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DATA SHEET 1
COTR Vehicle Work Order

Vehicle model year, make, and model _____

NHTSA no. _____ Date _____

COTR signature _____

Tests to be performed for this vehicle are checked below.

- 1. Rear outboard seating position seat belts (S4.1.4.2(b) & (S4.2.4))
- 2. Air bag labels (S4.5.1)
- 3. Readiness indicator (S4.5.2)
- 4. Passenger Air Bag Manual Cut-Off Device (S4.5.4)
- 5. Lap belt lockability (S7.1.1.5)
- 6. Seat belt warning system (S7.3)
- 7. Seat belt contact force (S7.4.3)
- 8. Seat belt latch plate access (S7.4.4)
- 9. Seat belt retraction (S7.4.5)
- 10. Seat belt guides and hardware (S7.4.6)
- 11. Air bag suppression telltale (S19.2.2)
- 12. Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R) using the following indicated child restraints (mid-height seat position):

Section B – Rear Facing (unbelted and belted rear facing, unbelted forward facing)

- Britax Handle with Care 191 Full rearward Mid position Full forward
- Century Assura 4553 Full rearward Mid position Full forward
- Century Smart Fit 4543 Full rearward Mid position Full forward
- Cosco Arriva 02727 Full rearward Mid position Full forward
- Evenflo Discovery Adjust
Right 212 Full rearward Mid position Full forward
- Evenflo First Choice 204 Full rearward Mid position Full forward
- Graco Infant 8457 Full rearward Mid position Full forward

Section C – Convertible (unbelted and belted rear facing, unbelted and belted forward facing)

- Britax Roundabout 161 Full rearward Mid position Full forward
- Century Encore 4612 Full rearward Mid position Full forward
- Century STE 1000 4416 Full rearward Mid position Full forward
- Cosco Olympian 02803 Full rearward Mid position Full forward
- Cosco Touriva 02519 Full rearward Mid position Full forward
- Evenflo Horizon V 425 Full rearward Mid position Full forward
- Evenflo Medallion 254 Full rearward Mid position Full forward

- 13. Suppression tests with Newborn infant (Part 572, Subpart K) using the following indicated child restraints. (mid-height seat position)

Section A – Car Bed (Belted)

- Cosco Dream Ride 02-719 Full rearward Mid position Full forward

- 14. Suppression tests with 3-year-old dummy (Part 572, Subpart P) using the following indicated child restraints where a child restraint is required (mid-height seat position):

Section C – Convertible (Belted forward-facing)

- Britax Roundabout 161 Full rearward Mid position Full forward
- Century Encore 4612 Full rearward Mid position Full forward
- Century STE 1000 4416 Full rearward Mid position Full forward
- Cosco Olympian 02803 Full rearward Mid position Full forward
- Cosco Touriva 02519 Full rearward Mid position Full forward
- Evenflo Horizon V 425 Full rearward Mid position Full forward
- Evenflo Medallion 254 Full rearward Mid position Full forward

Section D – Toddler/Belt Positioning Booster (Belted)

- Britax Roadster 9004 Full rearward Mid position Full forward
 Century Next Step 4920 Full rearward Mid position Full forward
 Cosco High Back
 Booster 02-442 Full rearward Mid position Full forward
 Evenflo Right Fit 245 Full rearward Mid position Full forward

- __15. Suppression tests with Representative 3-year-old child using the following indicated child restraints where a child restraint is required (mid-height seat position) (Appendix H, Data Sheet 19H and 20H):

Section C - Convertible(Belted forward-facing)

- Britax Roundabout 161 Full rearward Mid position Full forward
 Century Encore 4612 Full rearward Mid position Full forward
 Century STE 1000 4416 Full rearward Mid position Full forward
 Cosco Olympian 02803 Full rearward Mid position Full forward
 Cosco Touriva 02519 Full rearward Mid position Full forward
 Evenflo Horizon V 425 Full rearward Mid position Full forward
 Evenflo Medallion 254 Full rearward Mid position Full forward

Section D – Toddler/Belt Positioning Booster (Belted)

- Britax Roadster 9004 Full rearward Mid position Full forward
 Century Next Step 4920 Full rearward Mid position Full forward
 Cosco High Back
 Booster 02-442 Full rearward Mid position Full forward
 Evenflo Right Fit 245 Full rearward Mid position Full forward

- __16. Suppression tests with 3-year-old dummy (Part 572, Subpart P) in the following positions (mid-height seat position):

- Sitting on seat with back against seat back (S22.2.2.1)
 Full rearward Mid position Full forward
 Sitting on seat with back against reclined seat back (S22.2.2.2)
 Full rearward Mid position Full forward
 Sitting on seat with back not against seat back (S22.2.2.3)
 Full rearward Mid position Full forward
 Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
 Full rearward Mid position Full forward
 Standing on seat, facing forward (S22.2.2.5)
 Full rearward Mid position Full forward
 Kneeling on seat facing forward (S22.2.2.6)
 Full rearward Mid position Full forward
 Kneeling on seat facing rearward (S22.2.2.7)
 Full rearward Mid position Full forward
 Lying on seat (S22.2.2.8)

- __17. Suppression tests with representative 3-year-old child in the following positions (mid-height seat position):

- Sitting on seat with back against seat back (S22.2.2.1)
 Full rearward Mid position Full forward
 Sitting on seat with back against reclined seat back (S22.2.2.2)
 Full rearward Mid position Full forward
 Sitting on seat with back not against seat back (S22.2.2.3)
 Full rearward Mid position Full forward
 Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
 Full rearward Mid position Full forward
 Standing on seat, facing forward (S22.2.2.5)
 Full rearward Mid position Full forward
 Kneeling on seat facing forward (S22.2.2.6)
 Full rearward Mid position Full forward
 Kneeling on seat facing rearward (S22.2.2.7)
 Full rearward Mid position Full forward
 Lying on seat (S22.2.2.8)
 Full rearward Mid position Full forward

__18. Suppression tests with 6-year-old dummy (Part 572, Subpart N) using the following indicated child restraints where a child restraint is required (mid-height seat position):

Section D

- Britax Roadster 9004 Full rearward Mid position Full forward
- Century Next Step 4920 Full rearward Mid position Full forward
- Cosco High Back
 Booster 02-442 Full rearward Mid position Full forward
- Evenflo Right Fit 245 Full rearward Mid position Full forward

__19. Suppression tests with representative 6-year-old child using the following indicated child restraints where a child restraint is required (mid-height seat position):

Section D

- Britax Roadster 9004 Full rearward Mid position Full forward
- Century Next Step 4920 Full rearward Mid position Full forward
- Cosco High Back
 Booster 02-442 Full rearward Mid position Full forward
- Evenflo Right Fit 245 Full rearward Mid position Full forward

__20. Suppression tests with 6-year-old dummy (Part 572, Subpart N) in the following positions (mid-height seat position):

- Sitting on seat with back against seat back (S22.2.2.1)
 Full rearward Mid position Full forward
- Sitting on seat with back against reclined seat back (S22.2.2.2)
 Full rearward Mid position Full forward
- Sitting on seat edge, spine vertical, hands by the dummy's side (S22.2.2.4)
 Full rearward Mid position Full forward
- Sitting back in the seat and leaning on the right front passenger door (S24.2.3)
 Full rearward Mid position Full forward

__21. Suppression tests with representative 6-year-old child in the following positions (mid-height seat position):

- Sitting on seat with back against seat back (S22.2.2.1)
 Full rearward Mid position Full forward
- Sitting on seat with back against reclined seat back (S22.2.2.2)
 Full rearward Mid position Full forward
- Sitting on seat edge, spine vertical, hands by the dummy's side (S22.2.2.4)
 Full rearward Mid position Full forward
- Sitting back in the seat and leaning on the right front passenger door (S24.2.3)
 Full rearward Mid position Full forward

__22. Test of Reactivation of the Passenger Air Bag System with an Unbelted 5th Percentile Female Dummy (S20.3, 22.3, S24.3) (mid-height seat position) Perform this test after the following suppression test(s):_____

__23. Test of Reactivation of the Passenger Air Bag System with a representative 5th Percentile Female (S20.3, 22.3, S24.3) (mid-height seat position) Perform this test after the following suppression test(s):_____

__24. Low risk deployment test with 12-month-old dummy (Part 572, Subpart R) using the following indicated child restraints (full forward, mid-height seat position)(S20.4):

Section B

- Britax Handle with Care 191
- Century Assura 4553
- Century Smart Fit 4543
- Cosco Arriva 02727
- Evenflo Discovery Adjust
 Right 212
- Evenflo First Choice 204
- Graco Infant 8457

Section C

- Britax Roundabout 161
- Century Encore 4612
- Century STE 1000 4416
- Cosco Olympian 02803
- Cosco Touriva 02519
- Evenflo Horizon V 425
- Evenflo Medallion 254
- 25. Low risk deployment test with 3-year-old dummy (Part 572, Subpart P) in the following positions:
 - Position 1 (rear-most, lowest seat position)
 - Position 2 (mid-height seat position)
- 26. Low risk deployment test with 6-year-old dummy (Part 572, Subpart N) in the following positions:
 - Position 1 (rear-most, lowest seat position)
 - Position 2 (mid-height seat position)
- 27. Low risk deployment test with 5th female dummy (Part 572, Subpart O) in the following positions
 - Position 1 (mid-height seat position)
 - Position 2 (mid-height seat position)
- 28. Impact tests
 - Frontal Oblique Test Speed _____
 - Belted 50th male dummy driver and passenger ((0 to 48 kmph) (S5.1.1.(a))
 - Unbelted 50th male dummy driver and passenger ((0 to 48 kmph) (S5.1.2(a)(1))
 - Unbelted 50th male dummy driver and passenger ((32 to 40 kmph) (S5.1.2(a)(1) or S5.1.2(b))
 - Frontal 0° Test Speed _____
 - Belted 50th male dummy driver ((0 to 48 kmph) (S5.1.1(b)(1) or S5.1.1(a))
 - Belted 50th male dummy passenger ((0 to 48 kmph) (S5.1.1(b)(1) or S5.1.1(a))
 - Belted 5th female dummy driver ((0 to 48 kmph) (S16.1(a))
 - Belted 5th female dummy passenger ((0 to 48 kmph) (S16.1(a))
 - Belted 50th male dummy driver and passenger ((0 to 56 kmph) (S5.1.1(b)(2)(
 - Unbelted 50th male dummy driver and passenger ((0 to 48 kmph) (S5.1.2(a)(1))
 - Unbelted 50th male dummy driver ((32 to 40 kmph) (S5.1.2(a)(2) or S5.1.2(b))
 - Unbelted 50th male dummy passenger (32 to 40 kmph) (S5.1.2(a)(2) or S5.1.2(b))
 - Unbelted 5th female dummy driver (32 to 40 kmph) (S16.1(b))
 - Unbelted 5th female dummy passenger (32 to 40 kmph) (S16.1(b))
 - 40% Offset 0° Belted 5th female dummy driver and passenger (0 to 40 kmph) (S18.1)
 - Test Speed _____
- 29. Sled test: Unbelted 50th male dummy driver and passenger (S13)
- 30. FMVSS 204 indicant test
- 31. FMVSS 212 test
- 32. FMVSS 219 indicant test
- 33. FMVSS 301 frontal test

DATA SHEET 2

REPORT OF VEHICLE CONDITION

CONTRACT NO. DTNH22-_____ Date:_____

FROM: _____
Lab & rep name

TO: _____ OVSC, NSA-31

COTR Name
PURPOSE: () Initial () Received () Present
Receipt via Transfer vehicle condition

MODEL YEAR/MAKE/MODEL/BODY STYLE:_____

MANUFACTURE DATE:_____ NHTSA NO.:_____ BODY COLOR:_____

VIN:_____ GVWR_____ GAWR (Fr)_____ GAWR (Rr)_____

ODOMETER READINGS: ARRIVAL _____ miles DATE _____

COMPLETION _____ miles DATE _____

PURCHASE PRICE: \$ _____ DEALER'S

NAME:_____

- A. ALL OPTIONS LISTED ON "WINDOW STICKER" ARE PRESENT ON THE TEST VEHICLE.
__Yes __No
- B. TIRES AND WHEEL RIMS ARE NEW AND THE SAME AS LISTED.
__Yes __No
- C. THERE ARE NO DENTS OR OTHER INTERIOR OR EXTERIOR FLAWS.
__Yes __No
- D. THE VEHICLE HAS BEEN PROPERLY PREPARED AND IS IN RUNNING CONDITION.
__Yes __No
- E. KEYLESS REMOTE IS AVAILABLE AND WORKING.
__Yes __No
- F. THE GLOVE BOX CONTAINS AN OWNER'S MANUAL, WARRANTY DOCUMENT,
CONSUMER INFORMATION, AND EXTRA SET OF KEYS.
__Yes __No
- G. PROPER FUEL FILLER CAP IS SUPPLIED ON THE TEST VEHICLE.
__Yes __No
- H. USING PERMANENT MARKER, IDENTIFY VEHICLE WITH NHTSA NUMBER AND FMVSS
TEST TYPE(S) ON ROOF LINE ABOVE DRIVER DOOR OR FOR SCHOOL BUSES, PLACE A
PLACARD WITH NHTSA NUMBER INSIDE THE WINDSHIELD AND TO THE EXTERIOR
FRONT AND REAR SIDE OF BUS.
__Yes __No
- I. PLACE VEHICLE IN STORAGE AREA.
__Yes __No
- J. INSPECT THE VEHICLE'S INTERIOR AND EXTERIOR, INCLUDING ALL WINDOWS, SEATS,
DOORS, ETC., TO CONFIRM THAT EACH SYSTEM IS COMPLETE AND FUNCTIONAL PER
THE MANUFACTURER'S SPECIFICATIONS. ANY DAMAGE, MISADJUSTMENT, OR OTHER
UNUSUAL CONDITION THAT COULD INFLUENCE THE TEST PROGRAM OR TEST
RESULTS SHALL BE RECORDED. REPORT ANY ABNORMAL CONDITION TO THE NHTSA
COTR BEFORE BEGINNING ANY TEST.
__Vehicle OK __Conditions reported below in comment section

Identify the letter above to which any of the following comments apply.

Comments: _____

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

LIST OF FMVSS TESTS PERFORMED BY THIS LAB:

MODEL YEAR/MAKE/MODEL/BODY STYLE: _____

NHTSA NO. _____

REMARKS: _____

Equipment that is no longer on the test vehicle as noted on previous page: _____

Explanation for equipment removal: _____

Test Vehicle Condition: _____

RECORDED BY: _____

DATE: _____

APPROVED BY: _____

DATE: _____

#####

RELEASE OF TEST VEHICLE

The vehicle described above is released from _____ to be delivered to

_____ (Laboratory) (Laboratory)

Date: _____ Time: _____ Odometer: _____

Lab Representative: _____

Signature Title

Carrier/Customer Representative: _____

Signature Date

DATA SHEET 3
 Certification Label and Tire Placard Information

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

1. Certification Label (Part 567)
 Manufacturer _____
 Date of Manufacture _____
 VIN _____
 Vehicle certified as: Passenger car MPV Truck Bus
 Front axle GVWR _____
 Rear axle GVWR _____
 Total GVWR _____

2. Tire Placard (571.110)
 N/A – Vehicle is not a passenger car and does not have a tire placard.
 This is not a passenger car (see the item 1 above), but all or part of this information is still contained on a vehicle label and is reported here.

Vehicle Capacity Weight _____
 Designated seating capacity front _____
 Designated seating capacity rear _____
 Total Designated seating capacity _____
 Recommended cold tire inflation pressure front _____
 Recommended cold tire inflation pressure rear _____
 Recommended tire size _____

 Signature

 Date

DATA SHEET 4
REAR OUTBOARD SEATING POSITION SEAT BELTS

NHTSA No. _____

Test Date: _____

Laboratory: _____

Test Technician(s): _____

Do all rear outboard seating positions have type 2 seat belts? Yes _____; No _____

If NO, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a type 2 seat belt was not installed.

REMARKS:

Signature_____
Date

DATA SHEET 5**AIR BAG LABELS (S4.5.1)**

NHTSA No. _____

Test Date: _____

Laboratory: _____ Test Technician(s): _____

1. Air Bag Maintenance Label and Owner's Manual Instructions: (S4.5.1(a))
 - 1.1 Does the manufacturer recommend periodic maintenance or replacement of the air bag?
__ Yes (Go to 1.2); __ No (Go to 2)
 - 1.2 Does the vehicle have a label specifying air bag maintenance or replacement?
__ Yes-Pass; __ **No-FAIL**
 - 1.3 Does the label contain one of the following?
__ Yes-Pass; __ **No-FAIL**
Check applicable schedule
__ Schedule on label specifies month and year (Record date _____)
__ Schedule on label specifies vehicle mileage (Record mileage _____)
__ Schedule on label specifies interval measured from date on certification label
(Record interval _____)
 - 1.4 Is the label permanently affixed within the passenger compartment such that it cannot be removed without destroying or defacing the label or vehicle part? (3/19/01 legal interpretation to Todd Mitchell)
__ Yes-Pass; __ **No-FAIL**
 - 1.5 Is the label lettered in English?
__ Yes-Pass; __ **No-FAIL**
 - 1.6 Is the label in block capitals and numerals?
__ Yes-Pass; __ **No-FAIL**
 - 1.7 Are the letters and numerals at least 3/32 inches high?
____ height of letters and numerals
__ Yes-Pass; __ **No-FAIL**
 - 1.8 Does the owner's manual set forth the recommended schedule for maintenance or replacement?
__ Yes-Pass __ **No-FAIL**
2. Does the owner's manual: (S4.5.1(f))
 - 2.1 Include a description of the vehicle's air bag system in an easily understandable format?
__ Yes-Pass; __ **No-FAIL**
 - 2.2 Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the front outboard seating positions?
__ Yes-Pass; __ **No-FAIL**
 - 2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions?
__ Yes-Pass; __ **No-FAIL**
 - 2.4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an air bag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash?
__ Yes-Pass; __ **No-FAIL**
 - 2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to ensure maximum safety protection for those occupants?
__ Yes-Pass; __ **No-FAIL**
 - 2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?
__ Yes-Pass; __ **No-FAIL**

- 2.7 Is the vehicle certified to meet the requirements of S14.5, S15, S17, S19, S21, S23, and S25? **(Obtain the answer to this question from the COTR.)** (S4.5.1(f)(2))
 Yes (go to 2.7.1); No (go to 3)
- 2.7.1 Explain the proper functioning of the advanced air bag system? (S4.5.1(f)(2))
 Yes-Pass; **No-FAIL**
- 2.7.2 Provide a summary of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2))
 Yes-Pass; **No-FAIL**
- 2.7.3 Present and explain the main components of the advanced passenger air bag system? (S4.5.1(f)(2)(i))
 Yes-Pass; **No-FAIL**
- 2.7.4 Explain how the components function together as part of the advanced passenger air bag system? (S4.5.1 (f)(2)(ii))
 Yes-Pass; **No-FAIL**
- 2.7.5 Contain the basic requirements for proper operation, including an explanation of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2)(iii))
 Yes-Pass; **No-FAIL**
- 2.7.6 Is the vehicle certified to the requirements of S19.2, S21.2 or S23.2 (automatic suppression)?
 Yes, continue with 2.7.6
 No, go to 2.7.7
- 2.7.6.1 Contain a complete description of the passenger air bag suppression system installed in the vehicle, including a discussion of any suppression zone? (S4.5.1(f)(2)(iv))
 Yes-Pass; **No-FAIL**
- 2.7.6.2 Discuss the telltale light, specifying its location in the vehicle and explaining when the light is illuminated?
 Yes-Pass; **No-FAIL**
- 2.7.7 Explain the interaction of the advanced passenger air bag system with other vehicle components, such as seat belts, seats or other components? (S4.5.1(f)(2)(v))
 Yes-Pass; **No-FAIL**
- 2.7.8 Summarize the expected outcomes when child restraint systems, children and small teenagers or adults are both properly and improperly positioned in the passenger seat, including cautionary advice against improper placement of child restraint systems? (S4.5.1(f)(2)(vi))
 Yes-Pass; **No-FAIL**
- 2.7.9 Provide information on how to contact the vehicle manufacturer concerning modifications for persons with disabilities that may affect the advanced air bag system? (S4.5.1(f)(2)(vii))
 Yes-Pass; **No-FAIL**
3. Sun Visor Air Bag Warning Label (S4.5.1 (b)) Check only one of the following:
 The vehicle is not certified to meet the requirements of S19, S21, and S23. **(Obtain the answer to this question from the COTR.)** (S4.5.1(b)(1)) Go to 3.1 and skip 3.2.
 The vehicle is certified to meet the requirements of S19, S21, and S23 on 9/1/03 or later. **(Obtain the answer to this question from the COTR.)** (S4.5.1(b)(3)) Go to 3.2 and skip 3.1.
- 3.1 Vehicles not certified to meet the requirements of S19, S21, and S23.

- 3.1.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or sun visor? (S4.5.1(b)(1)) (3/19/01 legal interpretation to Todd Mitchell)
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.1.2 Does the label conform in content to the label shown in either Figure 6a or 6b (Figure 6b is for vehicles with passenger air bag on-off switches), as appropriate, at each front outboard seating position? (S4.5.1 (b)(1)) **(Vehicles without back seats may omit the statement: “The BACK SEAT is the SAFEST place for children.” (S4.5.1(b)(1)(iv)))**
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.1.3 Is the label heading area yellow with the word “WARNING” and the alert symbol in black? (S4.5.1 (b)(1)(i))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.1.4 Is the message area white with black text? (S4.5.1 (b)(1)(ii))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.1.5 Is the message area at least 30 cm²? (S4.5.1 (b)(1)(ii))
The message area consists of the total label area minus the yellow heading area and the pictogram. The pictogram is enclosed on the left side and bottom by the edge of the label and on the top by line that borders the yellow heading area. The right side of the pictogram is defined by a vertical line midway between the rightmost edge of the pictogram and the left most edge of the text, including any bullets. (See 5/6/03 interpretation to Gerald Plante on behalf of Subaru)
 Driver side: Length _____, Width _____
 Passenger side: Length _____, Width _____
 Actual message area _____ cm²
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.1.6 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(b)(2)(iii))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.1.7 Is the pictogram at least 30 mm in diameter? (S4.5.1 (b)(2)(iii))
 Actual diameter _____ mm
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.2 Vehicles certified to meet the requirements of S19, S21, and S23 on 9/1/03 and later. (S4.5.1(b)(3))
- 3.2.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1 (b)(3)) (3/19/01 legal interpretation to Todd Mitchell)
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.2.2 Does the label conform in content to the label shown in Figure 11 at each front outboard seating position? (S4.5.1(b)(2)) **(Vehicles without back seats may omit the statement: “The BACK SEAT is the SAFEST place for children.” (S4.5.1(b)(3)(iv)) Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement “Never put a rear-facing child seat in the front.” (S4.5.1(b)(3)(v)))**
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**

- 3.2.3 Is the label heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1 (b)(3)(i))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.2.4 Is the message area white with black text? (S4.5.1(b)(3)(ii))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.2.5 Is the message area at least 30 cm²? (S4.5.1(b)(3)(ii))
The message area consists of the total label area minus the yellow heading area and the pictogram. The pictogram is enclosed on the left side and bottom by the edge of the label. The top edge of the pictogram area is defined by a horizontal line midway between the uppermost edge of the pictogram and the lowermost edge of the text. The right side of the pictogram is defined by a vertical line midway between the rightmost edge of the pictogram and the left most edge of the text, including any bullets. (See 5/6/03 interpretation to Gerald Plante on behalf of Subaru)
 Driver side: Length _____, Width _____
 Passenger side: Length _____, Width _____
 Driver actual message area _____ cm²
 Passenger actual message area _____ cm²
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.2.6 Is the pictogram black on a white background? (S4.5.1(b)(3)(iii))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.2.7 Is the pictogram at least 30 mm in length? (S4.5.1(b)(3)(iii))
 Driver side: Length _____
 Passenger side: Length _____
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.3 Is the same side of the sun visor that contains the air bag warning label free of other information with the exception of the air bag maintenance label and/or the rollover-warning label? (S4.5.1 (b)(5)(i))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.4 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label and/or the rollover-warning label? (S4.5.1(b)(5)(ii))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 3.5 Does the driver side visor contain a rollover-warning label on the same side of the visor as the air bag warning label?
 Yes (go to 3.5.1); No (go to 4., skipping 3.5.1 through 3.5.3)
- 3.5.1 Are both the rollover-warning label and the air bag warning label surrounded by a continuous solid-lined border?
 Yes (go to 3.5.2 and skip 3.5.3); No (go to 3.5.3 and skip 3.5.2.)
- 3.5.2 Is the shortest distance from the border of the rollover label to the border of the air bag warning label at least 1 cm? (575.105 (d)(1)(iv)(B))
 _____ actual distance
 Yes-Pass **No-FAIL**
- 3.5.3 Is the shortest distance from any of the lettering or graphics on the rollover-warning label to any of the lettering or graphics of the air bag warning label at least 3 cm? (575.105(d)(1)(iv)(A))
 _____ actual distance
 Yes-Pass **No-FAIL**

4. Air Bag Alert Label (S4.5.1(c)) (A "Rollover Warning Label" or "Rollover Alert Label" may be on the same side of the driver's sun visor as the "Air Bag Alert Label." 575.105(d))
- 4.1 Is the Sun Visor Warning Label visible when the sun visor is in the stowed position?
 Driver side Yes No
 Passenger side Yes No
If yes, for driver and passenger go to 5.
- 4.2 Is the air bag alert label permanently affixed (including permanent marking on the visor material or molding into the visor material) to the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(c)) (3/19/01 legal interpretation to Todd Mitchell)
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 4.3 Is the air bag alert label visible when the visor is in the stowed position? (S4.5.1(c))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 4.4 Does the label conform in content to the label shown in Figure 6c? (S4.5.1(c))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 4.5 Is the message area black with yellow text? (S4.5.1(c)(1))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 4.6 Is the message area at least 20 cm²? (S4.5.1(c)(1))
The message area consists of the black part of the label.
 Driver side: Length _____, Width _____
 Passenger side: Length _____, Width _____
 Actual message area _____ cm²
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 4.7 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(c)(2))
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
- 4.8 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2))
 Driver side: diameter _____
 Passenger side: diameter _____
 Driver side Yes-Pass **No-FAIL**
 Passenger side Yes-Pass **No-FAIL**
5. Label On the Dashboard
- 5.1 Is the vehicle certified to meet the requirements of S19, S21, and S23? **(Obtain the answer to this question from the COTR.)** (S4.5.1(e)(3))
 Yes (go to 5.1.1 and skip 5.2)
 No (go to 5.2, skipping 5.1.1 through 5.1.6)
- 5.1.1 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(3))
 Yes-Pass **No-FAIL**
- 5.1.2 Is the label clearly visible from all front seating positions? (S4.5.1(e)(3))
 Yes-Pass **No-FAIL**
- 5.1.3 Does the label conform in content to the label shown in Figure 12? (S4.5.1(e)(3))
Vehicles without back seats may omit the statement: "The back seat is the safest place for children." Vehicles without back seats or too small to accommodate a rear-facing child restraint consistent with S4.5.4.1 as determined in DATA SHEET 7 may omit the statement "Never put a rear-facing child seat in the front."
(S4.5.1(e)(3)(iii))
 Yes-Pass; **No-Fail**
- 5.1.4 Is the heading area yellow with black text? (S4.5.1(e)(3)(i))
 Yes-Pass; **No-FAIL**

- 5.1.5 Is the message white with black text? (S4.5.1(e)(3)(ii))
 ___ Yes-Pass; ___ **No-FAIL**
- 5.1.6 Is the message area at least 30 cm²? (S4.5.1(e)(3)(ii))
The message area consists of the total label area minus the yellow heading area.
(See 5/6/03 interpretation to Gerald Plante on behalf of Subaru)
 Length _____, Width _____
 Actual message area _____ cm²
 ___ Yes-Pass; ___ **No-FAIL**
- 5.2 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(1))
 ___ Yes-Pass ___ **No-FAIL**
- 5.2.1 Is the label clearly visible from all front seating positions? (S4.5.1(e)(1))
 ___ Yes-Pass ___ **No-FAIL**
- 5.2.2 Does the label conform in content to the label shown in Figure 7? (S4.5.1 (e)(1)(iii))
(Vehicles without back seats may omit the statement: "The back seat is the safest place for children 12 and under." (S4.5.1(e)(1)(iii))
 ___ Yes-Pass; ___ **No-Fail**
- 5.2.3 Is the heading area yellow with the word "WARNING" and the alert symbol in black?
 (S4.5.1 (e)(1)(i))
 ___ Yes-Pass; ___ **No-FAIL**
- 5.2.4 Is the message white with black text? (S4.5.1(e)(1)(ii))
 ___ Yes-Pass; ___ **No-FAIL**
- 5.2.5 Is the message area at least 30 cm²? (S4.5.1(e)(1)(ii))
The message area consists of the total label area minus the yellow heading area.
(See 5/6/03 interpretation to Gerald Plante on behalf of Subaru)
 Length _____, Width _____
 Actual message area _____ cm²
 ___ Yes-Pass; ___ **No-FAIL**

I certify that I have read and performed each instruction.

Date

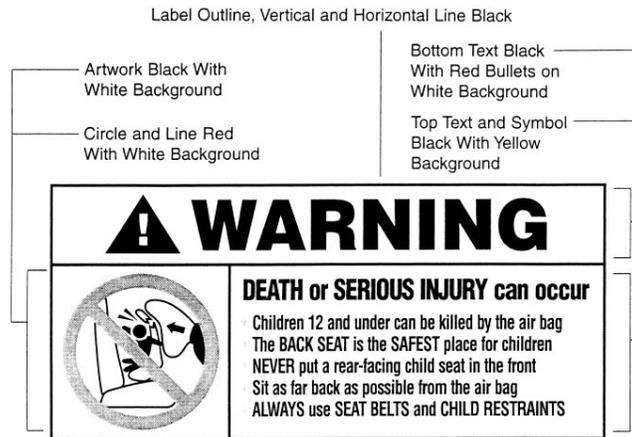


Figure 6a. Sun Visor Label Visible When Visor is in Down Position.

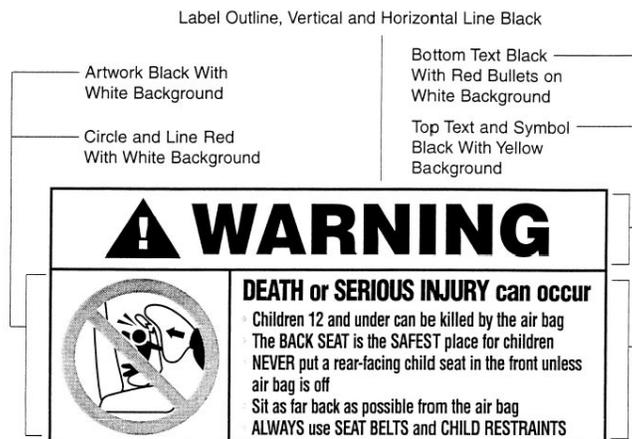


Figure 6b. Sun Visor Label Visible When Visor is in Down Position.

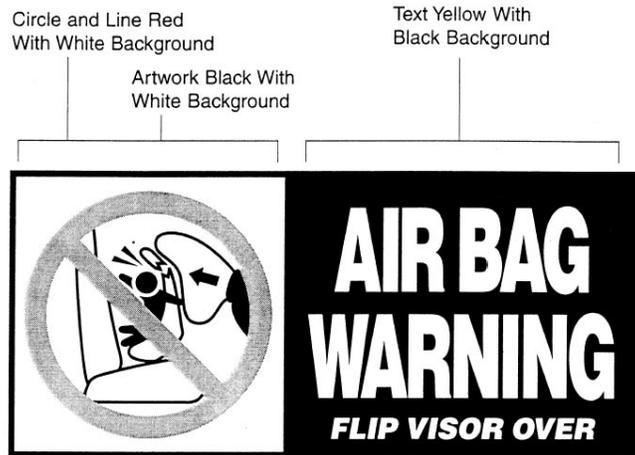


Figure 6c. Sun Visor Label Visible When Visor is in Up Position.

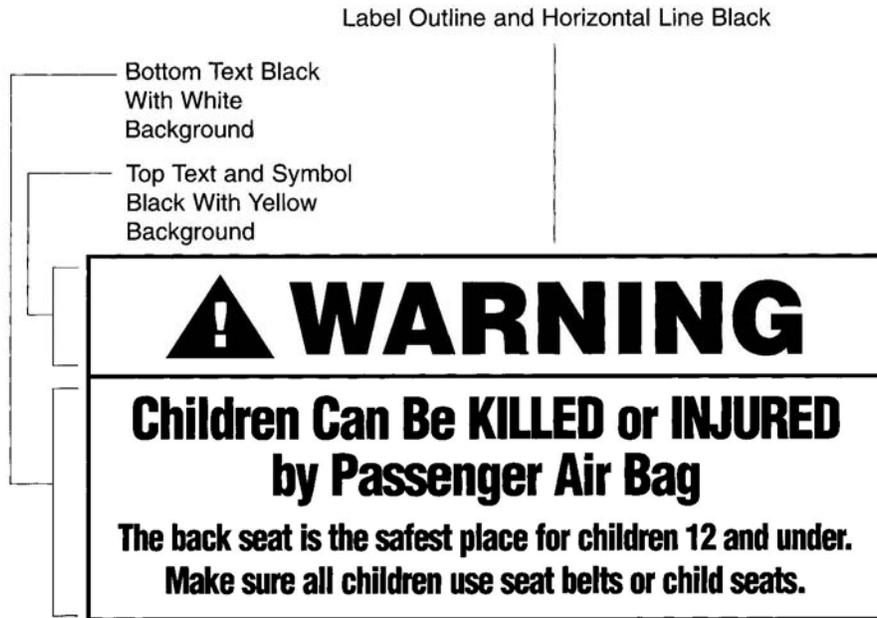


Figure 7. Removable Label on Dash.



Figure 11. Sun Visor Label Visible when Visor is in Down Position.

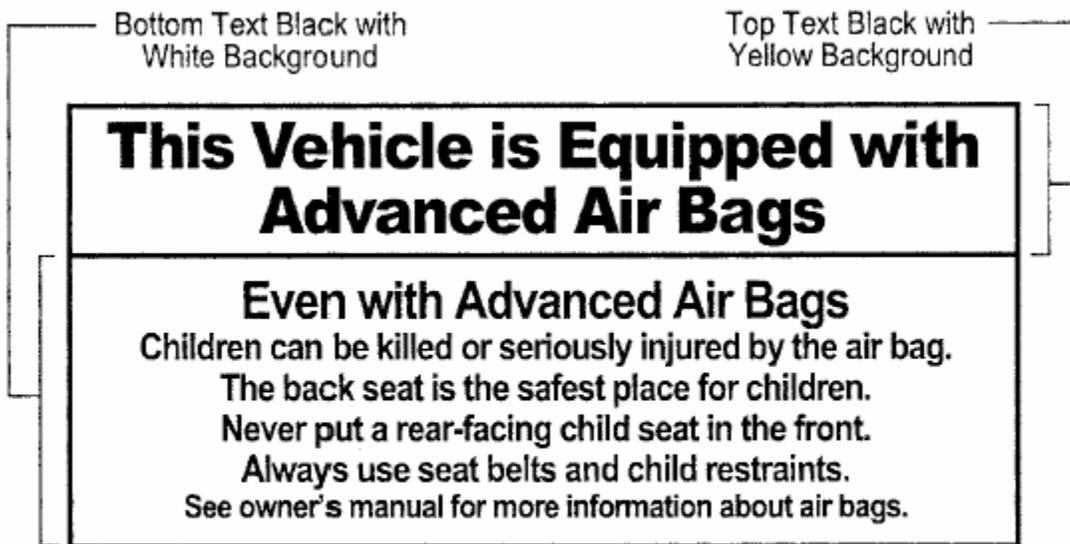


Figure 12. Removable Label on Dash.

DATA SHEET 6

FMVSS 208 READINESS INDICATOR (S4.5.2)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement. (11/8/94 legal interpretation to Lawrence F. Henneberger on behalf of Breed)

__1. Is the system totally mechanical? Yes ___; No___
(If YES this Data Sheet is complete.)
__2. Describe the location of the readiness indicator: _____

__3. Is the readiness indicator clearly visible to the driver?
___Yes-Pass; ___**No-FAIL**

__4. Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided on a label or in the owner's manual?
___Yes-Pass; ___**No-FAIL**

__5. Does the vehicle have an on-off switch for the passenger air bag?
___Yes (go to 6) ___No (this form is complete)

__6. Is the air bag readiness indicator off when the passenger air bag switch is in the off position?
___Yes-Pass; ___**No-FAIL**

REMARKS:

I certify that I have read and performed each instruction.

Date

DATA SHEET 7

Passenger Air Bag Manual Cut-Off Device (S4.5.4)

NHTSA No. _____

Test Date: _____

Laboratory: _____

Test Technician(s): _____

1. Is the vehicle equipped with an on-off switch that deactivates the air bag installed at the right front outboard seating position?
 Yes, go to 2
 No, this sheet is complete
2. Does the vehicle have any forward-facing rear designated seating positions? (S4.5.4.1(a))
 Yes, go to 3
 No, go to 4
3. Verification there is room for a child restraint in the rear seat behind the driver's seat. (S4.5.4.1(b))
- 3.1. Using all the controls that affect the fore-aft movement of the seat, move the seat to the rearmost position. Mark this position.
 N/A - the seat does not have fore-aft adjustment
- 3.2. Using all the controls that affect the fore-aft movement of the seat, move the seat to the foremost position. Mark this position.
 N/A - the seat does not have fore-aft adjustment
- 3.3. Move the seat to the middle of the foremost and rearmost positions. (S8.1.2)
 N/A - the seat does not have a fore-aft adjustment
- 3.4. If the driver's seat height is adjustable, use all the controls that affect height to put it in the lowest position while maintaining the middle fore-aft position. (S8.1.2)
 N/A - No seat height adjustment
- 3.5. Position the driver's seat adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
 N/A - No lumbar adjustment
- 3.6. The driver's seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1(b) and S8.1.3)
 N/A - No seat back angle adjustment
 Manufacturer's design driver's seat back angle _____
 Tested driver's seat back angle _____
- 3.7. Is the driver seat a bucket seat?
 Yes, go to 3.7.1 and skip 3.7.2.
 No, go to 3.7.2 and skip 3.7.1.
- 3.7.1 Bucket seats:
- 3.7.1.1 Locate and mark a vertical Plane B through the longitudinal centerline of the driver's seat cushion. The longitudinal centerline of a bucket seat cushion is determined at SgRP. (S16.3.1.10) (S4.5.4.1(b)(1))
- 3.7.1.2 Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion behind the driver's seat. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the driver's seat.
 _____ mm distance
 less than 720 mm - Pass
 more than 720 mm - **FAIL**
 Go to 4

- ___3.7.2 Bench seats (including split bench seats):
- ___3.7.2.1 Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline. (S4.5.4.1(b)(2))
- ___3.7.2.2 Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the front seat.
- ___ mm distance
- ___less than 720 mm – Pass
- ___more than 720 mm - **FAIL**
- Go to 4
- ___4. Does the device turn the air bag on and off using the vehicle's ignition key? (S4.5.4.2)
- ___Yes – Pass
- ___No – **FAIL**
- ___5. Is the on-off device separate from the ignition switch? (S4.5.4.2)
- ___Yes – Pass
- ___No – **FAIL**
- ___6. Is there a telltale light that comes on when the passenger air bag is turned off? (S4.5.4.2)
- ___Yes – Pass
- ___No – **FAIL**
- ___7. Telltale light (S4.5.4.3)
- ___7.1 Is the light yellow? S4.5.4.3(a)
- ___Yes – Pass
- ___No – **FAIL**
- ___7.2 Are the words "PASSENGER AIR BAG OFF" or "PASS AIR BAG OFF" (S4.5.4.3(b))
- ___7.2.1 on the telltale?
- ___Yes – Pass, go to 7.3
- ___No – go to 7.2.2
- ___7.2.2 within 25 mm of the telltale? _____mm from the edge of the telltale light
- ___Yes – Pass
- ___No – **FAIL**
- ___7.3 Does the telltale remain illuminated while the air bag is turned off? (S4.5.4.3c) (Leave the air bag off for 5 minutes.)
- ___Yes – Pass
- ___No – **FAIL**
- ___7.4 Is the telltale illuminated while the air bag is turned on? (S4.5.4.3(d))
- ___Yes – **FAIL**
- ___No – Pass
- ___7.5 Is the telltale combined with the air bag readiness indicator? (S4.5.3(e))
- ___Yes – **FAIL**
- ___No – Pass
- ___8. Owner's manual
- ___8.1 Does the owner's manual contain complete instructions on the operation of the on-off switch? (S4.5.4.4(a))
- ___Yes – Pass
- ___No – **FAIL**

8.2 Does the owner's manual contain a statement that the on-off switch should only be used when a member of one of the following risk groups is occupying the right front passenger seating position? (S4.5.4.4(b))

Infants: there is no back seat
 the rear seat is too small to accommodate a child restraint
 there is a medical condition that must be monitored constantly

Children aged 1 to 12: there is no back seat
 space is not always available in the rear seat
 there is a medical condition that must be monitored constantly

Medical condition: medical risk causes special risk for passenger
 greater risk for harm than with the air bag on

Yes – Pass

No – **FAIL**

8.3 Does the owner's manual contain a warning about the safety consequences of using the on-off switch at other times?

Yes – Pass

No – **FAIL**

I certify that I have read and performed each instruction.

Date

DATA SHEET 8**LAP BELT LOCKABILITY**

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

DESIGNATED SEATING POSITION: _____

N/A – No retractor is at this position

N/A – The retractor is an automatic locking retractor ONLY

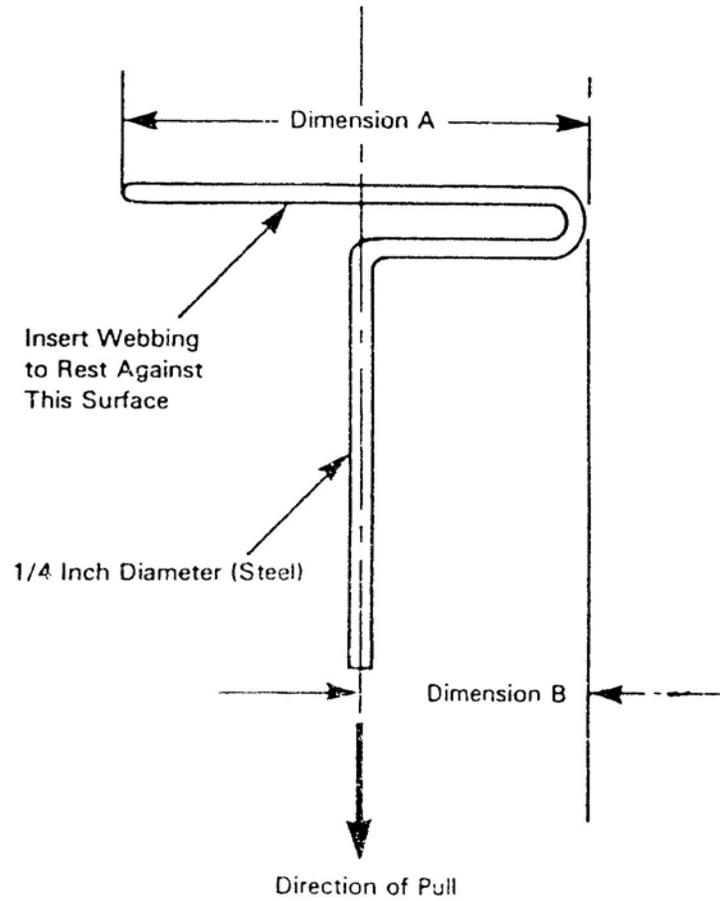
1. Record test fore-aft seat position. _____
(S7.1.1.5 (c)(1))
(Any position is acceptable.)
2. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does **NOT** have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))
 Yes-Pass; **No-FAIL**
3. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does **NOT** require inverting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))
 Yes-Pass; **No-FAIL**
4. Place any adjustable seat belt anchorage in the lowest adjustment position.
 N/A The anchorage is not adjustable.
5. Buckle the seat belt. (S7.1.1.5(c)(1))
6. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))
7. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
8. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
 Yes; No (If yes, go to 8.1. If no, go to 9.)
- 8.1 Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
 Yes-Pass; **No-FAIL**
9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))
10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
Measured distance between A and B _____ inches
11. Readjust the belt system so that the webbing between points A and B is at ½ the maximum length of the webbing. (S7.1.1.5(c)(3))

- ___12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
 Measured force application angle _____(spec. 5 - 15 degrees)
- ___13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
 Measured distance between A and B _____ inches
- ___14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
 Record onset rate _____lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
 Measured distance between A and B _____ inches (S7.1.1.5(c)(6))
- ___15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled.
- ___16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
 Measured force application angle _____(spec. 5 - 15 degrees)
- ___17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
 Measured distance between A and B _____ inches
- ___18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
 Record onset rate _____lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
 Measured distance between A and B _____ inches (S7.1.1.5(c)(6))
- ___19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))
 14-13 = _____inches;
 18-17 = _____inches
 ___Yes-Pass; ___**No-FAIL**
- ___20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 14 from the measurement in 18. Is the difference 3 inches or more for both? (S7.1.1.5(c)(8))
 10-14 = _____inches;
 18-14 = _____inches
 ___Yes-Pass; ___**No-FAIL**

REMARKS:

 I certify that I have read and performed each instruction.

 Date



Dimension A - Width of Webbing Plus 1/2 Inch

Dimension B - 1/2 of Dimension A

Figure 5. - Webbing Tension Pull Device

DATA SHEET 9

FMVSS 208 SEAT BELT WARNING SYSTEM CHECK (S7.3)

NHTSA No. _____

Test Date: _____

Laboratory: _____

Test Technician(s): _____

- ___1. The occupant is in the driver's seat.
- ___2. The seat belt is in the stowed position.
- ___3. The key is in the "on" or "start" position.
- ___4. The time duration of the audible signal beginning with key "on" or "start" is _____ seconds.
- ___5. The occupant is in the driver's seat.
- ___6. The seat belt is in the stowed position.
- ___7. The key is in the "on" or "start" position.
- ___8. The time duration of the warning light beginning with key "on" or "start" is _____ seconds.
- ___9. The occupant is in the driver's seat.
- ___10. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.
- ___11. The key is in the "on" or "start" position.
- ___12. The time duration of the warning light beginning with key "on" or "start" is _____ seconds.
- ___13. Complete the following table with the data from 4, 8, and 12 to determine which option is used.

		Warning light	Warning light specification	Audible signal	Audible signal specification*
S7.3 (a)(1)	Belt stowed & Key on or start	Item 8 _____	60 seconds minimum	Item 4 _____	4 to 8 seconds
S7.3 (a)(2)	Belt latched & Key on or start	Item 12 _____	4 to 8 seconds		
	Belt stowed & Key on or start	Item 8 _____	4 to 8 seconds	Item 4 _____	4 to 8 seconds

* 49 USCS @ 30124 does NOT allow an audible signal to operate for more than 8 seconds. A voluntary audible signal after the 4 to 8 second required signal may be provided. It must be differentiated from the required signal (5/25/2001 legal interpretation to Longacre and Associates).

- ___14. The seat belt warning system meets the requirements of (manufacturers may comply with either section)
 - ___ S7.3 (a)(1)
 - ___ S7.3 (a)(2)
 - ___ **FAIL** - Does NOT meet the requirements of either option
- ___15. Note wording of visual warning: (S7.3(a)(1) and S7.3(a)(2))
 - ___ Fasten Seat Belts
 - ___ Fasten Belts
 - ___ Symbol 101 -  or 
 - ___ **FAIL** - Does not use any of the above wording or symbol

I certify that I have read and performed each instruction.

Date

DATA SHEET 10

BELT CONTACT FORCE (S7.4.3)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

DESIGNATED SEATING POSITION: _____

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- ___1. Does the vehicle incorporate a webbing tension-relieving device?
 ___ Yes (this form is complete)
 ___ No (continue with this check sheet)
- ___3. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
 ___ N/A – No lumbar adjustment
- ___4. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
 ___ N/A – No additional support adjustment
- ___5. Is the fore-aft position of the seat adjustable?
 ___ No- go to 6
 ___ Yes – Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2
- ___6. Is the seat back angle adjustable?
 ___ No- go to 7
 ___ Yes-Use the seat back angle determined in Data Sheet 14.2
- ___7. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**
- ___8. Fasten the seat belt latch.
- ___9. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.
- ___10. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.
 Contact force _____ lb.
 ___ 0.0 to 0.7 pounds - Pass
 ___ **greater than 0.7 pounds - FAIL**

 I certify that I have read and performed each instruction.

 Date

DATA SHEET 11

LATCHPLATE ACCESS (S7.4.4)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

DESIGNATED SEATING POSITION: _____

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- ___1. Put the seat in the forwardmost fore-aft and full down height position determined in Data Sheet 14.2. (S10.7)
- ___2. Put the seat back angle in the position determined in Data Sheet 14.2.
- ___3. Position the test dummy using the procedures in Appendix F. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position. Note on the Appendix F positioning check sheet any deviations necessary to position the Part 572, Subpart E dummy.) **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**
- ___4. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.
- ___5. Attach the inboard reach string to the base of the head following the instructions on Figure 3.
- ___6. Attach the outboard reach string to the torso sheath following the instructions on Figure 3.
- ___7. Place the latch plate in the stowed position.
- ___8. Extend the inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate arcs of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
___Yes - Pass ___NO
- ___9. Extend the outboard reach string in front of the dummy and then backward and outboard to the latch plate to generate arcs of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
___Yes - Pass ___NO
- ___10. Is the latch plate within the inboard (item 10) or outboard (item 11) reach envelope?
___Yes - Pass ___**NO - FAIL**
- ___11. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?
___Yes - Pass ___**NO - FAIL**

 I certify that I have read and performed each instruction.

 Date

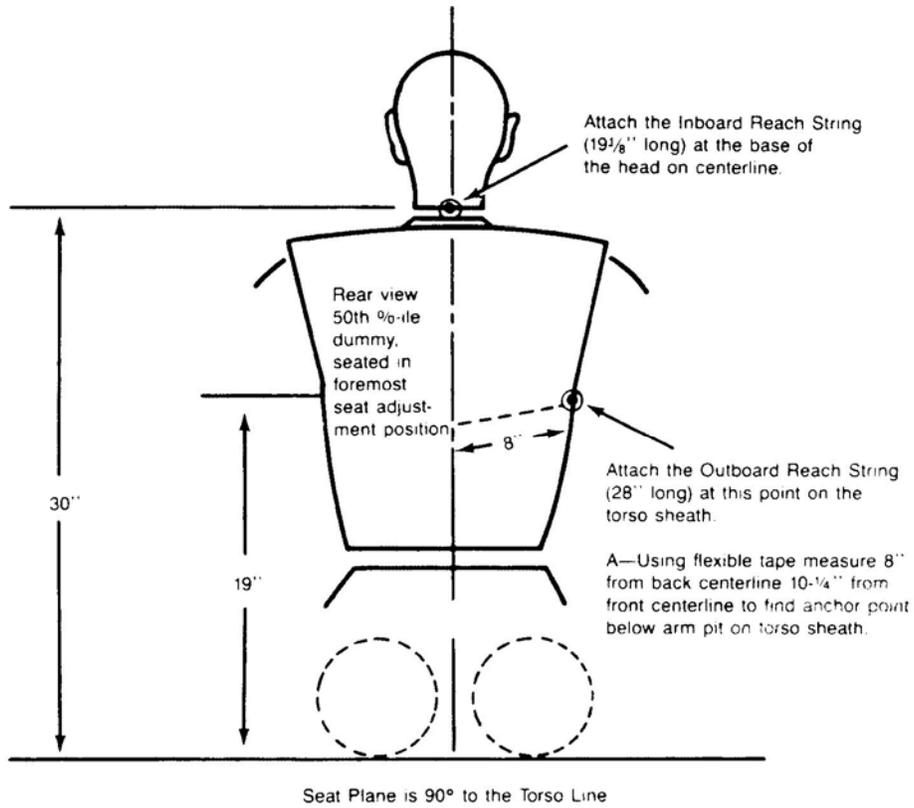


Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device

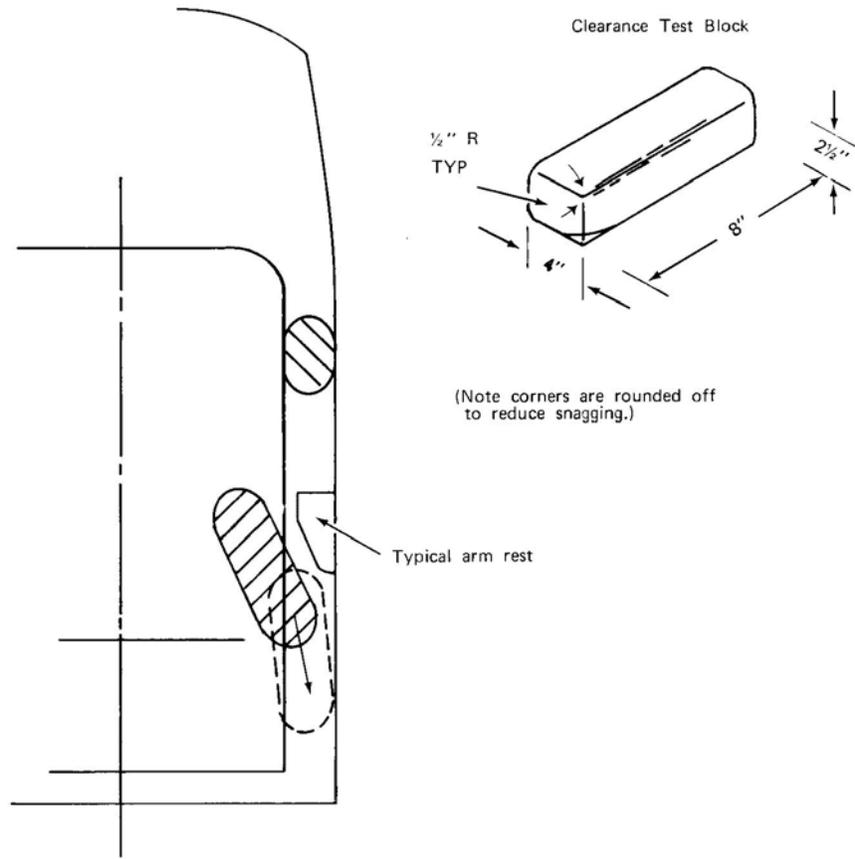


Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

DATA SHEET 12
SEAT BELT RETRACTION (S7.4.5)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

DESIGNATED SEATING POSITION: _____

Test all front outboard seat belts, except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- __1. Is the vehicle a passenger car or walk-in van-type vehicle?
 ___Yes, this form is complete
 ___No
- __2. Put the seat in the mid fore-aft and full down height position determined in Data Sheet 14.2. (S8.1.2)
- __3. Put the seat back angle in the position determined in Data Sheet 14.2. (8.1.3)
- __4. Position the Part 572 Subpart E test dummy according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**
- __5. Fasten the seat belt around the dummy.
- __6. Remove all slack from the lap belt portion. (S10.9)
- __7. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)
- __8. Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
 ___pound load applied
- __9. Is the belt system equipped with a tension-relieving device?
 ___Yes, continue
 ___No, go to 12
- __10. Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9).
- __11. Check the statement that applies to this test vehicle:
- __11.1 The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released. ___Yes – Pass go to 12 ___No – go to 11.2
- __11.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released. ___Yes – Pass go to 12 ___No – go to 11.3
- __11.3 Neither 11.1 nor 11.2 apply. ___**FAIL**
- __12. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?
 ___Yes - Pass ___**NO - FAIL**
- __13. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?
 ___N/A – Not an open body vehicle
 ___Yes – Pass ___**NO – FAIL**

I certify that I have read and performed each instruction.

Date

DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

DESIGNATED SEATING POSITION: _____

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- ___1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
 ___Yes; this form is complete
 ___No; got to 2
- ___2. Is the seat removable? (S7.4.6.1(b))
 ___Yes; this form is complete
 ___No; got to 3
- ___3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
 ___Yes; this form is complete
 ___No; got to 4
- ___4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
 ___Yes: go to 5.
 ___No: this form is complete.
- ___5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
 ___Yes – Pass ___**NO – FAIL**
 Identify the part(s) on top or above the seat.
 ___seat belt latch plate; ___buckle; ___seat belt webbing
- ___6. Are the remaining two seat belt parts accessible under normal conditions?
 ___Yes – Pass ___**NO - FAIL**
- ___7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
 ___Yes – Pass ___**NO - FAIL**
- ___8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
 ___Yes – Pass ___**NO - FAIL**
- ___9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
 ___Yes – Pass ___**NO - FAIL**
- ___10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
 ___Yes – Pass ___**NO – FAIL**

I certify that I have read and performed each instruction.

Date

DATA SHEET 14

MARKING OF REFERENCE POINTS FOR VARIOUS TEST POSITIONS AND POINTS

DATA SHEET 14.1
MARKING OF REFERENCE POINTS FOR 5TH FEMALE

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Driver Seat Passenger Seat

1. Seat Position

- 1.1 Position the seat's adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions. (S16.2.10.1, S20.1.9.1, S20.4.1, S22.1.7.1)
 N/A – No lumbar adjustment
- 1.2 Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2, S20.1.9.2, S20.4.1, S22.1.7.1, S22.4.2.1, S22.4.3.1, S24.4.2.1, S26.2.3, S26.3.1)
 N/A – No additional support adjustment
- 1.3 Position an adjustable leg support system in its rearmost position. (8/27/04 interpretation to Toyota)
 N/A – No adjustable leg support system
- 1.4 **Mark** a point (seat cushion reference point) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion. (S16.3.1.12)
- 1.5 Draw a line (seat cushion reference line) through the seat cushion reference point. (S16.3.1.13)
- 1.6 Use only the controls that primarily move the seat in the fore-aft direction to move the seat cushion reference point to the rearmost position. (S16.2.10.3.1, S22.1.7.3)
- 1.7 If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the seat cushion reference point to the rearmost position. (S16.2.10.3.1, S20.1.9.3)
 N/A – No independent fore-aft seat cushion adjustment
- 1.8 Use any part of any control, other than the parts just used for fore-aft positioning, to determine the range of angles of the seat cushion reference line and to set the seat cushion reference line at the mid-angle. (S16.2.10.3.1)
Maximum angle _____
Minimum angle _____
Mid-angle _____
- 1.9 If the seat and/or seat cushion height is adjustable, use any part of any control other than the parts which primarily move the seat or seat cushion fore-aft, to put the seat cushion reference point in its lowest position with the seat cushion reference line angle at the mid-angle found in 1.8. (S16.2.10.3.1)
 N/A – No seat height adjustment
- 1.10 Use only the controls that primarily move the seat in the fore-aft direction to verify the seat is in the rearmost position.
- 1.11 Use only the controls that primarily move the seat in the fore-aft direction to **mark** for future reference the fore-aft seat positions. **Mark** each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and **mark** each detent. For power seats, **mark** only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost.
- 1.12 Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.

- ___ 1.13 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S22.4.3.1, S24.1.2, S24.3.1, S24.4.3.1, S26.2.3, S26.3.1)
 ___ N/A – No seat height adjustment. Go to 1.18
- ___ 1.14 Use only the controls that primarily move the seat and/or seat cushion in the fore-aft direction to place the seat in the mid-fore-aft position.
- ___ 1.15 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S24.1.2, S24.3.1)
- ___ 1.16 Use only the control that change the seat in the fore-aft direction to place the seat in the foremost position. (S16.2.10.3.2)
- ___ 1.17 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S16.2.10.3.3, S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S24.1.2, S24.3.1)
- ___ 1.18. Visually **mark** for future reference the seat back angle at the manufacturer's nominal design riding position for a **50th percentile adult male** in the manner specified by the manufacturer for the rearmost, mid, and foremost seat positions. (S20.1.9.5, S22.1.7.5, S22.4.2.1, S22.4.3.1, S24.1.2, S24.4.2.1, S26.2.3, S26.3.1)
 ___ N/A – No seat back angle adjustment
 Manufacturer's design seat back angle _____
- ___ 1.19. Is the seat a bucket seat?
 ___ Yes, go to 1.20 and skip 1.21
 ___ No, go to 1.21 and skip 1.20
- ___ 1.20 Bucket seats:
 Locate and **mark** for future reference the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline of a bucket seat cushion. (S16.3.1.10 & S20.1.10)
- ___ 1.21 Bench seats (complete ONLY the one that is applicable to the seat being marked):
 ___ 1.21.1 Driver Seat
 Locate and **mark** for future reference the longitudinal line on the seat cushion that marks the intersection of the vertical longitudinal plane through the centerline of the steering wheel and the seat cushion upper surface.
 ___ 1.21.2 Passenger Seat
 Locate and **mark** for future reference the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S20.2.1.3, S22.2.1.3, S24.2.3, S20.4.4, S22.2.2.1(b), S22.2.2.3(b), S22.2.2.4(a), S22.2.2.5(a), S22.2.2.6(a), S22.2.2.7(a), S24.2.3(a))
 Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel. _____
 Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. (The vertical plane through this longitudinal centerline is Plane B for suppression.) _____
2. Head Restraint Position
 ___ N/A Vehicle contains automatic head restraints.
 ___ N/A, there is no head restraint adjustment
- ___ 2.1 Adjust the head restraint to its lowest position. (S16.2.10.2, S20.1.9.6 S20.4.1, S22.1.7.6, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)

- __2.2 All adjustments of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible. **Mark** the foremost position. (S16.2.10.2 & S16.3.4.4 & S20.1.9.6, S20.4.1, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)
- __2.3 Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and **mark** a horizontal plane through the midpoint of this distance. (S16.3.4.3)
Vertical height of head restraint ____ mm
Mid-point height ____ mm

I certify that I have read and performed each instruction.

Date

DATA SHEET 14.2**MARKING OF REFERENCE POINTS FOR 50TH MALE**

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

___ Driver Seat ___ Passenger Seat _____ Other seat

- ___ 1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
___ N/A – No lumbar adjustment
- ___ 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
___ N/A – No additional support adjustment
- ___ 3. Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the rearmost position. **Mark** this position for future reference. (8/31/95 legal interp to Hogan and Hartson)
- ___ 4. Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the foremost position. **Mark** this position for future reference. (8/31/95 legal interp to Hogan and Hartson)
- ___ 5. **Mark** each fore-aft position so that there is a visual indication when the seat is at a particular position. For manual seats, **mark** each detent. For power seats, **mark** only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost. Determine the mid fore-aft seat position based on the foremost and rearmost positions determined in items 3 and 4. (8/31/95 legal interp to Hogan and Hartson)
- ___ 6. Move the seat to the mid position.
- ___ 7. While maintaining the mid position, move the seat to its lowest position. **Mark** the height position for future reference. For seats with adjustable seat cushions, use the manufacturer's recommended seat cushion angle for determining the lowest height position.
- ___ 8. Visually **mark** for future reference the seat back angle, if adjustable, at the manufacturer's nominal design riding position for a **50th percentile adult male** in the manner specified by the manufacturer.
___ N/A – No seat back angle adjustment
___ Previously marked during Data Sheet 14.1 go to 9
Manufacturer's design seat back angle _____
- ___ 9. Is the seat a bucket seat?
___ Previously marked during data sheet 14.1. This form is complete.
___ Yes, go to 10 and skip 11
___ No, go to 11 and skip 10
- ___ 10. Bucket seats:
Locate and **mark** for future reference the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline of a bucket seat cushion. (S10.4.1.2 and S16.3.1.10)
- ___ 11. Bench seats (complete ONLY the one that is applicable to the seat being marked):
11.1 Driver Seat
Locate and **mark** for future reference the longitudinal line on the seat cushion that marks the intersection of the vertical longitudinal plane through the centerline of the steering wheel and the seat cushion upper surface. (S10.4.1.1)

11.2 Passenger Seat

Locate and **mark** for future reference the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel.

(S10.4.1.1)

Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel. _____

Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. _____

I certify that I have read and performed each instruction.

Date

DATA SHEET 14.3

MARKING OF REFERENCE POINTS FOR STEERING WHEEL

NHTSA No. _____

Test Date: _____

Laboratory: _____

Test Technician(s): _____

- __1. Is the steering wheel adjustable up and down and/or in and out?
__Yes – go to 2
__No – this form is complete
- __2. Find and **mark** for future reference each up and down position. Label three of the positions with the following: H for highest, M for mid-position (if there is no mid-position, label the next lowest adjustment position), and L for lowest.
__N/A – steering wheel is not adjustable up and down
- __3. Find and **mark** for future references each in and out position. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the next rearmost adjustment position), and R for rearmost.
__N/A – steering wheel is not adjustable in and out.

I certify that I have read and performed each instruction._____
Date

DATA SHEET 14.4

MARKING OF REFERENCE POINTS FOR DRIVER LOW RISK DEPLOYMENT

NHTSA No. _____

Test Date: _____

Laboratory: _____

Test Technician(s): _____

___ Position 1 ___ Position 2

- ___1. Position the steering wheel so the front wheels are in the straight-ahead position. (S26.2.1)
- ___2. Position any adjustable parts of the steering controls to the mid-position as determined in Data Sheet 14.3 above. If a mid-position adjustment is not achievable, position the controls to the next lowest detent position. (S26.2.1)
- ___3. Locate and **mark** the point that is defined by the intersection of the steering wheel cover and a line between the volumetric center of the smallest volume that can encompass the folded undeployed air bag and the volumetric center of the static fully inflated air bag. The vertical plane parallel to the vehicle longitudinal centerline through this point is referred to as "Plane E." (Check determination method below.) (S26.2.2)
Measurements with respect to measurement reference points:

___ Point determined using manufacturer's information supplied by the COTR .
(Include manufacturer's information in the test report.)
OR

___ Point determined by test lab personnel and approved by the COTR.
(Include supporting documentation in the test report.)

- ___4. Locate the highest point of the air bag module cover. The horizontal plane through this point is referred to as "Plane F." (Check determination method below.) (S26.2.6)
Measurements with respect to measurement reference points:

___ Point determined using manufacturer's information supplied by the COTR .
(Include manufacturer's information in the test report.)
OR

___ Point determined by test lab personnel and approved by the COTR.
(Include supporting documentation in the test report.)

I certify that I have read and performed each instruction.

Date

DATA SHEET 14.5

MARKING OF REFERENCE POINTS FOR PASSENGER LOW RISK DEPLOYMENT

NHTSA No. _____

Test Date: _____

Laboratory: _____

Test Technician(s): _____

___ Position 1 ___ Position 2

___ Locate and **mark** the point that is defined by the intersection of the instrument panel and a line between the volumetric center of the smallest volume that can encompass the folded undeployed air bag and the volumetric center of the static fully inflated air bag. (S22.4.1.2, S24.4.1.2) The horizontal plane thru this point is referred to as "Plane C" (S22.4.1.4 and S24.4.1.4). The vertical plane parallel to the vehicle longitudinal centerline and through this point is referred to as "Plane D" (S22.4.1.3 and S24.4.1.3). (Check determination method below.)

Measurements with respect to measurement reference points:

___ Point determined using manufacturer's information supplied by the COTR .
(Include manufacturer's information in the test report.)

OR

___ Point determined by test lab personnel and approved by the COTR.
(Include supporting documentation in the test report.)

I certify that I have read and performed each instruction.

Date

DATA SHEET 15H-Point Determination for 50th Percentile Male Dummy

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

 Driver Designated Seating Position Passenger Designated Seating Position

1. Place the seat in the mid-fore-aft position and full down position, with the head restraint full down and the seat back in the manufacturer's nominal design riding position for the 50th percentile male as determined during the completion of Data Sheet 14.2.
2. Place a 910 mm² piece of muslin cotton cloth over the seat area. (The muslin cloth shall be comparable to 48 threads/in² and density of 2.85 lb/yd.) Tuck the muslin cloth in a sufficient amount to prevent hammocking of the material.
3. Place the seat and back assembly of the H-Point machine at the centerline of the seat as determined in Data Sheet 14.1 or 14.2.
4. Install the lower leg, and foot segments.
5. Set the length of the lower leg segment at 16.3 inches and the length of the thigh bar at 15.8 inches.
6. Leg and foot placement
 - 6.1 Driver Designated Seating Position
 - 6.1.1 Insert the pin so that the foot angle is never less than 87 degrees.
 - 6.1.2 Place the right foot on the undepressed accelerator pedal with the sole of the foot on the pedal and the heel as far forward as allowable. Do not place the heel on the toe board.
 - 6.1.2 Adjust the left leg to be the same distance from H-point machine centerline as the right leg.
 - 6.1.3 With the T-bar level, place the left foot on the toe board with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toe board and the floor pan and not on the wheelwell projection. If the foot cannot be positioned on the toe board, set it on the floor pan.
 - Foot on toe board
 - Foot on floor pan
 - 6.2 Passenger Designated Seating Position
 - 6.1.1 Insert the pin so that the foot angle is never less than 87 degrees.
 - 6.1.2 Space the lower legs 10.6 inches apart, equally spaced about the centerline of the H-point machine.
 - 6.1.3 With the T-bar level, place the left foot on the toe board with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toe board and the floor pan and not on the wheelwell projection. If the foot cannot be positioned on the toe board, set it on the floor pan.
 - Foot on toe board
 - Foot on floor pan.
 - 6.1.3 With the T-bar level, place the right foot on the toe board with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toe board and the floor pan and not on the wheelwell projection. If the foot cannot be positioned on the toe board, set it on the floor pan.
 - Foot on toe board
 - Foot on floor pan
7. Apply the lower leg weights.
8. Apply the thigh weights.
9. Tilt the back pan forward against the forward stop and draw the H-point machine away from the seatback using the T-bar.

- ___ 10. Repositioning the back pan
- ___ 10.1 Allow the H-point machine to slide rearward until a forward horizontal restraining load on the T-bar is no longer required due to the seat pan contacting the seat back.
 - ___ The seat pan does not slide rearward. Go to 10.2
- ___ 10.2 Slide the H-point machine rearward by a horizontal rearward load applied at the T-bar until the seat pan contacts the seat back.
- ___ 11. Apply a 10 kg load at the intersection of the hip angle quadrant and the T-bar housing along a line from the above intersection to a point just above the thigh bar housing.
- ___ 12. Again apply a 10 kg load at the intersection of the hip angle quadrant and the T-bar housing along a line from the above intersection to a point just above the thigh bar housing.
- ___ 13. Carefully return the back pan to the seat back.
- ___ 14. Install the right and left buttock weights.
- ___ 15. Install the eight torso weights alternately the installation between right and left.
- ___ 16. Tilt the back pan forward until the stop is contacted.
- ___ 17. Rock the H-point from side to side over a 10degree arc (5 degrees to each side of the vertical centerline) for three complete cycles. Restrain the T-bar during rocking so that the seat pan does not change position. Minimize any inadvertent exterior loads applied in a vertical or fore-aft direction. The feet are free to move during this rocking motion.
- ___ 18. Without applying a forward or lateral load lift the right foot off the floor the minimum amount necessary until no additional forward foot movement is obtained.
- ___ 19. Lower the right foot until the heel is in contact with the floor pan and the ball of the foot is in contact with the floor, toe board, or undepressed accelerator pedal.
- ___ 20. Without applying a forward or lateral load lift the left foot off the floor the minimum amount necessary until no additional forward foot movement is obtained.
- ___ 21. Lower the left foot until the heel is in contact with the floor pan and the ball of the foot is in contact with the floor or toe board.
- ___ 22. Is the seat pan level?
 - ___ Yes. Go to 24
 - ___ No. Go to 23
- ___ 23. Apply a sufficient lateral load to the top of the seatback pan to level the H-point machine seat pan on the seat.
- ___ 24. Holding the T-bar to prevent the H-point from sliding forward on the seat cushion, return the seatback pan to the seatback.
- ___ 25. Holding the T-bar to prevent the H-point from sliding forward on the seat cushion, apply sufficient rearward force perpendicular to the back angle bar just above the torso weights to increase the hip angle 3 degrees. Minimize the exterior downward or side forces applied to the H-point machine. Release the force. Repeat this step until the hip angle readout is identical. Complete as many force applications as necessary and record the results in the following table:

Force Application	Hip Angle
1	
2	
3	
4	
5	

- ___ 26. Is the H-point machine level?
 - ___ Yes, go to 27.
 - ___ No, relevel. Go back to step 16 and repeat using a new data sheet.

___27. Record the H-point location.
Describe and mark the measuring reference point. _____

x direction measurement _____

z direction measurement _____

I certify that I have read and performed each instruction.

Date

DATA SHEET 16
AIR BAG SUPPRESSION TELLTALE (S19.2.2)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

- __1. Is the vehicle certified to any suppression performance standards of FMVSS 208?
 __Yes – go to 2
 __No – this form is complete
- __2. Does telltale emit yellow light when the air bag is suppressed? (S19.2.2(a))
 __Yes - Pass **NO – FAIL**
- __3. Are the words “PASSENGER AIR BAG OFF” or “PASS AIR BAG OFF” (S19.2.2(b))
 __3.1 on the telltale? (S19.2.2(b))
 __Yes – Pass, go to 4
 __No – go to 3.2
- __3.2 within 25 mm of the telltale? (S19.2.2(b)) _____mm from the edge of the telltale light
 __Yes - Pass **NO – FAIL**
- __4. Is the telltale separate from the air bag readiness indicator? (S19.2.2(c))
 __Yes - Pass **NO – FAIL**
- __5. Is the telltale within the interior of the vehicle? (S19.2.2(d))
 __Yes - Pass **NO – FAIL**
- __6. Is the telltale forward of and above the design H-point of both the driver’s and the front
 outboard passenger’s seat when the seats are in their forwardmost seating positions?
 (S19.2.2(d))
 __Yes - Pass **NO – FAIL**
- __7. Is the telltale away from surfaces that can be used for temporary or permanent storage of
 objects that could obscure the telltale from either the driver’s or front outboard
 passenger’s view? (S19.2.2(d))
 __Yes - Pass **NO – FAIL**
- __8. Is the telltale located so that it is not obscured from the driver or front outboard passenger
 by a rear-facing child restraint in Appendix A installed in the front outboard passenger
 seat? (S19.2.2(d))
 __Yes - Pass **NO – FAIL**
- __9. Is the telltale visible or recognizable during the night? (S19.2.2(e))
 __Yes - Pass **NO – FAIL**
- __10. Is the telltale visible or recognizable during the day? (S19.2.2(e))
 __Yes - Pass **NO – FAIL**
- __11. If there is a visibility adjustment, do all the adjustment levels make the telltale visible and
 recognizable? (S19.2.2(g))
 __N/A-No visibility adjustment
 __Yes - Pass **NO – FAIL**
- __12. Does the telltale remain illuminated while the air bag is suppressed? (S19.2.2(h)) (Leave
 the air bag suppressed for 5 minutes.)
 __Yes - Pass **NO – FAIL**
- __13. Is the telltale off while the air bag is activated? (S19.2.2(h)) (Leave the air bag activated
 for 5 minutes.)
 __Yes - Pass **NO – FAIL**

 I certify that I have read and performed each instruction.

 Date

DATA SHEET 17

Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart N)(S20)
 NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Child Restraint Name, Model, Date of Manufacture: _____

Base: On Off N/A-Restraint does not have a removable base

(A child restraint with a removable base shall be treated as two separate models, i.e. this form and test procedure will be completed with the base on and then repeated with the base off. (S20.1.7))

Seat Position: Rearmost, mid-height Mid-position, mid-height Foremost, mid-height
 (Use a separate sheet for each of the three fore-aft positions.)

The child restraint has NO visible damage (S20.1.1)

Is the passenger air bag suppression telltale light off when the passenger seat is empty?
 Yes – Note on the result table the instances when a mechanism rather than the telltale is needed to determine the air bag is suppressed. The 3/8/04 interpretation to DaimlerChrysler limits the use of the mechanism to the car bed and the 3-year-old on the edge of the seat.

No

1. Belted tests with rearward facing child restraints and convertible restraints in the rearward-facing mode. (Child restraints listed in Appendix A, sections B and C) (S20.2.1.4)
 - 1.1 Place the SCRP in the position specified in the header information. Use the seat markings determined during the completion of Data Sheet 14.1 to set the fore-aft position, mid-height position, the seat cushion angle, the seat back angle and head restraint. (S20.1.9.4 and S20.1.9.5)
 - N/A – No seat back angle adjustment
 Tested seat back angle _____
 - Seat cushion angle _____
 - N/A – No head restraint adjustment
 - 1.2 Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S20.2.1.4(c))
 - N/A – No adjustable upper seat belt anchorage
 Manufacturer's specified anchorage position. _____
 - Tested anchorage position _____
 - 1.3 Locate and mark a vertical Plane A through the longitudinal centerline of the child restraint. (S20.2.1.2)
 - 1.4 Read the child restraint owner's manual for installation instructions.
 - 1.5 Place the child restraint facing rearward in the seat such that Plane A (item 1.3 above) is aligned with Plane B (determined and marked during the completion of Data Sheet 14.) (S20.2.1.4(a)(1))
 - 1.6 While maintaining the child restraint position with Plane A aligned with Plane B, secure the child restraint by following, to the extent possible, the child restraint manufacturer's directions regarding proper installation of the restraint in the rear facing mode. (S20.2.1.4(b)) Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000) If the vehicle has FMVSS 225 anchorages, do not attach (S20.1.6) the child restraint to these anchorages. (S20.2.1.4(a)(1)) Do NOT attach any tethers. (S20.1.8)
 - 1.7 Place a load cell with a maximum full-scale reading of 225 N (50.6 lb) on a flat, straight section of the lap belt between the child restraint belt path and the contact point with the

belt anchor or vehicle seat, on the side away from the buckle (to avoid interference from the shoulder portion of the belt). (S20.2.1.4(c))

Is there a sheath around the seat belt that interferes with the load cell? Yes No
If yes, cut off all or part of the sheath. All Part

- 1.8 Cinch the seat belt to a tension load of $130\text{ N} \pm 3\text{N}$ ($29.2\text{ lb} \pm 0.7\text{ lb}$) (S20.2.1.4(c))
Record seat belt tension _____
- 1.9 Position the 49 CFR Part 572 Subpart R 12-month-old CRABI dummy in the child restraint by following, to the extent possible, the manufacturer's instructions provided with the child restraint. (S20.2.1.4(d)) (The tension in the seat belt may change from item 1.8. Do NOT readjust the tension unless the fore-aft position of the seat changes because of dummy contact.)
If the seat must be moved rearward because of child restraint or dummy contact with the instrument panel, describe the final location of the seat (S20.1.2):
 N/A – No dummy contact with the instrument panel.
Manual seat adjuster: detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
Power seat adjuster: Using only the control that primarily moves the seat fore and aft move the seat rearward until there is a maximum of 5mm clearance between the dummy or child restraint and the vehicle interior.
 mm between instrument panel and child restraint (max. allowed is 5 mm.)
Recinch the seat belt to a tension load of $130\text{ N} \pm 3\text{N}$ ($29.2\text{ lb} \pm 0.7\text{ lb}$) (S20.2.1.4(c))
Record seat belt tension _____
- 1.10 Complete rows 1 through 12 in Table 1 without changing the position of the child restraint or dummy. If the seat belt is not integrated into the seat, the seat belt tension will have to be adjusted and recorded for each child seat belted position. For each variation of blanket, handle and sunshield position, start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. Wait 10 seconds, and then check whether the air bag is suppressed. (S20.2.1.4(e))
2. Unbelted tests with rear-facing child restraints and convertible child restraints in the rear-facing mode (S20.2.2.4). (Child restraints listed in Appendix A, sections B and C) (S20.2.2.1) – If the vehicle has FMVSS 225 anchorages, do NOT attach (S20.1.6) the child restraint to these anchorages. (S20.2.1.4(a)(1)) Do NOT attach any tethers. (S20.1.8)
Without changing the position of the child restraint or dummy, disconnect the seat belt and return it to its stowed position.
Complete rows 13 through 24 in Table 1 without changing the position of the child restraint or dummy. For each variation of blanket, handle and sunshield position, start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. Wait 10 seconds, and then check whether the air bag is suppressed. (S20.2.2.4(c))
3. Unbelted tests using FMVSS 225 Anchorages with rear-facing child restraints and convertible child restraints in the rear-facing mode. (Child restraints listed in Appendix A, sections B and C) (S20.2.1.4(a)(2)) – Do NOT attach seat belts. (S20.1.6) Do NOT attach any tethers. (S20.1.8)
 N/A - Vehicle does not have FMVSS 225 anchorages or child restraint does not have FMVSS 213 S5.9 devices to mate to the FMVSS 225 anchorages.
- 3.1. Keep the same seat position as in 1.1 above.
- 3.2. Read the child restraint owner's manual for installation instructions.
- 3.3 Attach the child restraint, facing rearward, to the FMVSS 225 anchorages according to the instructions in the child restraint owner's manual and the vehicle owner's manual. Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000) Do NOT attach any tethers. (S20.1.8)
- 3.4 Position the 49 CFR Part 572 Subpart R 12-month-old CRABI dummy in the child restraint by following, to the extent possible, the manufacturer's instructions provided with the child restraint. (S20.2.1.4 (d))

If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:

N/A – No dummy contact with the instrument panel.

Manual seat adjuster: detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)

Power seat adjuster: mm between instrument panel and child restraint (max. allowed is 5 mm.)

- 3.5 Complete rows 25 through 36 in Table 1 without changing the position of the child restraint or dummy. For each position, start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. Wait 10 seconds, and then check whether the air bag is suppressed. (S20.2.1.4(e))
4. Belted tests with convertible child restraints in the forward-facing mode. (Child restraints listed in Appendix A, section C) (S20.2.1.5) – If the vehicle has FMVSS 225 anchorages, do not attach the child restraint to these anchorages. (S20.2.1.5 (a)(1)) Do NOT attach any tethers. (S20.1.8)
- N/A – Not a convertible restraint
- 4.1 Keep the same seat position as in 1.1 through 1.2 above.
- 4.2 Read the child restraint owner’s manual for installation instructions.
- 4.3 Place the child restraint facing forward in the seat such that Plane A (item 1.8 above) is aligned with Plane B (determined and marked during the completion of Data Sheet 14). (S20.2.1.5(a)(1))
- 4.4 While maintaining the child restraint position with Plane A aligned with Plane B, secure the child restraint by following, to the extent possible, the child restraint manufacturer’s directions regarding proper installation of the restraint in the forward facing mode. (S20.2.1.5(b)) Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000) If the vehicle has FMVSS 225 anchorages, do not attach the child restraint to these anchorages. (S20.2.1.5(a)(1)) Do NOT attach any tethers. (S20.1.8)
- 4.5 Place a load cell with a maximum full-scale reading of 225 N (50.6 lb) on a flat, straight section of the lap belt between the child restraint belt path and the contact point with the belt anchor or vehicle seat, on the side away from the buckle (to avoid interference from the shoulder portion of the belt). (S20.2.1.5(c))
- Is there a sheath around the seat belt that interferes with the load cell? Yes No
If yes, cut off all or part of the sheath. All Part
- 4.6 Cinch the seat belt to a tension load of 130 N \pm 3N (29.2 lb \pm 0.7 lb) (S20.2.1.5(c))
Record seat belt tension _____
- 4.7 Position the 49 CFR Part 572 Subpart R 12-month-old CRABI dummy in the child restraint by following, to the extent possible, the manufacturer’s instructions provided with the child restraint. (S20.2.1.5(d)) (The tension in the seat belt may change from item 4.6. Do NOT readjust the tension unless the fore-aft position of the seat changes because of dummy contact.)
- If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:
- N/A – No dummy contact with the instrument panel.
- Manual seat adjuster: detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
- Power seat adjuster: mm between instrument panel and child restraint (max. allowed is 5 mm.)
- Recinch the seat belt to a tension load of 130 N \pm 3N (29.2 lb \pm 0.7 lb)
(S20.2.1.5(c))
- Record seat belt tension _____
- 4.8 Complete rows 37 through 48 in Table 1 below without changing the position of the child restraint or dummy. If the seat belt is not integrated into the seat, the seat belt tension will have to be adjusted and recorded for each child seat belted position. For each

variation of blanket, handle and sunshield position, start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. Wait 10 seconds, and then check whether the air bag is suppressed.

(S20.2.1.5(e))

5. Unbelted tests with rear-facing and convertible child restraints in the forward-facing mode. (Appendix A, sections Band C) (S20.2.2.5) – If the vehicle has FMVSS 225 anchorages, do not attach (S20.1.6) the child restraint to these anchorages. Do NOT attach any tethers. (S20.1.8)

Without changing the position of the child restraint or dummy, disconnect the seat belt and return it to its stowed position.

Complete rows 49 through 60 in Table 1 without changing the position of the child restraint or dummy. For each variation of blanket, handle and sunshield position, start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. Wait 10 seconds, and then check whether the air bag is suppressed.

(S20.2.2.5(c))

6. Unbelted tests using FMVSS 225 Anchorages with convertible child restraints in the forward facing mode (S20.2.2.5). (Child restraints listed in Appendix A, section C) (S20.2.1.5) – Do NOT attach seat belts. (S20.1.6, S20.2.2) Do NOT attach any tethers. (S20.1.8)

___ N/A - Vehicle does not have FMVSS 225 anchorages or child restraint does not have FMVSS 213 S5.9 devices to mate to the FMVSS 225 anchorages.

___ N/A – Not a convertible restraint

- ___ 6.1 Keep the same seat position as in 1.1 above.
- ___ 6.2 Read the child restraint owner’s manual for installation instructions.
- ___ 6.3 Attach the child restraint, facing forward, to the FMVSS 225 anchorages according to the instructions in the child restraint owner’s manual and the vehicle owner’s manual. Do NOT attach any tethers. (S20.1.8) Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000)
- ___ 6.4 Position the 49 CFR Part 572 Subpart R 12-month-old CRABI dummy in the child restraint by following, to the extent possible, the manufacturer’s instructions provided with the child restraint. (S20.2.2.5(b))

If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:

___ N/A – No dummy contact with the instrument panel.

Manual seat adjuster: ___ detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)

Power seat adjuster: ___ mm between instrument panel and child restraint (max. allowed is 5 mm.)

- ___ 6.5 Complete rows 61 through 72 in Table 1 without changing the position of the child restraint or dummy. For each variation of blanket, handle and sunshield position, start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. Wait 10 seconds, and then check whether the air bag is suppressed. (S20.2.2.5(c))

I certify that I have read and performed each instruction.

Date

Table 1

NHTSA No. _____

Test Date: _____

Child Restraint Name, Model, Date of Manufacture: _____

Base: On Off N/A-Restraint does not have a removable base

Seat Position: Rearmost, mid-height Mid-position, mid-height Foremost, mid-height

	Belted, Unbelted, FMVSS 225	Rear facing, Forward facing	Seat Belt Tension (N)	Handle ¹ (S20.1.3)	Sunshield ² (S20.1.4)	Blanket ³ Position 1 (S20.1.5(a))	Blanket ⁴ Position 2 (S20.1.5(b))	Suppressed, FAIL, Or N/A
1	Belted	Rear		Down	In-use	None	N/A	
2	Belted	Rear		Down	Stowed	None	N/A	
3	Belted	Rear		Upright	In-use	None	N/A	
4	Belted	Rear		Upright	Stowed	None	N/A	
5	Belted	Rear		Down	In-use	On	N/A	
6	Belted	Rear		Down	Stowed	On	N/A	
7	Belted	Rear		Upright	In-use	On	N/A	
8	Belted	Rear		Upright	Stowed	On	N/A	
9	Belted	Rear		Down	In-use	N/A	On	
10	Belted	Rear		Down	Stowed	N/A	On	
11	Belted	Rear		Upright	In-use	N/A	On	
12	Belted	Rear		Upright	Stowed	N/A	On	
13	Unbelted	Rear	N/A	Down	In-use	None	N/A	
14	Unbelted	Rear	N/A	Down	Stowed	None	N/A	
15	Unbelted	Rear	N/A	Upright	In-use	None	N/A	
16	Unbelted	Rear	N/A	Upright	Stowed	None	N/A	
17	Unbelted	Rear	N/A	Down	In-use	On	N/A	
18	Unbelted	Rear	N/A	Down	Stowed	On	N/A	
19	Unbelted	Rear	N/A	Upright	In-use	On	N/A	
20	Unbelted	Rear	N/A	Upright	Stowed	On	N/A	
21	Unbelted	Rear	N/A	Down	In-use	N/A	On	
22	Unbelted	Rear	N/A	Down	Stowed	N/A	On	
23	Unbelted	Rear	N/A	Upright	In-use	N/A	On	
24	Unbelted	Rear	N/A	Upright	Stowed	N/A	On	
25	225	Rear	N/A	Down	In-use	None	N/A	
26	225	Rear	N/A	Down	Stowed	None	N/A	
27	225	Rear	N/A	Upright	In-use	None	N/A	
28	225	Rear	N/A	Upright	Stowed	None	N/A	
29	225	Rear	N/A	Down	In-use	On	N/A	
30	225	Rear	N/A	Down	Stowed	On	N/A	
31	225	Rear	N/A	Upright	In-use	On	N/A	
32	225	Rear	N/A	Upright	Stowed	On	N/A	
33	225	Rear	N/A	Down	In-use	N/A	On	
34	225	Rear	N/A	Down	Stowed	N/A	On	
35	225	Rear	N/A	Upright	In-use	N/A	On	
36	225	Rear	N/A	Upright	Stowed	N/A	On	

	Belted, Unbelted, FMVSS 225	Rear facing, Forward facing	Seat Belt Tension (N)	Handle ¹ (S20.1.3)	Sunshield ² (S20.1.4)	Blanket ³ Position 1 (S20.1.5(a))	Blanket ⁴ Position 2 (S20.1.5(b))	Suppressed, FAIL, Or N/A
37	Belted	Forward ⁵		Down	In-use	None	N/A	
38	Belted	Forward ⁵		Down	Stowed	None	N/A	
39	Belted	Forward ⁵		Upright	In-use	None	N/A	
40	Belted	Forward ⁵		Upright	Stowed	None	N/A	
41	Belted	Forward ⁵		Down	In-use	On	N/A	
42	Belted	Forward ⁵		Down	Stowed	On	N/A	
43	Belted	Forward ⁵		Upright	In-use	On	N/A	
44	Belted	Forward ⁵		Upright	Stowed	On	N/A	
45	Belted	Forward ⁵		Down	In-use	N/A	On	
46	Belted	Forward ⁵		Down	Stowed	N/A	On	
47	Belted	Forward ⁵		Upright	In-use	N/A	On	
48	Belted	Forward ⁵		Upright	Stowed	N/A	On	
49	Unbelted	Forward	N/A	Down	In-use	None	N/A	
50	Unbelted	Forward	N/A	Down	Stowed	None	N/A	
51	Unbelted	Forward	N/A	Upright	In-use	None	N/A	
52	Unbelted	Forward	N/A	Upright	Stowed	None	N/A	
53	Unbelted	Forward	N/A	Down	In-use	On	N/A	
54	Unbelted	Forward	N/A	Down	Stowed	On	N/A	
55	Unbelted	Forward	N/A	Upright	In-use	On	N/A	
56	Unbelted	Forward	N/A	Upright	Stowed	On	N/A	
57	Unbelted	Forward	N/A	Down	In-use	N/A	On	
58	Unbelted	Forward	N/A	Down	Stowed	N/A	On	
59	Unbelted	Forward	N/A	Upright	In-use	N/A	On	
60	Unbelted	Forward	N/A	Upright	Stowed	N/A	On	
61	225	Forward ⁵	N/A	Down	In-use	None	N/A	
62	225	Forward ⁵	N/A	Down	Stowed	None	N/A	
63	225	Forward ⁵	N/A	Upright	In-use	None	N/A	
64	225	Forward ⁵	N/A	Upright	Stowed	None	N/A	
65	225	Forward ⁵	N/A	Down	In-use	On	N/A	
66	225	Forward ⁵	N/A	Down	Stowed	On	N/A	
67	225	Forward ⁵	N/A	Upright	In-use	On	N/A	
68	225	Forward ⁵	N/A	Upright	Stowed	On	N/A	
69	225	Forward ⁵	N/A	Down	In-use	N/A	On	
70	225	Forward ⁵	N/A	Down	Stowed	N/A	On	
71	225	Forward ⁵	N/A	Upright	In-use	N/A	On	
72	225	Forward ⁵	N/A	Upright	Stowed	N/A	On	

- 1 If there is no handle, place N/A in the Suppressed/FAIL column in the rows marked "Upright." "Down" means the child restraint manufacturer's recommended position or there is no handle. (S20.1.3)
- 2 If there is no sunshield, place N/A in the Suppressed/FAIL column in the rows marked "In-use." (S20.1.4)
- 3 Blanket position 1 (S20.1.5(a)): Place a blanket on the child restraint so that the top and side edges of the restraint are covered. The vehicle seat shall not support the blanket.

- 4 Blanket position 2 (S20.1.5(b)): Place a blanket on the child restraint so that it rests on the top of the vehicle's seat back and the forward most (towards the instrument panel) edge of the child restraint.
- 5 Convertible restraints ONLY (S20.2.1.5) (Appendix A, section C)

Record the weight of the blanket. (Cannot be more than 1 kg (2.2 lb.) _____
(S20.1.5)

Comments (Record any position readjustments or problems by first stating the row number to which the comment applies.): _____

DATA SHEET 18

Suppression Test Using Newborn Infant Dummy (Part 572, Subpart K)(S20.2.3)
(Car beds listed in Appendix A, section A)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Car Bed Name, Model, and Manufacture Date: _____

Base: On Off N/A-Constraint does not have a removable base
(A car bed with a removable base shall be treated as two separate models, i.e. this form and test procedure will be completed with the base on and then repeated on a new form with the base off.)

Seat Position: Rearmost, mid-height Mid-position, mid-height Foremost, mid-height
(Use a separate sheet for each of the three fore-aft positions.)

The child restraint has NO visible damage (S20.1.1)

Is the passenger air bag suppression telltale light off when the passenger seat is empty?
 Yes – Note on the result table the instances when a mechanism rather than the telltale is needed to determine the air bag is suppressed. The 3/8/04 interpretation to DaimlerChrysler limits the use of the mechanism to the car bed and the 3-year-old on the edge of the seat.

No

1. Belted suppression tests with car beds. (S20.2.3) (Car beds listed in Appendix A, section A)

1.1 Place the SCRIP in the position specified in the header information. Use the seat markings determined during the completion of Data Sheet 14.1 to set the fore-aft position, mid-height position, the seat cushion angle, the seat back angle and head restraint. (S20.1.9.1, S20.1.9.2, S20.1.9.3, S20.1.9.4, S20.1.9.5, S20.1.9.6)

N/A – No seat back angle adjustment

Tested seat back angle _____

Seat cushion angle _____

N/A – No head restraint adjustment

1.2 Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S20.2.3.2 (b))

N/A – No adjustable upper seat belt anchorage

Manufacturer's specified anchorage position. _____

Tested anchorage position _____

1.3 Read the car bed owner's manual for installation instructions.

1.4 Secure the car bed with the seat belt by following, to the extent possible, the car bed manufacturer's directions regarding proper installation of the restraint. (S20.2.3.2 (a))
Do NOT use any positioning devices such as towels. If the vehicle has FMVSS 225 anchorages, do not attach the car bed to these anchorages. (S20.1.6) Do NOT attach any tethers. (S20.1.8)

1.4.1 Does placement of the car bed prevent the door from closing and completely latching?
(6/9/03 legal interpretation to DaimlerChrysler)

Yes – **Inform COTR** No

1.4.2 Does placement of the car bed prevent the driver from operating the vehicle in a reasonable manner? (6/9/03 legal interpretation to DaimlerChrysler)

No

Yes – Explain and **inform COTR**: _____

1.4.3 Is the car bed rotated more than 30 degrees with respect to a vertical longitudinal plane?

No Yes - _____ degrees (6/9/03 legal interpretation to DaimlerChrysler)

___1.5 Position the 49 CFR Part 572 Subpart K Newborn Infant dummy in the car bed by following, to the extent possible, the car bed manufacturer’s instructions provided with the car bed. (S20.2.3.2 (c))

If the seat must be moved rearward because of contact with the instrument panel, describe the final location of the seat:

___ N/A – No contact with the instrument panel.

Manual seat adjuster: ___ detent(s) rearward of the fore-most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)

Power seat adjuster: ___ mm between instrument panel and child restraint (max. allowed is 5 mm.)

___1.6 Complete rows 1 through 12 in Table 2 without changing the position of the child restraint or dummy. For each variation of blanket, handle and sunshield position, start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. Wait 10 seconds, and then check whether the air bag is suppressed (S20.2.3(d)).

2. Unbelted suppression tests using FMVSS 225 Anchorages with car bed (S20.1.6). (Car beds listed in Appendix A, section A) Car beds are not required by FMVSS 213 to have devices to mate to FMVSS 225 anchorages.

___N/A - Vehicle does not have FMVSS 225 anchorages or car bed does not have FMVSS 213 S5.9 devices to mate to the FMVSS 225 anchorages.

___2.1 Keep the same seat position as in 1.1 above.

___2.2 Read the car bed owner’s manual and the vehicle owner’s manual for installation instructions.

___2.3 Attach the car bed to the FMVSS 225 anchorages according to the instructions in the car bed owner’s manual and the vehicle owner’s manual. Do NOT attach seat belts. (S20.1.6) Do NOT attach any tethers. (S20.1.8)

___2.3.1 Does placement of the car bed prevent the door from closing and completely latching? (6/9/03 legal interpretation to DaimlerChrysler)

___Yes – **Inform COTR** ___No

___2.3.2 Does placement of the car bed prevent the driver from operating the vehicle in a reasonable manner? (6/9/03 legal interpretation to DaimlerChrysler)

___No

___Yes – Explain and **inform COTR**: _____

___2.3.3 Is the car bed rotated more than 30 degrees with respect to a vertical longitudinal plane? ___No ___Yes - _____degrees (6/9/03 legal interpretation to DaimlerChrysler)

___2.4 Position the 49 CFR Part 572 Subpart K Newborn Infant dummy in the car bed by following, to the extent possible, the car bed manufacturer’s instructions provided with the car bed. (S20.2.3.2 (c))

If the seat must be moved rearward because of contact with the instrument panel, describe the final location of the seat:

___ N/A – No contact with the instrument panel.

Manual seat adjuster: ___ detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)

Power seat adjuster: ___ mm between instrument panel and child restraint (max. allowed is 5 mm.)

___2.5 Complete rows 13 through 24 in Table 2 without changing the position of the child restraint or dummy. For each position, start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. Wait 10 seconds, and then check whether the air bag is suppressed. (S20.2.3.2(d))

I certify that I have read and performed each instruction.

Date

Table 2

NHTSA No. _____

Test Date: _____

Car Bed Name, Model, and Manufacture Date: _____

Base: On Off N/A—Restraint does not have a removable base

Seat Position: Rearmost, mid-height Mid-position, mid-height Foremost, mid-height

	Belted, FMVSS 225	Handle ¹ (S20.1.3)	Sunshield ² (S20.1.4)	Blanket ³ Position 1 (S20.1.5(a))	Blanket ⁴ Position 2 (S20.1.5(b))	Suppressed, FAIL, Or N/A
1	Belted	Down	Fully Open	None	N/A	
2	Belted	Down	Fully Closed	None	N/A	
3	Belted	Upright	Fully Open	None	N/A	
4	Belted	Upright	Fully Closed	None	N/A	
5	Belted	Down	Fully Open	On	N/A	
6	Belted	Down	Fully Closed	On	N/A	
7	Belted	Upright	Fully Open	On	N/A	
8	Belted	Upright	Fully Closed	On	N/A	
9	Belted	Down	Fully Open	N/A	On	
10	Belted	Down	Fully Closed	N/A	On	
11	Belted	Upright	Fully Open	N/A	On	
12	Belted	Upright	Fully Closed	N/A	On	
13	225	Down	Fully Open	None	N/A	
14	225	Down	Fully Closed	None	N/A	
15	225	Upright	Fully Open	None	N/A	
16	225	Upright	Fully Closed	None	N/A	
17	225	Down	Fully Open	On	N/A	
18	225	Down	Fully Closed	On	N/A	
19	225	Upright	Fully Open	On	N/A	
20	225	Upright	Fully Closed	On	N/A	
21	225	Down	Fully Open	N/A	On	
22	225	Down	Fully Closed	N/A	On	
23	225	Upright	Fully Open	N/A	On	
24	225	Upright	Fully Closed	N/A	On	

- 1 If there is no handle, place N/A in the Suppressed /FAIL column in the rows marked "Upright." "Down," means the car bed manufacturer's recommended position or there is no handle.
- 2 If there is no sunshield, place N/A in the Suppressed/FAIL column in the rows marked "In-use."
- 3 Blanket position 1 (S20.1.5 (a)): Place a blanket on the car bed so that all edges of the restraint are covered. The vehicle seat shall not support the blanket.
- 4 Blanket position 2 (S20.1.5 (b)): Place a blanket on the car bed so that it rests on the top of the vehicle's seat back and the forward most (towards the instrument panel) edge of the car bed.

Record the weight of the blanket. (Cannot be more than 1 kg (2.2 lb.) _____ (S20.1.5)

Comments (Record any position readjustments or problems by first stating the row number to which the comment applies.):

DATA SHEET 19

Suppression Test Using 3-Year-Old Dummy (Part 572, Subpart P) and
Booster Seats (S22)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Booster Seat Name, Model, and Manufacture Date: _____

Seat Position: Rearmost, mid-height Mid-position, mid-height Foremost, mid-height
(Use a separate sheet for each of the three fore-aft positions.)

The booster seat has NO visible damage. (S22.1.1)

Is the passenger air bag suppression telltale light off when the passenger seat is empty?

Yes – Note the instances when a mechanism rather than the telltale is needed to determine the air bag is suppressed. The 3/8/04 interpretation to DaimlerChrysler limits the use of the mechanism to the car bed and the 3-year-old on the edge of the seat.

No

1. Belted tests with a booster seat. (Booster seats listed in Appendix A, section D)

1.1 Place the SCRIP in the position specified in the header information. Use the seat markings determined during the completion of Data Sheet 14.1 to set the fore-aft position, mid-height position, the seat cushion angle, the seat back angle and head restraint. (S22.1.7.1, S22.1.7.2, S22.1.7.3, S22.1.7.4, S22.1.7.5, S22.1.7.6)

N/A – No seat back angle adjustment

Tested seat back angle _____

Seat cushion angle _____

N/A – No head restraint adjustment

1.2 Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S22.2.1.6.1)

N/A – No adjustable upper seat belt anchorage

Manufacturer's specified anchorage position. _____

Tested anchorage position _____

1.3 Locate and mark a vertical Plane A through the longitudinal centerline of the booster seat. (S22.2.1.2)

1.4 Read the booster seat owner's manual for installation instructions

1.5 Place the booster seat in the seat such that Plane A (item 1.3 above) is aligned with Plane B (determined and marked during the completion of Data Sheet 14). (S22.2.1.4(a)(1))

1.6 While maintaining the booster seat with Plane A aligned with Plane B, secure the booster seat by following, to the extent possible, the booster seat manufacturer's directions regarding proper installation of the booster seat. Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000) If the vehicle has FMVSS 225 anchorages, do not attach (S22.1.3) the booster seat to these anchorages. (S22.2.1.4(a)) Do NOT attach any tethers. (S22.1.4)

1.7 For a child of the same height and weight as the 3-year-old child dummy (37 in (99 cm), 34 lb (15.4 kg)) is the booster seat designed to be secured to the vehicle seat with the seat belt even when empty?

Yes – complete item 1.7 and skip 1.8

No – go to item 1.8

Place a load cell with a maximum full-scale reading of 225 N (50.6 lb) on a flat, straight section of the lap belt between the booster seat belt path and the contact point with the

- belt anchor or vehicle seat, on the side away from the buckle (to avoid interference from the shoulder portion of the belt). (S22.2.1.6.1)
- Is there a sheath around the seat belt that interferes with the load cell? Yes No
If yes, cut off all or part of the sheath. All Part
- 1.7.1 Cinch the seat belt to a tension load of 130 N \pm 3N (29.2 lb \pm 0.7 lb) (S22.2.1.6.1)
Record seat belt tension _____
- 1.7.2 Position the 49 CFR Part 572 Subpart P 3-year-old dummy in the booster seat such that the dummy's lower torso is centered on the booster seat cushion and the dummy's back is against the seat back of the booster seat or if there is no booster seat back, the vehicle seat back. Place the arms at the dummy's sides. (S22.2.1.6.2)
- 1.7.3 Attach all belts that come with the booster seat that are appropriate for a child of the same height and weight as the 3-year-old child dummy (3'-1", 34 lb), if any, by following, to the extent possible, the manufacturer's instructions for seating children provided with the booster seat. (S22.2.1.6.3)
- 1.8 Position the 49 CFR Part 572 Subpart P 3-year-old dummy in the booster seat such that the dummy's lower torso is centered on the booster seat cushion and the dummy's back is against the seat back of the booster seat or if there is no booster seat back, the vehicle seat back. Place the arms at the dummy's sides. (S22.2.1.6.2)
- 1.8.1 Place the Type 2 manual belt around the test dummy and fasten the latch. Remove all slack from the lap belt portion. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. Apply a 9 to 18 N (2 to 4lb) tension load to the lap belt. Allow the excess webbing in the upper torso belt to be retracted by the retractive force of the retractor. (S22.2.1.6.4)
- 1.9 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.1.7) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.1.8)
 Air Bag Suppressed – Pass
 Air Bag Not Suppressed – **FAIL**
- 1.10 Return the ignition switch to the "off" position.
2. Unbelted tests using FMVSS 225 Anchorages with a booster seat. (Booster seats listed in Appendix A, sections D) – Do NOT attach seat belts. (S22.2.1.4 (b)) Do NOT attach any tethers. (S22.1.4)
- N/A - Vehicle does not have FMVSS 225 anchorages or booster seat does not have FMVSS 213 S5.9 devices to mate to the FMVSS 225 anchorages.
- 2.1 Keep the same seat position as in 1.1 above.
- 2.2 Read the booster seat and vehicle owner's manuals for installation instructions
- 2.3 Attach the booster seat to the FMVSS 225 anchorages according to the instructions in the booster seat and the vehicle owner's manuals. Do NOT attach any tethers. (S22.1.4(a)) Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000)
- 2.4 Position the 49 CFR Part 572 Subpart P 3-year-old dummy in the booster seat such that the dummy's lower torso is centered on the booster seat cushion and the dummy's back is against the seat back of the booster seat or if there is no booster seat back, the vehicle seat back. Place the arms at the dummy's sides. (S22.2.1.6.2)
- 2.5 Attach all belts that come with the booster seat that are appropriate for a child of the same height and weight as the 3-year-old child dummy (3'-1", 34 lb), if any, by following, to the extent possible, the manufacturer's instructions for seating children provided with the booster seat. (S22.2.1.6.3)
- 2.18 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.1.7) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.1.8)
 Air Bag Suppressed – Pass
 Air Bag Not Suppressed – **FAIL**

__2.19 Return the ignition switch to the "off" position.

I certify that I have read and performed each instruction.

Date

DATA SHEET 20

Suppression Test Using 3-Year-Old Dummy (Part 572, Subpart P) and Forward Facing Convertible Child Restraints (S22)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Child Restraint Name, Model, and Manufacture Date: _____

Seat Position: Rearmost, mid-height Mid-position, mid-height Foremost, mid-height
(Use a separate sheet for each of the three fore-aft positions.)

The forward facing child restraint seat has NO visible damage. (S22.1.1)

Is the passenger air bag suppression telltale light off when the passenger seat is empty?
 Yes – Note the instances when a mechanism rather than the telltale is needed to determine the air bag is suppressed. The 3/8/04 interpretation to DaimlerChrysler limits the use of the mechanism to the car bed and the 3-year-old on the edge of the seat.

No

1. Belted tests with a forward facing child restraint. (Child restraints listed in Appendix A, section C)

1.1 Place the SCRIP in the position specified in the header information. Use the seat markings determined during the completion of Data Sheet 14.1 to set the fore-aft position, mid-height position, the seat cushion angle, the seat back angle and head restraint. (S22.1.7.1, S22.1.7.2, S22.1.7.3, S22.1.7.4, S22.1.7.5, S22.1.7.6)

N/A – No seat back angle adjustment

Tested seat back angle _____

Seat cushion angle _____

N/A – No head restraint adjustment

1.2 Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S22.2.1.5.1)

N/A – No adjustable upper seat belt anchorage

Manufacturer's specified anchorage position. _____

Tested anchorage position _____

1.3 Locate and mark a vertical Plane A through the longitudinal centerline of the child restraint. (S22.2.1.2)

1.4 Read the child restraint owner's manual for installation instructions

1.5 Place the child restraint facing forward in the seat such that Plane A (item 1.3 above) is aligned with Plane B (determined and marked during the completion of Data Sheet 14). (S22.2.1.4 (a)(1))

1.6 While maintaining the child restraint position with Plane A aligned with Plane B, secure the child restraint by following, to the extent possible, the child restraint manufacturer's directions regarding proper installation of the restraint in the forward facing mode. Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000) If the vehicle has FMVSS 225 anchorages, do not attach (S22.1.3) the child restraint to these anchorages. (S22.2.1.4 (a)) Do NOT attach any tethers. (S22.1.4)

1.7 Place a load cell with a maximum full-scale reading of 225 N (50.6 lb) on a flat, straight section of the lap belt between the child restraint belt path and the contact point with the belt anchor or vehicle seat, on the side away from the buckle (to avoid interference from the shoulder portion of the belt). (S22.2.1.5.1)

Is there a sheath around the seat belt that interferes with the load cell?

Yes No

If necessary, cut off all or part of the sheath.

None, All, Part

- ___1.8 Cinch the seat belt to a tension load of 130 N \pm 3N (29.2 lb \pm 0.7 lb) (S22.2.1.5.1)
Record seat belt tension
- ___1.9 Position the 49 CFR Part 572 Subpart P 3-year-old dummy in the child restraint such that the dummy's lower torso is centered on the child restraint and the dummy's spine is against the seat back of the child restraint. Place the arms at the dummy's sides. (S22.2.1.5.2)
- ___1.10 Attach all belts that come with the child restraint that are appropriate for a child of the same height and weight as the 3-year-old child dummy (3'-1", 34 lb), if any, by following, to the extent possible, the manufacturer's instructions for seating children provided with the child restraint. (S22.2.1.5.3)
- ___1.11 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.1.7) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.1.8)
___Air Bag Suppressed – Pass
___Air Bag Not Suppressed – **FAIL**
- ___1.12 Return the ignition switch to the "off" position.
2. Unbelted tests using FMVSS 225 Anchorages with a forward facing convertible child restraint. (Child restraint seats listed in Appendix A, sections C) – Do NOT attach seat belts. (S22.2.1.4 (b)) Do NOT attach any tethers. (S22.1.4)
___N/A - Vehicle does not have FMVSS 225 anchorages or child restraint does not have FMVSS 213 S5.9 devices to mate to the FMVSS 225 anchorages.
- ___2.1 Keep the same seat position as in 1.1 above
- ___2.2 Read the child restraint and vehicle owner's manuals for installation instructions
- ___2.3 Attach the child restraint, facing forward, to the FMVSS 225 anchorages according to the instructions in the child restraint owner's manual and the vehicle owner's manual. Do NOT attach any tethers. (S22.1.4) Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000)
- ___2.4 Position the 49 CFR Part 572 Subpart P 3-year-old dummy in the child restraint such that the dummy's lower torso is centered on the child restraint and the dummy's spine is against the seat back of the child restraint. Place the arms at the dummy's sides. (S22.2.1.5.2)
- ___2.5 Attach all belts that come with the child restraint that are appropriate for a child of the same height and weight as the 3-year-old child dummy (3'-1", 34 lb), if any, by following, to the extent possible, the manufacturer's instructions for seating children provided with the child restraint. (S22.2.1.5.3)
- ___2.6 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.1.7) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.1.8)
___Air Bag Suppressed – Pass
___Air Bag Not Suppressed – **FAIL**
- ___2.7 Return the ignition switch to the "off" position.

I certify that I have read and performed each instruction.

Date

DATA SHEET 21

Suppression Tests Using an Unbelted 3-Year-Old Dummy (Part 572, Subpart P) (S22)
 NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Dummy Serial No. _____

Seat Position: Rearmost, mid-height Mid-position, mid-height Foremost, mid-height
 (Use a separate sheet for each of the three fore-aft positions.)

Do NOT use seat belts for these tests. (S22.2.2)

Is the passenger air bag suppression telltale light off when the passenger seat is empty?

Yes – Note the instances when a mechanism rather than the telltale is needed to determine the air bag is suppressed. The 3/8/04 interpretation to DaimlerChrysler limits the use of the mechanism to the car bed and the 3-year-old on the edge of the seat.

No

1. Sitting on seat with back against seat back (S22.2.2.1)
 - 1.1 Place the SCRIP in the position specified in the header information. Use the seat markings determined during the completion of Data Sheet 14.1 to set the fore-aft position, mid-height position, the seat cushion angle, the seat back angle and head restraint. (S22.1.7.1, S22.1.7.2, S22.1.7.3, S22.1.7.4, S22.1.7.5, S22.1.7.6)
 - N/A – No seat back angle adjustment
 - Tested seat back angle _____
 - Seat cushion angle _____
 - N/A – No head restraint adjustment
 - 1.2 Position the dummy in the seated position and place it on the right front outboard seat. (S22.2.2.1(a))
 - 1.3 Position the dummy such that its midsagittal plane is within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14). (S22.2.2.1(b))
 - 1.4 Position the dummy's torso against the seat back. (S22.2.2.1(b))
 - 1.5 Position the dummy's thighs against the seat cushion. (S22.2.2.1(b))
 - 1.6 Allow the legs of the dummy to extend off the surface of the seat. (S22.2.2.1(c))
 If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:
 - N/A – No dummy contact with the instrument panel.
 - Manual seat adjuster: detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
 - Power seat adjuster: mm between instrument panel and child restraint (max. allowed is 5 mm.)
 - 1.7 Rotate the dummy's upper arms until they contact the seat back. (S22.2.2.1(d))
 - 1.8 Rotate the dummy's lower arms until the dummy's hands contact the seat cushion. (S22.2.2.1(e))
 - 1.9 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.1(f)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.1(g))
 - Air Bag Suppressed – Pass
 - Air Bag Not Suppressed – **FAIL**
 - 1.10 Return the ignition switch to the "off" position.
2. Sitting on seat with back against reclined seat back (S22.2.2.2)
 - N/A – No seat back angle adjustment
 - 2.1 Keep the dummy and the seat in the same position as item 1 above.

- __2.2 Recline the seat back an additional 25 degrees or the closest position that does not exceed 25 degrees. (S22.2.2.2)
 Initial seat back angle _____
 Final seat back angle _____
- __2.3 Verify the dummy's midsagittal plane is within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14). (S22.2.2.1(b))
- __2.4 Verify the dummy's torso is against the seat back. (S22.2.2.1(b))
- __2.5 Verify the dummy's thighs are against the seat cushion. (S22.2.2.1(b))
- __2.6 Allow the legs of the dummy to extend off the surface of the seat. (S22.2.2.1(c))
 If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:
 __ N/A – No dummy contact with the instrument panel.
 Manual seat adjuster: __ detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
 Power seat adjuster: __ mm between instrument panel and child restraint (max. allowed is 5 mm.)
- __2.7 Verify the dummy's upper arms contact the seat back. (S22.2.2.1(d))
- __2.8 Verify the dummy's hands contact the seat cushion. (S22.2.2.1(e))
- __2.9 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.1(f)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.1(g))
 __ Air Bag Suppressed – Pass
 __ Air Bag Not Suppressed – **FAIL**
- __2.10 Return the ignition switch to the "off" position.
3. Sitting on seat with back not against seat back (S22.2.2.3)
- __3.1 Keep the dummy and the seat in the same position as item 2 above.
- __3.2 Incline the seat back to the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S22.1.7.5 and S8.1.3)
 __ N/A – No seat back angle adjustment
 Manufacturer's design seat back angle _____
 Tested seat back angle _____
- __3.3 Verify the dummy's midsagittal plane is within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14). (S22.2.2.3(b))
- __3.4 Verify the dummy's torso is against the seat back.
- __3.5 Verify the dummy's thighs are against the seat cushion. (S22.2.2.3(c))
- __3.6 Rotate the dummy forward until the spine is vertical. (S22.2.2.3(b))
- __3.7 Keeping the spine vertical, move the dummy fore or aft to position the dummy's back 25 to 150 mm from the seat back as measured horizontally from the dummy's midsagittal plane at the mid sternum level. (S22.2.2.3(b))
 Distance measured from seat back _____ (25 to 150 mm)
- __3.8 Allow the legs of the dummy to extend off the surface of the seat. (S22.2.2.3(d))
 If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:
 __ N/A – No dummy contact with the instrument panel.
 Manual seat adjuster: __ detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
 Power seat adjuster: __ mm between instrument panel and child restraint (max. allowed is 5 mm.)
- __3.9 If necessary, hold the dummy in position with a material that has a maximum breaking strength of 311 N. (S22.2.2.3 (b))
 __ N/A – Dummy did not need to be supported.
- __3.10 Position the dummy's upper arms parallel to the spine. (S22.2.2.3 (e))
- __3.11 Rotate the dummy's lower arms until the hands contact the seat cushion. (S22.2.2.3 (e))

- ___3.12 Start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.3 (f)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.3 (g))
 ___ Air Bag Suppressed – Pass
 ___ Air Bag Not Suppressed – **FAIL**
- ___3.13 Return the ignition switch to the “off” position.
4. Sitting on seat edge, spine vertical, hands by the dummy’s side (S22.2.2.4)
- ___4.1 Keep the seat in the end position used for 3 above.
- ___4.2 Position the dummy in the seated position and place it on the right front outboard seat. (S22.2.2.1(a))
- ___4.3 Position the dummy such that its midsagittal plane is within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14). (S22.2.2.4(a))
- ___4.4 Position the dummy in the seated position forward in the seat such that the legs are vertical and the back of the legs rest against the front of the seat with the spine vertical. If the dummy’s feet contact the floor pan raising part of the thighs off the seat cushion, rotate the legs forward until the dummy’s thighs are resting on the seat cushion with the feet positioned flat on the floor pan and the dummy spine vertical. (S22.2.2.4(b))
 If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:
 ___ N/A – No dummy contact with the instrument panel.
 Manual seat adjuster: ___ detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
 Power seat adjuster: ___ mm between instrument panel and child restraint (max. allowed is 5 mm.)
- ___4.5 Position the dummy’s upper arms parallel to the spine. (S22.2.2.4(c))
- ___4.6 Rotate the dummy’s lower arms until the hands contact the seat cushion. (S22.2.2.4(d))
- ___4.7 If necessary, hold the dummy in position with a material that has a maximum breaking strength of 311 N. (S22.2.2.4(b))
- ___4.8 Start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.4(e)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.4(f))
 ___ Air Bag Suppressed – Pass
 ___ Air Bag Not Suppressed – **FAIL**
- ___4.9 Return the ignition switch to the “off” position.
5. Standing on seat, facing forward (S22.2.2.5)
- ___5.1 Keep the seat in the end position used for 4 above.
- ___5.2 Position the dummy in a standing position on the right front outboard seat cushion facing the front of the vehicle with the midsagittal plane within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14) and with the heels of the dummy’s feet in contact with the seat back. (S22.2.2.5(a))
- ___5.3 Rest the dummy against the seat back, with the arms parallel to the spine. (S22.2.2.5(b))
- ___5.4 If the seat back must be reclined because of dummy contact with the roof, describe the final location of the seat:
 ___ N/A – No dummy contact with the roof.
 Manual seat back recliner: ___ detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the roof.) (S22.2.2.5(c))
 Power seat adjuster: ___ mm between roof and dummy head (max. allowed is 5 mm.) (S22.2.2.5(c))
- ___5.5 If necessary, hold the dummy in position using a material that has a maximum breaking strength of 311 N or spacer blocks. (S22.2.2.5 (d))
 ___ N/A – Dummy did not need to be supported.

- ___5.6 Start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.5(e)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.5(f))
 ___ Air Bag Suppressed – Pass
 ___ Air Bag Not Suppressed – **FAIL**
- ___5.7 Return the ignition switch to the “off” position.
6. Kneeling on seat facing forward (S22.2.2.6)
- ___6.1 Keep the seat in the end position used for 5 above.
- ___6.2 If the seat back angle was changed in 5.4 above, reset it to the manufacturer’s nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S22.1.7.5 and S8.1.3)
 ___ N/A – No seat back angle adjustment
 ___ N/A – The seat back angle was not adjusted in 5.4 above.
 Manufacturer’s design seat back angle _____
 Tested seat back angle _____
- ___6.3 Position the dummy in a kneeling position on the right front outboard seat cushion facing the front of the vehicle with the midsagittal plane within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14) with the toes at the intersection of the seat back and seat cushion and with the spine vertical. (S22.2.2.6(a) and (b))
- ___6.4 Push down on the legs so that they contact the seat as much as possible and then release. (S22.2.2.6(b))
- ___6.5 Place the arms parallel to the spine. (S22.2.2.6(b))
- ___6.6 If necessary, hold the dummy in position using a material that has a maximum breaking strength of 311 N or spacer blocks. (S22.2.2.6(c))
 ___ N/A – Dummy did not need to be supported.
- ___6.7 Start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.6(d)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.6(e))
 ___ Air Bag Suppressed – Pass
 ___ Air Bag Not Suppressed – **FAIL**
- ___6.8 Return the ignition switch to the “off” position.
7. Kneeling on seat facing rearward (S22.2.2.7)
- ___7.1 Keep the seat in the end position used for 6 above.
- ___7.2 Position the dummy in a kneeling position on the right front outboard seat cushion facing the rear of the vehicle with the midsagittal plane within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14) with the head and torso in contact with the seat back. (S22.2.2.7 (a) and (b))
- ___7.3 Push down on the legs so that they contact the seat as much as possible and then release. (S22.2.2.7(b))
- ___7.4 Place the arms parallel to the spine. (S22.2.2.7(b))
- ___7.5 Start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.7(c)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.7(d))
 ___ Air Bag Suppressed – Pass
 ___ Air Bag Not Suppressed – **FAIL**
- ___7.6 Return the ignition switch to the “off” position.
8. Lying on seat (S22.2.2.8)
- ___8.1 Does the front seat row have 3 or more designated seating positions?
 ___ Yes, ___ No, this form is complete.
- ___8.2 Keep the seat in the end position used for 7 above.
- ___8.3 Lay the dummy on the right front outboard seat with the spine perpendicular to the vehicle’s longitudinal axis, with the dummy facing forward and the head towards the right front door. (S22.2.2.8(a)(2), & S22.2.2.8(a)(5), and S22.2.2.8(a)(6))
- ___8.4 Position the dummy so that the midsagittal plane is horizontal and a plane passing through the two shoulder joints of the dummy is vertical. (S22.2.2.8(a)(1) and S22.2.2.8(a)(4))

- 8.5 Position the dummy's arms parallel to the spine. (S22.2.2.8(a)(3))
- 8.6 Position the dummy so that it is as far back in the seat as possible. (S22.2.2.8(a)(8))
- 8.7 Position the dummy so that the topmost point of the dummy's head is 50 to 100 mm from the vehicle door. (S22.2.2.8(a)(7))
- 8.8 Rotate both thighs as much as possible toward the chest of the dummy and rotate the legs as much as possible against the thighs. (S22.2.2.8(b))
- 8.9 Position the dummy's upper left arm perpendicular to the longitudinal centerline of the vehicle and rotate the lower left arm about the elbow joint and toward the dummy's head until movement is obstructed. (S22.2.2.8(c))
- 8.10 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.8(d)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.8(e))
 - Air Bag Suppressed – Pass
 - Air Bag Not Suppressed – **FAIL**
- 8.11 Return the ignition switch to the "off" position.

I certify that I have read and performed each instruction.

Date

DATA SHEET 22

Suppression Test Using 6-Year-Old Dummy (Part 572, Subpart N) and
Booster Seats (S24.2.1)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Booster Seat Name, Model, and Manufacture Date: _____

Seat Position: Rearmost, mid-height Mid-position, mid-height Foremost, mid-height
(Use a separate sheet for each of the three fore-aft positions.)

The booster seat has NO visible damage. (S24.1.1)

Is the passenger air bag suppression telltale light off when the passenger seat is empty?

Yes – Note the instances when a mechanism rather than the telltale is needed to determine the air bag is suppressed. The 3/8/04 interpretation to DaimlerChrysler limits the use of the mechanism to the car bed and the 3-year-old on the edge of the seat.

No

1. Belted tests with a booster seat. (Booster seats listed in Appendix A, section D, S24.1.1))

1.1 Place the SCRP in the position specified in the header information. Use the seat markings determined during the completion of Data Sheet 14.1 to set the fore-aft position, mid-height position, the seat cushion angle, the seat back angle and head restraint. (S22.1.7.1, S22.1.7.2, S22.1.7.3, S22.1.7.4, S22.1.7.5, S22.1.7.6)

N/A – No seat back angle adjustment

Tested seat back angle _____

Seat cushion angle _____

N/A – No head restraint adjustment

1.2 Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S22.2.1.6.1)

N/A – No adjustable upper seat belt anchorage

Manufacturer's specified anchorage position. _____

Tested anchorage position _____

1.3 Locate and mark a vertical Plane A through the longitudinal centerline of the booster seat. (S22.2.1.2)

1.4 Read the booster seat owner's manual for installation instructions

1.5 Place the booster seat in the seat such that Plane A (item 1.3 above) is aligned with Plane B (determined and marked during the completion of Data Sheet 14). (S22.2.1.4(a)(1))

1.6 While maintaining Plane A aligned with Plane B, secure the booster seat by following, to the extent possible, the booster seat manufacturer's directions regarding proper installation of the booster seat. Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000) If the vehicle has FMVSS 225 anchorages, do not attach (S22.1.3) the booster seat to these anchorages. (S22.2.1.4 (a)) Do NOT attach any tethers. (S24.1.4)

1.7 For a child of the same height and weight as the 6-year-old child dummy (45 in (114 cm), 51.6 lb (23.4 kg), is the booster seat designed to be secured to the vehicle seat with the seat belt even when empty?

Yes – complete item 1.8 and skip 1.9

No – go to item 1.9

- 1.8 Place a load cell with a maximum full-scale reading of 225 N (50.6 lb) on a flat, straight section of the lap belt between the booster seat belt path and the contact point with the belt anchor or vehicle seat, on the side away from the buckle (to avoid interference from the shoulder portion of the belt). (S22.2.1.6.1)
 Is there a sheath around the seat belt that interferes with the load cell?
 Yes No
 If necessary, cut off all or part of the sheath. All Part
- 1.8.1 Cinch the seat belt to a tension load of $130\text{ N} \pm 3\text{N}$ ($29.2\text{ lb} \pm 0.7\text{ lb}$) (S22.2.1.6.1)
 Record seat belt tension _____
- 1.8.2 Position the 49 CFR Part 572 Subpart N 6-year-old dummy in the booster seat such that the dummy's lower torso is centered on the booster seat cushion and the dummy's back is against the seat back of the booster seat or if there is no booster seat back, the vehicle seat back. Place the arms at the dummy's sides. (S22.2.1.6.2)
- 1.8.3 Attach all belts that come with the booster seat that are appropriate for a child of the same height and weight as the 6-year-old child dummy (45 in (114 cm), 51.6 lb (23.4 g)), if any, by following, to the extent possible, the manufacturer's instructions provided with the booster seat for seating children. (S22.2.1.6.3)
- 1.9. Position the 49 CFR Part 572 Subpart N 6-year-old dummy in the booster seat such that the dummy's lower torso is centered on the booster seat cushion and the dummy's back is against the seat back of the booster seat or if there is no booster seat back, the vehicle seat back. Place the arms at the dummy's sides. (S22.2.1.6.2)
- 1.9.1 Place the Type 2 manual belt around the test dummy and fasten the latch. Remove all slack from the lap belt portion. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. Apply a 9 to 18 N (2 to 4lb) tension load to the lap belt. Allow the excess webbing in the upper torso belt to be retracted by the retractive force of the retractor. (S22.2.1.6.4)
- 1.10 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.1.7) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.1.8)
 Air Bag Suppressed – Pass
 Air Bag Not Suppressed – **FAIL**
- 1.11 Return the ignition switch to the "off" position.
2. Unbelted tests using FMVSS 225 Anchorages with a booster seat. (Booster seats listed in Appendix A, sections D) – Do NOT attach seat belts. (S24.1.3) Do NOT attach any tethers. (S24.1.4(a))
 N/A - Vehicle does not have FMVSS 225 anchorages or booster seat does not have FMVSS 213 S5.9 devices to mate to the FMVSS 225 anchorages.
- 2.1 Keep the same seat position as in 1.1 above
- 2.2 Read the booster seat and vehicle owner's manuals for installation instructions
- 2.3 Attach the booster seat to the FMVSS 225 anchorages according to the instructions in the booster seat and the vehicle owner's manuals. Do NOT attach any tethers. (S22.1.4) Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000)
- 2.4 Position the 49 CFR Part 572 Subpart N 6-year-old dummy in the booster seat such that the dummy's lower torso is centered on the booster seat cushion and the dummy's back is against the seat back of the booster seat or if there is no booster seat back, the vehicle seat back. Place the arms at the dummy's sides. (S22.2.1.6.2)
- 2.5 Are belts that come with the booster seat designed to be used for a child of the same height and weight as the 6-year-old child dummy (45 in (114 cm), 51.6 lb (23.4 g))?
 Yes – complete item 2.5.1 and skip 2.6
 No – go to item 2.6
- 2.5.1 Attach all belts that come with the booster seat that are appropriate for a child of the same height and weight as the 6-year-old child dummy (45 in (114 cm), 51.6 lb (23.4 kg)), if any, by following, to the extent possible, the manufacturer's instructions provided with the booster seat for seating children. (S22.2.1.6.3)

- 2.6 Place the Type 2 manual belt around the test dummy and fasten the latch. Remove all slack from the lap belt portion. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. Apply a 9 to 18 N (2 to 4lb) tension load to the lap belt. Allow the excess webbing in the upper torso belt to be retracted by the retractive force of the retractor. (S22.2.1.6.4)
- 2.7 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.1.7) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.1.8)
- Air Bag Suppressed – Pass
- Air Bag Not Suppressed – **FAIL**
- 2.8 Return the ignition switch to the "off" position.

I certify that I have read and performed each instruction.

Date

DATA SHEET 23

Suppression Tests Using an Unbelted 6-Year-Old Dummy (Part 572, Subpart N) (S24.2.1)
 NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Dummy Serial No. _____

Seat Position: ___ Rearmost, mid-height ___ Mid-position, mid-height ___ Foremost, mid-height
 (Use a separate sheet for each of the three fore-aft positions.)

Do NOT use seat belts for these tests. (S22.2.2)

Is the passenger air bag suppression telltale light off when the passenger seat is empty?

___ **Yes – Note the instances when a mechanism rather than the telltale is needed to determine the air bag is suppressed. The 3/8/04 interpretation to DaimlerChrysler limits the use of the mechanism to the car bed and the 3-year-old on the edge of the seat.**

___ **No**

1. Sitting on seat with back against seat back (S22.2.2.1)

- ___ 1.1 Place the SCRIP in the position specified in the header information. Use the seat markings determined during the completion of Data Sheet 14.1 to set the fore-aft position, mid-height position, the seat cushion angle, the seat back angle and head restraint. (S22.1.7.1, S22.1.7.2, S22.1.7.3, S22.1.7.4, S22.1.7.5, S22.1.7.6)
 ___ N/A – No seat back angle adjustment
 Tested seat back angle _____
 Seat cushion angle _____
 ___ N/A – No head restraint adjustment
- ___ 1.2 Position the dummy in the seated position and place it on the right front outboard seat. (S22.2.2.1 (a))
- ___ 1.3 Position the dummy such that its midsagittal plane is coincident is within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14). (S22.2.2.1(b))
- ___ 1.4 Position the dummy's torso against the seat back. (S22.2.2.1(b))
- ___ 1.5 Position the dummy's thighs against the seat cushion. (S22.2.2.1(b))
- ___ 1.6 Allow the legs of the dummy to extend off the surface of the seat. (S22.2.2.1(c))
 If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:
 ___ N/A – No dummy contact with the instrument panel.
 Manual seat adjuster: ___ detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
 Power seat adjuster: ___ mm between instrument panel and child restraint (max. allowed is 5 mm.)
- ___ 1.7 Rotate the dummy's upper arms until they contact the seat back. (S22.2.2.1(d))
- ___ 1.8 Rotate the dummy's lower arms until the dummy's hands contact the seat cushion. (S22.2.2.1 (e))
- ___ 1.9 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.1(f)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.1(g))
 ___ Air Bag Suppressed – Pass
 ___ Air Bag Not Suppressed – **FAIL**
- ___ 1.10 Return the ignition switch to the "off" position.

2. Sitting on seat with back against reclined seat back (S22.2.2.2)

___ N/A – No seat back angle adjustment

- ___2.1 Keep the dummy and the seat in the same position as item 1 above.
- ___2.2 Recline the seat back an additional 25 degrees or the closest position that does not exceed 25 degrees. (S22.2.2.2)
Initial seat back angle _____
Final seat back angle _____
- ___2.3 Verify the dummy's midsagittal plane is coincident is within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14). (S22.2.2.1(b))
- ___2.4 Verify the dummy's torso is against the seat back. (S22.2.2.1(b))
- ___2.5 Verify the dummy's thighs are against the seat cushion. (S22.2.2.1(b))
- ___2.6 Allow the legs of the dummy to extend off the surface of the seat. (S22.2.2.1(c))
If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:
___ N/A – No dummy contact with the instrument panel.
Manual seat adjuster: ___ detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
Power seat adjuster: ___ mm between instrument panel and child restraint (max. allowed is 5 mm.)
- ___2.7 Verify the dummy's upper arms contact the seat back. (S22.2.2.1(d))
- ___2.8 Verify the dummy's hands contact the seat cushion. (S22.2.2.1(e))
- ___2.9 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.1(f)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.1(g))
___ Air Bag Suppressed – Pass
___ Air Bag Not Suppressed – **FAIL**
- ___2.10 Return the ignition switch to the "off" position.
3. Sitting on seat edge, spine vertical, hands by the dummy's side (S22.2.2.4)
- ___3.1 Keep the seat in the end position used for 2 above.
- ___3.2 Incline the seat back to the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S22.1.7.5 and S8.1.3)
___ N/A – No seat back angle adjustment
Manufacturer's design seat back angle _____
Tested seat back angle _____
- ___3.3 Position the dummy in the seated position and place it on the right front outboard seat. (S22.2.2.1(a))
- ___3.4 Position the dummy such that its midsagittal plane is coincident is within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14). (S22.2.2.4(a))
- ___3.5 Position the dummy forward in the seat such that the legs are vertical and the back of the legs rest against the front of the seat with the spine vertical. If the dummy's feet contact the floor pan raising part of the thighs off the seat cushion, rotate the legs forward until the dummy's thighs are resting on the seat cushion with the feet positioned flat on the floor pan and the dummy spine vertical. (S22.2.2.4(b))
If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:
___ N/A – No dummy contact with the instrument panel.
Manual seat adjuster: ___ detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
Power seat adjuster: ___ mm between instrument panel and child restraint (max. allowed is 5 mm.)
- ___3.6 Position the dummy's upper arms parallel to the spine. (S22.2.2.4(c))
- ___3.7 Rotate the dummy's lower arms until the hands contact the seat cushion. (S22.2.2.4(d))
- ___3.8 If necessary, hold the dummy in position with a material that has a maximum breaking strength of 311 N. (S22.2.2.4 (b))

- ___3.9 Start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.4(e)) Wait 10 seconds, and then check whether the air bag is suppressed. (S22.2.2.4(f))
 ___ Air Bag Suppressed – Pass
 ___ Air Bag Not Suppressed – **FAIL**
- ___3.10 Return the ignition switch to the “off” position.
4. Sitting back in the seat and leaning on the front outboard passenger door (S24.2.3)
- ___4.1 Keep the seat in the end position used for 3 above.
- ___4.2 Position the dummy in the seated position and place it on the right front outboard seat. (S24.2.3(a))
- ___4.3 Position the dummy such that its midsagittal plane is coincident is within ± 10 mm of Plane B (determined and marked during the completion of Data Sheet 14). (S24.2.3(a))
- ___4.4 Position the dummy’s back against the seat back and thighs on the seat cushion. (S24.2.3(b))
- ___4.5 Allow the legs and feet to extend off the surface of the seat. If this positioning of the dummy’s legs is prevented by contact with the instrument panel, move the seat rearward. (S24.2.3(c))
 If the seat must be moved rearward because of dummy contact with the instrument panel, describe the final location of the seat:
 ___ N/A – No dummy contact with the instrument panel.
 Manual seat adjuster: ___ detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
 Power seat adjuster: ___ mm between instrument panel and child restraint (max. allowed is 5 mm.)
- ___4.6 Rotate the dummy’s upper arms toward the seat back until they make contact. (S24.2.3(d))
- ___4.7 Rotate the dummy’s lower arms down until they contact the seat. (S24.2.3(e))
- ___4.8 Close the vehicle’s passenger-side door and then start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system. (S24.2.3 (f))
- ___4.9 Push against the dummy’s left shoulder to lean the dummy against the door; close all remaining doors. (S24.2.3 (g))
- ___4.10 Wait 10 seconds, and then check whether the air bag is suppressed. (S24.2.3 (h))
 ___ Air Bag Suppressed – Pass
 ___ Air Bag Not Suppressed – **FAIL**
- ___4.11 Return the ignition switch to the “off” position.

 I certify that I have read and performed each instruction.

 Date

DATA SHEET 24

Low Risk Deployment Test Using 12-month-old CRABI Dummy (Part 572, Subpart N)(S20.4)
 NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Child Restraint Name and Model: _____	Separate Base?	Y	N
Test conditions to be specified by COTR. (circle test conditions)			
Base Used? (S20.1.7)	Y	N	N/A
Handle Position? (S20.1.3)	Up	Down	N/A
Sunshade? (S20.1.4)	In-use	Stowed	N/A
Blanket Position 1? (S20.1.5(a))	Y	N	N/A
Blanket Position 2? (S20.1.5(b))	Y	N	N/A

(A child restraint with a removable base shall be treated as two separate models)

___The child restraint has NO visible damage. (S20.1.1)

Restrained tests with rearward facing child restraints and convertible restraints in the rearward-facing mode. (Child restraints listed in Appendix A, sections B and C (S20.4.2))

- ___1. Place the SCRIP in the full forward, mid-height position, mid-seat cushion angle, head restraint position and seat back angel determined during the completion of Data Sheet 14.1. (S20.4.1)
 - ___ N/A – No seat back angle adjustment
 - Tested seat back angle _____
 - Seat cushion angle _____
 - ___ N/A – No head restraint adjustment
- ___2. Place any adjustable seat belt anchorages at the vehicle manufacturer’s nominal design position for a 50th percentile adult male occupant (S20.4.7)
 - ___ N/A – No adjustable upper seat belt anchorage
 - Manufacturer’s specified anchorage position. _____
 - Tested anchorage position _____
- ___3. Locate and mark a vertical Plane A through the longitudinal centerline of the child restraint. (S20.4.3)
- ___4. If there is a handle, verify the handle is in the specified position.
 - ___N/A – No handle on the child restraint
 - Tested handle position _____
- ___5. If there is a sunshield, verify the sunshield is in the specified position.
 - ___N/A – No sunshield on the child restraint
 - Tested sunshield position _____
- ___6. Read the child restraint owner’s manual for installation instructions.
- ___7. Place the child restraint facing rearward in the seat per the appropriate condition below.
- ___8. The child restraint is certified to S5.9 of FMVSS No. 213, **AND** the vehicle seat has an anchorage system as specified in FMVSS No. 225. Attach the child restraint to the vehicle seat anchorage. Do not attach the vehicle seat belt. Do NOT attach any tethers. (S20.1.8 and S20.4.6) Go to item 10 and skip item 9.
- ___9. Position the child restraint with Plane A (item 3) aligned with Plane B (determined and marked during the completion of Data Sheet 14), secure the child restraint by following, to the extent possible, the child restraint manufacturer’s directions regarding proper installation of the restraint in the rear facing mode. (S20.4.5 and S20.4.7) Do NOT use any positioning devices such as towels. (FR 65 30711, footnote 23, 5/12/2000) Do NOT attach any tethers. (S20.1.8)
- ___9.1 Place a load cell with a maximum full-scale reading of 225 N (50.6 lb) on a flat, straight section of the lap belt between the child restraint belt path and the contact point with the belt anchor or vehicle seat, on the side away from the buckle (to avoid interference from the shoulder portion of the belt). (S20.4.7)

- Is there a sheath around the seat belt that interferes with the load cell? Yes No
 If yes, cut off all or part of the sheath. All Part
- ___9.2 Cinch the seat belt to a tension load of 130 N ± 3N (29.2 lb ± 0.7 lb) (S20.4.7)
 Record seat belt tension _____
- ___10. Position the 49 CFR Part 572 Subpart R 12-month-old CRABI dummy in the child restraint by following, to the extent possible, the manufacturer’s instructions provided with the child restraint. (S20.4.8) (The tension in the seat belt may change from item 9.2. Do NOT readjust the tension unless the fore-aft position of the seat changes because of dummy contact.)
- ___11. If the dummy or child restraint contacts the instrument panel, use only the control that primarily moves the seat in the fore and aft direction to move the seat rearward. (S20.4.1)
 Describe the final location of the seat:
 N/A – No dummy or child restraint contact with the instrument panel.
 Manual seat adjuster: detent(s) rearward of the forward most position (Move the seat the minimum number of detents to eliminate contact with the instrument panel.)
 Power seat adjuster: mm between instrument panel and dummy or child restraint (max. allowed is 5 mm.)
 Re-cinch the seat belt to a tension load of 130 N ± 3N (29.2 lb ± 0.7 lb) (S20.4.7)
 Record seat belt tension _____
- ___12. Record the air bag deployment and timing requirements in the chart below.
 (Provided by the COTR)
 Number of stages for this test. _____

Stage No.	Firing Time (msec) *	Recorded Firing Time (msec)
1	0.0 msec (Time Zero)	

* Firing time is measured from Time Zero for all stages

- ___13. Connect dummy instrumentation to the test data acquisition system and verify channel operation.
- ___14. Connect the passenger frontal air bag to the air bag firing system per the manufacturer’s instructions, provided by the COTR.
- ___15. Prepare the high-speed video/film cameras.
- ___16. Deploy the passenger frontal air bag per the table above and record the data from the dummy instrumentation. (S20.4.9)
- ___17. Photograph the post-test results
- ___18. Verify recorded firing times match specified firing times +/- 2 milliseconds.

__19. Record injury values for this test.

	FMVSS 208 Maximum Allowable Injury Assessment Value	Measured Value* Dummy Serial No. _____
HIC ₁₅	390	
Chest Acceleration	50 g	
Peak Nij (Nte)	1.0	
Time (ms)	NA	
Peak Nij (Ntf)	1.0	
Time (ms)	NA	
Peak Nij (Nce)	1.0	
Time (ms)	NA	
Peak Nij (Ncf)	1.0	
Time (ms)	NA	
Neck Tension (Fz)	780 N	
Neck Compression (Fz)	960 N	

*Calculated on data recorded for 125 ms after the initiation of the final stage of air bag deployment designed to deploy in any full frontal rigid barrier crash up to 64 km/h. (S4.11(c))

I certify that I have read and performed each instruction.

Date

DATA SHEET 25

Low Risk Deployment Tests Using an Unbelted 3-Year-Old Dummy (Part 572, Subpart P) (S22)
 Position 1 - Chest On Instrument Panel (S22.4.2)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Dummy Serial No. _____

___1. Place the SCRIP in the full rearward, lowest height position, mid-seat cushion angle, head restraint position and seat back angle determined during the completion of Data Sheet 14.1. (S22.4.2.1)

___ N/A – No seat back angle adjustment
 Tested seat back angle _____
 Seat cushion angle _____

___ N/A – No head restraint adjustment

___2. Mark a point on the instrument panel that is longitudinally and transversely, as measured along the surface on the instrument panel, within ± 6 mm of the point that is defined by the intersection of the instrument panel and a line between the volumetric center of the smallest volume that can encompass the folded undeployed air bag and the volumetric center of the static fully inflated air bag. (S22.4.1.2) **(See manufacturer’s information.)** The vertical plane parallel to the vehicle longitudinal centerline and through this point is “Plane D.” (S22.4.1.3)

___3. Locate and mark a point on the front of the dummy’s chest jacket on the midsagittal plane that is 14 mm ± 3mm along the surface of the skin from the top of the skin at the neck line. This is referred to as “Point 1.” (S22.4.1.1)

___4. Position a calibrated Part 572 Subpart P three-year-old dummy in the seated position and place it on the right front outboard seat. (S22.4.2.2)

___5. Position the dummy such that its midsagittal plane is coincident with Plane D (determined and marked during the completion of Data Sheet 14). (S22.4.2.2.1)

___6. Position the dummy’s legs in a vertical orientation and place the calves in contact with the seat cushion. (S22.4.2.2.2)

___7. Position the upper arms parallel to the torso, and place the hands in contact with the thighs. (S22.4.2.2.3)

___8. Without changing the seat position, position the dummy torso so the rear face of the thorax instrument cavity is vertical. (S22.4.2.3)

Thorax instrument cavity angle _____
 Thigh Angle _____

___9. Move the dummy forward on the seat, maintaining the thorax instrument cavity and thigh angles, until the dummy head/torso contacts the instrument panel. If the dummy loses contact with the seat cushion maintain the height of the dummy and angles of the thighs with respect to the torso until head/torso contact with the instrument panel occurs. (S22.4.2.3) Adjust the dummy thighs and legs the minimum amount necessary to ensure torso/head contact with the instrument panel when the dummy is moved forward. (S22.4.2.2.2)

___ Leg/thigh adjustments needed
 Thigh Angle _____

___10. Adjust the dummy position vertically until Point 1(determined and marked during the completion of item 3) lies in Plane C within ± 3 mm (determined and marked during the completion of Data Sheet 14). Adjust the fore/aft position of the dummy to maintain contact with the instrument panel. If the head of the dummy contacts the windshield before point 1 reaches Plane C, lower the dummy to achieve a maximum clearance of 5mm (0.2 inches) between the head and the windshield. (S22.4.2.3)

___ Point 1 Lies within Plane C. Height of Point 1 _____mm
 ___ Head Contacted Windshield Height of Point 1 _____mm
 Head/ windshield Clearance _____mm

- __11. Verify dummy legs are vertical. (S22.4.2.4)
 - __ Positioning of the dummy does not allow the legs to be vertical
- __12. Position the feet flat on the floor pan if possible, otherwise, position feet parallel to the floor pan. (S22.4.2.4)
 - __ Feet placed on floor pan
 - __ Feet placed parallel to floor pan
- __13. Using material with a maximum breaking strength of 311 N (70 lb) and spacer blocks. Support the dummy so that there is minimum interference with the full rotational and translational freedom for the upper torso of the dummy. The material should support the torso rather than the head and should not interfere with the air bag (S22.4.2.5)
 - __ Photograph final setup and record position.
 - Thorax Cavity Angle _____degrees
 - Thigh Angle _____degrees
 - Point 1 Height _____mm
- __14. Record the Air bag deployment and timing requirements in the chart below.

Number of stages for this test. _____

Stage No.	Firing Time (msec) *	Recorded Firing Time (msec)
1	0.0 msec (Time Zero)	

* Firing time is measured from Time Zero for all stages

- __15. Connect dummy instrumentation to the test data acquisition system and verify channel operation.
- __16. Connect the air bag to the air bag firing system per the manufacturer's instructions, provided by the COTR.
- __17. Prepare the high-speed video/film cameras.
- __18. Deploy the air bag per the table above and record the data from the dummy instrumentation.
- __19. Photograph the post-test results
- __20. Verify recorded firing times match specified firing times +/- 2 milliseconds.

__22. Record injury values for this test.

	FMVSS 208 Maximum Allowable Injury Assessment Value	Measured Value* Dummy Serial No. _____
HIC ₁₅	570	
Chest Acceleration	55 g	
Chest Displacement	34 mm	
Peak Nij (Nte)	1.0	
Time (ms)	NA	
Peak Nij (Ntf)	1.0	
Time (ms)	NA	
Peak Nij (Nce)	1.0	
Time (ms)	NA	
Peak Nij (Ncf)	1.0	
Time (ms)	NA	
Neck Tension (Fz)	1130 N	
Neck Compression (Fz)	1380 N	

*Calculated on data recorded for 100 ms after the initial deployment of the air bag. (S4.11(b))

I certify that I have read and performed each instruction.

Date

DATA SHEET 26

Low Risk Deployment Tests Using an Unbelted 3-Year-Old Dummy (Part 572, Subpart P) (S22)
Position 2 - Head On Instrument Panel (S22.4.3)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Dummy Serial No. _____

- ___1. Place the SCRIP in the full rearward, mid-height position, mid-seat cushion angle, head restraint position and seat back angle determined during the completion of Data Sheet 14.1. (S22.4.3.1)
 ___ N/A – No seat back angle adjustment
 Tested seat back angle _____
 Seat cushion angle _____
 ___ N/A – No head restraint adjustment
- ___2. Mark a point on the instrument panel that is longitudinally and transversely, as measured along the surface on the instrument panel, within ± 6 mm of the point that is defined by the intersection of the instrument panel and a line between the volumetric center of the smallest volume that can encompass the folded undeployed air bag and the volumetric center of the static fully inflated air bag. (S22.4.1.2) **(See manufacturer's information.)** The vertical plane parallel to the vehicle longitudinal centerline and through this point is "Plane D." (S22.4.1.3)
- ___3. Position a calibrated Part 572 Subpart P three-year-old dummy in the seated position and place it on the right front outboard seat. (S22.4.3.2)
- ___4. Position the dummy such that its midsagittal plane is coincident with Plane D (determined and marked during the completion of Data Sheet 14). (S22.4.3.2.1)
- ___5. Position the dummy's legs in a vertical orientation and place the back of the legs in contact with the seat cushion. (S22.4.3.2.2)
- ___6. If the thighs do not rest fully on the seat cushion, position the legs by rotating them forward and placing the feet flat on the floor pan until the thighs rest fully on the seat cushion.
- ___7. Set the transverse distance between the longitudinal centerlines at the front of the knees at 86 to 91 mm (3.4 to 3.6 inches). Maintain the legs and thighs in a vertical plane. (S22.4.3.2.2)
 Knee Separation Distance _____
 Thigh Angle _____
- ___8. Position the dummy torso so the rear face of the thorax instrument cavity is vertical. (S22.4.3.2.2.)
 Thorax instrument cavity angle _____
- ___9. Position the upper arms parallel to the torso, and place the hands in contact with the thighs. (S22.4.3.2.3)
- ___10. Using only the control that primarily moves the seat in the fore and aft direction, move the seat forward, while maintaining the thorax instrument cavity angle until any part of the dummy contacts the instrument panel. (S22.4.3.3)
 ___ No contact. Proceed to step 11
 ___ No head/torso contact. Proceed to step 12
 ___ Head/torso contact. Proceed to step 13
- ___11. Move the dummy forward on the seat, maintaining the thorax instrument cavity, the thigh angles with respect to the horizontal, and dummy height until any part of the dummy contacts the instrument panel. (S22.4.3.4)
 ___ No head/torso contact. Proceed to step 12
 ___ Head/torso contact. Proceed to step 14

- __12. While maintaining the thigh angles with respect to the horizontal, apply a force between the shoulder joints of the dummy, perpendicular to the thorax instrument cavity rear face, until the head or torso comes into contact with the vehicle's instrument panel or until a maximum force of 222 N is achieved. (S22.4.3.5)
 - ___ No head/torso contact. Proceed to step 13
 - ___ Contact. Proceed to step 14
- __13. Release the force. While maintaining the relative angle between the torso and the femurs, roll the dummy forward on the seat cushion, without sliding, until head/torso contact with the instrument panel is achieved. If seat contact is lost prior to or during femur rotation out of the horizontal plane, constrain the dummy to rotate about the dummy H-point. If the dummy cannot be rolled forward on the seat due to contact of the dummy feet with the floor pan, extend the lower legs forward, at the knees, until floor pan contact is avoided. (S22.4.3.5)
 - ___ Head/torso contact achieved when dummy rolled forward
 - ___ Seat contact lost and dummy rotated about the H-point. Head/torso contact achieved
 - ___ Seat contact lost and dummy rotated about the H-point. Legs extended. Head/torso contact achieved
- __14. Using material with a maximum breaking strength of 311 N (70 lb) and spacer blocks, support the dummy so that there is minimum interference with the full rotational and translational freedom for the upper torso of the dummy. The material should support the torso rather than the head and should not interfere with the air bag (S22.4.3.6)
 - ___ Photograph final setup and record position.

Thorax Cavity Angle _____degrees

Thigh Angle _____degrees

- __15. Record the Air bag deployment and timing requirements in the chart below.
Number of stages for this test. _____

Stage No.	Firing Time (msec) *	Recorded Firing Time (msec)
1	0.0 msec (Time Zero)	

* Firing time is measured from Time Zero for all stages

- __16. Connect dummy instrumentation to the test data acquisition system and verify channel operation.
- __17. Connect the air bag to the air bag firing system per the manufacturer's instructions, provided by the COTR.
- __18. Prepare the high-speed video/film cameras.
- __19. Deploy the air bag per the table above and record the data from the dummy instrumentation.
- __20. Photograph the post-test results
- __21. Verify recorded firing times match specified firing times +/- 2 milliseconds.

22. Record injury values for this test.

	FMVSS 208 Maximum Allowable Injury Assessment Value	Measured Value* Dummy Serial No. _____
HIC ₁₅	570	
Chest Acceleration	55 g	
Chest Displacement	34 mm	
Peak Nij (Nte)	1.0	
Time (ms)	NA	
Peak Nij (Ntf)	1.0	
Time (ms)	NA	
Peak Nij (Nce)	1.0	
Time (ms)	NA	
Peak Nij (Ncf)	1.0	
Time (ms)	NA	
Neck Tension (Fz)	1130 N	
Neck Compression (Fz)	1380 N	

*Calculated on data recorded for 100 ms after the initial deployment of the air bag. (S4.11(b))

I certify that I have read and performed each instruction.

Date

DATA SHEET 27

Low Risk Deployment Tests Using an Unbelted 6-Year-Old Dummy (Part 572, Subpart N) (S24)
Position 1 - Chest On Instrument Panel (S24.4.2)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Dummy Serial No. _____

- ___1. Place the SCRIP in the full rearward, lowest height position, mid-seat cushion angle, head restraint position and seat back angle determined during the completion of Data Sheet 14.1. (S24.4.2.1)
 - ___ N/A – No seat back angle adjustment
 - Tested seat back angle _____
 - Seat cushion angle _____
 - ___ N/A – No head restraint adjustment
- ___2. Mark a point on the instrument panel that is longitudinally and transversely, as measured along the surface on the instrument panel, within ± 6 mm of the point that is defined by the intersection of the instrument panel and a line between the volumetric center of the smallest volume that can encompass the folded undeployed air bag and the volumetric center of the static fully inflated air bag. (S24.4.1.2) **(See manufacturer's information.)** The vertical plane parallel to the vehicle longitudinal centerline and through this point is "Plane D." (S24.4.1.3) The horizontal plane through the point is referred to as "Plane C." (S24.4.1.4)
- ___3. Locate and mark a point on the front of the dummy's chest jacket on the midsagittal plane that is 139 mm \pm 3mm along the surface of the skin from the top of the skin at the neck line. This is referred to as "Point 1." (S24.4.1.1)
- ___4. Remove the dummy legs at the pelvic interface. (S24.4.2.2)
- ___5. Position a calibrated Part 572 Subpart N six-year-old dummy in the seated position and place it on the front passenger outboard seat. (S24.4.2.3)
- ___6. Position the dummy such that its midsagittal plane is within ± 10 mm of Plane D. (S24.4.2.3(a))
- ___7. Position the upper arms parallel to the torso, and place the hands in contact with the thighs. (S24.4.2.3(b))
- ___8. Position the dummy torso so the rear face angle of the thorax instrument cavity is 6 degrees forward of vertical. (S24.4.2.3(c))
 - Thorax instrument cavity angle _____
- ___9. Move the dummy forward on the seat, maintaining the thorax instrument cavity angle, until the dummy head/torso contacts the instrument panel or the head contacts the windshield. If the dummy loses contact with the seat maintain the height and angle until head/torso contact with the instrument panel occurs. (S24.4.2.3(c))
 - ___ Head/torso contacts the instrument panel. Proceed to 11
 - ___ Head contacts the windshield. Proceed to 10
- ___10. Maintain the thorax instrument cavity angle and move the dummy forward such that he head is following the angle of the windshield until there is head/torso contact with the instrument panel.
- ___11. Adjust the dummy position vertically until Point 1 is within ± 10 mm of Plane C. Adjust the fore/aft position of the dummy to maintain contact with the instrument panel. If the head of the dummy contacts the windshield before point 1 reaches Plane C, lower the dummy to achieve a maximum clearance of 5mm (0.2 inches) between the head and the windshield. (S24.4.2.3(c))
 - ___ Point 1 Lies within Plane C.
 - ___ Head Contacted Windshield Head/windshield Clearance. _____mm

- __12. Using material with a maximum breaking strength of 311 N (70 lb) and spacer blocks. Support the dummy so that there is minimum interference with the full rotational and translational freedom for the upper torso of the dummy. The material should support the torso rather than the head and should not interfere with the air bag (S22.4.2.4)
 - __ Photograph final setup and record position.

Thorax Cavity Angle _____degrees
 Point 1 Height _____mm

- __13. Record the Air bag deployment and timing requirements in the chart below.

Number of stages for test. _____

Stage No.	Firing Time (msec) *	Recorded Firing Time (msec)
1	0.0 msec (Time Zero)	

* Firing time is measured from Time Zero for all stages

- __14. Connect dummy instrumentation to the test data acquisition system and verify channel operation.
- __15. Connect the air bag to the air bag firing system per the manufacturer's instructions, provided by the COTR.
- __16. Prepare the high-speed video/film cameras.
- __17. Deploy the air bag per the table above and record the data from the dummy instrumentation.
- __18. Photograph the post-test results
- __19. Verify recorded firing times match specified firing times +/- 2 milliseconds.
- __20. Record injury values for this test.

	FMVSS 208 Maximum Allowable Injury Assessment Value	Measured Value* Dummy Serial No. _____
HIC ₁₅	700	
Chest Acceleration	60 g	
Chest Displacement	40 mm	
Peak Nij (Nte)	1.0	
Time (ms)	NA	
Peak Nij (Ntf)	1.0	
Time (ms)	NA	
Peak Nij (Nce)	1.0	
Time (ms)	NA	
Peak Nij (Ncf)	1.0	
Time (ms)	NA	
Neck Tension (Fz)	1490 N	
Neck Compression (Fz)	1820 N	

*Calculated on data recorded for 100 ms after the initial deployment of the air bag. (S4.11(b))

 I certify that I have read and performed each instruction.

 Date

DATA SHEET 28

Low Risk Deployment Tests Using an Unbelted 6-Year-Old Dummy (Part 572, Subpart N) (S24)
Position 2 - Head On Instrument Panel (S24.4.3)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Dummy Serial No. _____

- ___1. Place the SCRP in the full rearward, mid-height position, mid-seat cushion angle, head restraint position and seat back angle determined during the completion of Data Sheet 14.1. (S24.4.3.1)
 - ___ N/A – No seat back angle adjustment
 - Tested seat back angle _____
 - Seat cushion angle _____
 - ___ N/A – No head restraint adjustment
- ___2. Mark a point on the instrument panel that is longitudinally and transversely, as measured along the surface on the instrument panel, within ± 6 mm of the point that is defined by the intersection of the instrument panel and a line between the volumetric center of the smallest volume that can encompass the folded undeployed air bag and the volumetric center of the static fully inflated air bag. (S24.4.1.2) **(See manufacturer's information.)** The vertical plane parallel to the vehicle longitudinal centerline and through this point is "Plane D." (S22.4.1.3)
- ___3. Position a calibrated Part 572 Subpart N six-year-old dummy in the seated position and place it on the right front outboard passenger seat. (S24.4.3.2)
- ___4. Position the dummy such that its midsagittal plane is coincident with Plane D. (S24.4.3.2(a))
- ___5. Position the dummy's legs in a vertical orientation and place the back of the legs in contact with the seat cushion. (S24.4.3.2(b))
- ___6. If the thighs do not rest fully on the seat cushion, position the legs by rotating them forward and placing the feet flat on the floor pan until the thighs rest fully on the seat cushion and the back of the legs are in contact with the front of the seat cushion. (S24.4.3.2(b))
- ___7. Set the transverse distance between the longitudinal centerlines at the front of the knees at 112 to 117 mm (4.4 to 4.6 inches). Maintain the legs and thighs in a vertical plane. (S24.4.3.2(b))
 - Knee Separation Distance _____
 - Thigh Angle _____
- ___8. Position the dummy Torso so the rear face of the thorax instrument cavity is 6 degrees forward of vertical. (S24.4.3.2(b))
 - Thorax instrument cavity angle _____
- ___9. Position the upper arms parallel to the torso, and place the hands in contact with the thighs. (S24.4.3.2(c))
- ___10. Using only the control that primarily moves the seat in the fore and aft direction, move the seat forward while maintaining the thorax instrument cavity angle until any part of the dummy contacts the instrument panel. (S24.4.3.3)
 - ___ No contact. Proceed to step 11
 - ___ Dummy contact, but not torso/head contact. Proceed to step 12
 - ___ Head/torso Contact. Proceed to step 14
- ___11. Slide the dummy forward on the seat, maintaining the thorax instrument cavity and thigh angles. If the dummy loses contact with the seat, maintain the dummy height until any part of the dummy contacts the instrument panel. (S24.4.3.4)
 - ___ No head/torso contact. Proceed to step 12
 - ___ Head/torso Contact. Proceed to step 14

- ___12. While maintaining the thigh angles with respect to the horizontal, apply a force between the shoulder joints of the dummy, perpendicular to the thorax instrument cavity rear face, until the head or torso comes into contact with the vehicle's instrument panel or until a maximum force of 222 N is achieved. (S24.4.3.5)
 - ___ No head/torso contact. Proceed to step 13
 - ___ Head/torso Contact. Proceed to step 14
- ___13. Release the force. While maintaining the relative angle between the torso and the femurs, roll the dummy forward on the seat cushion, without sliding, until head/torso contact with the instrument panel is achieved. If seat contact is lost prior to or during femur rotation out of the horizontal plane, constrain the dummy to rotate about the dummy H-point. If the dummy cannot be rolled forward on the seat due to contact of the dummy feet with the floor pan, extend the lower legs forward, at the knees, until floor pan contact is avoided. (S22.4.3.5)
 - ___ Head/torso contact achieved when dummy rolled forward
 - ___ Seat contact lost and dummy rotated about the H-point. Head/torso contact achieved
 - ___ Seat contact lost and dummy rotated about the H-point. Legs extended. Head/torso contact achieved
- ___14. Using material with a maximum breaking strength of 311 N (70 lb) and spacer blocks. Support the dummy so that there is minimum interference with the full rotational and translational freedom for the upper torso of the dummy. The material should support the torso rather than the head and should not interfere with the air bag (S24.4.3.6)
 - ___ Photograph final setup and record position.
 - Thorax Cavity Angle _____degrees
 - Thigh Angle _____degrees
- ___15. Record the Air bag deployment and timing requirements in the chart below.

Number of stages for this test. _____

Stage No.	Firing Time (msec) *	Recorded Firing Time (msec)
1	0.0 msec (Time Zero)	

* Firing time is measured from Time Zero for all stages

- ___16. Connect dummy instrumentation to the test data acquisition system and verify channel operation.
- ___17. Connect the air bag to the air bag firing system per the manufacturer's instructions, provided by the COTR.
- ___18. Prepare the high-speed video/film cameras.
- ___19. Deploy the air bag per the table above and record the data from the dummy instrumentation.
- ___20. Photograph the post-test results.
- ___21. Verify recorded firing times match specified firing times +/- 2 milliseconds.

__22. Record injury values for this test.

	FMVSS 208 Maximum Allowable Injury Assessment Value	Measured Value* Dummy Serial No. _____
HIC ₁₅	700	
Chest Acceleration	60 g	
Chest Displacement	40 mm	
Peak Nij (Nte)	1.0	
Time (ms)	NA	
Peak Nij (Ntf)	1.0	
Time (ms)	NA	
Peak Nij (Nce)	1.0	
Time (ms)	NA	
Peak Nij (Ncf)	1.0	
Time (ms)	NA	
Neck Tension (Fz)	1490 N	
Neck Compression (Fz)	1820 N	

*Calculated on data recorded for 100 ms after the initial deployment of the air bag. (S4.11(b))

I certify that I have read and performed each instruction.

Date

DATA SHEET 29

Low Risk Deployment Tests Using an Unbelted 5th Percentile Female
 Dummy (Part 572, Subpart O) (S26)
 Position 1 - Chin On Module (S26.2)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Dummy Serial No. _____

- ___1. Position the steering wheel so the front wheels are in the straight-ahead position. (S26.2.1)
- ___2. Using the markings made from data sheet 14.3 (If not done previously or steering repairs have been made, complete data sheet 14.3 at this time.) position the steering controls in the mid-position or if applicable next lowest detent position. (S26.2.1)
- ___3. Place the SCRIP in the full rearward, mid-height position, mid-seat cushion angle, head restraint position and seat back angle determined during the completion of Data Sheet 14.1. (S26.2.3)
 - ___ N/A – No seat back angle adjustment
 Tested seat back angle _____
 - ___ N/A – No head restraint adjustment
 Seat cushion angle _____
- ___4. Using the markings made from data sheet 14.4 (If not done previously or steering repairs have been made, complete data sheet 14.4 at this time.) locate "Plane E." (S26.2.2)
- ___5. Position a calibrated Part 572 Subpart O 5th percentile female dummy in the driver's seat (S26.2.4)
- ___6. Position the dummy such that its midsagittal plane is within ± 10 mm of Plane E (determined during the completion of Data Sheet 14.4). (S26.2.4.1)
- ___7. Position the dummy's legs in a vertical orientation and place the back of the legs in contact with the seat cushion. (S26.2.4.2)
- ___8. Position the dummy's thorax instrument cavity rear face 6 degrees forward (toward the front of the vehicle) of the steering wheel angle (i.e., if the steering wheel angle is 25 degrees from vertical, the thorax instrument cavity rear face angle is 31 degrees.) (S26.2.4.3.)
- ___9. Set the initial transverse distance between the longitudinal centerlines at the front of the dummy's knees at 160 to 170 mm (6.3 to 6.7 in), with the thighs and legs of the dummy in vertical planes. (S26.2.4.4)
- ___10. Position the upper arms parallel to the torso, and place the hands in contact with the thighs. (S26.2.4.5)
- ___11. Slide the dummy forward on the seat, maintaining the thorax instrument cavity angle, until the dummy head/torso contacts the steering wheel. (S26.2.5) Adjust the dummy legs the minimum amount necessary to ensure torso/head contact with the steering wheel when the dummy is moved forward. (S26.2.4.2)
 - ___ Leg adjustments needed
- ___12. Adjust the dummy position vertically using the seat height adjustment or spacer blocks until the bottom of the chin coincides with Plane F (the highest point of the air bag module cover as determined during the completion of Data Sheet 14.4). Adjust the fore/aft position of the dummy to maintain contact with the steering wheel. If the seat prevents placing the Chin Point coincident with Plane F, adjust the dummy position to achieve the closest placement possible. The thorax cavity angle should be maintained throughout the adjustment process. (S26.2.6)
 - ___ Bottom of Chin Lies within Plane F.
 - ___ Seat interfered with positioning. Distance of Chin from Plane F _____ mm

- ___ 13. Using material with a maximum breaking strength of 311 N (70 lb) and spacer blocks. Support the dummy so that there is minimum interference with the full rotational and translational freedom for the upper torso of the dummy. The material should support the torso rather than the head and should not interfere with the air bag (S26.2.7)
 - ___ Photograph final setup and record position.
 - Thorax Cavity Angle _____degrees
 - Distance of Chin from Plane F _____mm

- ___ 14. Record the Air bag deployment and timing requirements in the chart below. Number of stages for this test. _____

Stage No.	Firing Time (msec) *	Recorded Firing Time (msec)
1	0.0 msec (Time Zero)	

* Firing time is measured from Time Zero for all stages

- ___ 15. Connect dummy instrumentation to the test data acquisition system and verify channel operation.
- ___ 16. Connect the air bag to the air bag firing system per the manufacturer's instructions, provided by the COTR.
- ___ 17. Prepare the high-speed video/film cameras.
- ___ 18. Deploy the air bag per the table above and record the data from the dummy instrumentation.
- ___ 19. Photograph the post-test results
- ___ 20. Verify recorded firing times match specified firing times +/- 2 milliseconds.
- ___ 21. Record injury values for this test.

	FMVSS 208 Maximum Allowable Injury Assessment Value	Measured Value* Dummy Serial No. _____
HIC ₁₅	700	
Chest Acceleration	60 g	
Chest Displacement	52 mm	
Peak Nij (Nte)	1.0	
Time (ms)	NA	
Peak Nij (Ntf)	1.0	
Time (ms)	NA	
Peak Nij (Nce)	1.0	
Time (ms)	NA	
Peak Nij (Ncf)	1.0	
Time (ms)	NA	
Neck Tension (Fz)	2070 N	
Neck Compression (Fz)	2520 N	

*Calculated on data recorded for 125 ms after the initiation of the final stage of air bag deployment designed to deploy in any full frontal rigid barrier crash up to 26 km/h. (S4.11(d))

I certify that I have read and performed each instruction.

Date

DATA SHEET 30

Low Risk Deployment Tests Using an Unbelted 5th Percentile Female
 Dummy (Part 572, Subpart O) (S26)
 Position 2 - Chin On Rim (S26.3)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Dummy Serial No. _____

- ___1. Position the steering wheel so the front wheels are in the straight-ahead position. (S26.3.2)
- ___2. Using the markings made from data sheet 14.3 (If not done previously or steering repairs have been made, complete data sheet 14.3 at this time.) position the steering controls in the mid-position or if applicable next lowest detent position. (S26.3.2)
- ___3. Place the SCRPs in the full rearward, mid-height position, mid-seat cushion angle, head restraint position and seat back angle determined during the completion of Data Sheet 14.1. (S26.3.1)
 - ___ N/A – No seat back angle adjustment
 Tested seat back angle _____
 - ___ N/A – No head restraint adjustment
 Seat cushion angle _____
- ___4. Using the markings made from data sheet 14.4 (If not done previously or steering repairs have been made, complete data sheet 14.4 at this time.) locate "Plane E." (S26.3.3)
- ___5. Mark a point on the steering wheel rim in "Plane E" that is 10 mm below the highest point on the steering wheel rim. (S26.3.6)
- ___6. Locate and mark a point on the front of the dummy's chin on the midsagittal plane that is 40 mm \pm 3mm below the center of the mouth. This is referred to as "Chin Point." (S26.3.6)
- ___7. Position a calibrated Part 572 Subpart O 5th percentile female dummy in the driver's seat (S26.3.4)
- ___8. Position the dummy such that its midsagittal plane is within \pm 10 mm of Plane E (determined during the completion of Data Sheet 14.4). (S26.3.4.1)
- ___9. Position the dummy's legs in a vertical orientation and place the back of the legs in contact with the seat cushion. (S26.3.4.2)
- ___10. Position the dummy's thorax instrument cavity rear face 6 degrees forward (toward the front of the vehicle) of the steering wheel angle (i.e., if the steering wheel angle is 25 degrees from vertical, the thorax instrument cavity rear face angle is 31 degrees.) (S26.3.4.3.)
- ___11. Set the initial transverse distance between the longitudinal centerlines at the front of the dummy's knees at 160 to 170 mm (6.3 to 6.7 in), with the thighs and legs of the dummy in vertical planes. (S26.3.4.4)
- ___12. Position the upper arms parallel to the torso, and place the hands in contact with the thighs. (S26.3.4.5)
- ___13. Slide the dummy forward on the seat, maintaining the thorax instrument cavity angle, until the dummy head/torso contacts the steering wheel. (S26.3.5)
- ___14. Adjust the dummy position vertically until the Chin Point is within \pm 10mm of the steering wheel point located in item 5. (S26.3.6)
 - ___Chin Point is within \pm 10mm of the steering wheel point located in item 5. Go to 17
 - ___Chin Point is not within \pm 10mm of the steering wheel point located in item 5 and dummy head contacts the windshield or upper interior. Go to 15
 - ___Chin Point is within \pm 10mm of the steering wheel point located in item 5 and the dummy's leg(s) is in contact with the steering wheel.
 - ___Steering wheel is not adjustable. Go to 17
 - ___Steering wheel is adjustable. Go to 16

- ___15. Lower the dummy until there is no more than 5 mm clearance between the windshield or upper interior. (S26.3.6)
 - ___Chin Point is within ± 10 mm of the steering wheel point located in item 5. Go to 17
 - ___Chin Point is not within ± 10 mm of the steering wheel point located in item 5.
 - ___Steering wheel is not adjustable. Go to 17
 - ___Steering wheel is adjustable. Go to 16
- ___16. Adjust any or all (FR68 65183) of the steering controls to bring the Chin Point within ± 10 mm of the steering wheel point located in item 5. Adjust the rear thorax cavity per step 10. (S26.3.7)
 - Steering Wheel Angle _____ degrees
 - Thorax Cavity angle _____degrees
 - ___ Chin Point is within ± 10 mm of the steering wheel point located in item 5. Go to 17
 - ___ Chin Point is not within ± 10 mm of the steering wheel point located in item 5. Go to 17
- ___17. Using material with a maximum breaking strength of 311 N (70 lb) and spacer blocks. Support the dummy so that there is minimum interference with the full rotational and translational freedom for the upper torso of the dummy. The material should support the torso rather than the head and should not interfere with the air bag (S26.3.8)
 - ___ Photograph final setup and record position.
 - Steering Wheel Angle _____ degrees
 - Thorax Cavity Angle _____degrees
 - Chin Point Height _____mm
- ___18. Record the Air bag deployment and timing requirements in the chart below.
 Number of stages for this test. _____

Stage No.	Firing Time (msec) *	Recorded Firing Time (msec)
1	0.0 msec (Time Zero)	

* Firing time is measured from Time Zero for all stages

- ___19. Connect dummy instrumentation to the test data acquisition system and verify channel operation.
- ___20. Connect the air bag to the air bag firing system per the manufacturer's instructions, provided by the COTR.
- ___21. Prepare the high-speed video/film cameras.
- ___22. Deploy the air bag per the table above and record the data from the dummy instrumentation.
- ___23. Photograph the post-test results
- ___24. Verify recorded firing times match specified firing times +/- 2 milliseconds.

25. Record injury values for this test.

	FMVSS 208 Maximum Allowable Injury Assessment Value	Measured Value Dummy Serial No.
HIC ₁₅	700	
Chest Acceleration	60 g	
Chest Displacement	52 mm	
Peak Nij (Nte)	1.0	
Time (ms)	NA	
Peak Nij (Ntf)	1.0	
Time (ms)	NA	
Peak Nij (Nce)	1.0	
Time (ms)	NA	
Peak Nij (Ncf)	1.0	
Time (ms)	NA	
Neck Tension (Fz)	2070 N	
Neck Compression (Fz)	2520 N	

I certify that I have read and performed each instruction.

Date

DATA SHEET 31

Test of Reactivation of the Passenger Air Bag System with an
Unbelted 5th Percentile Female Dummy (S20.3, 22.3, S24.3)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Seat Position: ___ Rearmost ___ Mid-position ___ Foremost (S20.3.1, 22.3.1, S24.3.1)

Do NOT use seat belts for these tests.

1. This reactivation test is being performed after the following suppression test:
 - ___ Suppression Test Using 12-Month-Old CRABI Dummy (S20)
After section ___ of data sheet 16
 - ___ Suppression Test Using Newborn Infant Dummy (S20)
After section ___ of data sheet 17
 - ___ Suppression Test Using 3-Year-Old Dummy and Booster Seats (S22)
After section ___ of data sheet 18
 - ___ Suppression Test Using 3-Year-Old Dummy and Forward Facing Convertible Child Restraints (S22)
After section ___ of data sheet 19
 - ___ Suppression Test Using an Unbelted 3-Year-Old Dummy (S22)
After section ___ of data sheet 20
 - ___ Suppression Test Using 6 Year-Old-Dummy and Booster Seats (S24.2.1)
After section ___ of data sheet 21
 - ___ Suppression Test Using 6 Year-Old-Dummy (S24.2.1)
After section ___ of data sheet 22
- ___ 2. Leave the seat in the fore-aft position, seat mid-height, and seat cushion angle used for the suppression test.
- ___ 3. Fully recline the seat back. (S16.3.3.1.2)
___ N/A seat back not adjustable.
- ___ 4. Place the dummy in the seat with the legs at an angle of 120 degrees to the thighs. The calves should not be touching the seat cushion. (S16.3.3.1.2, S20.3.2)
- ___ 5. Position the dummy midsagittal plane vertical and coincident with the seating position centerline determined in Data Sheet 14.1. (S16.3.3.1.3 or S16.3.3.1.4)
- ___ 6. Hold down the dummy's thighs and push rearward on the upper torso to maximize the pelvic angle. (S16.3.3.1.5)
- ___ 7. Set the angle between the legs and the thighs to 120 degrees. (S16.3.3.1.6)
- ___ 8. Set the transverse distance between the centers of the front of the knees at 160 to 170 mm (6.3 to 6.7 inches). Center the knee separation with respect to the seat centerline. (S16.3.3.1.6)
Record Knee Separation _____ mm
- ___ 9. Push rearward on the dummy's knees until the pelvis contacts the seat back, or the backs of the calves contact the seat cushion, whichever occurs first. (S16.3.3.1.6)
___ Pelvis contacted seat back.
___ Calves contacted seat cushion.
- ___ 10. Gently rock the upper torso +/- 5 degrees (approximately 51 mm (2 inches)) side to side three times to reduce the friction between the dummy and the seat. (S16.3.3.1.7)

- __11. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (0.2 inches) is achieved or the seat is in the closest detent position that does not cause dummy contact. (S16.3.3.1.8) If needed, extended the legs until the feet do not contact the floor pan. The thighs should be resting on the seat cushion. (S16.3.3.1.8)
- __N/A No contact
- __Dummy contact. Clearance set at maximum of 5mm
Measured Clearance _____ mm
- __Dummy Contact. Seat set at nearest detent position.
Seat position ___ detent positions rearward of full forward
(full forward is position zero)
- __12. Verify the pelvis is not interfering with the seat bight. (S16.3.3.1.9)
- __13. Verify the dummy abdomen is properly installed. (S16.3.3.1.9)
- __14. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level +/- 0.5 degrees. If the head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.3.1.9 and S16.3.3.1.10) (Check All That Apply)
- __Seat back not adjustable
- __Head Level Achieved. (Check all that apply)
- __Head leveled using the adjustable seat back
- __Head leveled using the neck bracket.
Head Angle _____ degrees
- __Head Level NOT Achieved. (Check all that apply)
- __Head angle minimized using the adjustable seat back
- __Head angle minimized using the neck bracket.
Head Angle _____ degrees
- __15. Measure and set the pelvic angle using the pelvic angle gage TE-2504. The pelvic angle should be 20.0 degrees +/- 2.5 degrees. If the pelvic angle cannot be set to 20 degrees, minimize the angular difference. (S16.3.3.1.11)
- __Pelvic angle set to 20.0 degrees +/- 2.5 degrees.
- __Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.
- __Record the pelvic angle. _____ degrees
- __16. Verify the transverse instrument platform of the dummy head is level +/- 0.5 degrees. Use the seat back angle adjustment to level the head. If the head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.3.1.9, S16.3.3.1.10, and S16.3.3.1.11)
- __Head Level Achieved
Head Angle _____ degrees
- __Head Level NOT Achieved.
Head Angle _____ degrees
- __17. Check the dummy for contact with interior after completing adjustments. (S16.3.3.1.12)
- __No contact.
- __Dummy in contact with interior.
- __Seat moved Aft ___ mm from the previous position.
- __Seat moved Aft ___ detent positions from the previous position.
- __18. Foot positioning. (Indicate final position achieved) (S16.3.3.2)
- __18.1 Place feet flat on the toe board. OR
- __18.2 If the feet cannot be placed flat on the toe board, set the feet perpendicular to the lower leg, and rest the heel as far forward on the floor pan as possible. OR
- __18.3 If the heels do not touch the floor pan, set the legs to vertical and set the feet parallel to the floor pan

- ___19. Passenger arm/hand positioning. (S16.3.3.3)
 - ___19.1 Place the dummy's upper arms adjacent to the torso with the arm centerlines as close to a vertical longitudinal plane as possible. (S16.3.3.3.1)
 - ___19.2 Place the palms of the dummy in contact with the outer part of the thighs (S16.3.3.3.2)
 - ___19.3 Place the little fingers in contact with the seat cushion. (S16.3.3.3.3)
- ___20. Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S20.3.2, S22.2.1.7) Wait 10 seconds, and then check whether the air bag is suppressed. (S20.3.4, S22.2.1.8)
 - ___Air Bag Suppressed – **FAIL**
 - ___Air Bag Not Suppressed – Pass
- ___21. Return the ignition switch to the "off" position.

I certify that I have read and performed each instruction.

Date

DATA SHEET 32

VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Impact Angle: _____ Belted Dummies: Yes No

Test Speed: 32 to 40 kmph 0 to 48 kmph 0 to 56 kmph

Driver Dummy: 5th female 50th male Passenger Dummy: 5th female 50th male

- __1. Fill the transmission with transmission fluid to the satisfactory range.
- __2. Drain fuel from vehicle
- __3. Run the engine until fuel remaining in the fuel delivery system is used and the engine stops.
- __4. Record the useable fuel tank capacity supplied by the COTR. _____
- __5. Record the fuel tank capacity supplied in the owner's manual. _____
- __6. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, "Standard Specifications for Hydrocarbon Dry-cleaning Solvents," or gasoline, fill the fuel tank.
Amount added _____
- __7. Fill the coolant system to capacity.
- __8. Fill the engine with motor oil to the max. mark on the dip stick.
- __9. Fill the brake reservoir with brake fluid to its normal level.
- __10. Fill the windshield washer reservoir to capacity.
- __11. Inflate the tires to the tire pressure on the tire placard. If no tire placard is available, inflate the tires to the recommended pressure in the owner's manual.
Tire placard pressure RF____; LF____; RR____; LR____
Owner's manual pressure :RF____; LF____; RR____; LR____
Actual inflated pressure RF____; LF____; RR____; LR____
- __12. Record the vehicle weight at each wheel to determine the unloaded vehicle weight (UVW), i.e. "as delivered" weight).

Right Front =	_____ kg	Right Rear =	_____ kg
Left Front =	_____ kg	Left Rear =	_____ kg
TOTAL FRONT =	_____ kg	TOTAL REAR =	_____ kg
% Total Weight =	_____ %	% Total Weight =	_____ %

UVW = TOTAL FRONT PLUS TOTAL REAR = _____ kg
(If the weight is greater than 2,495 kg, immediately contact the COTR.)

- __13. UVW Test Vehicle Attitude: (all dimensions in millimeters)
 - __13.1 Mark a point on the vehicle above the center of each wheel.
 - __13.2 Place the vehicle on a level surface.
 - __13.3 Measure perpendicular to the level surface to the 4 points marked on the body and record the measurements

RF____; LF____; RR____; LR____

14. Calculate the Rated Cargo and Luggage Weight (RCLW).
- __ 14.1 Does the vehicle have the vehicle capacity weight (VCW) on the certification label or tire placard?
 - __ Yes, go to 14.3.
 - __ No, go to 14.2.
 - __ 14.2 VCW = Gross Vehicle Weight – UVW
 VCW = _____ - _____ = _____
 - __ 14.3 VCW = _____
 - __ 14.4 Does the certification or tire placard contain the Designated Seating Capacity (DSC)?
 - __ Yes, go to 14.6.
 - __ No, go to 14.5 and skip 14.6.
 - __ 14.5 DSC = Total number of seat belt assemblies = _____
 - __ 14.6 DSC = _____
 - __ 14.7 RCLW = VCW – (68 kg x DSC) = _____ - (68 kg x _____) = _____
 - __ 14.8 Is the vehicle certified as a truck, MPV or bus (see the certification label on the door jamb)?
 - __ Yes. If the calculated RCLW is greater than 136 kg, use 136 kg as the RCLW. (S8.1.1)
 - __ No, use the RCLW calculated in 14.7.

- __ 15. Fully Loaded Weight (100% fuel fill)
- __ 15.1 Place the appropriate test dummy in both front outboard seating positions.
 - Driver: __ 5th female __ 50th male
 - Passenger: __ 5th female __ 50th male
 - __ 15.2 Load the vehicle with the RCLW from 14.7 or 14.8 whichever is applicable.
 - __ 15.3 Place the RCLW in the cargo area. Center the load over the longitudinal centerline of the vehicle. (S8.1.1 (d))
 - __ 15.4 Record the vehicle weight at each wheel to determine the Fully Loaded Weight.

Right Front = _____ kg Right Rear = _____ kg

Left Front = _____ kg Left Rear = _____ kg

TOTAL FRONT = _____ kg TOTAL REAR = _____ kg

% Total Weight = _____ % % Total Weight = _____ %

% GVW = _____ % % GVW = _____ %

FULLY LOADED WEIGHT = TOTAL FRONT PLUS TOTAL REAR = _____ lbs

- __ 16. Fully Loaded Test Vehicle Attitude: (all dimensions in millimeters)
- __ 16.1 Place the vehicle on a level surface.
 - __ 16.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13.1 above) and record the measurements

RF _____; LF _____; RR _____; LR _____

- __ 17. Drain the fuel system
- __ 18. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, "Standard Specifications for Hydrocarbon Dry-cleaning Solvents," fill the fuel tank to 94 percent of useable capacity.
 Fuel tank capacity x .94 = _____ x .94 = _____
 Amount added _____
- __ 19. Crank the engine to fill the fuel delivery system with Stoddard solvent.

- __20. Calculate the test weight range.
 __20.1 Calculated Weight = UVW (see 12 above) + RCLW (see 14 above) + 2x(dummy weight)
 = _____ + _____ + _____
 __20.2 Test Weight Range = Calculated Weight (- 4.5 kg, - 9 kg.)
 Max. Test Weight = Calculated Test Weight - 4.5kg = _____
 Min. Test Weight = Calculated Test Weight - 9 kg = _____
- __21. Remove the RCLW from the cargo area.
- __22. Drain transmission fluid, engine coolant, motor oil, and windshield washer fluid from the test vehicle so that Stoddard solvent leakage from the fuel system will be evident.
- __23. Vehicle Components Removed For Weight Reduction:

- __24. Secure the equipment and ballast in the load carrying area and distribute it, as nearly as possible, to obtain the proportion of axle weight indicated by the gross axle weight ratings and center it over the longitudinal centerline of the vehicle.
- __25. If necessary, add ballast to achieve the actual test weight.
 __N/A
 Weight of ballast _____
- __26. Ballast, including test equipment, must be contained so that it will not shift during the impact event or interfere with data collection or interfere with high-speed film recordings or affect the structural integrity of the vehicle or do anything else to affect test results. Care must be taken to assure that any attachment hardware added to the vehicle is not in the vicinity of the fuel tank or lines.
- __27. Record the vehicle weight at each wheel to determine the actual test weight.
- | | |
|--------------------------|--------------------------|
| Right Front = _____ kg | Right Rear = _____ kg |
| Left Front = _____ kg | Left Rear = _____ kg |
| TOTAL FRONT = _____ kg | TOTAL REAR = _____ kg |
| % Total Weight = _____ % | % Total Weight = _____ % |
| % GVW = _____ % | % GVW = _____ % |
- (%GVW = Axle GVW ÷ Vehicle GVW)
 TOTAL FRONT PLUS TOTAL REAR = _____ kg
- __28. Is the test weight between the Max. Weight and the Min. Weight (See 20.2)?
 __Yes
 __No, explain why not. _____
-
- __29. Test Weight Vehicle Attitude: (all dimensions in millimeters)
 __29.1 Place the vehicle on a level surface.
 __29.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13 above) and record the measurements
 RF _____; LF _____; RR _____; LR _____

__30. Summary of test attitude

__30.1

AS DELIVERED: RF____; LF____; RR____; LR____

AS TESTED: RF____; RF____; RR____; LR____

FULLY LOADED: RF____; LF____; RR____; LR____

__30.2 Is the "as tested" test attitude equal to or between the "fully loaded" and "as delivered" attitude?

__Yes

__No, explain why not. _____

I certify that I have read and performed each instruction.

Date

DATA SHEET 33
Vehicle Accelerometer Location

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Impact Angle: _____ Belted Dummies: Yes No

Test Speed: 32 to 40 kmph 0 to 48 kmph 0 to 56 kmph

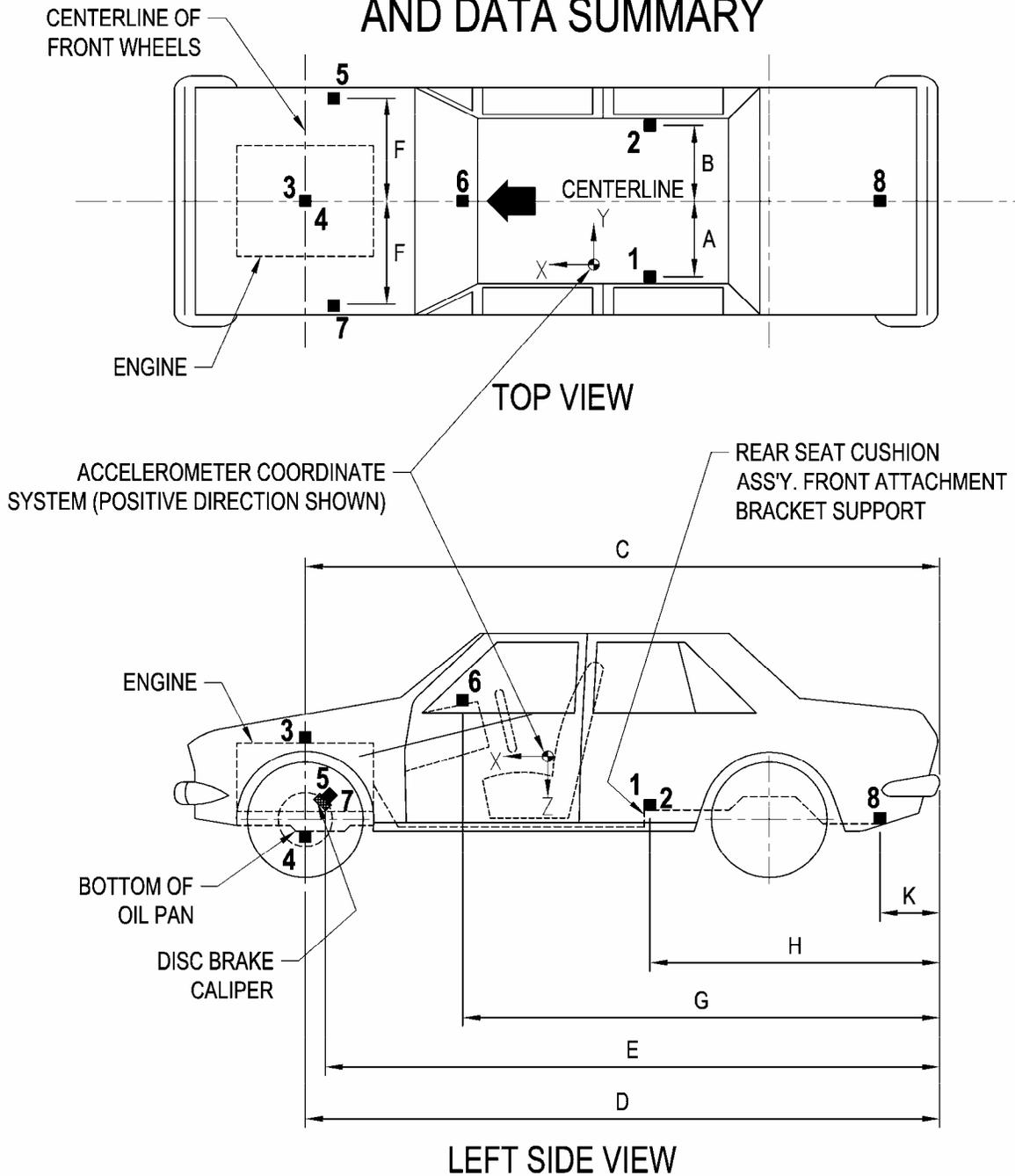
Driver Dummy: 5th female 50th male Passenger Dummy: 5th female 50th male

- ___1. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the left front outboard seating position intersects the left rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
- ___2. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the right front outboard seating position intersects the right rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
- ___3. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect at the top of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- ___4. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect the bottom of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- ___5. Install an accelerometer on the right front brake caliper to record x-direction accelerations. Record the location on the following chart.
- ___6. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the top of the instrument panel. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- ___7. Install an accelerometer on the left front brake caliper to record x-direction accelerations. Record the location on the following chart.
- ___8. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the floor of the trunk. Install an accelerometer on the trunk floor at this intersection to record z-direction accelerations. Record the location on the following chart.

I certify that I have read and performed each instruction.

Date

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



DIMENSION CORRESPONDING TO THE LETTERS "A" THROUGH "K" ARE RECORDED IN THE TABLE ON THE FOLLOWING PAGE. ACCELEROMETERS CORRESPONDING TO THE NUMBERS 1 THROUGH 8 ARE SPECIFIED ON THE PRECEDING PAGE.

DATA SHEET 33
VEHICLE ACCELEROMETER LOCATION MEASUREMENTS

<u>DIMENSION</u>	<u>LENGTH (inches)</u>	
<u>PRETEST VALUES</u>		
<u>A</u>		
<u>B</u>		
<u>C</u>		
<u>D</u>		
<u>E</u>	Right Side	Left Side
<u>F</u>	Right Side	Left Side
<u>G</u>		
<u>H</u>		
<u>K</u>		
<u>POST TEST VALUES</u>		
<u>A</u>		
<u>B</u>		
<u>C</u>		
<u>D</u>		
<u>E</u>	Right Side	Left Side
<u>F</u>	Right Side	Left Side
<u>G</u>		
<u>H</u>		
<u>K</u>		

REMARKS:

DATA SHEET 34
Photographic Targets

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Impact Angle: _____ Offset percentage: _____ Belted Dummies: __Yes__ No

Test Speed: __32 to 40 kmph __0 to 48 kmph __0 to 56 kmph

Driver Dummy: __5th female __50th male Passenger Dummy: __5th female __50th male

1. FMVSS 208 vehicle targeting requirements (See Figures 28A and 28B)
 - 1.1 Targets A1 and A2 are on flat rectangular panels.
 - 1.2 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the front on the outboard sides of A1 and A2. The center of each circular target is 100 mm from the one next to it. Distance between targets _____mm
 - 1.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the back on the outboard sides of on A1 and A2. The center of each circular target is 100 mm from the one next to it. Distance between targets _____mm
 - 1.4 The distance between the first circular target at the front of A1 and A2 and the last circular target at the back of A1 and A2 is at least 915 mm.
Distance between the first and last circular targets _____mm
 - 1.5 Firmly fix target A1 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy.
 - 1.6 Firmly fix target A2 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy.
 - 1.7 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the driver door. The centers of each circular target are at least 610 mm apart. Distance between targets _____mm
 - 1.8 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the passenger door. The centers of each circular target are at least 610 mm apart. Distance between targets _____mm
 - 1.9 Place tape with squares having alternating colors on the top portion of the steering wheel.
 - 1.10 Chalk the bottom portion of the steering wheel.
 - 1.11 Is this an offset test?
 Yes, continue with this section
 No, go to 2.
 - 1.12 Measure the width of the vehicle. Vehicle width _____mm
 - 1.13 Find the centerline of the vehicle. ($\frac{1}{2}$ of the vehicle width)
 - 1.14 Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the centerline of the vehicle.
 - 1.15 Apply 25 mm wide tape with alternating black and yellow squares parallel to and on each side of the line found in 1.14. The edge of each tape shall be 50 mm from the line found in 1.14. The tape shall extend from the bottom of the bumper to the front edge of the windshield. (Figure 28D)
2. Barrier targeting
 - 2.1 Fix two stationary targets D1 and D2 to the barrier as shown in the Figure 28A. One target is in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy. The other is in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy
 - 2.2 Targets D1 and D2 are on a rectangular panel.
 - 2.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted on the sides of the rectangular panel away from the longitudinal centerline of the vehicle. The center of each circular target is 100 mm from the one next to it.

Distance between circular targets on D1
_____mm
Distance between circular targets on D2

_____mm

3. FMVSS 208 dummy targeting requirements
- 3.1 Place a circular target with black and yellow quadrants on both sides of the driver dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
 - 3.2 Place a circular target with black and yellow quadrants on both sides of the passenger dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
 - 3.3 Place a circular target with black and yellow quadrants on the outboard shoulder of the driver dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
 - 3.4 Place a circular target with black and yellow quadrants on the outboard shoulder of the passenger dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
4. FMVSS 204 targeting requirements
- 4.1 Is an FMVSS 204 indicant test ordered on the "COTR Vehicle Work Order?"
 - Yes, continue with this form.
 - No, this form is complete
 - 4.2 Resection panel (Figure 28C)
 - 4.2.1 The panel deviates no more than 6 mm from perfect flatness when suspended vertically.
 - 4.2.2 The 8 targets on the panel are circular targets at least 90 mm in diameter and with black and yellow quadrants.
 - 4.2.3 The center of each of the 4 outer targets are placed within 1 mm of the corners of a square measuring 914 mm on each side.
 - 4.2.4 Locate another square with 228 mm sides and with the center of this square coincident with the center of the 914 mm square.
 - 4.2.5 The center of the 4 inner targets are placed at the midpoints of each of the 228 mm sides.
 - 4.3 Place a circular target at least 90 mm in diameter and with black and yellow quadrants on a material (cardboard, metal, etc.) that can be taped to the top of the steering column.
 - 4.4 Tape the target from 4.3 to the top of the steering column in a manner that does not interfere with the movement of the steering column in a crash.

I certify that I have read and performed each instruction.

Date

REFERENCE PHOTO TARGETS

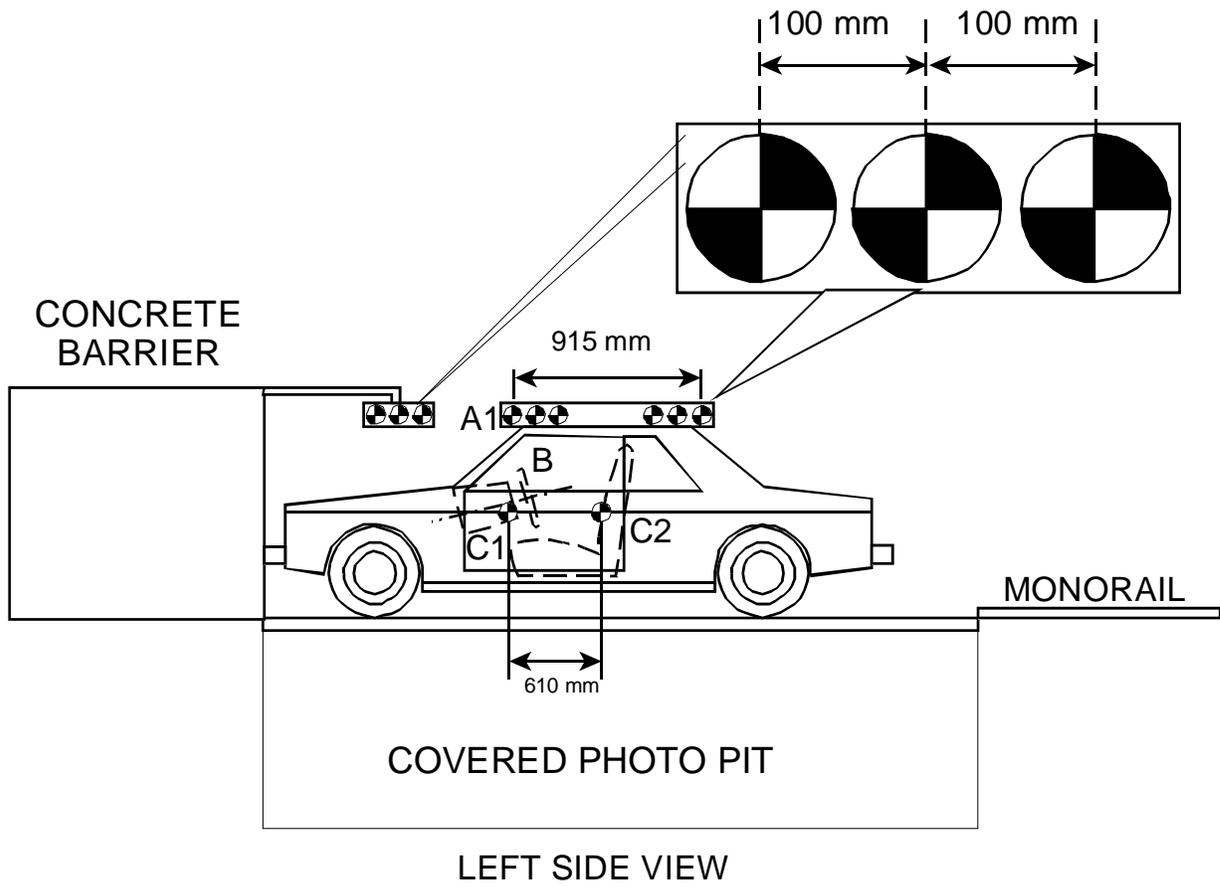
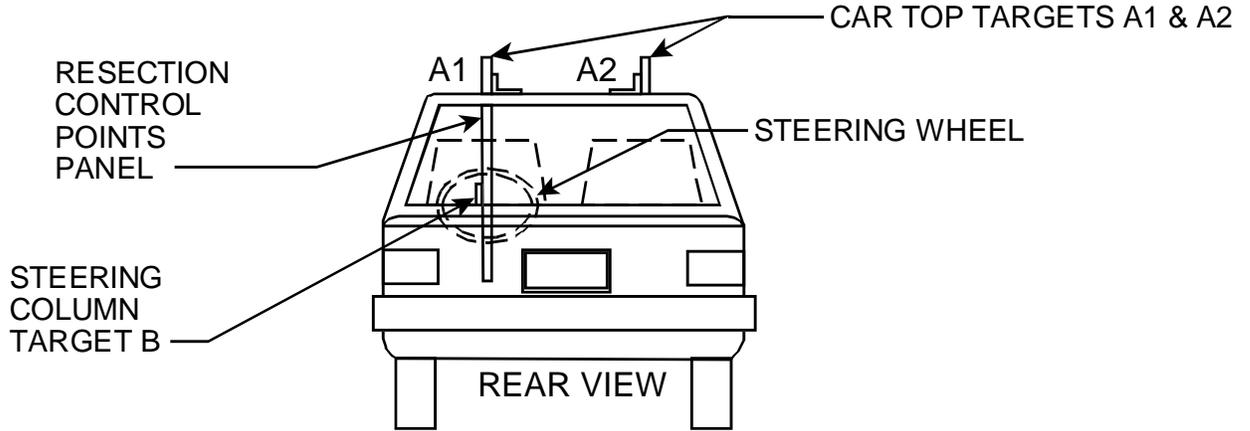


FIGURE 28A

RESECTION PANEL TARGETING ALIGNMENT



TEST RUN STEERING COLUMN CAMERA VIEW OF TYPICAL TIME ZERO VEHICLE POSITION

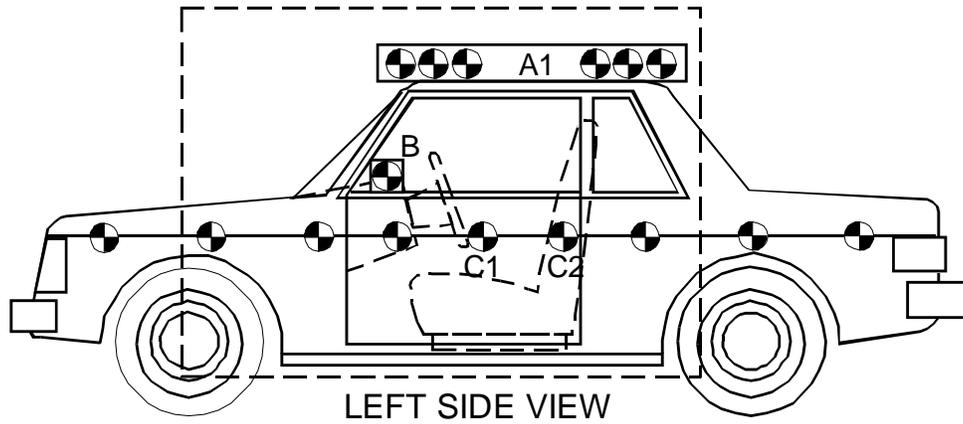
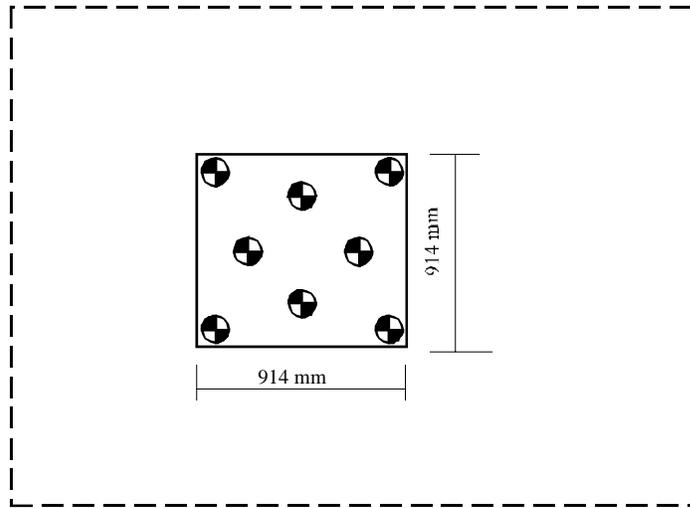


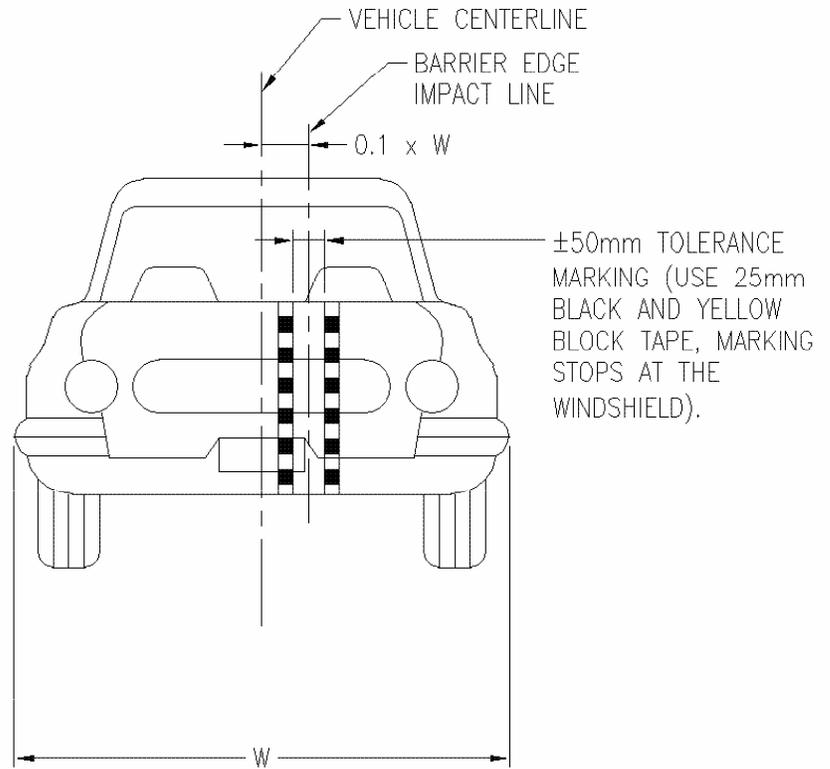
FIGURE 28B

PRE-RUN STEERING COLUMN HIGH SPEED CAMERA VIEW



LEFT SIDE VIEW

FIGURE 28C



OFFSET DEFORMABLE BARRIER
ADDITIONAL VEHICLE TARGETING

FIGURE 28D

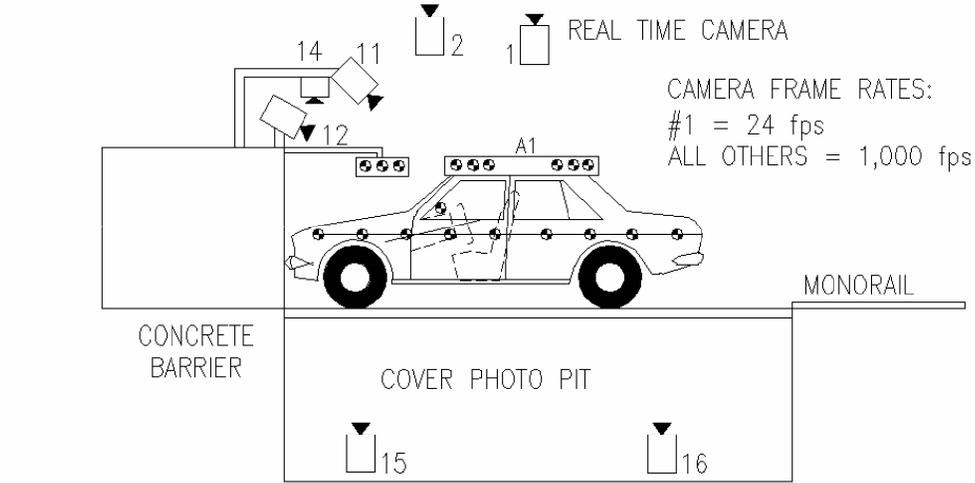
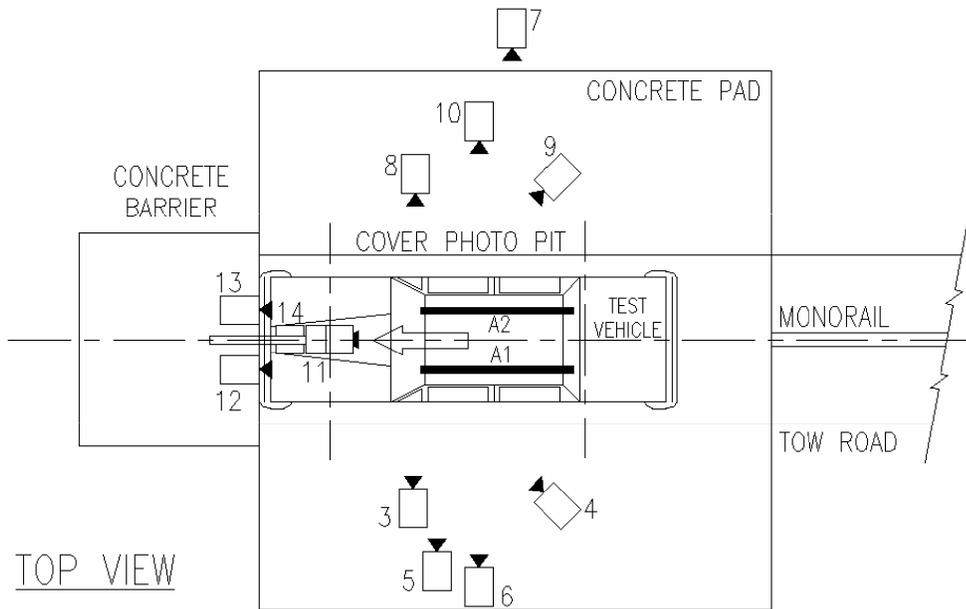
DATA SHEET 35
CAMERA LOCATIONS

VEH. NHTSA No.: _____; TEST DATE: _____; TIME: _____

VEH. YEAR/MAKE/MODEL/BODY STYLE: _____

CAMERA NO.	VIEW	CAMERA POSITIONS (mm) *			ANGLE (deg.)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
		X	Y	Z				
1	Left SideView							24
2	Left Side View (barrier face to front seat backs)							
3	Left SideView (A-post)							
4	Left Side View (B-post aimed toward center of steering wheel)							
5	Left Side View (B-post)							
6	Left Side View (front door under camera 5)							
7	Right Side View (overall)							
8	Right Side View (A-post)							
9	Right Side View (B-post)							
10	Right Side View (front door)							
11	Front View Windshield							
12	Front View Driver							
13	Front View Passenger							
14	Overhead Barrier Impact View							
15	Pit Camera Engine View							
16	Pit Camera Fuel Tank View							

*
X - film plane to barrier face
Y - film plane to monorail centerline
Z - film plane to ground



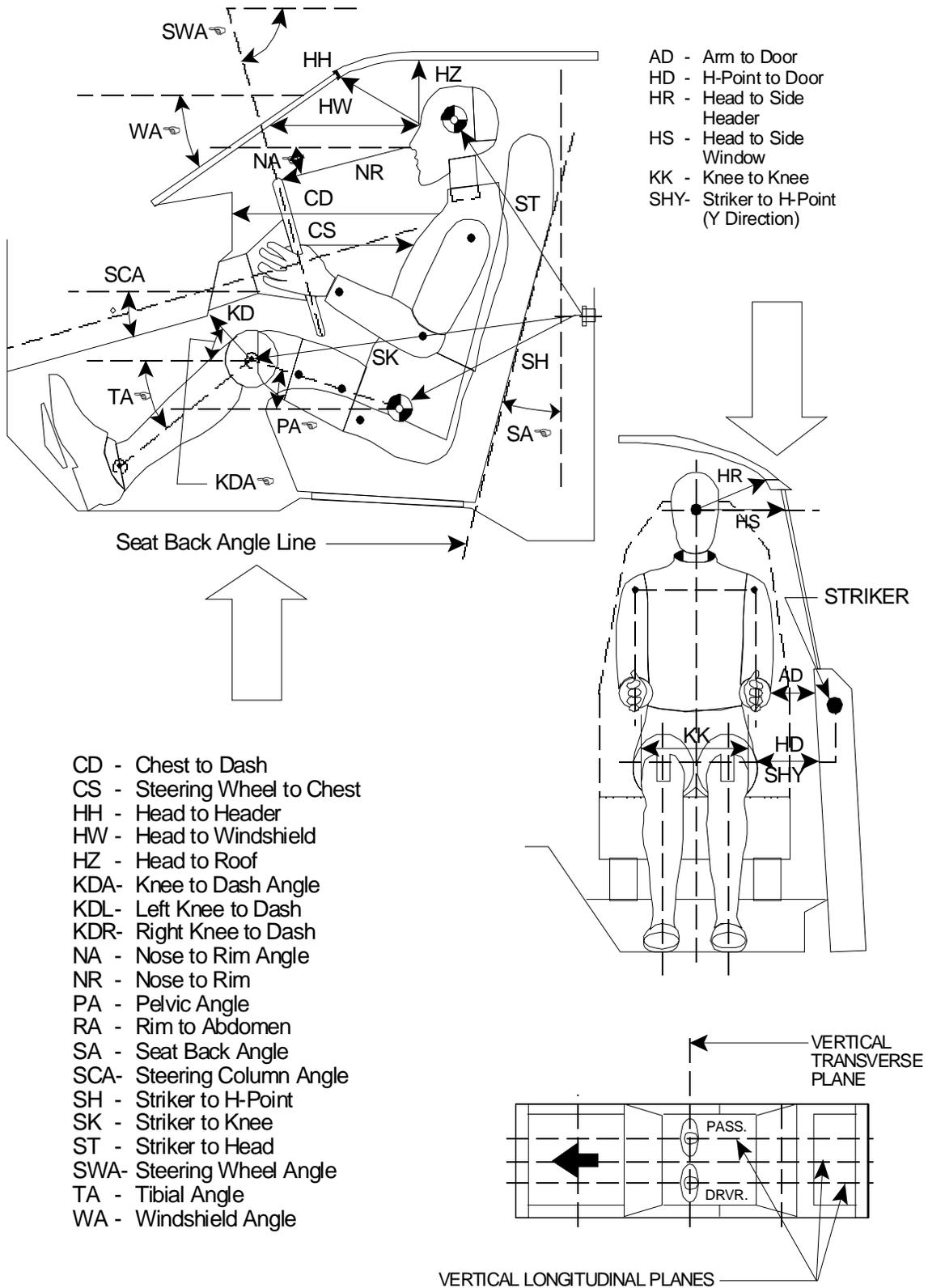
CAMERA POSITIONS FOR FRONTAL IMPACTS

DATA SHEET 36
Dummy Positioning (See Appendices F and G)

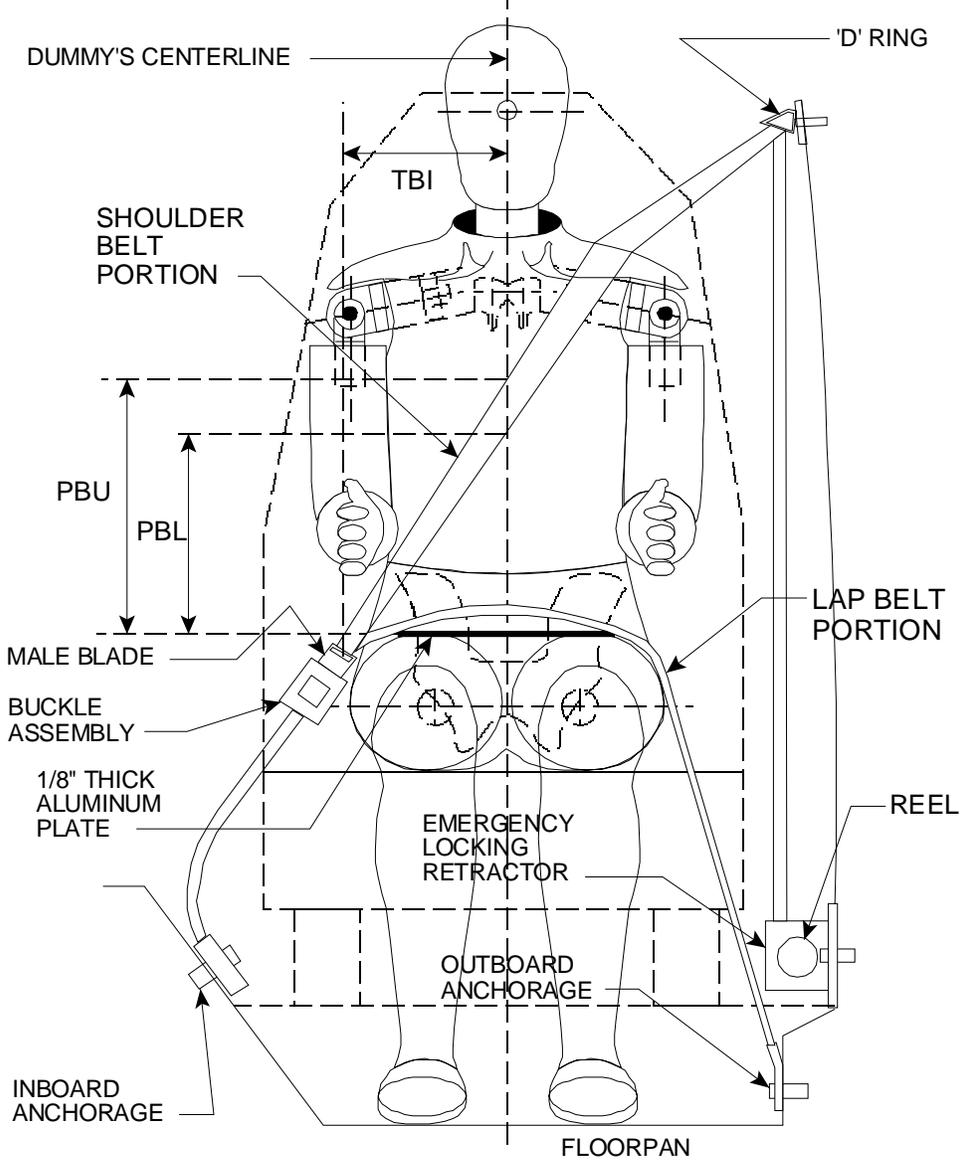
DATA SHEET 37
DUMMY POSITIONING MEASUREMENTS

	DRIVER (Serial No. _____)	PASSENGER (Serial No. _____)
WA°		
SWA°		NA
SCA°		NA
SA°		
HZ		
HH		
HW		
HR		
NR	ANGLE	NA
CD		
CS		
RA		
KDL		
KDR		
PA°		
TA°		
KK		
ST	ANGLE	ANGLE
SK	ANGLE	ANGLE
SH	ANGLE	ANGLE
SHY		
HS		
HD		
AD		

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



15. DATA SHEETS....Continued
SEAT BELT POSITIONING DATA



FRONT VIEW OF DUMMY

DESCRIPTIONS OF DUMMY MEASUREMENTS

When a level is to be used, it is to ensure that the line containing the two points described is either parallel or perpendicular to the ground. If a measurement to be made is less than 10 inches ignore the directions to use a level and approximate a level measurement. Also, when a measurement is to be taken to or from the center of a bolt on the dummy, take the measurement from the center of the bolt hole if the bolt is recessed.

The following measurements are to be made within a vertical longitudinal plane.

- * HH Head to Header, taken from the point where the dummy's nose meets his forehead (between his eyes) to the furthest point forward on the header.
- * HW Head to Windshield, taken from the point where the dummy's nose meets his forehead (between his eyes) to a point on the windshield. Use a level.
- HZ Head to Roof, taken from the point where the dummy's nose meets his forehead (between his eyes) to the point on the roof directly above it. Use a level.
- * CS Steering Wheel to Chest, taken from the center of the steering wheel hub to the dummy's chest. Use a level.
- * CD Chest to Dash, place a tape measure on the tip of the dummy's chin and rotate five inches of it downward toward the dummy to the point of contact on the transverse center of the dummy's chest. Measure from this point to the closest point on the dashboard either between the upper part of the steering wheel between the hub and the rim, or measure to the dashboard placing the tape measure above the rim, whichever is a shorter measurement. See photograph.
- RA Steering Wheel Rim to Abdomen, taken from the bottommost point of the steering wheel rim horizontally rearward to the dummy. Use a level.
- NR Nose to Rim, taken from the tip of the dummy's nose to the closest point on the top of the steering wheel rim. Also indicate the angle this line makes with respect to the horizontal (NA).
- *¹ KDL, KDR Left and Right Knees to Dashboard, taken from the center of the knee pivot bolt's outer surface to the closest point forward acquired by swinging the tape measure in continually larger arcs until it contacts the dashboard. Also reference the angle of this measurement with respect to the horizontal for the outboard knee (KDA). See photograph.
- SH, SK, ST Striker to Hip, Knee, and Head, these measurements are to be taken in the X-Z plane measured from the forward most center point on the striker to the center of the H-point, outer knee bolt, and head target. When taking this measurement a firm device that can be rigidly connected to the striker should be used. Use a level. The angles of these measurements with respect to the

* Measurement used in Data Tape Reference Guide

15. DATA SHEETS....Continued

horizontal should also be recorded. The measurement in the Y (transverse) direction from the striker to the H-point should also be taken (SHY). See photograph.

The following measurements are to be made within a vertical transverse plane.

HS	Head to Side Window, taken from the point where the dummy's nose meets his forehead (between his eyes) to the outside of the side window. In order to make this measurement, roll the window down to the exact height that allows a level measurement. Use a level. See photograph.
* AD	Arm to Door, taken from the outer surface of the elbow pivot bolt on a Hybrid II dummy to the first point it hits on the door. In the case of a Hybrid III dummy, measure from the bolt on the outer biceps. When a SID is used make the measurement from the center of the bottom of the arm segment where it meets the dummy's torso.
* HD	H-point to Door, taken from the H-point on the dummy to the closest point on the door. Use a level.
* HR	Head to Side Header, measure the shortest distance from the point where the dummy's nose meets his forehead (between his eyes) to the side edge of the header just above the window frame, directly adjacent to the dummy.
SHY	Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the H-point. Use a level. See photograph.
KK	Knee to Knee, for Hybrid II dummies measure the distance between knee pivot bolt head outer surfaces. For Hybrid III dummies measure the distance between the outboard knee clevis flange surfaces. (This measurement may not be exactly transverse)

* Measurement used in Data Tape Reference Guide

¹ Only outboard measurement is referenced in Data Tape Reference Guide

ANGLES

SA	Seat Back Angle, find this angle using the instructions provided by the manufacturer. If the manufacturer doesn't provide clear instructions contact the COTR.
PA	Pelvic or Femur Angle, taken by inserting the pelvic angle gauge into the H-point gauging hole on the SID or the Hybrid III dummies and taking this angle with respect to the horizontal. Measure the angle of the line connecting the H-point hole and the outer knee pivot bolt hole on a Hybrid II dummy with respect to the horizontal, to find the femur angle.
SWA	Steering Wheel Angle, find this by placing a straight edge against the steering wheel rim along the longitudinal plane. Then measure the acute angle of the straight edge with respect to the horizontal.

SCA	Steering Column Angle, measured with respect to the horizontal by placing an inclinometer on the center of the underside of the steering column.
NA	Measure the angle made when taking the measurement NR with respect to the horizontal.
KDA	Knee to Dash Angle, the angle that the measurement KD is taken at with respect to the horizontal. Only get this angle for the outboard knee. See photograph.
WA	Windshield Angle, place an inclinometer along the transverse center of the windshield exterior (measurement is made with respect to horizontal).
TA	Tibial Angle, use a straight edge to connect the dummy's knee and ankle bolts. Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal.

PHOTOGRAPHS DEPICTING HOW TO TAKE SOME OF THE MEASUREMENTS

ST-Striker to Head



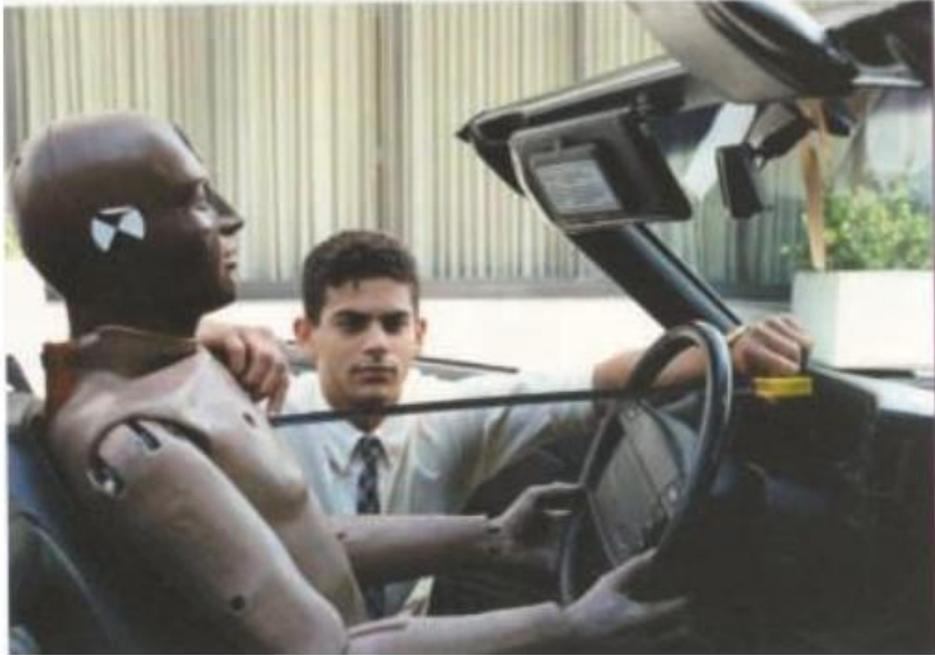
ST-Striker to Head



CD-Chest to Dash



CD-Chest to Dash



SH-Striker to H-Point



SH-Striker to H-Point



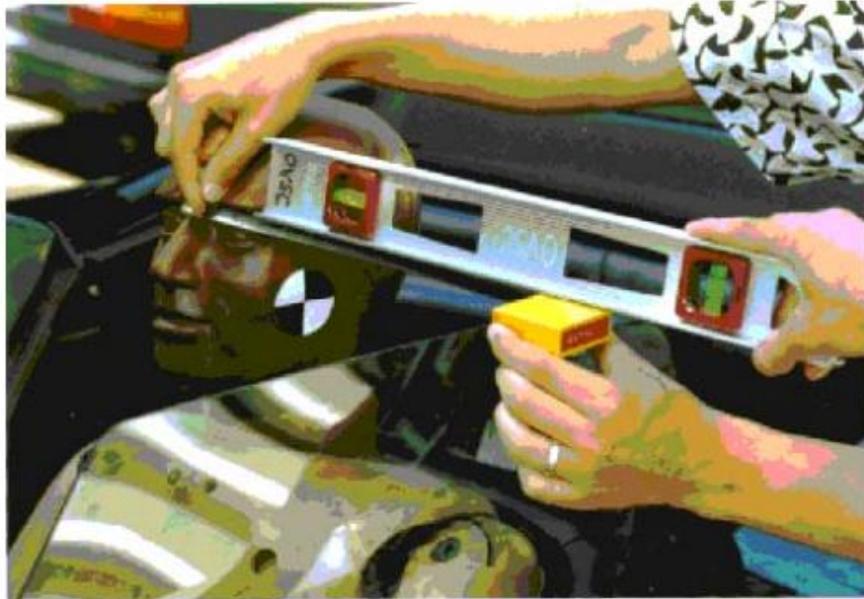
SK-Striker to Knee



SK-Striker to Knee



HS-Head to Side Window



SHY-Striker to H-Point (Y-DIR.)



KDL/KDR-Knee to Dash

KDA-Knee to Dash Angle



DATA SHEET 38
CRASH TEST

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Impact Angle: _____ Belted Dummies: Yes No

Test Speed: 32 to 40 kmph 0 to 48 kmph 0 to 56 kmph

Driver Dummy: 5th female 50th male Passenger Dummy: 5th female 50th male

- 1. Vehicle underbody painted
- 2. The speed measuring devices are in place and functioning.
- 3. The speed measuring devices are _____ m from the barrier (spec. 1.5m) and _____ cm from the barrier (spec. is 30 cm)
- 4. Convertible top is in the closed position.
 N/A – Not a convertible
- 5. Instrumentation and wires are placed so the motion of the dummies during impact is not affected.
- 6. Tires inflated to pressure on tire placard or if it does not have a tire placard because it is not a passenger car, then inflated to the tire pressure specified in the owner information.
 _____ kpa front left tire _____ kpa specified on tire placard or in owner information
 _____ kpa front right tire _____ kpa specified on tire placard or in owner information
 _____ kpa rear left tire _____ kpa specified on tire placard or in owner information
 _____ kpa rear right tire _____ kpa specified on tire placard or in owner information
- 7. Time zero markers and switches in-place.
- 8. Pre test zero and shunt calibration adjustments performed and recorded
- 9. Dummy temperature meets requirements of section 12.2 of the test procedure.
- 10. Vehicle hood closed and latched
- 11. Transmission placed in neutral
- 12. Parking brake off
- 13. Are the heads still level?
 Yes, go to 14
 No, adjust dummy so that head is at the angle recorded in the Appendix F or G data sheets and then continue.
- 14. Ignition in the ON position
- 15. Doors closed and latched but not locked.
- 16. Posttest zero and shunt calibration checks performed and recorded
- 17. Actual test speed _____ kmph
- 18. Vehicle rebound from the barrier _____ cm
- 19. Describe whether the doors open after the test and what method is used to open the doors.
 Left front door _____
 Right front door _____
 Left rear door _____
 Right rear door _____
- 20. Describe the contact points of the dummy with the interior of the vehicle.
 Driver dummy _____

 Passenger dummy _____

I certify that I have read and performed each instruction.

Date

DATA SHEET 39
Offset Deformable Barrier Test Using Belted 5th Percentile Female Dummies
(Part 572, Subpart O) (S18)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Test Number: _____ Barrier Serial Number: _____

Driver dummy Serial Number: _____ Passenger Dummy Serial Number: _____

Vehicle Speed ___ 40 km/hr Offset ___ Percent

1.0 Pre-Test Activities

___ 1.1 Complete the following data sheets

- ___ 1.1.1 Vehicle Receiving and Inspection
- ___ 1.1.2 Vehicle Weight, Fuel Tank, and Attitude
- ___ 1.1.3 Vehicle Accelerometer Location
- ___ 1.1.4 General Test Vehicle Data
- ___ 1.1.5 Photographic Targets
- ___ 1.1.6 Camera Locations
- ___ 1.1.7 5th Percentile Female Dummy Calibration
- ___ 1.1.8 Appendix G 5th Percentile Female Dummy Seating and Positioning Procedure

___ 1.2 Barrier Certification

___ 1.2.1 Verify the offset deformable barrier materials and construction are certified to Subpart C of 49 CFR 587. (Attach vendor certification sheets to this data sheet.)

___ 1.3 Verify barrier measurements and complete the table below. (See Figure 1)

	Specified Dimension in mm +/- 2.5 unless specified	Measured Dimension in mm
Main Body Height RH Side	650	
Main Body Height LH Side	650	
Floor to Lower Barrier LH	200 +/- 15	
Floor to Lower Barrier RH	200 +/- 15	
Main Body Width	1000	
Bumper Element Width	1000	
Bumper Element Height LH	330	
Bumper Element Height RH	330	
Main Body Depth LH	450	
Main Body Depth RH	450	
Bumper Element Depth LH	90	
Bumper Element Depth RH	90	
Upper Slot Location	220	
Lower Slot Location	110	
Upper Slot Width	4mm Max	
Lower Slot width	4mm Max	

___ 1.3.1 All Dimensions within specified Tolerance
 ___ Yes

- ___ 1.4 Verify deformable barrier mounted using 10 bolts (8mm diameter minimum) and the steel strips specified.
- ___ 1.5 Verify height of Fixed Rigid Barrier relative to vehicle being tested.
- ___ 1.6 Photograph pre-test condition. Include photograph shown below.
 - ___ Pre-test frontal view of test vehicle
 - ___ Pre-test left side view of test vehicle
 - ___ Pre-test right side view of test vehicle
 - ___ Pre-test left front three-quarter view of test vehicle
 - ___ Pre-test right rear three-quarter view of test vehicle
 - ___ Pre-test windshield view
 - ___ Pre-test engine compartment view
 - ___ Pre-test fuel filler cap view
 - ___ Pre-test front underbody view¹
 - ___ Pre-test rear underbody view¹
 - ___ Pre-test driver dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat.
 - ___ Frontal Pre-test driver dummy position with the camera in the same plane as the longitudinal centerline of the dummy.
 - ___ Pre-test passenger dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat
 - ___ Frontal Pre-test passenger dummy position view with the camera in the same plane as the longitudinal centerline of the dummy.
 - ___ Dummy contact point(s) (vehicle and dummy)
 - ___ Pre-test view of the knee bolsters.
 - ___ Pre-test view of the steering column shear capsule if any part of it is visible. Do NOT disassemble any parts to take these photographs.
 - ___ Pre-test under hood view of the steering column intersecting the fire wall. Take the best photograph possible without removing any parts.
 - ___ Pre-test view of the steering column intersecting the firewall from inside the vehicle. Take the best photograph possible without removing any parts.

2.0 Test Execution

- ___ 2.1 Impact vehicle into offset deformable barrier at a speed of 25 km/hr +0/-2 km/hr
 - Record Impact speed Trap 1 _____ km/hr
 - Trap 2 _____ km/hr
 - Trap Location (from barrier) _____ mm
 - ___ Speed at impact 25 km/hr +0 / -2 km/hr Yes / No
- ___ 2.2 Strike barrier at offset of 10% of vehicle width +/- 50mm from the vehicle centerline.
 - Vehicle Width _____ mm
 - Required Offset _____ mm
 - Actual Measured Offset _____ mm
 - ___ Offset within +/- 50mm Yes / No
- ___ 2.3 Vehicle attitude at impact 0.0 degrees +/- 5 degrees
 - Impact angle _____ degrees
 - ___ Impact angle 0.0 +/- 5 degrees Yes / No

3.0 Post Test Activities

- ___ 3.1 Photograph post-test condition. Include photograph shown below.
 - ___ Post test frontal view of test vehicle
 - ___ Post test left side view of test vehicle
 - ___ Post test right side view of test vehicle
 - ___ Post test left front three-quarter view of test vehicle
 - ___ Post test right rear three-quarter view of test vehicle

- ___ Post test windshield view
- ___ Post test engine compartment view
- ___ Post test fuel filler cap view
- ___ Post test front underbody view¹
- ___ Post test rear underbody view¹
- ___ Post test driver dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat.
- ___ Frontal post test driver dummy position with the camera in the same plane as the longitudinal centerline of the dummy.
- ___ Post test passenger dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat
- ___ Frontal post test passenger dummy position view with the camera in the same plane as the longitudinal centerline of the dummy.
- ___ Dummy contact point(s)(vehicle and dummy)
- ___ Post test view of the knee bolsters.
- ___ Post test view of the steering column shear capsule if any part of it is visible. Do NOT disassemble any parts to take these photographs.
- ___ Post test under hood view of the steering column intersecting the fire wall. Take the best photograph possible without removing any parts.
- ___ Post test view of the steering column intersecting the fire wall from inside the vehicle. Take the best photograph possible without removing any parts.
- ___ Post test Stoddard solvent spillage location view, if required.
- ___ Post test electrolyte spillage location view, if required.
- ___ Post test top view of test vehicle while vehicle is on static rollover machine. (If applicable)

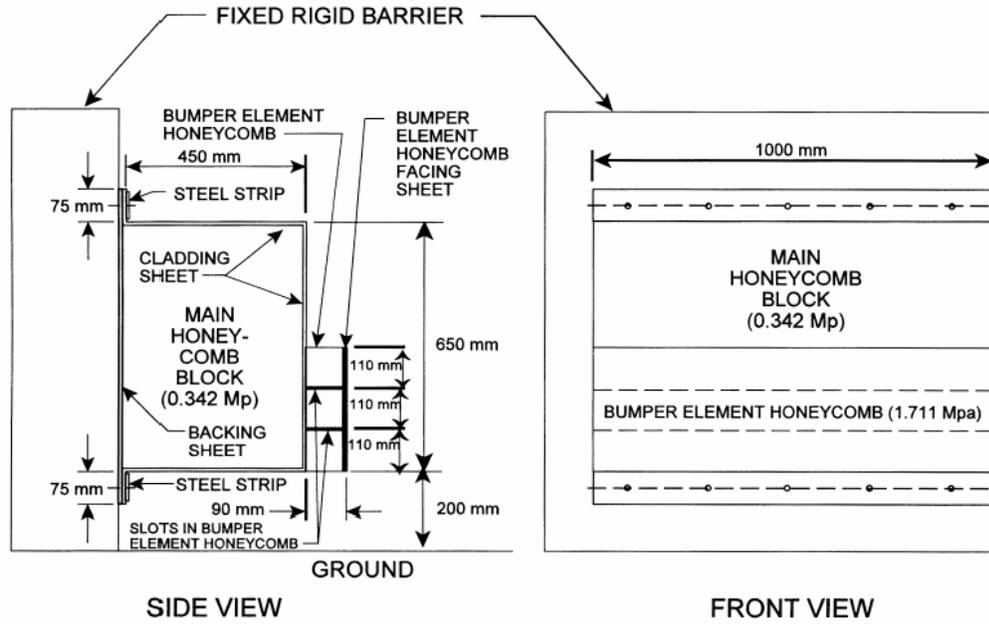
___ 3.2 Process data channels per section 11.14 and record injury values in the Table.

	FMVSS 208 Maximum Allowable Injury Assessment Value	Measured Value Driver Dummy Serial No.	Measured Value Passenger Dummy Serial No.
HIC ₁₅	700		
Chest Acceleration	60 g		
Chest Displacement	52 mm		
Peak Nij (Nte)	1.0		
Time (ms)	NA		
Peak Nij (Ntf)	1.0		
Time (ms)	NA		
Peak Nij (Nce)	1.0		
Time (ms)	NA		
Peak Nij (Ncf)	1.0		
Time (ms)	NA		
Neck Tension (Fz)	2620 N		
Neck Compression (Fz)	2520 N		

All injury Criteria within limits

- ___ Pass
- ___ Fail

___ 3.3 Perform post-test calibration check.



**FIGURE 1
OFFSET BARRIER**

I certify that I have read and performed each instruction.

Date

**DATA SHEET 40
ACCIDENT INVESTIGATION MEASUREMENTS**

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Impact Angle: _____ Belted Dummies: __ Yes __ No

Test Speed: __ 32 to 40 kmph __ 0 to 48 kmph __ 0 to 56 kmph

Driver Dummy: __ 5th female __ 50th male Passenger Dummy: __ 5th female __ 50th male

Vehicle Year/Make/Model/Body Style: _____

VIN: _____

Wheelbase: _____; Build Date: _____;

Veh. Size Category: _____; Test Weight: _____

Front Overhang: _____; Overall Width: _____

Accelerometer Data:

Location: _____

Linearity: _____; Integration Algorithm: _____

Veh. Impact Speed: _____; Time of Separation: _____; Vel. Change: _____

Collision Deformation Classification (CDC) Code:

Impact Mode: _____

Crush Depth Dimensions:

C1 = _____ inches

C2 = _____ inches

C3 = _____ inches

C4 = _____ inches

C5 = _____ inches

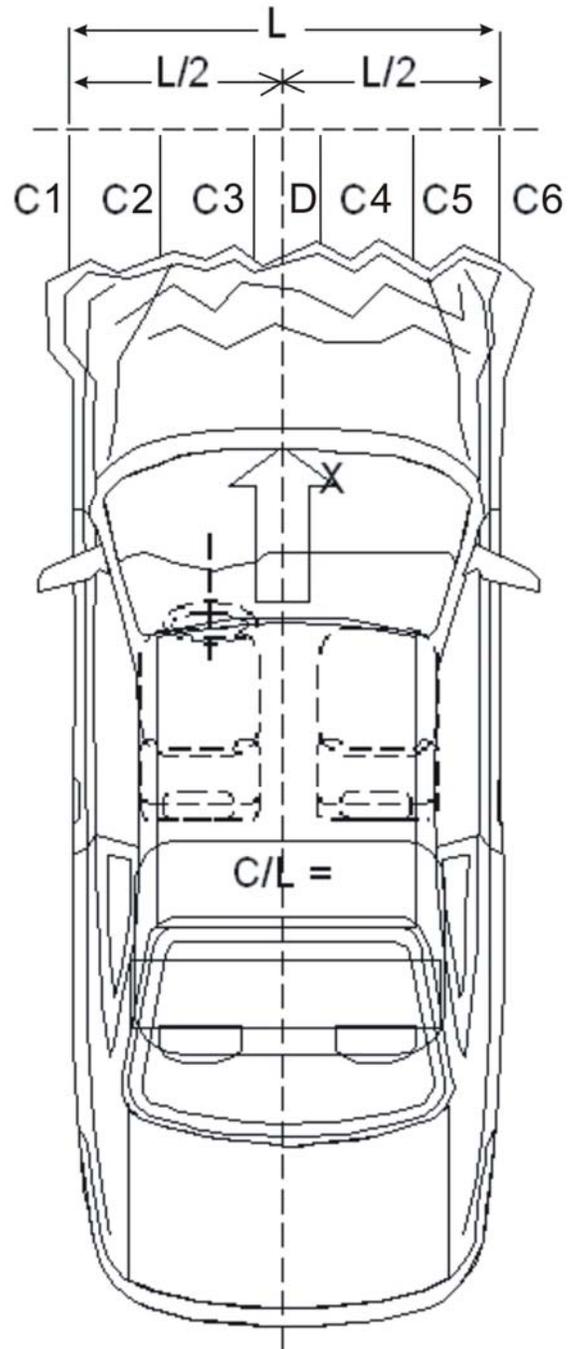
C6 = _____ inches

Midpoint of Damage: D= _____
 (Vehicle Longitudinal Centerline)

Length of Damage Region:

L = _____ inches

REMARKS:



**DATA SHEET 41
WINDSHIELD MOUNTING (FMVSS 212)**

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Impact Angle: _____ Belted Dummies: Yes No

Test Speed: 32 to 40 kmph 0 to 48 kmph 0 to 56 kmph

Driver Dummy: 5th female 50th male Passenger Dummy: 5th female 50th male

Most vehicle windshields are either bonded in place and covered with chrome or plastic strips or they are held to the body by a rubber retainer. It is difficult to determine the exact periphery of the windshield because the glazing edge is hidden from view. The test engineer will measure the perimeter inside the retainer or molding at several locations. After the impact test the covering over the glazing edge may be removed for exact measurement of the windshield periphery. Do not disturb the molding or retainer in the event of a noncompliance.

1. Pre-Crash

1.1 Describe from visual inspection how the windshield is mounted and describe any trim material.

1.2 Mark the longitudinal centerline of the windshield.

1.3 Measure pre-crash A, B, and C for the left side and record in the chart below.

1.4 Measure pre-crash C, D, and E for the right side and record in the chart below.

1.5 Measure from the edge of the retainer or molding to the edge of the windshield.
Dimension G: _____ mm

2. Post Crash

2.1 Can a single thickness of copier type paper (as small a piece as necessary) slide between the windshield and the vehicle body?

No-Pass. Skip to the table of measurements, complete it by repeating the pre-crash measurements in the post crash column, and calculate the retention percentage, which will be 100%.

Yes, go to 2.2.

2.2 Visibly mark the beginning and end of the portions of the periphery where the paper slides between the windshield and the vehicle body.

2.3 Measure and record post-crash A, B, C, D, E, and F such that the measurements do not include any of the parts of the windshield where the paper slides between the windshield and the vehicle body.

2.4 Calculate and record the percent retention for the right and left side of the windshield.

2.5 Is total right side percent retention less than 75%?

Yes, **FAIL**

No, Pass

2.6 Is total left side percent retention less than 75%?

Yes, **FAIL**

No, Pass

_____ I certify that I have read and performed each instruction.

_____ Date

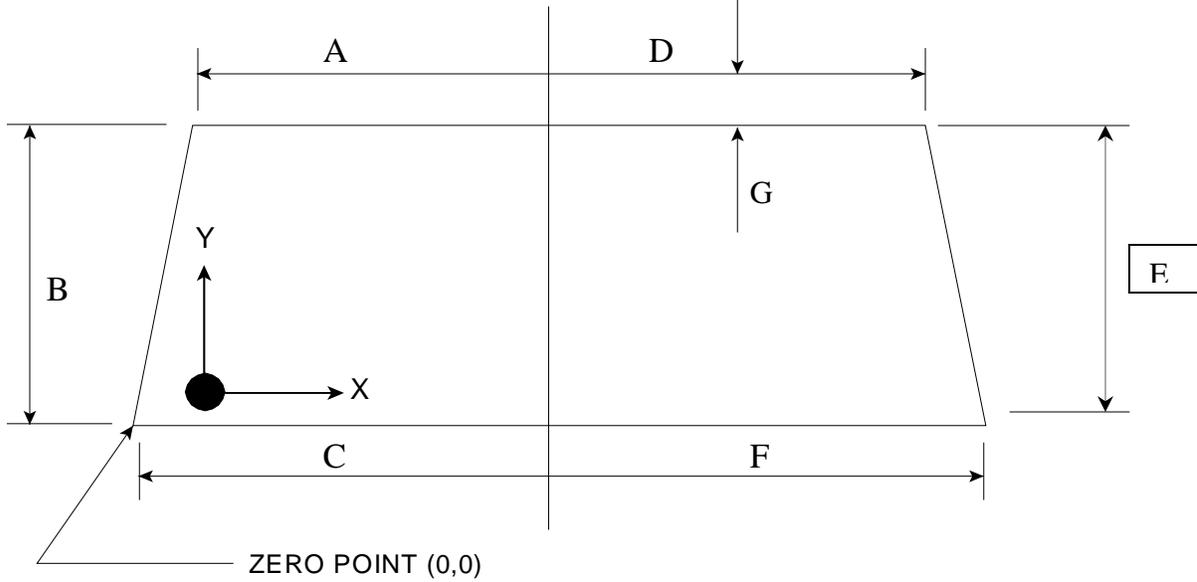
WINDSHIELD PERIPHERY MEASUREMENT

	Dimension	Pre-crash mm	Post-crash mm	Percent Retention (Post-crash ÷ Pre-crash)
Left side	A			
	B			
	C			
	Total			
Right side	D			
	E			
	F			
	Total			

Indicate area of mounting failure.

FRONT VIEW OF WINDSHIELD

INDICATE WIDTH OF MOLDING



**DATA SHEET 42
WINDSHIELD ZONE INTRUSION (FMVSS 219)**

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Impact Angle: _____ Belted Dummies: Yes No

Test Speed: 32 to 40 kmph 0 to 48 kmph 0 to 56 kmph

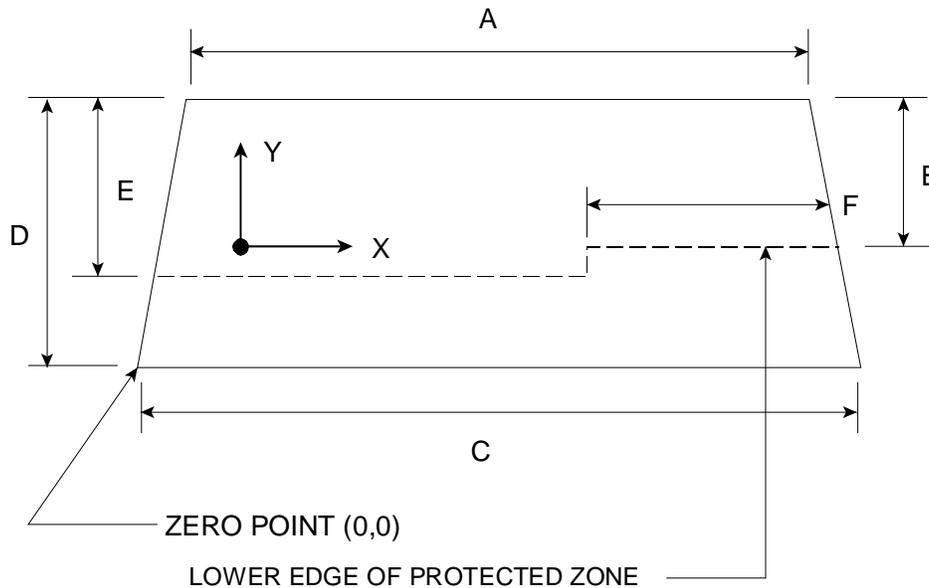
Driver Dummy: 5th female 50th male Passenger Dummy: 5th female 50th male

- ___1. Place a 165 mm diameter rigid sphere, with a mass of 6.8 kg on the instrument panel so that it is simultaneously touching the instrument panel and the windshield. (571.219 S6.1(a))
- ___2. Roll the sphere from one side of the windshield to the other while marking on the windshield where the sphere contacts the windshield. (571.219 S6.1(b))
- ___3. From the outermost contactable points on the windshield draw a horizontal line to the edges of the windshield. (571.219 S6.1(b))
- ___4. Draw a line on the inner surface of the windshield that is 13 mm below the line determined in items 2 and 3.
- ___5. After the crash test, record any points where a part of the exterior of the vehicle has marked, penetrated, or broken the windshield.

SKETCH OF FRONT VIEW OF WINDSHIELD:

Provide all dimensions necessary to reproduce the protected area.

FRONT VIEW OF WINDSHIELD



A. Windshield Dimensions

A	B	C	D	E	F

AREA OF PROTECTED ZONE FAILURES:

- B. Provide coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one which is normally in contact with the windshield.

X	Y

- C. Provide coordinates of the area beneath the protected zone template that the inner surface of the windshield was penetrated by a vehicle component

X	Y

REMARKS:

I certify that I have read and performed each instruction.

Date

DATA SHEET 43
FUEL SYSTEM INTEGRITY (FMVSS 301)

TEST VEHICLE NHTSA NO.: _____; TEST
DATE: _____

VEHICLE YEAR/MAKE/MODEL/BODY
STYLE: _____

TYPE OF IMPACT: _____

STODDARD SOLVENT SPILLAGE MEASUREMENT:

- A. From impact until vehicle motion ceases —
Actual = _____ grams. (Maximum Allowable = 28 grams)
- B. For 5 minute period after vehicle motion ceases —
Actual = _____ grams. (Maximum Allowable = 142 grams)
- C. For next 25 minutes —
Actual = _____grams . (Maximum Allowable = 28 grams/minute)
- D. Provide Spillage Details:

REMARKS:

FMVSS 301 STATIC ROLLOVER DATA SHEET

A. TEST PHASE = 0o TO 90°

Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90o Rotation Time = ___ minutes, ___ seconds

(Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold Time = 5 minutes, 0 seconds

3. TOTAL = ___ minutes, ___ seconds

4. NEXT WHOLE MINUTE INTERVAL = ___ minutes

Actual Test Vehicle Stoddard Solvent Spillage:

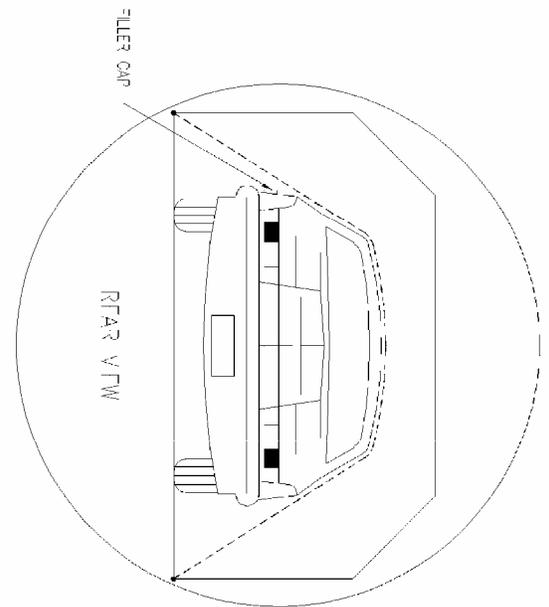
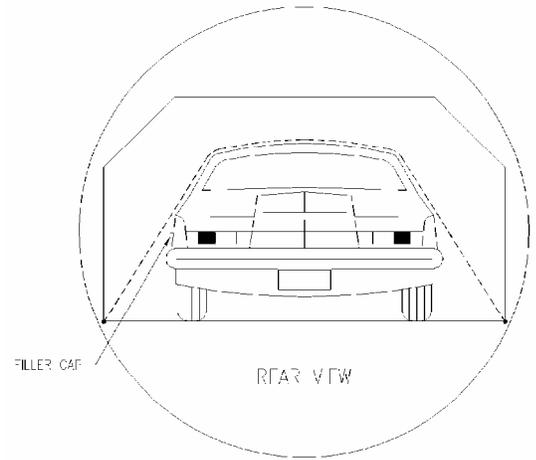
1. First 5 minutes from onset of rotation = ___ grams (142 grams allowed)

2. 6th minute = ___ grams (28 grams allowed)

3. 7th minute = ___ grams (28 grams allowed)

4. 8th minute (if required) = _____ grams (28 grams allowed)

Provide Details of Stoddard Solvent Spillage Locations –



B. TEST PHASE = 90° TO 180°

Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90°
Rotation Time = ___ minutes, seconds

(Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold
Time = 5 minutes, 0 seconds

3. TOTAL = ___ minutes, ___ seconds

4. NEXT WHOLE MINUTE INTERVAL = minutes

Actual Test Vehicle Stoddard Solvent Spillage:

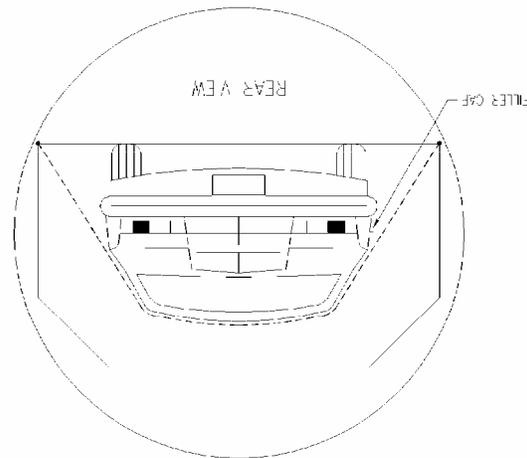
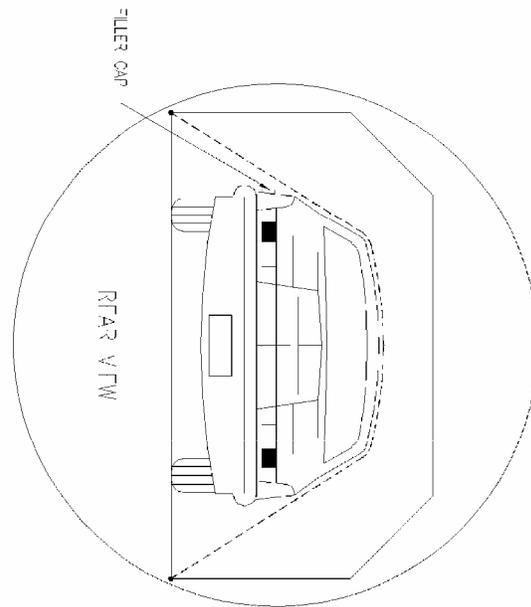
1. First 5 minutes from onset of rotation = ___ grams
(142 grams allowed)

2. 6th minute = ___ grams
(28 grams allowed)

3. 7th minute = ___ grams
(28 grams allowed)

4. 8th minute (if required) = ___ grams
(28 grams allowed)

Provide Details of Stoddard Solvent Spillage Locations –



C. TEST PHASE = 180° TO 270°

Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90°
 Rotation Time = ___ minutes, ___ seconds

(Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold
 Time = 5 minutes, 0 seconds

3. TOTAL = ___ minutes, ___ seconds

4. NEXT WHOLE MINUTE INTERVAL = ___ minutes

Actual Test Vehicle Stoddard Solvent Spillage:

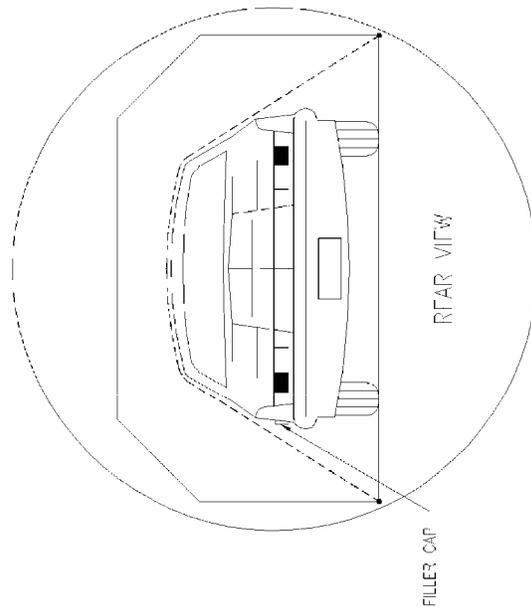
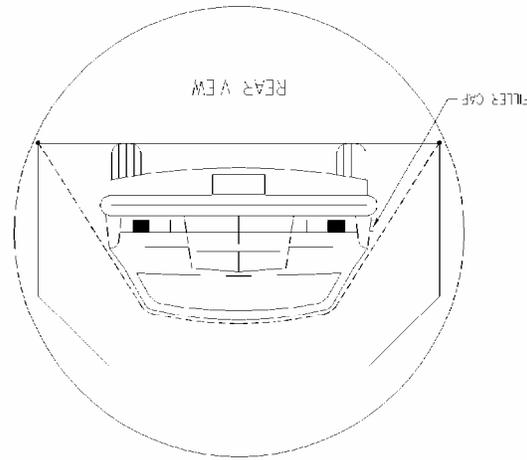
1. First 5 minutes from onset of rotation = ___ grams
 (142 grams allowed)

2. 6th minute = ___ grams.
 (28 grams allowed)

3. 7th minute = ___ grams
 (28 grams allowed)

4. 8th minute (if required) = ___ grams.
 (28 grams allowed)

Provide Details of Stoddard Solvent Spillage Locations –



D. TEST PHASE = 270° TO 360°

Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90°
 Rotation Time = ___ minutes, ___ seconds

(Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold
 Time = 5 minutes, 0 seconds

3. TOTAL = ___ minutes, ___ seconds

4. NEXT WHOLE MINUTE INTERVAL = ___ minutes

Actual Test Vehicle Stoddard Solvent Spillage:

1. First 5 minutes from onset of rotation = ___ grams
 (142 grams allowed)

2. 6th minute = ___ grams
 (28 grams allowed)

3. 7th minute = ___ grams.
 (28 grams allowed)

4. 8th minute (if required) = ___ grams.
 (28 grams allowed)

Provide Details of Stoddard Solvent Spillage Locations –

