
International Standard



7752/2

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

**Lifting appliances — Controls — Layout and characteristics —
Part 2 : Basic arrangement and requirements for mobile cranes**

Appareils de levage — Organes de service — Disposition et caractéristiques — Partie 2 : Disposition et exigences de base pour les grues mobiles

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First edition — 1985-08-15

ISO 7752-2:1985

<https://standards.iteh.ai/catalog/standards/sist/c2102870-c1a0-4776-8274-3032e7920288/iso-7752-2-1985>

UDC 621.873.2/.3 : 62-51

Ref. No. ISO 7752/2-1985 (E)

Descriptors : handling equipment, lifting equipment, cranes (hoists), mobile equipment, control devices, layout, operating requirements.

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.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7752/2 was prepared by Technical Committee ISO/TC 96, *Cranes, lifting appliances and related equipment*. (standards.iteh.ai)

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Lifting appliances — Controls — Layout and characteristics — Part 2 : Basic arrangement and requirements for mobile cranes

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0 Introduction

Mobile crane operators frequently transfer from one crane to another of different model or manufacturer. This part of ISO 7752 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.

1 Scope and field of application

This part of ISO 7752 establishes the arrangement, requirements, and direction of movement of the basic controls for slewing, load hoisting and lowering and jib luffing and telescoping.

This part of ISO 7752 applies to all mobile cranes as defined in ISO 4306/2.

Section one deals with bi-directional controls. Section two, dealing with the basic arrangement and requirements for cross-shift levers (multi-directional controls), will be added later.

For mobile cranes, the term operator is used for the person who is operating the appliance for the purpose of positioning loads. In addition, the term driver is used to refer to that person who operates only those controls which move the appliance from place to place.

2 References

ISO 4306/2, *Lifting appliances — Vocabulary — Part 2 : Mobile cranes.*

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

Section one : Bi-directional controls — Basic control arrangement and direction of movement

3 Crane with fixed length jib

Basic controls shall be arranged as shown in figure 1.

3.1 Slewing control — hand lever 1

Push lever forward to slew toward jib :

- slew left (operator's position on right side);
- slew right (operator's position on left side or centre of crane).

Centre lever to release slewing power.

Pull back lever to reverse direction.

3.2 Hoisting control — hand lever 2 and foot pedal 5, hand lever 3 and foot pedal 6

Pull lever back to hoist load.

Centre lever to release power and to hold load (if equipped with automatic brake) or to control load by depressing brake pedal.

Push lever forward to lower load.

3.3 Jib luffing control — hand lever 4

Pull lever back to raise jib.

Centre lever to hold jib in position.

Push lever forward to lower jib.

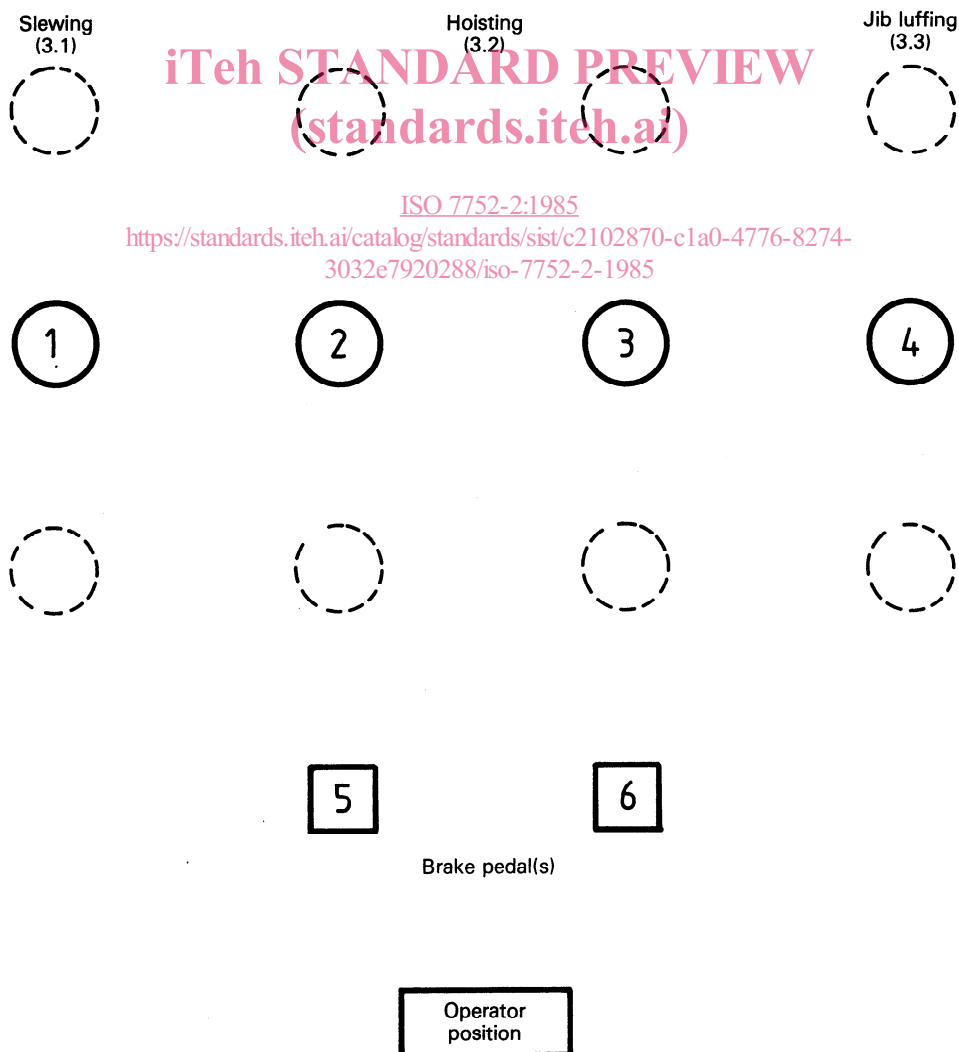


Figure 1 — Crane control diagram for crane fitted with a fixed length jib

3.4 Jib luffing control — alternative arrangement (foot pedal operation)

Basic controls shall be arranged as shown in figure 2.

3.4.1 Slewing control — hand lever 1

Push lever forward to slew toward jib :

- slew left (operator's position on right side);
- slew right (operator's position on left side or centre of crane).

Centre lever to release slewing power.

Pull back lever to reverse direction.

3.4.2 Hoisting control — hand lever 2, hand lever 3

Pull lever back to hoist load.

Centre lever to release power and to hold load.

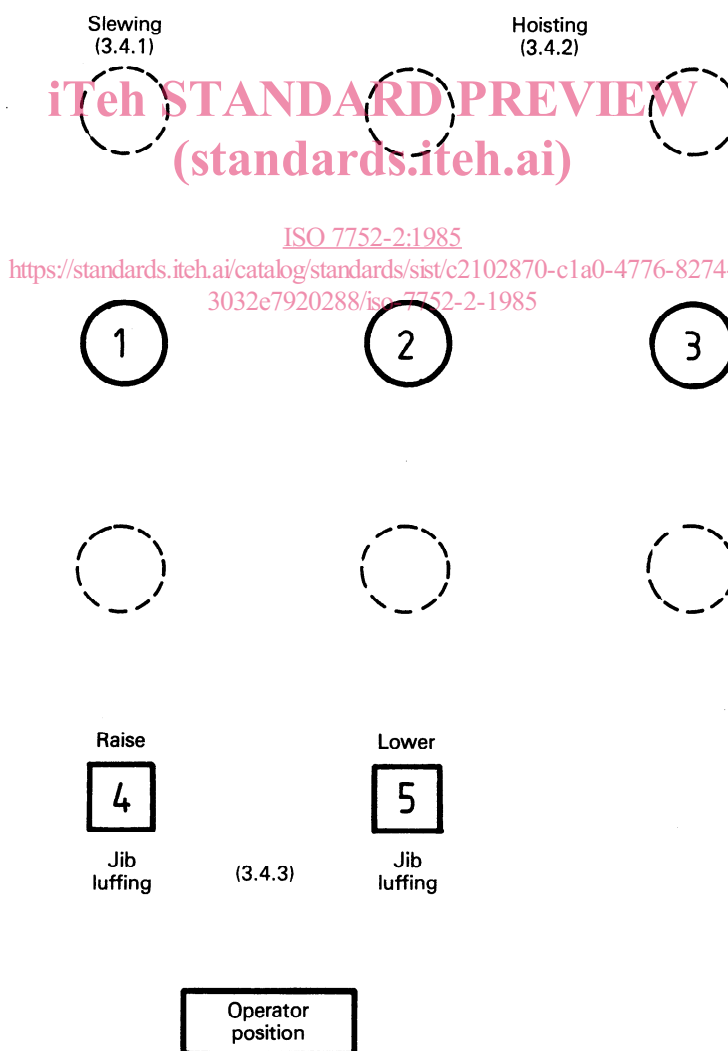
Push lever forward to lower load.

3.4.3 Jib luffing control — foot pedals 4 and 5

Depress foot pedal 4 to raise jib.

Depress foot pedal 5 to lower jib.

Release foot pedals 4 and 5 to hold jib stationary.



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Figure 2 — Crane control diagram for crane fitted with a fixed length jib and alternative arrangement for jib luffing control (foot pedals)

4 Crane with telescoping jib

Basic controls shall be arranged as shown in figure 3.

4.1 Slewing control — hand lever 1

Push lever forward to slew toward jib :

- slew left (operator's position on right side);
- slew right (operator's position on left side or centre of crane).

Centre lever to release slewing power.

Pull back lever to reverse directions.

4.2 Jib telescoping control

4.2.1 Hand lever 2

Push lever forward to extend jib.

Centre lever to hold jib extension position.

Pull lever back to retract jib.

4.2.2 Foot pedal 6 (optional — in place of hand lever 2)

Rock pedal forward (toe down) to extend jib.

Centre pedal to hold jib extension position.

Rock pedal rearward (heel down) to retract jib.

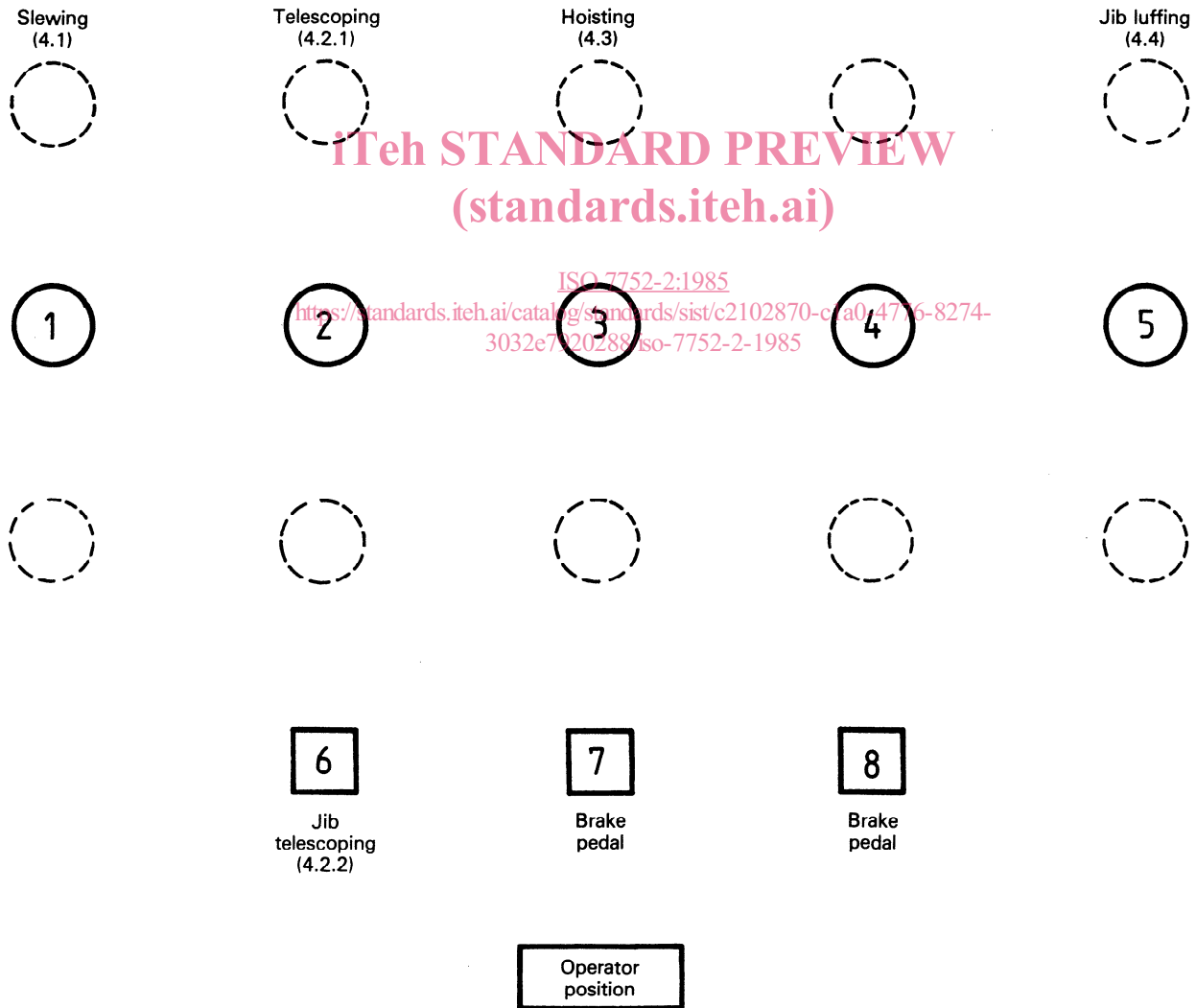


Figure 3 — Crane control diagram for crane fitted with a telescoping jib

4.3 Hoisting control — hand lever 3 and foot pedal 7, hand lever 4 and foot pedal 8

Pull lever back to hoist load.

Centre lever to release power and to hold load (if equipped with automatic brake) or control load by depressing brake pedal.

Push lever forward to lower load by "powered load lowering".

4.4 Jib luffing control — hand lever 5

Pull lever back to raise jib.

Centre lever to hold jib in position.

Push lever forward to lower jib.

Additional levers may be located between levers 1 and 2 for independently telescoping jib sections.

5 Remote control

5.1 The relative positions and movements of controls shall be in accordance with clause 3 or clause 4 depending on the case.

5.2 Provision shall be made that if the control signal for any crane motion malfunctions, that crane motion shall stop.

5.3 Provision shall be made for emergency stop in the event of a device malfunction.

6 General requirements

6.1 Basic controls used during the crane operating cycle (see figures 1, 2 and 3) shall be located within easy reach of the operator while at his station.

6.2 Hand levers and foot pedals shall be provided with a means for holding the control in the neutral position without the use of positive holding devices. They shall return to the neutral position automatically upon release by the operator unless intentionally restrained for functional purposes.

6.3 The required control operating forces shall not be greater than 160 N on hand levers, and not greater than 225 N on foot pedals.

6.4 The required control operating travel distance shall not be greater than 260 mm from neutral (mid-position) to forward or reverse positions; for foot pedals, the travel distance shall not be greater than 260 mm.

7 Controls for other crane functions

Controls for other functions not covered in this part of ISO 7752, for example travel, steering and slewing brake, may be installed in conjunction with or within the area encompassed by the basic controls provided they are arranged to avoid driver confusion and/or physical interference.

Section two : Cross-shift levers (multi-directional controls) — Basic arrangement and requirements

[Will be added later.]

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