

**APPENDIX F
DUMMY POSITIONING PROCEDURES
FOR DRIVER AND PASSENGER TEST DUMMY CONFORMING TO
SUBPART E OF PART 572**

**APPENDIX F
DUMMY POSITIONING PROCEDURES
FOR DRIVER TEST DUMMY CONFORMING TO SUBPART E OF PART 572**

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

- __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. (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. (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 seats with adjustable seat cushions, use the manufacturer’s recommended seat cushion angle for determining the lowest height position.
__N/A- No cushion angle adjustment
Manufacturers seat cushion angle _____
Tested seat cushion angle _____
- __8. Visually **mark** 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
Manufacturer’s design seat back angle _____
Tested seat back angle _____
- __9. Is the seat a bucket seat?
__Yes, go to 10 and skip 11
__No, go to 11 and skip 10
- __10. Bucket seats:
Locate and **mark** 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:

- Locate and **mark** 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)
- ___12. If adjustable, set the head restraint at the full up position. (S8.1.3) If there are adjustments other than vertical, adjust them as recommended by the manufacturer.
___N/A – No head restraint adjustment
- ___13. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)
___N/A – No adjustable upper seat belt anchorage
Manufacturer's specified anchorage position. _____
Tested anchorage position _____
- ___14. Place adjustable pedals in the full forward position.
___N/A – the pedals are not adjustable.
- ___15. Is the steering wheel adjustable up and down and/or in and out?
___Yes – go to 16
___No – go to 19
- ___16. Find and **mark** 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
- ___17. Find and **mark** 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.
- ___18. Set the steering wheel hub at the geometric center of the full range of driving positions including any telescoping positions.
- ___19. Place the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion markings as determined in item 10 or 11 and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)
- ___20. Rest the thighs on the seat cushion. (S10.5)
- ___21. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined in Data Sheet 15. (S10.4.2.1)
Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)
___horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
___vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
___pelvic angle (20° to 25°)
- ___22. Is the head level within $\pm 0.5^\circ$? (S10.1)
___Yes, go to 10
___No, go to 9.1
- ___22.1 Adjust the position of the H-point. (S10.1)

- __22.2 Is the head level within $\pm 0.5^\circ$? (S10.1)
 __Yes, record the following, then go to 23. __No, go to 22.3
 ____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
 ____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
 ____pelvic angle (20° to 25°) (S10.4.2.2)
- __22.3 Adjust the pelvic angle. (S10.1)
- __22.4 Is the head level within $\pm 0.5^\circ$? (S10.1)
 __Yes, record the following, then go to 23. __No, go to 22.5
 ____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
 ____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
 ____pelvic angle (20° to 25°) (S10.4.2.2)
- __22.5 Adjust the neck bracket of the dummy the minimum amount necessary from the non-adjusted "0" setting until the head is level within $\pm 0.5^\circ$. (S10.1)
 Record the following, then go to 23
 ____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
 ____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
 ____pelvic angle (20° to 25°) (S10.4.2.2)
- __23. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.
 __measured distance (10.6 inches) (S10.5)
- __24. Can the right foot be placed on the accelerator?
 __Yes, go to 24.1 and skip 24.2
 __No, go to 24.2
- __24.1. To the extent practicable keep the right thigh and the leg in a vertical plane (S10.5) while resting the foot on the undepressed accelerator pedal with the rearmost point of the heel on the floor pan in the plane of the pedal. (S10.6.1.1)
- __24.2 Initially set the foot perpendicular to the leg and then place it as far forward as possible in the direction of the pedal centerline with the rearmost point of the heel resting on the floor pan. (S10.6.1.1)
- __24.2.1 Move the adjustable pedal to its most rearward position or until the right foot is flat on the pedal, whichever occurs first. (S10.6.1.1)
 __N/A – the accelerator pedal is not adjustable
- __25. Does the vehicle have a foot rest?
 __Yes, go to 25.1
 __No, go to 25.2
- __25.1 With the left thigh and leg in a vertical plane, place the left foot on the foot rest with the heel resting on the floor pan. (S10.6.1.2)
- __25.1.1 Is the left foot elevated above the right foot?
 __Yes, go to 25.2 and position the foot off the foot rest
 __No, go to 26
- __25.2 Check the ONLY one of the following that applies
 __The left foot reaches the toeboard without adjusting the foot or leg. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and place the foot on the toeboard, skip 25.3 (S10.6.1.2)
 __The left foot reaches the toeboard but contacts the brake or clutch pedal and must be rotated to avoid pedal contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and place the foot on the toeboard. The foot was rotated about the leg to avoid pedal contact, skip 25.3 (S10.6.1.2)
 __The left foot reaches the toeboard but contacts the brake or clutch pedal and the foot and leg must be rotated to avoid pedal contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and place the foot on the

- toeboard. The foot was rotated about the leg and the leg was rotated outboard about the hip the minimum distance necessary to avoid pedal contact, skip 12.3 (S10.6.1.2)
- N/A – the foot does not reach the toeboard, go to 25.3
- 25.3 Check the ONLY one of the following that applies
- The left foot did not contact the brake or clutch pedal. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5). Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan. (S10.6.1.2)
- The left foot did contact the brake or clutch pedal and the foot was rotated to avoid contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5). Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan and rotate the foot the minimum amount to avoid pedal contact. (S10.6.1.2)
- The left foot did contact the brake or clutch pedal and the foot was rotated about the leg and the leg was rotated outboard about the hip the minimum distance necessary to avoid pedal contact. Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan and rotate the foot about the leg and the thigh and leg outboard about the hip the minimum distance necessary to avoid pedal contact. (S10.6.1.2)
26. Place the right upper arm adjacent to the torso with the centerline as close to a vertical plane as possible. (S10.2.1)
27. Is the driver seat belt used for this test?
- Yes, continue
- No, go to 28
- 27.1 Fasten the seat belt around the dummy.
- 27.2 Remove all slack from the lap belt portion. (S10.9)
- 27.3 Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)
- 27.4 Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
- pound load applied
- 27.5 Is the belt system equipped with a tension-relieving device?
- Yes, continue
- No, go to 28
- 27.6 Introduce the maximum amount of slack into the upper torso bet that is recommended by the vehicle manufacturer in the vehicle owner’s manual. (S10.9).
28. Place the left upper arm adjacent to the torso with the centerline as close to a vertical plane as possible. (S10.2.1)
29. Place the right hand with the palm in contact with the steering wheel at the rim’s horizontal centerline and with the thumb over the steering wheel. (S10.3.1)
30. Place the left hand with the palm in contact with the steering wheel at the rim’s horizontal centerline and with the thumb over the steering wheel. (S10.3.1)
31. Tape the thumb of each hand to the steering wheel by using masking tape with a width of 0.25 inch. The length of the tape shall only be enough to go around the thumb and steering wheel one time.

I certify that I have read and performed each instruction.

Date

APPENDIX F
DUMMY POSITIONING PROCEDURES FOR PASSENGER TEST DUMMY
CONFORMING TO SUBPART E OF PART 572

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

- __1. The seat is a bench seat for which the adjustments have already been made for the driver and there are no independent adjustments that can be made for the passenger. Go to 12.
 __N/A- the passenger seat adjusts independently of the driver seat.
- __2. 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
- __3. 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
- __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 rearmost position. **Mark** this position. (8/31/95 legal interp to Hogan and Hartson)
- __5. 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. (8/31/95 legal interp to Hogan and Hartson)
- __6. **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)
- __7. Move the seat to the mid position.
- __8. While maintaining the mid position, move the seat to its lowest position. **Mark** the height position. For seats with adjustable seat cushions, use the manufacturer's recommended seat cushion angle for determining the lowest height position.
 __N/A- No cushion angle adjustment
 Manufacturers seat cushion angle _____
 Tested seat cushion angle _____
- __9. Visually **mark** 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
 Manufacturer's design seat back angle _____
- __10. Is the seat a bucket seat?
 __Yes, go to 11 and skip 12
 __No, go to 12 and skip 11
- __11. 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)

- __12. Bench seats:
 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. _____
- __13. If adjustable, set the head restraint at the full up position. (S8.1.3) If there are adjustments other than vertical, adjust them as recommended by the manufacturer.
 __N/A – No head restraint adjustment
- __14. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)
 __N/A – No adjustable upper seat belt anchorage
 Manufacturer's specified anchorage position. _____
 Tested anchorage position _____
- __15. Place the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion markings as determined in item 11 or 12 and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)
- __16. Rest the thighs on the seat cushion. (S10.5)
- __17. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)
 ____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
 ____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
 ____pelvic angle (20° to 25°)
- __18. Is the head level within $\pm 0.5^\circ$? (S10.1)
 __Yes, go to 19
 __No, go to 18.1
- __18.1 Adjust the position of the H-point. (S10.1 and S10.4.2.1)

- __18.2 Is the head level within $\pm 0.5^\circ$? (S10.1)
 __Yes, record the following, then go to 19. __No, go to 18.3
 ____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.)
 (S10.4.2.1)
 ____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.)
 (S10.4.2.1)
 ____pelvic angle (20° to 25°) (S10.4.2.2)
- __18.3 Adjust the pelvic angle. (S10.1)
- __18.4 Is the head level within $\pm 0.5^\circ$? (S10.1)
 __Yes, record the following, then go to 19. __No, go to 18.5
 ____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.)
 (S10.4.2.1)
 ____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.)
 (S10.4.2.1)
 ____pelvic angle (20° to 25°) (S10.4.2.2)
- __18.5 Adjust the neck bracket of the dummy the minimum amount necessary from the non-adjusted "0" setting until the head is level within $\pm 0.5^\circ$. (S10.1)
 Record the following, then go to 19
 ____horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.)
 (S10.4.2.1)
 ____vertical inches from the point 0.25 below the determined H-point (0.5 inch max.)
 (S10.4.2.1)
 ____pelvic angle (20° to 25°) (S10.4.2.2)
- __19. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.
 ____ measured distance (10.6 inches) (S10.5)
- __20. Check the only one of the following that applies:
 __To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, place the feet on the toeboard with the heels resting on the floor pan as close as possible to the intersection of the floor pan and toeboard.
 __The feet cannot be placed flat on the toeboard. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heels resting on the floor pan.
 __The vehicle has a wheelhouse projection. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heels resting on the floor pan. Do not set the feet on the wheelhouse projection.
 __The vehicle has a wheelhouse projection and the feet cannot be placed on the toeboard. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heel resting on the floor pan. Do not set the feet on the wheelhouse projection.
- __21. Place the left upper arm in contact with the seat back and side of the torso. (S10.2.2)
- __22. Is the passenger seat belt used for this test?
 __Yes, continue
 __No, go to 23
- __22.1 Fasten the seat belt around the dummy.
- __22.2 Remove all slack from the lap belt portion. (S10.9)
- __22.3 Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)
- __22.4 Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
 ____pound load applied
- __22.5 Is the belt system equipped with a tension relieving device?
 __Yes, continue
 __No, go to 23

- ___22.6 Introduce the maximum amount of slack into the upper torso bet that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9). Go to 23.
- ___23. Place the right upper arm in contact with the seat back and side of the torso. (S10.2.2)
- ___24. Place the left hand palm in contact with the outside of the left thigh and the little finger in contact with the seat cushion. (S10.3.2)
- ___25. Place the right hand palm in contact with the outside of the right thigh and the little finger in contact with the seat cushion. (S10.3.2)

I certify that I have read and performed each instruction.

Date