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Agricultural tractors — Anchorages for seat belts

Tracteurs agricoles — Ancrages pour ceintures de sécurité

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FOREWORD

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Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3776 was drawn up by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, and was circulated to the Member Bodies in March 1975.

It has been approved by the Member Bodies of the following countries :

Australia	Germany	South Africa, Rep. of
Austria	Hungary	Spain
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Czechoslovakia	New Zealand	United Kingdom
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The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

Belgium
Brazil

Agricultural tractors — Anchorages for seat belts

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the requirements for the location of the anchorages for pelvic restraint belts for operators of agricultural tractors fitted with a protective structure (cab or frame), the force the anchorages shall be capable of withstanding and the tests to which they shall be subjected.

2 REFERENCE

ISO 3462, *Agricultural tractors and machinery — Seat reference point*.¹⁾

3 DEFINITION

anchorage : An appropriate part of the seat or tractor structure to which the seat belt can be secured.

4 ANCHORAGES

4.1 Choice of location of the anchorages

Each seat belt shall have two anchorages. Where a suspended seat is used the anchorages shall be fastened to the movable portion of the seat to permit travel with the operator, or means shall be provided to ensure that the belt is kept taut without chafing the seat occupant, while permitting free movement of the suspension. Where a non-suspended seat is used the anchorages shall be placed in such a manner that they will not be forced out of position due to the deformation of the protective structure when overturning.

4.2 Relative position of anchorages

The anchorages shall be positioned within the shaded area shown in the figure 1, i.e. below a line at 20° to the horizontal and behind a line at 15° to the vertical, through a point 100 mm above and 100 mm in front of the seat reference point. The anchorages B₁, B₂ shall not be less than 175 mm nor more than 350 mm horizontal distance from the longitudinal plane of symmetry of the seat. However, if the structure of the seat makes it necessary, the lower limit may be reduced on condition that suitable arrangements ensure an appropriate spacing of the webbing where in contact with the operator's body.

4.2.1 Seat reference point (see figure 1)

The seat reference point shall be as shown in ISO 3462, and its position with respect to the seat shall be as specified by the seat manufacturer.

4.2.2 Angular characteristics of the webbing relative to the horizontal plane

The angle of the webbing to the horizontal shall be as near as possible to 45° for all normal driving positions of the seat. It must, however, be accepted that the angle may have values different from 45°. Nevertheless, in no driving position shall the angle be less than 20° or greater than 75°.

4.3 Dimension of the threaded holes for anchorage

An anchorage shall consist of a threaded hole of 7/16 — 20 UNF 2B.

NOTE — Where a seat belt is designed, fitted and supplied with the tractor by the tractor manufacturer, the 7/16 UNF thread specification need not apply provided the anchorages supplied comply with all the other requirements of this International Standard.

5 TESTING OF ANCHORAGES

5.1 Nature of test

Only static tests for the anchorages are given in this International Standard.

5.2 General rules

The tests may be carried out either on a shell or on a completely finished tractor.

The seat shall be in position during the tests, and fixed to the mounting point on the tractor or test bed using all intermediary fittings (such as suspension, slides, etc.) specified for the completely finished tractor. No additional non-standard fittings contributing to the strength of the construction may be used.

The anchorages shall be capable of withstanding the test specified in 5.3.

1) At present at the stage of draft.

5.3 Test procedure and requirements

The seat belt anchorages shall be capable of withstanding a total tensile force equivalent to a load of at least 4 500 N at 45° to the horizontal applied substantially in the longitudinal centre plane of the seat using a device as shown in figure 2. The seat belt anchorages shall be capable of withstanding this test load applied with the seat adjusted to the mid-position of the seat adjustment and one extreme position of adjustment, if considered necessary, to ensure that the test condition is met. The horizontal distance between the point where the load generation apparatus is

attached to the test rig and the nearest seat belt anchorage point shall not be less than 1 000 mm.

If during application of the test load, deflection of the anchorages exceeds 100 mm in any direction, the test shall be terminated.

5.4 Accuracy of recording of load and setting up

The test load shall be recorded using measuring devices having an accuracy of at least $\pm 5\%$. The angle of application of the load shall be set up within $\pm 2^\circ$ of 45°.

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