

INTERNATIONAL STANDARD

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Industrial trucks operating in special condition of stacking with mast tilted forward — Additional stability test

*Chariots de manutention travaillant dans des conditions de gerbage
spéciales, avec le mât incliné en avant — Essai de stabilité
supplémentaire*



Reference number
ISO 5767:1992(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 5767 was prepared by Technical Committee ISO/TC 110, *Industrial trucks*, Sub-Committee SC 2, *Safety of powered industrial trucks*.

This second edition cancels and replaces the first edition (ISO 5767:1978), of which it constitutes a technical revision.

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Industrial trucks operating in special condition of stacking with mast tilted forward — Additional stability test

1 Scope

This International Standard specifies the additional test to verify the stability of trucks stacking from level ground with the mast tilted forward and the load in the elevated position (see figure 1). It applies to the following trucks and is in addition to the stability tests applicable to each type of truck under normal operating conditions:¹⁾

- counterbalanced fork-lift trucks with tiltable masts, up to and including 50 000 kg rated capacity;
- reach (retractable mast or forks) and straddle fork-lift trucks with tiltable masts, up to and including 5 000 kg rated capacity;
- pallet stackers and high-lift platform trucks, with tiltable masts, up to and including 5 000 kg rated capacity.

This International Standard does not apply to trucks when handling suspended loads which may swing freely.

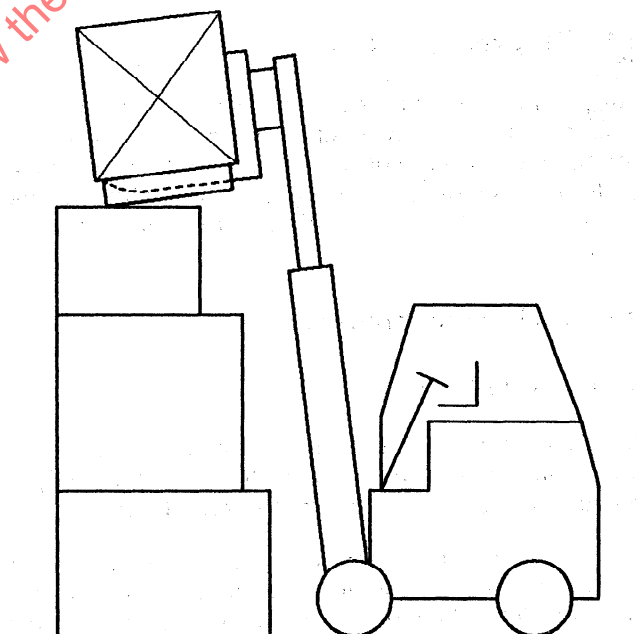


Figure 1

1) In the USA the rated capacities of 50 000 kg and 5 000 kg are not applicable. 100 000 lb and 10 000 lb respectively, although not equivalent to the kilogram values, are applicable in the USA.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1074:1991, *Counterbalanced fork-lift trucks — Stability tests*.

ISO 3184:—²⁾, *Reach and straddle fork-lift trucks — Stability tests*.

ISO 3691:1980, *Powered industrial trucks — Safety code*.

ISO 5766:1990, *Pallet stackers and high-lift platform trucks — Stability tests*.

3 Stability tests

3.1 Test requirements

The stability of industrial trucks as specified in clause 1 shall be verified by means of one of the procedures in 3.2. For trucks with a rated capacity up to and including 10 000 kg, the tilting platform test shall be used to verify stability in the event of a dispute.

3.2 Verification procedure

3.2.1 Tilting platform

A test platform shall be used which can be tilted about one side. A truck being tested for stability is placed on the initially horizontal test platform.

For counterbalanced fork-lift trucks, the position of the truck on the test platform shall be as for test No. 1 of ISO 1074 and the location of the truck on the test platform shall be in accordance with the requirements of ISO 1074.

For reach and straddle fork-lift trucks, pedestrian- and rider-controlled, the position of the truck on the test platform shall be as for test No. 1 of ISO 3184 and the location of the truck on the test platform shall be in accordance with the requirements of ISO 3184.

For pallet stackers and high-lift platform trucks, pedestrian- and rider-controlled, the position of the

truck on the test platform shall be as for test No. 1 of ISO 5766 and the location of the truck on the test platform shall be in accordance with ISO 5766.

The load shall be raised to its maximum elevation with the mast tilted forward to its fullest extent.

The platform shall then be tilted slowly to the specified slope as indicated in test No. 1 of ISO 1074, ISO 3184 or ISO 5766 as appropriate.

The truck is considered stable if it does not overturn under the conditions of the test.

For the purposes of this test, overturning is defined as the test platform slope value which, if increased, would cause overturning of the truck.

3.2.2 Fixed slope

Fixed slopes with inclinations equivalent to the prescribed test slope shall be used. The slope surface shall be smooth and capable of supporting the truck mass without deformation likely to affect the test results.

Counterbalanced fork-lift trucks under test shall be driven onto the fixed slope with mast lowered and the truck positioned in accordance with test No. 1 of ISO 1074. The location of the truck on the test slope shall be in accordance with the requirements of ISO 1074.

Reach and straddle fork-lift trucks, pedestrian- or rider-controlled, shall be driven onto the fixed slope with mast lowered and the truck positioned in accordance with test No. 1 of ISO 3184. The location of the truck on the test slope shall be in accordance with the requirements of ISO 3184.

Pallet stackers and high-lift platform trucks, pedestrian- and rider-controlled, shall be driven onto the fixed slope with the mast lowered and the truck positioned in accordance with test No. 1 of ISO 5766. The location of the truck on the test slope shall be in accordance with the requirements of ISO 5766.

The mast shall be tilted forward to its fullest extent and the load elevated slowly and smoothly to its maximum elevation.

The truck is considered stable if it does not overturn under the conditions of the test.

For the purposes of this test, overturning is defined as that mast height which, if increased, would cause overturning of the truck.

3.2.3 Calculation

Compliance with the specified values may be determined by calculation.

2) To be published. (Revision of ISO 3184:1974)

Such calculated capacities shall allow for manufacturing tolerances, deflections of mast, tyres, etc.

3.3 Test load

The test load shall have a mass equivalent to the maximum load, Q , which the truck can elevate to its maximum lift height for the special conditions of this additional test, acting through the centre of gravity, G , nominally positioned at the standard load centre distance, D , as indicated on the information plate of the truck, both horizontally from the front face of the fork arm shank and vertically from the upper face of the fork arm blade. See figure 2.

The centre of gravity, G , of the test load shall be located in the longitudinal centre-plane of the truck.

3.4 Safety precautions

Safety precautions shall be taken in accordance with ISO 1074, 3184 or 5766.

4 Stability tests for trucks attachments other than fork arms

Trucks fitted with attachments other than fork arms shall be subjected to the same stability tests, except in cases where the attachment can bring the centre of gravity of the load out of the longitudinal centre-plane of the truck.

The test load shall be the specified load, at the specified load centre distance indicated for the attachment when used on the truck being tested.

5 Marking

The special capacity, as determined by this additional stability test, and the angle of forward tilt shall be indicated on the plate as specified in ISO 3691:1980, subclause 5.4.

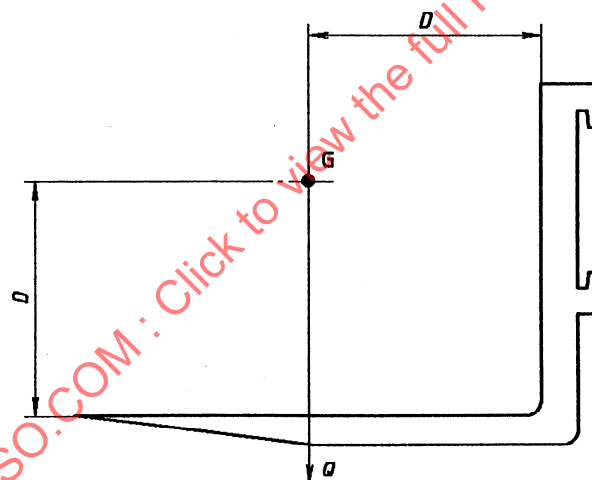


Figure 2

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