Deflection Limiting Volume—ROPS/FOPS Laboratory Evaluation—SAE J397b

SAE Recommended Practice
Last Revised June 1979

THIS IS A PREPRINT WHICH IS SUBJECT TO REVISIONS AND CORRECTIONS. THE FINAL VERSION WILL APPEAR IN THE 1980 EDITION OF THE SAE HANDBOOK.

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LAND SEA AIR SPACE

PREPRINT

DEFLECTION LIMITING VOLUME—ROPS/FOPS LABORATORY EVALUATION—SAE J397b

SAE Recommended Practice

Report of Construction and Industrial Machinery Technical Committee approved July 1969 and last revised June 1979. Rationale statement available.

ϕ *1. Purpose*—To establish limits on deflection permissible during laboratory evaluations of ROPS and FOPS as defined in J1040 and J231.

ϕ *2. Scope*—The Deflection Limiting Volume (DLV) is shown in Fig. 1. It is an orthogonal approximation of a large operator in the normal seated position.

3. Accuracy—All lengths and positions in this recommended practice shall be within ±0.5 in. (13 mm) of that specified.

4. Location

4.1 The transport seat shall be adjusted to the rearmost position first and then to the lowest position possible in the rearmost position. The position of seats with suspension systems shall include that static deflection of the suspension system which a seated operator of the above description would impose on the suspension system (all mechanical, hydraulic, or gas elements to be at the manufacturer's recommended settings for this size operator).

4.2 Any seat having rotational adjustment about a transverse or vertical axis shall be at the middle position possible when determining the locating point (LP).

4.3 A locating point (LP) and locating axis (LA) shall be determined as follows:

4.3.1 The LP shall be in the middle vertical plane which is parallel to the longitudinal axis of the seat.

4.3.2 The LP shall be at the intersection of the following two lines in this plane (Fig. 2):

HH—The horizontal line which is tangent to the highest point of the seat cushion in this plane.

VV—The vertical line which is tangent to the most forward point of the seat back in this plane.

4.3.3 The LA shall be that line which is perpendicular to the middle, vertical longitudinal plane of the seat and intersects that plane at the above defined LP.

4.4 The DLV (Fig. 1) shall be positioned so its LA coincides with the LA defined in paragraph 4.3. The DLV shall be centered transversely in the seat, and the principal axes of the DLV shall be parallel to lines HH and VV of

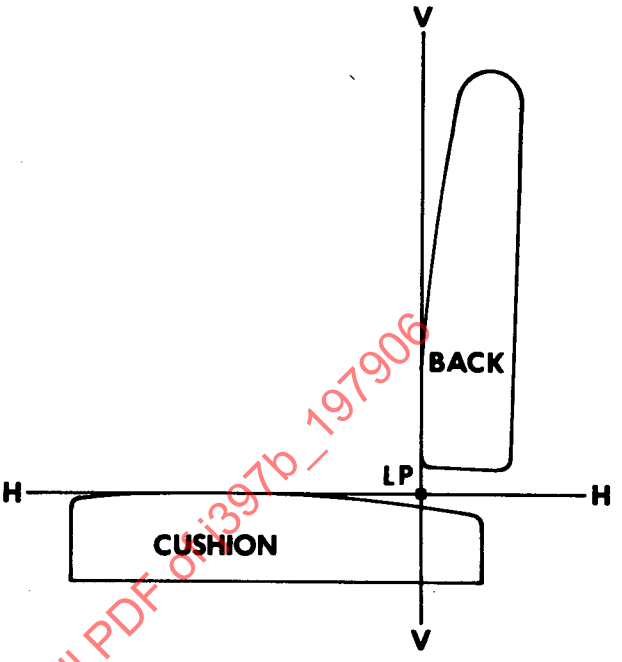
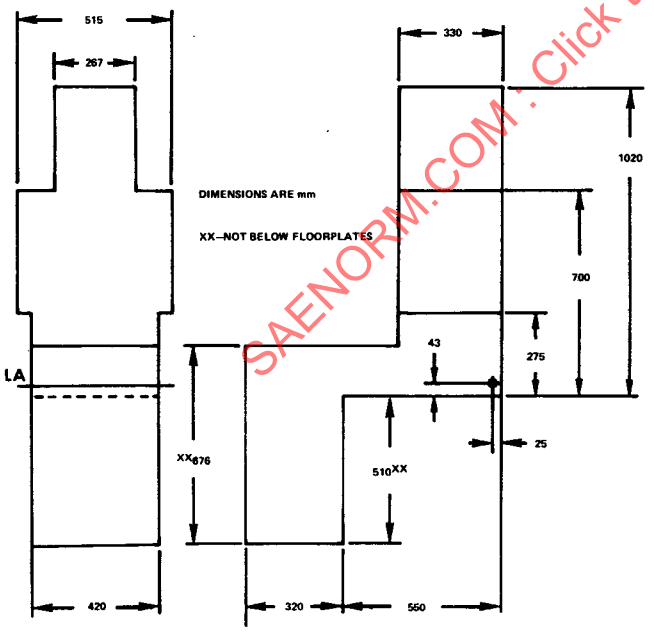


FIG. 2



ϕ FIG. 1

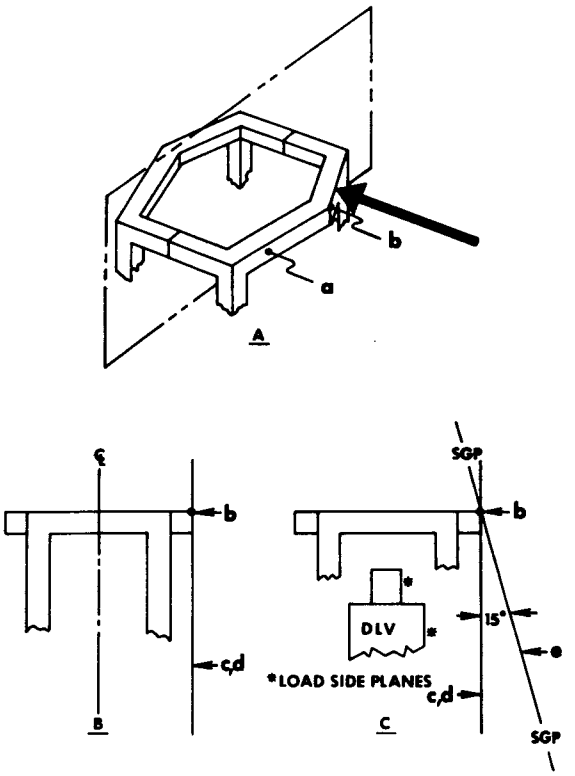


FIG. 3

The ϕ symbol is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. If the symbol is next to the report title, it indicates a complete revision of the report.