

CRITICAL ZONE—CHARACTERISTICS AND DIMENSIONS FOR OPERATORS OF CONSTRUCTION AND INDUSTRIAL MACHINERY—SAE J397

SAE Recommended Practice

Report of Construction and Industrial Machinery Technical Committee approved July 1969.

1. Scope—This SAE Recommended Practice covers characteristics and dimensions of a critical zone to prevent crushing of an operator during roll-over. It is intended to be used with SAE reports on minimum performance criteria for roll-over protective structure (SAE J320, J394, J395, J396).

The critical zone is dimensioned to enclose a large man (95th percentile) in arctic clothing.

2. Characteristics

2.1 The critical zone consists of three smaller zones: A, B, and C. (See Fig. 1.) They contain the following:

Zone A—Head, upper torso, upper arms.

Zone B—Lower torso, lower arms, upper legs.

Zone C—Lower legs.

2.2 The coincident planes of any two adjacent zones, A and B or B and C, of the critical zone must remain coincident during and after upset, except:

2.2.3 Adjacent zones may move a maximum of 2 in. in any direction in the same plane relative to their coincident counterpart (Fig. 2) and or

2.2.4 Adjacent zones may rotate relative to one another a maximum of 10 deg in any plane perpendicular to their originally coincident planes (Fig. 3), providing that:

(a) The volume generated as a result of rotation between coin-

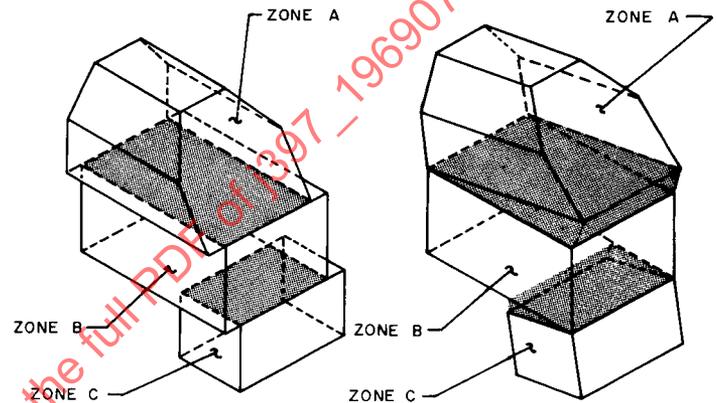
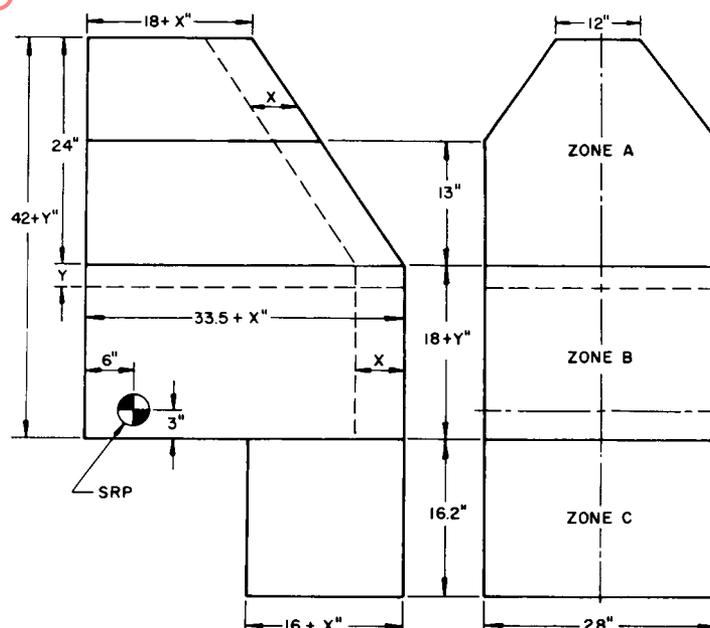
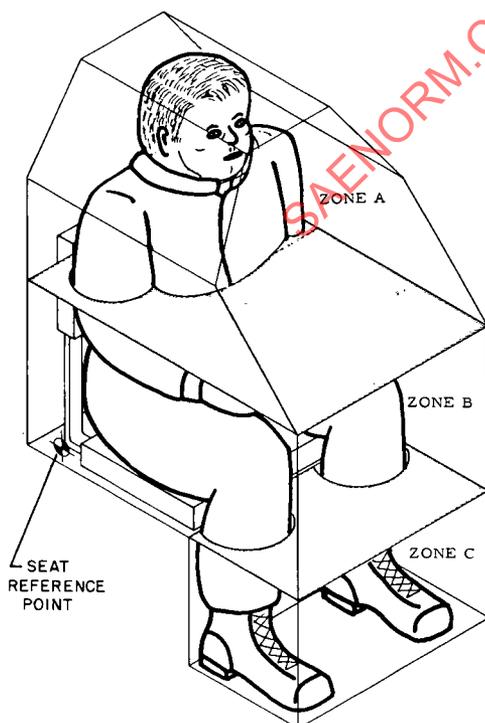


FIG. 2

FIG. 3



X = TOTAL FORE & AFT ADJUSTMENT OF SEAT
Y = TOTAL VERTICAL ADJUSTMENT OF SEAT

FIG. 1—CRITICAL ZONE