



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Industrial trucks - Verification of stability - Part 4: Pallet stackers,
double stackers and order-picking trucks with operator position
elevating up to and including 1 200mm lift height**

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Table of Contents

Foreword	3
Introduction	5
1 Scope	7
2 Normative references	7
3 Terms and definitions	8
4 Test conditions	8
5 Verification of stability	11
References	18

1 Scope

This document specifies test methods for verifying the stability of the following industrial trucks:

- pallet stackers;
- double stackers;
- order-picking trucks with operator position elevating up to and including 1 200 mm lift height (ground clearance of the platform floor).

This document is applicable to the same type of industrial trucks with a tiltable or non-tiltable mast or fork and a rated load lifting capacity of not more than 5 000 kg.

This document is also applicable to the same type of industrial trucks which are equipped with load handling attachments under the same operating conditions, as well as order-picking trucks with operator position elevating up to and including 1 200 mm lift height which are equipped with additional load lifting devices.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document.

ISO 5053-1, Industrial trucks - Terminology and classification - Part 1: Types of industrial trucks

Note: GB/T 6104.1-2018, Industrial trucks - Terminology and classification - Part 1:

Types of industrial trucks (ISO 5053-1:2015, IDT)

ISO 22915-1, Industrial trucks - Verification of stability - Part 1: General The truck shall be placed on the tilt table, so that the line M-N is parallel to the tilt axis X-Y of the tilt table, as shown in Table 1.

Point M is located at the projection of the drive/steer axle B-B on the tilt table and is defined as follows:

- a) For trucks with a single unarticulated drive/steer wheel: Point M is the vertical projection - on the tilt table - of the intersection between the centerline of the drive/steer axle and the center plane of the drive wheel width.
- b) For trucks with rigidly supported single caster or double caster: Point M is the vertical projection - on the tilt table plane - of the intersection between the centerline of the caster axle and the center plane of the single caster wheel width or the center plane between the two wheels of the double caster; at the same time, the centerline of the rigidly supported caster axle shall be parallel to and away from X-Y, so as to minimize the stability.
- c) For trucks whose drive/steer axle is mounted on an articulated frame and the articulated frame is articulated in the longitudinal center plane of the truck: Point M is the vertical projection - on the tilt table - of the intersection between the horizontal axis of the articulated frame and the longitudinal center plane A-A of the truck.
- d) For trucks with one non-rigidly supported caster and a single rigidly supported drive/steer wheel: Point M is the vertical projection - on the tilt table - of the intersection between the centerline of the drive wheel and the center plane of the drive wheel width; at the same time, the drive wheel shall be parallel to X-Y, and the non-rigidly supported caster shall be far away from X-Y to minimize the stability.
- e) For vehicles with non-articulated dual drive/steer wheels: Point M is the vertical projection - on the tilt table - of the intersection between the centerline B-B of the drive axle and the center plane of the drive wheel width close to X-Y; at the same time, the drive wheel shall be parallel to X-Y.
- f) For trucks whose chassis has non-articulated, rigidly supported casters, point M is the vertical projection - on the tilt table - of the intersection between the centerline of the caster axle and the center plane of the caster wheel width; at the same time, the centerline of the rigid caster axle shall be parallel to and away from X-Y, so as to minimize the stability.
- g) For trucks with a single non-articulated drive wheel (steered) located on the center plane A-A, and with non-rigidly supported casters: Point M is the vertical projection - on the tilt table - of the intersection between the center line of the drive wheel axle and the center plane of the drive wheel width; at the same time, the centerline of the drive wheel axle is parallel to the tilt axis X-Y, and the