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IS 13558-4 (1993): Cranes - Controls - Layout and characteristics, Part 4: Jib cranes [MED 14: Cranes, Lifting Chains and Related Equipment]



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IS 13558 (Part 4) : 1993 ISO 7752-4 : 1989

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भाग 4 जिब क्रेन

Indian Standard

CRANES — CONTROLS — LAYOUT AND CHARACTERISTICS

PART 4 JIB CRANES

UDC 621'874'042'3/'4

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BUREAU OF INDIAN STANDARDS

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG NEW DELHI 110002

January 1993

Price Group 2

NATIONAL FOREWORD

This Indian Standard which is identical with ISO 7752-4: 1989 'Cranes — Controls — Layout and characteristics — Part 4: Jib cranes' issued by the International Organization for Standard-ization (ISO), was adopted by the Bureau of Indian Standards on the recommendations of the Cranes, Lifting Chains and Its Related Equipment Sectional Committee (HMD 14) and approval of the Heavy Mechanical Engineering Division Council.

This standard is being published in five parts. Other parts of this standard are as follows:

Part 1 General principles

Part 2 Mobile cranes

Part 3 Tower cranes

Part 5 Overhead travelling cranes and portal bridge cranes

The text of ISO Standard has been approved for publication as Indian Standard without deviations. Certain terminology and conventions are, however, not identical to those used in Indian Standards. Accordingly wherever the words International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the editions indicated:

International Standard	Corresponding Indian Standard	Degree of Equivalence
ISO 4306-1 : 1990 Cranes — Vocabulary — Part 1 : General	IS 13473 (Part 1) : 1992 Cranes — Vocabulary — Part 1 General	Identical
ISO 7752-1 : 1983 'Lifting appliances — Controls — Layout and characteristics Part 1 : General principles	IS 13558 (Part 1): 1992 Cranes — Controls — Layout and characteris- tics: Part 1 General principles	Identical

ADDITIONAL INFORMATION

Jib crane drivers frequently transfer from one crane to another of different model or manufacturer. This standard establishes a consistent arrangement and movement for the basic controls used during the crane-operating cycle, to reduce operator confusion or incorrect control in an emergency.

Indian Standard CRANES — CONTROLS — LAYOUT AND CHARACTERISTICS

PART 4 JIB CRANES

1 Scope

This part of ISO 7752 establishes the arrangement, requirements and direction of movement of the basic controls for travelling, slewing, lifting, hoisting and lowering operations for jib cranes defined in ISO 4306-1 as jib-type cranes, other than tower cranes, mobile cranes and railway cranes.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 7752. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 7752 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 4306-1 : 1985, Lifting appliances — Vocabulary — Part 1; General.

ISO 7752-1 : 1983, Lifting appliances — Controls — Layout and characteristics — Part 1 : General principles.

3 General requirements

The basic controls for jib cranes shall comply with ISO 7752-1 with the exception that the force necessary to move controls shall not exceed :

- 100 N for handles and control levers;
- 200 N for foot pedals.

4 Basic control arrangement

4.1 Fixed length or articulated jib crane with bi-directional control levers

The basic controls shall be arranged as shown in figure 1 for bidirectional control levers.

4.1.1 Travel control — Hand lever 1

4.1.1.1 Levers that move in same direction as crane travel

Move lever in direction of crane travel required.

Centre lever to stop travel and apply brake.

4.1.1.2 Levers that do not move in same direction as crane travel

Move lever in direction identified at the control lever position as applying to the direction of crane travel required.

Centre lever to stop travel and apply brake.

NOTE – Attention is drawn to ISO 7752-1 which requires the direction of movement of the appliance to be identified at each control position. This is particularly important where the lever movement is not related logically to the direction of movement of the appliance.

4.1.2 Slewing control - Hand lever 2

4.1.2.1 For levers moving fore and aft

Move lever forward to slew toward jib (slew left for operator position on right side; slew right for operator position on left side or middle of crane).

4.1.2.2 For levers moving from side to side

Move the lever to the left to slew left and move the lever to the right to slew right.

4.1.2.3 For both 4.1.2.1 and 4.1.2.2, centre the lever to allow the crane to slew freely or where applicable to hold position.

Depress pedal 6 (when provided) to slew or hold position.

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4.1.3 Hoist control — Hand lever 3 and foot pedal 7 (when provided), hand lever 4 and foot pedal 8 (when provided)

Move the lever rearward to raise the load.

Centre the lever to release the power and apply the brake. Where automatic brakes are not provided, depress the pedal to apply the brake.

Move the lever forward to lower the load when the crane is equipped for power lowering.

Use lever 4 to control the main hoist. Use lever 3 (when provided) to control the auxiliary hoist or other crane function.

4.1.4 Luff control - Hand lever 5

Move the lever rearward to luff in.

Centre the lever to stop luffing.

Move the lever forward to luff out.

NOTE — Attention is drawn to ISO 7752-1 which requires the direction of movement of the appliance to be identified at each control position. This is particularly important where the lever movement is not related logically to the direction of movement of the appliance.

4.2 Fixed length or articulated jib crane with multi-directional control levers

Multi-directional controls shall be arranged as shown in figure 2.



Figure 1 – Crane control diagram for crane fitted with a fixed or articulated jib and bi-directional controls



Figure 2 – Crane control diagram for crane fitted with a fixed or articulated jib and multi-directional controls

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Doc: No. HMD 14 (0104)

Amendments Issued Since Publication			
Amend No.	Date of Issue	Text Affected	
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Printed at Printwell Printers, Aligarh, India