APPENDIX H
PROCEDURES FOR USING CHILDREN AND SMALL ADULTS IN SUPPRESSION TESTS

APPENDIX H
PROCEDURES FOR USING CHILDREN AND SMALL ADULTS IN SUPPRESSION TESTS

General Instructions

1. The contractor shall provide children and small adults for static suppression tests when directed by the COTR. These children and small adults shall meet the size requirements as specified in the following check sheets.
2. The use of children and small adults must conform to NHTSA Order 700-1 and the provisions provided in the contract pursuant to NHTSA Order 700-1.
3. The same child or small adult does not need to be used for each static suppression position but there must be a record of which child or small adult is used for each suppression position.
4. Since the identity of the child or small adult is not relevant to the test, the child or small adult shall be identified by a unique identification code provided by the contractor. The child or small adult shall be identified by this code on all relevant data sheets and in the test report. The contractor shall keep the records that relate a specific child or small adult to a specific identification code.
5. The forms in this Appendix shall be used in lieu of the forms in the main section of the test procedure for any suppression tests requiring use of children or small adults in static suppression tests.

DATA SHEET 19H

Suppression Test Using a Representative 3-Year Old Child and Booster Seats (S22)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Booster Seat Name, Model, and Manufacture Date: _____

Seat Position: __ Full rearward, mid-height __ Mid position, mid-height __ Full forward, 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. Seat Marking

__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, SCRP) 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** 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** 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** 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** 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** 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** the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP (Plane B) 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:

Locate and **mark** 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. (S20.2.1.4, 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.) _____

1.22 Head Restraint Position

__N/A Vehicle contains automatic head restraints.

__N/A, there is no head restraint adjustment

__1.22.1 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)

__1.22.2 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)

__1.22.3 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

2. Child information

__2.1 Child Identification Code: _____

__2.2 The child is wearing a cotton T-shirt. (S29.2)

__2.3 The child is wearing full-length cotton trousers. (S29.2)

__2.4 The child is wearing sneakers. (S29.2)

__2.5 Child weight: _____ (13.4 to18 kg) (S29.1(b)

__2.6 Child height: _____ (89 to 99 cm) (S29.1(b))

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

__3.1 Place the SCRP in the position specified in the header information. Use the seat markings determined item 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

__3.2 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 _____

__3.3 Locate and mark a vertical Plane A through the longitudinal centerline of the booster seat. (S22.2.1.2)

__3.4 Read the booster seat owner's manual for installation instructions

__3.5 Place the booster seat in the seat such that Plane A (item 3.3 above) is aligned with Plane B (determined and marked in item 1.20 or 1.21). (S22.2.1.4(a)(1))

__3.6 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)

__3.7 For the height and weight of the child, is the booster seat designed to be secured to the vehicle seat with the seat belt even when empty?
__ Yes – complete item 3.7
__ No – go to item 3.8
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

__3.7.1 Cinch the seat belt to a tension load of 130 N ± 3N (29.2 lb ± 0.7 lb) (S22.2.1.6.1)

Record seat belt tension _____

__ N/A – The booster seat is not designed to be secured to the vehicle seat even when empty.

__3.8 Position the child in the booster seat such that the child's lower torso is centered on the booster seat cushion and the child'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 child's sides. (S22.2.1.6.2)

__3.9 Attach all belts that come with the booster seat that are appropriate for the child's same height and weight, 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)

__ N/A – No seat belts come with the booster seat.

__3.10 Place the Type 2 manual belt around the child 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)

__ N/A – Booster seat belts that come with the booster seat are used to secure the child and the booster seat is secured with the vehicle's seat belt. (See 1.23)

__3.11 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**

__3.12 Return the ignition switch to the "off" position.

4. 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(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.

__4.1 Keep the same seat position as in 2 above.

__4.2 Read the booster seat and vehicle owner's manuals for installation instructions

__4.3 Attach the booster seat to the FMVSS 225 anchorages by completing Data Sheet 14. 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)

__4.4 Position the child in the booster seat such that the child's lower torso is centered on the booster seat cushion and the child'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 child's sides. (S22.2.1.6.2)

__4.5 Attach all belts that come with the booster seat that are appropriate for the child's height and weight, 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)

__4.6 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**

__4.7 Return the ignition switch to the “off” position.

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

DATA SHEET 20H
Suppression Test Using a Representative 3-Year Old Child and
Forward Facing Convertible Child Restraints (S22)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Child Restraint Name, Model, and Manufacture Date: _____

Seat Position: __ Full rearward, mid-height __ Mid position, mid-height __ Full forward, 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. Seat Marking

__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, SCRP) 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** 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** 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** 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** 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** 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** the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP (Plane B) 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:

Locate and **mark** 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. (S20.2.1.4, 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.) _____

1.22 Head Restraint Position

__N/A Vehicle contains automatic head restraints.
__N/A, there is no head restraint adjustment

__1.22.1 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)

__1.22.2 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)

__1.22.3 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

2. Child information

__2.1 Child Identification Code: _____
__2.2 The child is wearing a cotton T-shirt. (S29.2)
__2.3 The child is wearing full-length cotton trousers. (S29.2)
__2.4 The child is wearing sneakers. (S29.2)
__2.5 Child weight: _____ (13.4 to18 kg) (S29.1(b)
__2.6 Child height: _____ (89 to 99 cm) (S29.1(b))

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

__3.1 Place the SCRP in the position specified in the header information. Use the seat markings determined in item 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

__3.2 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 _____

__3.3 Locate and mark a vertical Plane A through the longitudinal centerline of the child restraint. (S22.2.1.2)

__3.4 Read the child restraint owner's manual for installation instructions

__3.5 Place the child restraint facing forward in the seat such that Plane A (item 3.3 above) is aligned with Plane B (item 1.15 above). (S22.2.1.4 (a)(1))

__3.6 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)

__3.7 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 yes, cut off all or part of the sheath. __ All __ Part

__3.8 Cinch the seat belt to a tension load of 130 N $\pm$ 3N (29.2 lb $\pm$ 0.7 lb) (S22.2.1.5.2)

Record seat belt tension _____

__3.9 Position the child in the child restraint such that the child's lower torso is centered on the child restraint and the child's spine is against the seat back of the child restraint. Place the arms at the child's sides. (S22.2.1.5.2)

__3.10 Attach all belts that come with the child restraint that are appropriate for the child's height and weight, 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)

__3.11 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**

__3.12 Return the ignition switch to the "off" position.

4. Unbelted tests using FMVSS 225 Anchorages with a forward facing convertible child restraint. (Child restraints listed in Appendix A, section 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.

__4.1 Keep the same seat position as in 3.1 above

__4.2 Read the child restraint and vehicle owner's manuals for installation instructions

__4.3 Attach the child restraint, facing forward, to the FMVSS 225 anchorages by completing Data Sheet 14. 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)

__4.4 Position the child in the child restraint such that the child's lower torso is centered on the child restraint and the child's spine is against the seat back of the child restraint. Place the arms at the child's sides. (S22.2.1.5.2)

__4.5 Attach all belts that come with the child restraint that are appropriate for the child's height and weight, 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)

__4.6 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**

__4.7 Return the ignition switch to the "off" position.

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

DATA SHEET 21H

Suppression Tests Using an Unbelted Representative 3-Year Old Child

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Seat Position: __ Full rearward,mid-height __ Mid position, mid-height __ Full forward, mid-height (Use a separate sheet for each of the three fore-aft positions.) (S22.1.2)

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. Seat Marking

__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, SCRP) 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** 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** 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** 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** 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** 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** the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP (Plane B) 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:

Locate and **mark** 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. (S20.2.1.4, 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.) _____

__1.22 Head Restraint Position

__N/A Vehicle contains automatic head restraints.

__N/A, there is no head restraint adjustment

__1.22.1 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)

__1.22.2 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)

__1.22.3 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

2. Child information

__2.1 Child Identification Code: _____

__2.2 The child is wearing a cotton T-shirt. (S29.2)

__2.3 The child is wearing full-length cotton trousers. (S29.2)

__2.4 The child is wearing sneakers. (S29.2)

__2.5 Child weight: _____ (21 to25.6 kg) (S29.1 (c)

__2.6 Child height: _____ (114 to 124.5 cm) (S29.1 (c))

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

__3.1 Place the SCRP in the position specified in the header information. Use the seat markings determined in item1 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

__3.2 Position the child in the seated position and place him/her on the right front outboard seat. (S22.2.2.1(a))

__3.3 Position the child such that its midsagittal plane is coincident within ± 10 mm of Plane B(determined and marked during the completion of Data Sheet 14). (S22.2.2.1(b))

__3.4 Position the child's torso against the seat back. (S22.2.2.1(b))

__3.5 Position the child's thighs against the seat cushion. (S22.2.2.1(b))

__3.6 Allow the legs of the child to extend off the surface of the seat. (S22.2.2.1(c))
If the seat must be moved rearward because of child contact with the instrument panel, describe the final location of the seat:
__ N/A – No child 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.)

__3.7 Rotate the child's upper arms until they contact the seat back. (S22.2.2.1(d))

__3.8 Rotate the child's lower arms until the child's hands contact the seat cushion. (S22.2.2.1(e))

__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. (S22.2.2.1(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**

__3.10 Return the ignition switch to the “off” position.

4. Sitting on seat with back against reclined seat back (S22.2.2.2)
__ N/A – No seat back angle adjustment

__4.1 Keep the child and the seat in the same position as item 3 above.

__4.2 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 _____

__4.3 Verify the child’s midsagittal plane is coincident within ± 10 mm of Plane B(determined and marked in item 1.20 or 1.21). (S22.2.2.1(b))

__4.4 Verify the child’s torso is against the seat back. (S22.2.2.1(b))

__4.5 Verify the child’s thighs are against the seat cushion. (S22.2.2.1(b))

__4.6 Allow the legs of the child to extend off the surface of the seat. (S22.2.2.1(c))
If the seat must be moved rearward because of child contact with the instrument panel, describe the final location of the seat:
__ N/A – No child 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.)

__4.7 Verify the child’s upper arms contact the seat back. (S22.2.2.1(d))

__4.8 Verify the child’s hands contact the seat cushion. (S22.2.2.1(e))

__4.9 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**

__4.10 Return the ignition switch to the “off” position.

5. Sitting on seat with back not against seat back (S22.2.2.3)

__5.1 Keep the child and the seat in the same position as item 4 above.

__5.2 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 _____

__5.3 Verify the child’s midsagittal plane is coincident within ± 10 mm of Plane B (determined and marked in item 1.20 or 1.21). (S22.2.2.3(b))

__5.4 Verify the child’s torso is against the seat back.

__5.5 Verify the child’s thighs are against the seat cushion. (S22.2.2.3(c))

__5.6 Rotate the child forward until the spine is vertical. (S22.2.2.3(b))

__5.7 Keeping the spine vertical, move the child fore or aft to position the child’s back 25 to 150 mm from the seat back as measured horizontally from the child’s midsagittal plane at the mid sternum level. (S22.2.2.3(b))
Distance measured from seat back _____ (25 to 150 mm)

__5.8 Allow the legs of the child to extend off the surface of the seat. (S22.2.2.3(d))
If the seat must be moved rearward because of child contact with the instrument panel, describe the final location of the seat:
__ N/A – No child 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.)

__5.9 Position the child's upper arms parallel to the spine. (S22.2.2.3(e))

__5.10 Rotate the child's lower arms until the hands contact the seat cushion. (S22.2.2.3(e))

__5.11 Start the vehicle engine or place the ignition in the "on" position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.3(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**

__5.12 Return the ignition switch to the "off" position.

6. Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)

__6.1 Keep the seat in the end position used for 5 above.

__6.2 Position the child in the seated position on the right front outboard seat. (S22.2.2.1(a))

__6.3 Position the child such that its midsagittal plane is coincident within ± 10 mm of Plane B(determined and marked item 1.20 or 1.21). (S22.2.2.4(a))

__6.4 Position the child 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 child's feet contact the floor pan raising part of the thighs off the seat cushion, rotate the legs forward until the child's thighs are resting on the seat cushion with the feet positioned flat on the floor pan and the child's spine vertical. (S22.2.2.4(b))
If the seat must be moved rearward because of child contact with the instrument panel, describe the final location of the seat:
__ N/A – No child 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 Position the child's upper arms parallel to the spine. (S22.2.2.4(c))

__6.6 Rotate the child's lower arms until the hands contact the seat cushion. (S22.2.2.4(d))

__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. (S22.2.2.4(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**

__6.8 Return the ignition switch to the "off" position.

7. Standing on seat, facing forward (S22.2.2.5)

__7.1 Keep the seat in the end position used for 5 above.

__7.2 Position the child in a standing position on the right front outboard seat cushion facing the front of the vehicle with the midsagittal plane coincident within ± 10 mm of Plane B (determined and marked in item 1.20 or 1.21) and with the heels of the child's feet in contact with the seat back. (S22.2.2.5(a))

__7.3 Rest the child against the seat back, with the arms parallel to the spine. (S22.2.2.5(b))

__7.4 If the seat back must be reclined because of child contact with the roof, describe the final location of the seat:
__ N/A – No child 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.)
Power seat adjuster: __ mm between roof and child head (max. allowed is 5 mm.)

__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. (S22.2.2.5(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**

__7.6 Return the ignition switch to the “off” position.

8. Kneeling on seat facing forward (S22.2.2.6)

__8.1 Keep the seat in the end position used for 6 above.

__8.2 The 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. (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 5.5 above.
Manufacturer’s design seat back angle _____
Tested seat back angle _____

__8.3 Position the child in a kneeling position on the right front outboard seat cushion facing the front of the vehicle with the midsagittal plane coincident within ± 10 mm of Plane B, (determined and marked in item 1.20 or 1.21) 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))

__8.4 Place the arms parallel to the spine. (S22.2.2.6 (b))

__8.5 Start the vehicle engine or place the ignition in the “on” position, whichever will turn on the suppression system, and close all vehicle doors. (S22.2.2.6 (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**

__8.6 Return the ignition switch to the “off” position.

9. Kneeling on seat facing rearward (S22.2.2.7)

__9.1 Keep the seat in the end position used for 8 above.

__9.2 Position the child in a kneeling position on the right front outboard seat cushion facing the rear of the vehicle with the midsagittal plane coincident within ± 10 mm of Plane B (determined and marked in item 1.20 or 1.21), with the head and torso in contact with the seat back. (S22.2.2.7(a) and (b))

__9.3 Place the legs so that they contact the seat as much as possible. (S22.2.2.7(b))

__9.4 Place the arms parallel to the spine. (S22.2.2.7(b))

__9.5 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**

__9.6 Return the ignition switch to the “off” position.

10. Lying on seat (S22.2.2.8)

__10.1 Does the front seat row have 3 or more designated seating positions?
__Yes, continue with this section.
__No, this form is complete.

__10.2 Keep the seat in the end position used for 8 above.

__10.3 Lay the child on the right front outboard seat with the spine perpendicular to the vehicle’s longitudinal axis, with the child 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))

__10.4 Position the child so that the midsagittal plane is horizontal and a plane passing through the two shoulder joints of the child is vertical. (S22.2.2.8(a)(1) and S22.2.2.8(a)(4))

__10.5 Position the child’s arms parallel to the spine. (S22.2.2.8(a)(3))

__10.6 Position the child so that he/she is as far back in the seat as possible. (S22.2.2.8(a)(8))

__10.7 Position the child so that the topmost point of the child’s head is 50 to 100 mm from the vehicle door. (S22.2.2.8(a)(7))

__10.8 Rotate both thighs as much as possible toward the chest of the child and rotate the legs as much as possible against the thighs. (S22.2.2.8(b))

__10.9 Position the child'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 child's head until movement is obstructed. (S22.2.2.8(c))

__10.10 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**

__10.11 Return the ignition switch to the "off" position.

_____ _____

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

DATA SHEET 22H

Suppression Test Using a Representative 6-Year-Old Child and Booster Seats (S24.2.1)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Booster Seat Name, Model, Manufacture Date: _____

Seat Position: __ Full rearward, mid-height __ Mid position, mid height __ Full forward, 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. Seat Marking

__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, SCRP) 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** 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** 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** 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** 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** 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** the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP (Plane B) 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:

Locate and **mark** 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. (S20.2.1.4, 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.) _____

__1.22 Head Restraint Position

__N/A Vehicle contains automatic head restraints.

__N/A, there is no head restraint adjustment

__1.22.1 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)

__1.22.2 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)

__1.22.3 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

2. Child information

__2.1 Child Identification Code: _____

__2.2 The child is wearing a cotton T-shirt. (S29.2)

__2.3 The child is wearing full-length cotton trousers. (S29.2)

__2.4 The child is wearing sneakers. (S29.2)

__2.5 Child weight: _____ (21 to25.6 kg) (S29.1 (c)

__2.6 Child height: _____ (114 to 124.5 cm) (S29.1 (c))

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

__3.1 Place the SCRP in the position specified in the header information. Use the seat markings determined item 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

__3.2 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 _____

__3.3 Locate and mark a vertical Plane A through the longitudinal centerline of the booster seat. (S22.2.1.2)

__3.4 Read the booster seat owner's manual for installation instructions

__3.5 Place the booster seat in the seat such that Plane A (item 3.3 above) is aligned with Plane B (determined and marked in item 11.20 or 1.21). (S22.2.1.4(a)(1))

__3.6 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)

__3.7 For the height and weight of the child, is the booster seat designed to be secured to the vehicle seat with the seat belt even when empty?
__ Yes – complete item 3.8 and skip 3.9
__ No – go to item 3.9

__3.8 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

__3.8.1 Cinch the seat belt to a tension load of 130 N ± 3N (29.2 lb ± 0.7 lb) (S22.2.1.6.1)
Record seat belt tension _____

__3.8.2 Position the child in the booster seat such that the child's lower torso is centered on the booster seat cushion and the child'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 child's sides. (S22.2.1.6.2)

__3.8.3 Attach all belts that come with the booster seat that are appropriate for the child's height and weight, 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)

__3.9 For a child of the same height and weight as the 6-year-old child (45 in (114 cm), 51.6 lb (23.4 g), the booster seat is not designed to be secured to the vehicle seat even when empty.

__3.9.1 Position the child in the booster seat such that the child's lower torso is centered on the booster seat cushion and the child'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 child's sides. (S22.2.1.6.2)

__3.9.2 Place the Type 2 manual belt around the child 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)

__3.10 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**

__3.11 Return the ignition switch to the "off" position.

4. 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)
__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.

__4.1 Keep the same seat position as in 3 above

__4.2 Read the booster seat and vehicle owner's manuals for installation instructions

__4.3 Attach the booster seat to the FMVSS 225 anchorages by completing Data Sheet 14. 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)
Manual seat adjuster: __ detent(s) rearward of the forward most position
Power seat adjuster: __ mm between instrument panel and booster seat (max. allowed is 5 mm.)

__4.4 Position the child in the booster seat such that the child's lower torso is centered on the booster seat cushion and the child'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 child's sides. (S22.2.1.6.2)

__4.5 Are belts that come with the booster seat designed to by used for a child of the same height and weight? (45 in (114 cm), 51.6 lb (23.4 g)?
__ Yes – complete item 3.5.1 and skip 3.6
__ No – go to item 2.6

__4.5.1 Attach all belts that come with the booster seat that are appropriate for the child's height and weight, 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)

__4.6 Place the Type 2 manual belt around the child 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)

__4.7 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**

__4.8 Return the ignition switch to the "off" position.

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

DATA SHEET 23H

Suppression Tests Using an Unbelted Representative 6-Year-Old Child (S24.2.1)

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Seat Position: __ Full rearward, mid-height __ Mid position, mid-height __ Full forward, mid-height (Use a separate sheet for each of the three fore-aft positions.) (S24.1.2)

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. Seat Marking

__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, SCRP) 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** 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** 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** 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** 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** 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** the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP)Plane B) 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:

Locate and **mark** 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. (S20.2.1.4, 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.) _____

__1.22 Head Restraint Position

__N/A Vehicle contains automatic head restraints.

__N/A, there is no head restraint adjustment

__1.22.1 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)

__1.22.2 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)

__1.22.3 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

2. Child information

__2.1 Child Identification Code: _____

__2.2 The child is wearing a cotton T-shirt. (S29.2)

__2.3 The child is wearing full-length cotton trousers. (S29.2)

__2.4 The child is wearing sneakers. (S29.2)

__2.5 Child weight: _____ (21 to25.6 kg) (S29.1 (c)

__2.6 Child height: _____ (114 to 124.5 cm) (S29.1 (c))

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

__3.1 Place the SCRP in the position specified in the header information. Use the seat markings determined item 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

__3.2 Position the child in the seated position and place it on the right front outboard seat. (S22.2.2.1(a))

__3.3 Position the child such that its midsagittal plane is within ± 10 mm of Plane B. (S22.2.2.1(b))

__3.4 Position the child's torso against the seat back. (S22.2.2.1(b))

__3.5 Position the child's thighs against the seat cushion. (S22.2.2.1(b))

__3.6 Allow the legs of the child to extend off the surface of the seat. (S22.2.2.1(c))
If the seat must be moved rearward because of child contact with the instrument panel, describe the final location of the seat:
__ N/A – No child 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.)

__3.7 Rotate the child's upper arms until they contact the seat back. (S22.2.2.1(d))

__3.8 Rotate the child's lower arms until the child's hands contact the seat cushion. (S22.2.2.1(e))

__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. (S22.2.2.1(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**

__3.10 Return the ignition switch to the "off" position.

4. Sitting on seat with back against reclined seat back (S22.2.2.2)
__ N/A – No seat back angle adjustment

__4.1 Keep the child and the seat in the same position as item 3 above.

__4.2 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 _____
__4.3 Verify the child's midsagittal plane is coincident with Plane B. (S22.2.2.1(b))
__4.4 Verify the child's torso is against the seat back. (S22.2.2.1(b))
__4.5 Verify the child's thighs are against the seat cushion. (S22.2.2.1(b))
__4.6 Allow the legs of the child to extend off the surface of the seat. (S22.2.2.1(c))
If the seat must be moved rearward because of child contact with the instrument panel, describe the final location of the seat:
__ N/A – No child 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.)
__4.7 Verify the child's upper arms contact the seat back. (S22.2.2.1(d))
__4.8 Verify the child's hands contact the seat cushion. (S22.2.2.1(e))
__4.9 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**
__4.10 Return the ignition switch to the "off" position.
5. Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
__5.1 Keep the seat in the end position used for 3 above.
__5.2 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 _____
__5.3 Position the child in the seated position and place him/her on the right front outboard seat. (S22.2.2.1(a))
__5.4 Position the child such that its midsagittal plane is within ± 10 mm of Plane B. (S22.2.2.4(a))

__5.5 Position the child 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 child's feet contact the floor pan raising part of the thighs off the seat cushion, rotate the legs forward until the child's thighs are resting on the seat cushion with the feet positioned flat on the floor pan and the child's spine vertical. (S22.2.2.4(b))

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

__ N/A – No child 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.)

__5.6 Position the child's upper arms parallel to the spine. (S22.2.2.4(c))

__5.7 Rotate the child's lower arms until the hands contact the seat cushion. (S22.2.2.4(d))

__5.8 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**

__5.9 Return the ignition switch to the "off" position.

6. Sitting back in the seat and leaning on the right front passenger door (S24.2.3)

__6.1 Keep the seat in the end position used for 4 above.

__6.2 Position the child in the seated position and place him/her on the right front outboard seat. (S24.2.3 (a))

__6.3 Position the child such that its midsagittal plane is within ± 10 mm of Plane B. (S24.2.3(a))

__6.4 Position the child's back against the seat back and thighs on the seat cushion. (S24.2.3(b))

__6.5 Allow the legs and feet to extend off the surface of the seat. If this positioning of the child'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 child contact with the instrument panel, describe the final location of the seat:

__ N/A – No child 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.)

__6.6 Rotate the child's upper arms toward the seat back until they make contact. (S24.2.3(d))

__6.7 Rotate the child's lower arms down until they contact the seat. (S24.2.3(e))

__6.8 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))

__6.9 Push against the child's left shoulder to lean the child against the door; close all remaining doors. (S24.2.3(g))

__6.10 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**

__6.11 Return the ignition switch to the "off" position.

_____ _____

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

DATA SHEET 31H

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

NHTSA No. _____ Test Date: _____

Laboratory: _____ Test Technician(s): _____

Seat Position: __ Full rearward __ Mid position __ Full forward (Use a separate sheet for each of the three fore-aft positions tested.) (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 the data sheet
__ Suppression Test Using Newborn Infant Dummy (S20)
After section __ of the data sheet
__ Suppression Test Using 3-Year-Old Dummy and Booster Seats (S22)
After section __ of the data sheet
__ Suppression Test Using 3-Year-Old Dummy and Forward Facing Convertible Child Restraints (S22)
After section __ of the data sheet
__ Suppression Test Using an Unbelted 3-Year-Old Dummy (S22)
After section __ of the data sheet
__ Suppression Test Using 6 Year-Old-Dummy and Booster Seats (S24.2.1)
After section __ of the data sheet
__ Suppression Test Using 6 Year-Old-Dummy (S24.2.1)
After section __ of the data sheet

__2. Leave the seat in the position used for the suppression test. (The seat back is not reclined as it would be for positioning for a crash test.)
__3. Human Identification Code: _____
__4. The human is wearing a cotton T-shirt. (S29.2)
__5. The human is wearing full-length cotton trousers. (S29.2)
__6. The human is wearing sneakers. (S29.2)
__7. Human weight: _____ (46.7 to 51.25 kg) (S29.1(f)
__8. Human height: _____ (139.7 to 150 cm) (S29.1(f))
__9. Position the human in the center of the seat, as determined in Data Sheet 14.1, with the pelvis touching the seat back and the back against the seat back.
__10. Verify the human's midsagittal plane is vertical and within ± 10 mm of the seating position centerline. (S16.3.3.1.3 or S16.3.3.1.4)
__11. Verify the transverse distance between the centers of the front of the knees is 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
__12. If needed, extend the legs until the feet do not contact the floor pan. The thighs are resting on the seat cushion. (S16.3.3.1.8)
__13. If the human 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 which does not cause human contact. (S16.3.3.1.8)
__ N/A No contact
__ Human contact. Clearance set at maximum of 5mm
Measured Clearance_____ mm
__ Human Contact. Seat set at nearest detent position.
Seat position ___ detent positions rearward of full forward
(full forward is position zero)
__14. Passenger foot positioning. (Indicate final position achieved) (S16.3.3.2)

__14.1 Place feet flat on the toe board. OR (S16.3.3.2.1)
__14.2 If the feet cannot be placed flat on the toe board, the feet are perpendicular to the lower leg, and the heel is as far forward as possible and resting on the floor pan. OR (S16.3.3.2.2)
__14.3 If the heels do not touch the floor pan, the legs are vertical and the feet parallel to the floor pan. (S16.3.3.2.2)

__15. Passenger arm/hand positioning. (S16.3.3.3)
__15.1 Place the human'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)
__15.2 Place the palms of the human in contact with the outer part of the thighs (S16.3.3.3.2)
__15.3 Place the little fingers in contact with the seat cushion. (S16.3.3.3.3)

__16. 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 – **FAIL**
__Air Bag Not Suppressed – Pass

__17. Return the ignition switch to the "off" position.

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