

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1200 New Jersey Ave., S.E.  
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Telephone No. (202) 366-4947
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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF COMPLIANCE TEST

A 2010 Mazda 6 Passenger Car was subjected to Federal Motor Vehicle Safety Standard (FMVSS) No. 202a testing to determine if the vehicle was in compliance with the requirements of the standard. The purpose of this standard is to establish requirements for head restraints to reduce the frequency and severity of neck injury in rear end and other collisions.

1.1 The test vehicle was a 2010 Mazda 6 Passenger Car. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 1YVHZ8CH1A5M27369

B. NHTSA No.: CA5403

C. Manufacturer: MAZDA MOTOR CORPORATION

D. Manufacture Date: 12/09

E. Color: Black

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 202a testing during the time period July 07 through July 27, 2010.
SECTION 2

COMPLIANCE TEST RESULTS

2.0 TEST RESULTS

All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedures, TP-202aS-00 dated 22 December 2004.

Based on the test performed, the 2010 Mazda 6 Passenger Car appeared to meet the requirements of FMVSS 202a testing.
SECTION 3
COMPLIANCE TEST DATA

3.0 TEST DATA

The following data sheets document the results of testing on the 2010 Mazda 6 Passenger Car.
SUMMARY OF RESULTS

VEH. MOD YR/MAKE/MODEL/BODY STYLE: 2010 MAZDA 6 PASSENGER CAR

VEH. NHTSA NO.: CA5403; VIN: 1YVHZ8CH1A5M27369

VEH. BUILD DATE: 12/09; TEST DATE: July 7-27, 2010

TEST LABORATORY: GENERAL TESTING LABORATORIES

OBSERVERS: G. FARRAND, J. LATANE

A. VISUAL INSPECTION OF TEST VEHICLE

Upon receipt for completeness, function, and discrepancies or damage which might influence the testing.

RESULTS: OK for testing. Due to manufacture date of vehicle, rear DSP’s are not required to meet 202a requirements.

B. DIMENSIONAL REQUIREMENTS

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C. OWNER’S MANUAL

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E. NON-USE POSITION

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### SUMMARY OF RESULTS

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| **G. HEIGHT RETENTION TEST** | ^              |                  |                          |
|                             | _____________| ______          | ______                |
|                             | _____________| ______          | ______                |
|                             | ______      | ______          | ______                |

| **H. BACKSET RETENTION TEST** |                  |                  |                          |
|                              | _____________ | ______          | ______                |
|                              | ______      | ______          | ______                |
|                              | X           | ______          | ______                |

RECORDED BY:  G. FARRAND  
DATE:  07/27/10  
APPROVED BY:  D. MESSICK
DIMENSIONAL REQUIREMENTS FOR ADJUSTABLE HEAD RESTRAINTS

VEH. NHTSA NO.: CA5403 TEST DATE: 07/07/10

Seat Location: FRONT DRIVER

Height Measurement

SAE J826 three-dimensional manikin torso angle: 24°

Striker to H-Point (mm): 160 mm Striker to H-Point angle: Down

Position the head restraint in the highest position of vertical adjustment.

Height, Hh (mm): 841 mm

Hh > or = 800 mm for front seats.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere. N/A

Position the head restraint in the lowest position of vertical adjustment.

Height, Hl (mm): 795 mm

Hl > or = 750 mm for front seats and rear seats with head restraints.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere. N/A

Width Measurement

If the manikin is moved between the Height measurement and the Width measurement, re-record the torso angle, striker to H-Point distance and angle.

Position the head restraint in the highest position of vertical adjustment.

Width is measured 65 mm below the measured Height, Hh.

Height, Hw (= Hh – 65): 776 mm

Width, W (mm): 211 mm

Width must be greater than or equal to 170 mm. If a vehicle has a front center designated seating position the front outboard head restraints must be greater than or equal to 254 mm. N/A
Backset Measurement (Front Head Restraints Only)

Position the HRMD and record the following measurements.

HRMD torso angle: 24°

Striker to H-Point (mm): 159 mm  Striker to H-Point angle: Down

Position the head restraint at a height greater than or equal to 750 mm and less than or equal to 800 mm for front head restraints. Exception: head restraint with lowest position higher than 800 mm, adjust to lowest position.

Backset, B (mm): 47 mm  X  PASS  FAIL

Backset must be less than or equal to 55 mm.

Gap Measurement

Position the head restraint in the lowest position of vertical adjustment.

Number of gaps within the gap measurement zone: One

Least dimension of each gap (measured with a steel tape): 25 mm

Size of each gap (as measured with the spherical head form):

Gap Size N/A  X  PASS  FAIL

Gaps must be less than or equal to 60 mm.

REMARKS:

RECORDED BY: G. FARRAND  DATE: 07/08/10
APPROVED BY: D. MESSICK
DATA SHEET 2a(1 of 2)
DIMENSIONAL REQUIREMENTS FOR ADJUSTABLE HEAD RESTRAINTS

VEH. NHTSA NO.: CA5403 TEST DATE: 07/08/10

Seat Location: FRONT PASSENGER

Height Measurement

SAE J826 three-dimensional manikin torso angle: 24°

Striker to H-Point (mm): 159 mm (Ahead) Striker to H-Point angle: Down

Position the head restraint in the highest position of vertical adjustment.
Height, Hh (mm): 850 mm

PASS  FAIL

Hh > or = 800 mm for front seats.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere. N/A

Position the head restraint in the lowest position of vertical adjustment.
Height, Hl (mm): 805 mm

PASS  FAIL

Hl > or = 750 mm for front seats and rear seats with head restraints.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere. N/A

Width Measurement

If the manikin is moved between the Height measurement and the Width measurement, re-record the torso angle, striker to H-Point distance and angle.

Position the head restraint in the highest position of vertical adjustment.

Width is measured 65 mm below the measured Height, Hh.

Height, Hw (= Hh – 65): 785 mm

Width, W (mm): 215 mm

PASS  FAIL

Width must be greater than or equal to 170 mm. If a vehicle has a front center designated seating position the front outboard head restraints must be greater than or equal to 254 mm. N/A
Backset Measurement (Front Head Restraints Only)

Position the HRMD and record the following measurements.

HRMD torso angle: 24.4°

Striker to H-Point (mm): 159 mm Striker to H-Point angle: Down

Position the head restraint at a height greater than or equal to 750 mm and less than or equal to 800 mm for front head restraints. Exception: head restraint with lowest position higher than 800 mm, adjust to lowest position.

Backset, B (mm): 53 mm X PASS

Backset must be less than or equal to 55 mm.

Gap Measurement

Position the head restraint in the lowest position of vertical adjustment.

Number of gaps within the gap measurement zone: One

Least dimension of each gap (measured with a steel tape): 25 mm

Size of each gap (as measured with the spherical head form):

Gap Size N/A X PASS

Gaps must be less than or equal to 60 mm.

REMARKS:

RECORDED BY: G. FARRAND DATE: 07/08/10
APPROVED BY: D. MESSICK
DATA SHEET 2a (1 of 2)
DIMENSIONAL REQUIREMENTS FOR ADJUSTABLE HEAD RESTRAINTS

VEH. NHTSA NO.: CA5403
TEST DATE: 07/07/10

Seat Location: REAR DRIVER

Height Measurement

SAE J826 three-dimensional manikin torso angle: 26.8°

Striker to H-Point (mm): 283 mm
Striker to H-Point angle: Down

Position the head restraint in the highest position of vertical adjustment.
Height, Hh (mm): 798 mm
X PASS

Hh > or = 800 mm for front seats.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere. N/A

Position the head restraint in the lowest position of vertical adjustment.
Height, Hl (mm): 750 mm
X PASS

Hl > or = 750 mm for front seats and rear seats with head restraints.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere. N/A

Width Measurement

If the manikin is moved between the Height measurement and the Width measurement, re-record the torso angle, striker to H-Point distance and angle.

Position the head restraint in the highest position of vertical adjustment.

Width is measured 65 mm below the measured Height, Hh.

Width, W (mm): 194 mm
X PASS

Width must be greater than or equal to 170 mm. If a vehicle has a front center designated seating position the front outboard head restraints must be greater than or equal to 254 mm. N/A
Backset Measurement (Front Head Restraints Only)

Position the HRMD and record the following measurements.

HRMD torso angle: __________

Striker to H-Point (mm): __________  Striker to H-Point angle: _______

Position the head restraint at a height greater than or equal to 750 mm and less than or equal to 800 mm for front head restraints. Exception: head restraint with lowest position higher than 800 mm, adjust to lowest position.

Backset, B (mm): ________________  ________PASS ________FAIL

Backset must be less than or equal to 55 mm.

Gap Measurement

Position the head restraint in the lowest position of vertical adjustment.

Number of gaps within the gap measurement zone: None

Least dimension of each gap (measured with a steel tape): N/A

Size of each gap (as measured with the spherical head form):

Gap Size ________________ N/A ________  ________X ________PASS ________FAIL

Gaps must be less than or equal to 60 mm.

REMARKS:

RECORDED BY: G. FARRAND  DATE: 07/07/10
APPROVED BY: D. MESSICK
DATA SHEET 2a(1 of 2)
DIMENSIONAL REQUIREMENTS FOR ADJUSTABLE HEAD RESTRAINTS

VEH. NHTSA NO.: CA5403 TEST DATE: 07/08/10

Seat Location: REAR PASSENGER

Height Measurement

SAE J826 three-dimensional manikin torso angle: 26°

Striker to H-Point (mm): 282 mm (Ahead) Striker to H-Point angle: Down

Position the head restraint in the highest position of vertical adjustment.
Height, Hh (mm): 805 mm X PASS FAIL

Hh > or = 800 mm for front seats.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere. N/A

Position the head restraint in the lowest position of vertical adjustment.
Height, Hl (mm): 754 mm X PASS FAIL

Hl > or = 750 mm for front seats and rear seats with head restraints.

If the head restraint is less than the required height, check for passage of the 25 mm diameter sphere. N/A

Width Measurement

If the manikin is moved between the Height measurement and the Width measurement, re-record the torso angle, striker to H-Point distance and angle.

Position the head restraint in the highest position of vertical adjustment.
Width is measured 65 mm below the measured Height, Hh.

Height, Hw (= Hh – 65): 740 mm

Width, W (mm): 196 mm X PASS FAIL

Width must be greater than or equal to 170 mm. If a vehicle has a front center designated seating position the front outboard head restraints must be greater than or equal to 254 mm. N/A
Backset Measurement (Front Head Restraints Only)

Position the HRMD and record the following measurements.

HRMD torso angle: ________________

Striker to H-Point (mm): ____________ Striker to H-Point angle: ________

Position the head restraint at a height greater than or equal to 750 mm and less than or equal to 800 mm for front head restraints. Exception: head restraint with lowest position higher than 800 mm, adjust to lowest position.

Backset, B (mm): ________________ PASS ________FAIL

Backset must be less than or equal to 55 mm.

Gap Measurement

Position the head restraint in the lowest position of vertical adjustment.

Number of gaps within the gap measurement zone: None

Least dimension of each gap (measured with a steel tape): N/A

Size of each gap (as measured with the spherical head form):

Gap Size ______________ N/A ________ X _______PASS ________FAIL

Gaps must be less than or equal to 60 mm.

REMARKS:

RECORDED BY: G. FARRAND DATE: 07/08/10

APPROVED BY: D. MESSICK
Emphasize that all occupants should place their head restraint in a proper position prior to operating the vehicle in order to prevent the risk of serious injury.

**PASS** X **FAIL**

Description of the head restraint system and identification of which seats are equipped.

**PASS** X **FAIL**

If the head restraint is removable, instructions on how to properly remove and reinstall using a deliberate action distinct from any act necessary for adjustment.

**PASS** **FAIL** **N/A** X

Warning that all head restraints must be reinstalled properly to protect occupants.

**PASS** X **FAIL**

Describe the adjustment of the head restraints and/or seat back to achieve proper head restraint position relative the head. The description must include the following:

1) a presentation and explanation of the main components of the vehicle's head restraints

2) the basic requirements for proper head restraint operation, including an explanation of the actions that may affect the proper functioning of the head restraints.

3) the basic requirements for proper positioning of a head restraint in relation to an occupant’s head position, including information regarding the proper positioning of the center of gravity of an occupant’s head in relation to the head restraint.

**PASS** X **FAIL**

Include copies of relevant pages from the owner's manual in the final report.

**REMARKS:**
DATA SHEET 4
REMOVABILITY

VEH. NHTSA NO.: CA5403 TEST DATE: 07/08/10

Are the head restraints removable? YES X NO

If removable, does removal REQUIRE an action distinct from actions to adjust the head restraint? YES (PASS) NO (FAIL)

Description of action(s) for head restraint adjustment:

To raise head restraint, pull up on head restraint to desired position.

To lower head restraint, push in on the stop-catch release button and push down on the head restraint.

Description of distinct action for removal:

Head Restraints are not consumer removable.

REMARKS:

RECORDED BY: G. FARRAND DATE: 07/08/10

APPROVED BY: D. MESSICK
DATA SHEET 5
ENERGY ABSORPTION TEST

VEH. NHTSA NO.: CA5403  TEST DATE: 07/27/10

Seat Location: REAR DRIVER  Type of head restraint: ADJUSTABLE

Test Number: 6789

635 mm Height Measurement for lower boundary of the impact zone

SAE J826 three-dimensional manikin torso angle: 26°

Striker to H-Point (mm): 283 mm  Striker to H-Point angle: Down

Accelerometer identification: FZ03  Accelerometer type/brand: ENDEVCO

Last calibration date: 07/10

Head form vertical angle (-2° - +2°): 0.0

Distance between head form and target location (> or = 25 mm): 50 mm

Impact velocity (23.6 kph ± 0.5 kph): 23.9 KpH

Impact location: Centerline of head restraint, 695 mm above “H” point.

Maximum deceleration (< or = 785 m/s² (80 g)): 37.8  PASS  X  FAIL

REMARKS:

RECORDED BY: G. FARRAND  DATE: 07/27/10

APPROVED BY: D. MESSICK
DATA SHEET 6
HEIGHT RETENTION TEST
(ADJUSTABLE HEAD RESTRAINTS ONLY)

VEH. NHTSA NO.: _______ CA5403 _______ TEST DATE: _______ 07/26/10 _______

Seat Location: _______ DRIVER _______ Test Number: _______ 6783, 6784 _______

Pre-test measurements

SAE J826 Manikin torso angle: _______ 24° _______ Top of Head Restraint Height (mm): _______ 841 mm _______
Striker to H-Point (mm): _______ 160 mm _______ Striker to H-Point angle: _______ Down _______

Description of height retention lock: Push button release on left side head restraint post.

Test measurements

Initial load (50 N ± 1 N): _______ 50 N _______ Initial Displacement, D1 (mm): _______ 9.3 mm _______
Initial Displacement (D1) < 25 mm: _______ 9.3 mm _______

PASS _______ X _______ FAIL _______

Maximum load (495 N ± 5 N): _______ 495 N _______
Maximum Displacement, D2 (mm): _______ 30.4 mm _______

Return load (50 N ± 1 N): _______ 50 N _______
Return Displacement, D3 (mm): _______ 12.9 mm _______

Total displacement (D3-D1) < 13 mm: _______ 3.6 mm _______

PASS _______ X _______ FAIL _______

REMARKS:

RECORDED BY: _______ G. FARRAND _______
DATE: _______ 07/26/10 _______

APPROVED BY: _______ D. MESSICK _______
DATA SHEET 7
BACKSET RETENTION TEST

VEH. NHTSA NO.: CA5403
TEST DATE: 07/26/10

Seat Location: PASSENGER
Type of head restraint: ADJUSTABLE

Test Number: 6776, 6777, 6778, 6779

Pre-test measurements

SAE J826 Manikin torso angle: 24°
Top of Head Restraint Height (mm): 805 mm
Striker to H-Point (mm): 159 mm
Striker to H-Point angle: Down

Displacement torso reference line

Test device back pan angle: 24°

Distance from the H-point to the initial location of the load (0.290 ± 0.013 m): .29 m
Initial load (N): 1286 N
Initial moment (373 ± 7.5 Nm): 373 Nm

Backset retention and strength

Distance from the H-point to the head form tangency point (m): .74 m
Initial load (N): 50 N
Initial moment (37 ± 0.7 Nm): 37 Nm

Initial head form displacement, D1 (< or = 25 mm): 8.5 mm PASS X FAIL
Load range to generate a 373 ± 7.5 Nm rearward moment (N): 504 N
Actual load applied (N): 504N
Resultant moment (Nm): 373 Nm

Maximum Head form displacement, D2 (< or = 102 mm): 55.0 mm PASS X FAIL

Final head form displacement, D3 (mm): 19.4 mm measured at (37 ± 0.7 Nm)

Total displacement (D3-D1) < 13 mm : 10.9 mm PASS X FAIL

Maximum applied load (> or equal to 885 N): 885 N PASS X FAIL

REMARKS:

RECORDED BY: G. FARRAND
DATE: 07/27/10
APPROVED BY: D. MESSICK
## TABLE 1 – INSTRUMENTATION & EQUIPMENT LIST

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<thead>
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<th>EQUIPMENT</th>
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<th>MODEL/ SERIAL NO.</th>
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<td>02/10</td>
<td>02/11</td>
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<td>STRING POT WALDALE</td>
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<td>STRING POT CELESCO</td>
<td>69</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
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</table>
SECTION 5
PHOTOGRAPHS
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.2
RIGHT SIDE VIEW OF VEHICLE
2010 MAZDA 6  
NHTSA NO. CA5403  
FMVSS NO. 202a

FIGURE 5.3  
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.4
¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE
MFD. BY AUTO ALLIANCE INTERNATIONAL, INC.
FOR MAZDA MOTOR CORPORATION
MADE IN U.S.A.

DATE: 12/09
GVWR: 4400LB/1996KG
FRONT GAWR: 2350LB/1066KG
REAR GAWR: 2059LB/934KG

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

VIN: 1YVHZ8CH1A5M27369
TYPE: Passenger Car

EXT PNT: NN
WB     BRK     INT TR     TP/PS     RC     AXLE     TR     DSO
1200912163022     ZFP     △F85B-1520472-AB
**TIRE AND LOADING INFORMATION**

RENSEIGNEMENTS SUR LES PNEUS ET LE CHARGEMENT

<table>
<thead>
<tr>
<th>SEATING CAPACITY</th>
<th>TOTAL</th>
<th>FRONT</th>
<th>REAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOMBRÉ DE PLACES</td>
<td>5</td>
<td>2</td>
<td>3</td>
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</tbody>
</table>

The combined weight of occupants and cargo should never exceed 385 kg or 850 lbs.

<table>
<thead>
<tr>
<th>TIRE PNEU</th>
<th>SIZE DIMENSIONS</th>
<th>COLD TIRE PRESSURE</th>
<th>PRESSION DES PNEUS À FROID</th>
<th>SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION</th>
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<td>FRONT AVANT</td>
<td>P215/55R17</td>
<td>220 kPa, 32 psi</td>
<td>220 kPa, 32 psi</td>
<td>VOIR LE MANUEL DE L'USAGER POUR PLUS DE RENSEIGNEMENTS</td>
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<td>REAR ARRIÈRE</td>
<td>P215/55R17</td>
<td>220 kPa, 32 psi</td>
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<td>SPARE DE SECOURS</td>
<td>T115/70D16</td>
<td>420 kPa, 60 psi</td>
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FIGURE 5.6
VEHICLE TIRE INFORMATION LABEL
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.7
PRE-TEST VIEW OF DRIVER SEAT HEAD RESTRAINT IN HIGHEST POSITION
FIGURE 5.10
PRE-TEST VIEW OF PASSENGER SEAT HEAD RESTRAINT IN LOWEST POSITION
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.12
PRE-TEST REAR DRIVER HEAD RESTRAINT IN HIGHEST POSITION
FIGURE 5.13
PRE-TEST REAR DRIVER HEAD RESTRAINT IN LOWEST POSITION
FIGURE 5.14
PRE-TEST REAR PASSENGER HEAD RESTRAINT IN HIGHEST POSITION
FIGURE 5.16
WIDTH MEASUREMENT ON FRONT DRIVER SEAT HEAD RESTRAINT
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.17
WIDTH MEASUREMENT ON FRONT PASSENGER SEAT HEAD RESTRAINT
FIGURE 5.19
WIDTH MEASUREMENT OF REAR PASSENGER SEAT HEAD RESTRAINT
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.20
SAE J826 MANIKIN IN FRONT DRIVER SEAT
FIGURE 5.22
MEASUREMENT OF FRONT DRIVER SEAT BACKSET
FIGURE 5.23
SAE J826 MANIKIN IN FRONT PASSENGER SEAT
2010 MAZDA 6
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FMVSS NO. 202a

FIGURE 5.24
HRMD IN FRONT PASSENGER SEAT
FIGURE 5.25
MEASUREMENT OF FRONT PASSENGER SEAT BACKSET
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.26
SAE J826 MANIKIN IN REAR DRIVER SEAT
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.27
SAE J826 MANIKIN IN REAR PASSENGER SEAT
FIGURE 5.29
HEAD RESTRAINT AT INITIAL 50 N LOAD
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.31
HEAD RESTRAINT AT POST 50 N LOAD
FIGURE 5.34
BACK PAN LOADED TO 373 Nm
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.35
HEAD FORM AT INITIAL 37 Nm LOAD
FIGURE 5.36
HEAD FORM AT 373 Nm LOAD
FIGURE 5.37
HEAD FORM AT POST 37 Nm LOAD
2010 MAZDA 6
NHTSA NO. CA5403
FMVSS NO. 202a

FIGURE 5.39
HEAD RESTRAINT POST TEST
FIGURE 5.40
PRE-TEST SET-UP FOR ENERGY ABSORPTION
FIGURE 5.41
POST TEST HEAD RESTRAINT FOR ENERGY ABSORPTION
SECTION 6
TEST PLOTS
GTL 6784
202, Head Restraint Retention, Vertical

Time in Seconds

Force in Newtons/Disp. in Mm/10
GTL 6785
202, Head Restraint Retention, Back Pan

Force in Newtons/Disp. in MM/10

(Thousands)

Time in Seconds
GTL 6787
202, Head Restraint Retention, Headform

Force in Newtons/Disp. in MM

Time in Seconds
GTL 6788
202, Head Restraint Retention, Headform

![Graph showing force in Newtons/Disp. in MM/10 vs time in seconds.](image-url)
Head Restraints
Head restraints are intended to help protect you and the passengers from neck injury.

**WARNING**
Always drive with the head restraints installed when seats are being used and make sure they are properly adjusted:
- Driving with the head restraints adjusted too low or removed is dangerous. With no support behind your head, your neck could be seriously injured in a collision.

Height adjustment
To raise a head restraint, pull it up to the desired position.
To lower the head restraint, press the stop-release, then push the head restraint down.
Adjust the head restraint so that the top is even with the top of the passenger's ears, never the passenger's neck to prevent injury.

Front seat

Rear seat