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SAE J800 APR86

Motor Vehicle Seat Belt Assembly Installations

SAE Recommended Practice
Reaffirmed April 1986

Submitted for Recognition as an American National Standard

This standard is indexed in the Standards Search Database

SAE GLOBAL MOBILITY DATABASE

RATIONALE:

Not applicable.

RELATIONSHIP OF SAE STANDARD TO ISO STANDARD:

Not applicable.

REFERENCE SECTION:

SAE J4, Motor Vehicle Seat Belt Assemblies

Section 571.209 in the code of Federal Regulations of the National Highway Traffic Safety Administration

Section 571.210 in the code of Federal Regulations of the National Highway Traffic Safety Administration

APPLICATION:

It is the purpose of this SAE Recommended Practice to provide general installation instructions for universal type seat belt assemblies for installation in either a commercial or passenger car vehicle. Its primary intent is to provide guidance in the installation of seat belt assemblies meeting the requirements of the SAE J4 and Section 571.209 in the code of Federal Regulations of the National Highway Traffic Safety Administration. These minimum instruction requirements may be supplemented by more specific manufacturer's instructions, if they are necessary to provide proper installation in a particular vehicle.

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HIGHWAY VEHICLE PRACTICE

Submitted for recognition as an American National Standard

SAE J800

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Reaffirms J800c

MOTOR VEHICLE SEAT BELT ASSEMBLY INSTALLATIONS

SCOPE: It is the purpose of this SAE Recommended Practice to provide general installation instructions for universal type seat belt assemblies for installation in either a commercial or passenger car vehicle. Its primary intent is to provide guidance in the installation of seat belt assemblies meeting the requirements of Section 571.209 in the code of Federal Regulations of the National Highway Traffic Safety Administration. These minimum instruction requirements may be supplemented by more specific manufacturer's instructions, if they are necessary to provide proper installation in a particular vehicle.

INSTRUCTIONS:

1. If the vehicle is equipped with seat belt anchorages, these anchorages shall be used in lieu of other methods. All American manufactured passenger cars, starting with the 1962 models, have seat belt anchorages consisting of 7/16 in--20 UNF 2A, 1/2 in--13 UNC 2A, or equivalent, threaded holes mounted in a suitable structure to receive the attached hardware for at least two lap belts in the front seat.

   Additionally, since January 1, 1968, the requirements of Section 571.210 in the code of Federal Regulations, added in passenger cars, lap belt anchorages for each front and rear designated seating position and upper torso belt anchorages at each forward-facing outboard seating position; similar anchorage requirements became effective for trucks beginning January 1, 1972. When these anchorages are used, it is important that all full threads be engaged to obtain the ultimate strength of the anchorages.

   Where special provisions have been made by the vehicle manufacturer for the attachment of belts, these provisions shall be used.

2. In vehicles, particularly trucks and truck-tractors not having threaded hole anchorages, seat belts shall be anchored to adequate structures, such as the body or floor pan. Seat belts shall not be attached to seats, unless the vehicle manufacturer indicates that the seats and seat mounting systems have been specifically designed to withstand seat belt assembly loads. The following procedures shall be followed for all seat belt installations:

   (a) If seat is adjustable, move to the rearmost position.

   (b) Mark floor pan or structure so that the front seat lap belts slope to rear on the way down to the attachment points. After leaving the seat, the belt may go vertically down to the floor but must not in any case go forward.

   (c) When restraining the occupant, the lap belt portion of any seat assembly shall bear across his hip bones and pull downward and rearward at an angle of about 70 deg.

   (d) Attachment points shall be spaced laterally, so that the lap belt portion of the seat belt assembly, essentially, forms a "U" shaped loop when in use. In no case shall both ends of one assembly be connected at the same anchorage or attachment point.

   (e) Drill holes to avoid damaging exhaust system, brake and fuel lines; also, do not locate near other holes which might weaken the floor pan. Any corrosion of the floor pan in the area of the attachment points should be carefully examined and, if necessary, reinforcement (in excess of that furnished with the seat belt assembly) should be added before attachment hardware is installed. These additional reinforcing plates, if needed, shall be of steel and be free from burrs and sharp edges on the peripheral edges. The reinforcing plates shall be at least 0.06 in (1.5 mm) in thickness and at least 4 in^2 (2580 mm^2) in area. The distance between any edge of the plate and the edge of the bolt hole shall be at least 0.6 in (15.2 mm). Corners shall be rounded to a radius of not less than 0.25 in (6.4 mm) or cut so that no corner angle is less than 135 deg and no side is less than 0.25 in (6.4 mm) in length.

   (f) Install the attachment hardware using the washers or reinforcing plates furnished. Dished reinforcing plates shall be installed with the turned up edges away from the body structure. Attachment hardware shall be installed so that movement for self-alignment is possible.

3. Install metal-to-metal type seat belt assembly with the buckle on the inboard side away from the door. Pass the belts through or around seat to rear, avoiding rough or sharp edges in choosing the belt paths.

4. If the webbing is not sewn or otherwise permanently secured to the attachment hardware, thread the webbing through the hardware as instructed by the manufacturer. Figs. 1-5 show typical acceptable methods of threading nonsewn webbing through attachment hardware.

   CAUTION: PROPER THREADING OF THE WEBBING THROUGH ATTACHMENT HARDWARE IS EXTREMELY IMPORTANT TO INSURE ADEQUATE STRENGTH OF THE INSTALLATION. THIS PART OF THE INSTALLATION SHALL BE DOUBLE CHECKED TO SEE THAT IT FOLLOWS THESE INSTRUCTIONS.

5. Belts whose length can be set at the time of installation, that is webbing threaded to attaching hardware, shall be assembled so that they can later be adjusted at the buckle to fit the smallest passenger who will be expected to wear the belt. Typically, this means that the half of the belt assembly ending in a tongue or connector shall be kept short. The half of the belt assembly ending in the buckle will then have to be left long enough to insure that the belt assembly will fit around the hips of the largest passenger. Typically, this half of the belt assembly is adjustable at the buckle and can be adjusted down to the size to fit the wearer after it is fastened. (See paragraph 7 for special adjustment instructions when shoulder belts are used.)

6. If single attachment hooks, sister hooks, or twin hooks are used, they shall be secured by a fastening device to insure against inadvertent release from the eyebolt to which they are attached.

7. For those belts offering upper torso restraint, locate a suitable attaching point on the vehicle roof or "B" pillar. This point must be above and behind the shoulder point of the seated occupant. Drill the required holes and install the attachment hardware using the washers or reinforcing plates furnished. If the shoulder belt is sewn or hooked to the lap belt, the lap belt must be adjusted so that the point of intersection is at least 6 in (152 mm) from the center of the seated occupant.

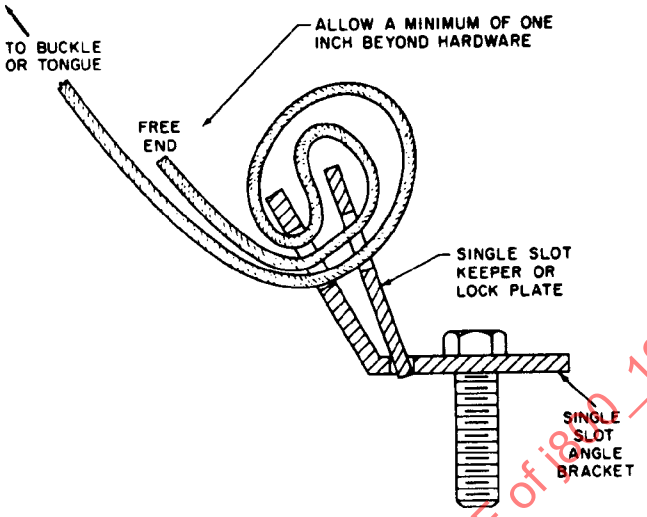

FIG. 1--SAME THREADING MAY BE USED FOR TWO-PIECE ANCHOR HOOKS IF EACH PIECE HAS SINGLE SLOT ONLY. AFTER WEBBING HAS BEEN THREADED AND HOOKS HAVE BEEN ASSEMBLED TO EYE BOLT, THE TWO HOOKS MUST BE FASTENED TOGETHER WITH COTTER KEY OR OTHER DEVICE

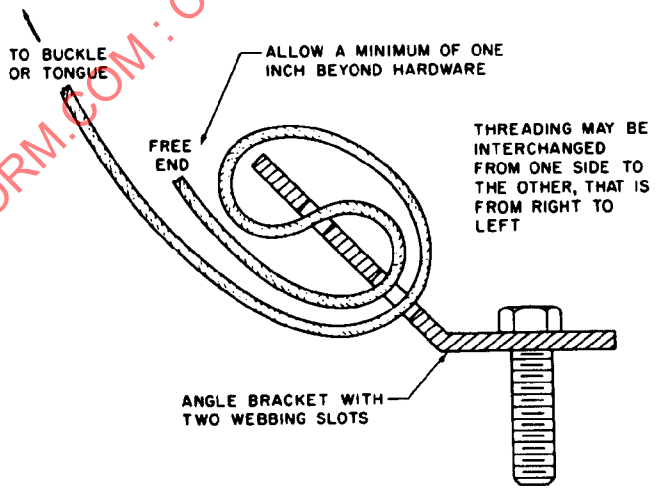

FIG. 2--SAME THREADING IS USED FOR TWO-SLOT SISTER HOOKS OR TWIN HOOKS, TWO PARTS BEING HELD TOGETHER BY WEBBING AS THOUGH THEY ARE SINGLE UNIT