

INTERNATIONAL LABOUR ORGANISATION

REGISTER OF LIFTING APPLIANCES

and

ITEMS OF LOOSE GEAR

Model Form and Certificates as required by Article 25(2) of the ILO Convention concerning
Occupational Safety and Health in Dock Work (No. 152), 1979



INTERNATIONAL LABOUR OFFICE, Geneva
November 1985

Preface

Article 25(2) of the Occupational Safety and Health (Dock Work) Convention, 1979 (No. 152), requires that “a register of the lifting appliances and items of loose gear shall be kept in a form prescribed by the competent authority, account being taken of the model recommended by the International Labour Office”.

At its 231st Session (November 1985) the Governing Body of the International Labour Office took note of the information supplied by the Office about the preparation of the model referred to above and authorised the Director-General to inform member States that the Model Form of Register and Certificates required by Article 25(2) of Convention 152 are now available.

The new Model Form of Register and Certificates can be used by the competent authority of a member State in prescribing the form provided for in Article 25(2). They replace those drawn up in application of the Protection against Accidents (Dockers) Convention (Revised), 1932 (No. 32), which were standardised and issued by the ILO in 1956.

As in the case of the earlier model documents, they have been prepared in English only. It has been the general practice for the competent national authorities to issue their own Register taking account of the model recommended by the ILO and using the English text of the letter side by side with a translation into their own language.

Identity of National Authority or Competent Organisation

REGISTER OF SHIPS' LIFTING APPLIANCES
AND CARGO HANDLING GEAR

Name of Ship

Official Number

Call Sign

Port of Registry

Name of Owner

Register Number

Date of Issue

Issued by

Signature and Stamp

Note: This Register is the standard international form as recommended by the International Labour Office in accordance with the ILO Convention No. 152.

General

The tests, examinations and inspections indicated in this Register are based on the requirements of the ILO Convention No. 152 and Recommendation No. 160. They are intended to ensure that ships' lifting appliances are initially certified by a competent person and to establish periodically that they continue to be in safe working order to the satisfaction of a competent person acceptable to the competent authority.

A Register of Lifting appliances and items of loose gear shall be kept in a form prescribed by the competent authority, account being taken of this model recommended by the International Labour Office. This Register and related Certificates shall be kept and be available to any person authorised by the competent authority. The Register and Certificates for gear currently aboard the ship shall be preserved for at least five years after the date of the last entry.

Instructions

1. Initial examination and certification

- 1.1 Every lifting appliance shall be certified by a competent person before being taken into use for the first time to ensure that it is of good design and construction and of adequate strength for the purpose of which it is intended.
- 1.2 Before being taken into use for the first time a competent person shall supervise and witness testing, and shall thoroughly examine every lifting appliance.
- 1.3 Every item of loose gear shall, before being taken into use for the first time be tested, thoroughly examined and certified by a competent person in accordance with national law or regulations.
- 1.4 Upon satisfactory completion of the procedures indicated above the competent person shall complete and issue the Register of Lifting Appliances and attach the appropriate Certificates. An entry shall be made in Part I of the Register.
- 1.5 A rigging plan showing the arrangement of lifting appliances shall be provided. In the case of derricks and derrick cranes the rigging plan should show at least the following information:
 - (a) the position of guys;
 - (b) the resultant force on blocks, guys, wire ropes and booms;
 - (c) the position of blocks;
 - (d) the identification mark of individual items;
 - (e) arrangements and working range of union purchase.

2. Periodic examinations and re-testing

- 2.1 All lifting appliances and every item of loose gear shall be thoroughly examined by a competent person at least once in every 12 months. The particulars of these thorough examinations shall be entered in Part I of the Register.
- 2.2 Re-testing and thorough examination of all lifting appliances and every item of loose gear is to be carried out:
- (a) after any substantial alteration or renewal, or after repair of any stress-bearing part; and
 - (b) in the case of lifting appliances at least once in every five years.
- 2.3 The re-testing referred to in paragraph 2.2 (a) may be omitted provided the part which has been renewed or repaired is subjected by separate test, to the same stress as would have been imposed on to it if it had been tested in situ during testing of the lifting appliance.
- 2.4 The thorough examinations and tests referred to in paragraph 2.2 are to be entered in Part I of the Register.
- 2.5 No new item of loose gear shall be manufactured of wrought iron. Heat treatment of any existing wrought iron components should be carried out to the satisfaction of the competent person. No heat treatment should be applied to any item of loose gear unless the treatment is in accordance with the manufacturer's instruction; to the satisfaction of the competent person. Any heat treatment and the associated examination are to be recorded by the competent person in Part I of the Register.

3. Inspections

- 3.1 Regular visual inspections of every item of loose gear shall be carried out by a responsible person before use. A record of these regular inspections is to be entered in Part II of the Register, but entries need only be made when the inspection has indicated a defect in the item.

4. Certificates

4.1 The certification forms to be used in conjunction with this Register (Form No. 1) are as follows:

- Form No. 2 – Certificate of test and thorough examination of lifting appliances.
- Form No. 2 (U) – Certificate of test and thorough examination of derricks used in union purchase.
- Form No. 3 – Certificate of test and thorough examination of loose gear.
- Form No. 4 – Certificate of test and thorough examination of wire rope.

Definitions

- (a) The term “competent authority” means a minister, government department or other authority empowered to issue regulations, orders or other instructions having the force of law.
- (b) The term “competent person” means a person possessing the knowledge and experience required for the performance of thorough examinations and tests of lifting appliances and loose gear and who is acceptable to the competent authority.
- (c) The term “responsible person” means a person appointed by the master of the ship or the owner of the gear to be responsible for the performance of inspections and has sufficient knowledge and experience to undertake such inspections.
- (d) The term “thorough examination” means a detailed visual examination by a competent person, supplemented if necessary by other suitable means or measures in order to arrive at a reliable conclusion as to the safety of the lifting appliance or item of loose gear examined.
- (e) The term “inspection” means a visual inspection carried out by a responsible person to decide whether, so far as can be ascertained in such manner, the loose gear or sling is safe for continued use.
- (f) The term “lifting appliance” covers all stationary or mobile cargo-handling appliances used on board ship for suspending, raising or lowering loads or moving them from one position to another while suspended or supported.

PART I – Thorough examination of lifting appliances and loose gear

(1) Situation and description of lifting appliances and loose gear (with distinguishing number or marks, if any) which have been thoroughly examined (see Note 1)	(2) Certificate Nos.	(3) Examination performed (see Note 2)	(4) I certify that on the date to which I have appended my signature, the gear shown in column (1) was thoroughly examined and no defects affecting its safe working condition were found other than those shown in column (5) (Date and signature)	(5) Remarks (To be dated and signed)

Note 1: If all the lifting appliances are thoroughly examined on the same date it will be sufficient to enter in column (1) “All lifting appliances and loose gear”. If not, the parts which have been thoroughly examined on the dates stated must be clearly indicated.

Note 2: The thorough examinations to be indicated in column (3) include:

- (a) Initial
- (b) 12 monthly
- (c) Five yearly
- (d) Repair/damage
- (e) Other thorough examinations including those associated with heat treatment.

Identity of national authority or competent organisation

CERTIFICATE OF TEST AND THOROUGH
EXAMINATION OF LIFTING APPLIANCES

Name of Ship _____ Certificate No. _____
Official Number _____
Call Sign _____
Port of Registry _____
Name of Owner _____

(1) Situation and description of lifting appliances (with distinguishing numbers or marks, if any) which have been tested and thoroughly examined	(2) Angle to the horizontal or radius at which test load applied	(3) Test load (tonnes)	(4) Safe working load (SWL) at angle or radius shown in column 2 (tonnes)
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Name and address of the firm or competent person who witnessed testing and carried out thorough examination _____

I certify that on the date to which I have appended my signature, the gear shown in column (1) was tested and thoroughly examined and no defects or permanent deformation were found; and that the safe working load is as shown.

Date: _____ Signature: _____
Place: _____

Note: This Certificate is the standard international form as recommended by the International Labour Office in accordance with ILO Convention No. 152.

Instructions

1. Every lifting appliance shall be tested with a test load which shall exceed the safe working load (SWL) as follows:

<u>SWL</u>	<u>Test load</u>
Up to 20 tonnes	25 per cent in excess
20 to 50 tonnes	5 tonnes in excess
Over 50 tonnes	10 per cent in excess

2. In the case of derrick systems the test load shall be lifted with the ship's normal tackle with the derrick at the minimum angle to the horizontal for which the derrick system was designed (generally 15 degrees), or at such greater angle as may be agreed. The angle at which the test was made should be stated in the certificate of test. After the test load has been lifted it should be swung as far as possible in both directions.

2.1 The SWL shown is applicable to swinging derrick systems only. When derricks are used in union purchase the SWL (U) is to be shown on Form 2 (U).

2.2 In the case of heavy derricks, care should be taken to ensure that the appropriate stays are correctly rigged.

3. In the case of cranes, the test load is to be hoisted, slewed and luffed at slow speed. Gantry and travelling cranes together with their trolleys, where appropriate, are to be traversed and travelled over the full length of their track.

3.1 In the case of variable load-radius cranes, the tests are generally to be carried out with the appropriate test load at maximum, minimum and at an intermediate radius.

3.2 In the case of hydraulic cranes where limitations of pressure make it impossible to lift a test load 25 per cent in excess of the safe working load, it will be sufficient to lift the greatest possible load, but in general this should not be less than 10 per cent in excess of the safe working load.

4. As a general rule, tests should be carried out using test loads, and no exception should be allowed in the case of initial tests. In the case of repairs, replacement or when the periodic examination calls for re-test, consideration may be given to the use of spring or hydraulic balances provided the SWL of the lifting appliance does not exceed 15 tonnes. Where a spring or hydraulic balance is used it shall be calibrated and accurate to within ± 2 per cent and the indicator should remain constant for five minutes.

4.1 If test weights are not used this is to be indicated in column (3).

5. The expression “tonne” shall mean a tonne of 1,000 kg.
6. The terms “competent person”, “thorough examination” and “lifting appliance” are defined in Form No. 1.

Note: For recommendations on test procedures reference may be made to the ILO document Safety and Health in Dock Work.

Identity of national authority or competent organisation

CERTIFICATE OF TEST AND THOROUGH EXAMINATION
OF DERRICKS USED IN UNION PURCHASE

Name of Ship

Certificate No. _____

Official Number

Call Sign

Port of Registry

Name of Owner

(1) Situation and description of derricks used in union purchase (with distinguishing numbers or marks) which have been tested and thoroughly examined	(2) Maximum height of triangle plate above hatch coaming (m) or maximum angle between runners	(3) Test load (tonnes)	(4) Safe working load, SWL (U), when operating in union purchase (tonnes)
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Position of outboard preventer guy
attachments:

(a) forward/aft* of mast _____ (m)
and
(b) from ship's centre line _____ (m)

Position of inboard preventer guy
attachments:

(a) forward/aft* of mast _____ (m)
and
(b) from ship's centre line _____ (m)

* Delete as appropriate

Name and address of the firm of competent person who witnessed testing and carried out thorough examination -----

I certify that on the date to which I have appended my signature, the gear shown in column (1) was tested and thoroughly examined and no defects or permanent deformation were found; and that the safe working load is as shown.

Date: _____ Signature: _____
Place: _____

Note: This Certificate is the standard international form as recommended by the International Labour Office in accordance with ILO Convention No. 152.

Instructions

1. Before being taken into use, the derricks rigged in union purchase shall be tested with a test load which shall exceed the safe working load (SWL (U)) as follows:

<u>SWL</u>	<u>Test load</u>
Up to 20 tonnes	25 per cent in excess
20 to 50 tonnes	5 tonnes in excess
Over 50 tonnes	10 per cent in excess

2. Tests are to be carried out at the approved maximum height of the triangle plate above the hatch coaming or at the angle between the cargo runners and with the derrick booms in their working positions, to prove the strength of deck eye plates and the union purchase system. These heights or angles must not exceed the values shown on the rigging plan.

3. Tests should be carried out using test loads.

4. The expression “tonne” shall mean a tonne of 1,000 kg.

5. The terms “competent person”, “thorough examination” and “lifting appliance” are defined in Form No. 1.

Note: For recommendations on test procedures reference may be made to the ILO document Safety and Health in Dock Work.

Identity of national authority or competent organisation

CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF LOOSE GEAR

Name of Ship _____ Certificate No. _____
Official Number _____
Call Sign _____
Port of Registry _____
Name of Owner _____

Distinguishing number or mark	Description of loose gear	Number tested	Date of test	Test loaded (tonnes)	Safe working load (SWL) (tonnes)

Name and address of makers or suppliers _____

Name and address of the firm of competent person who witnessed testing and carried out thorough examination _____

I certify that the above items of loose gear were tested and thoroughly examined and no defects affecting their SWL were found

Date: _____ Signature: _____
Place: _____

Note: This Certificate is the standard international form as recommended by the International Labour Office in accordance with ILO Convention No. 152.

Instructions

1. Every item of loose gear is to be tested and thoroughly examined before being put into use for the first time and after any substantial alternation or repair to any part liable to affect its safety. The test loads to be applied shall be in accordance with the following table:

Item	Test load (tonnes)
Single sheave blocks (see Note 1)	4 x SWL
Multi sheave blocks (see Note 2):	
SWL ≤ 25 tonnes	2 x SWL
25 tonnes < SWL ≤ 160 tonnes	(0.933 x SWL) + 27
SWL > 160 tonnes	1.1 x SWL
Chains, hooks, rings, shackles, swivels, etc.:	
SWL ≤ 25 tonnes	2 x SWL
SWL > 25 tonnes	(1.22 x SWL) + 20
Lifting beams, spreaders, frames and similar devices:	
SWL ≤ 10 tonnes	2 x SWL
10 tonnes < SWL ≤ 160 tonnes	(1.04 x SWL) + 9.6
SWL > 160 tonnes	1.1 x SWL

Note: 1. The SWL for a single sheave block, including single sheave blocks with beackets, is to be taken as one half of the resultant load on the head fitting.
2. The SWL of a multi-sheave block is to be taken as the resultant load on the head fitting.

2. This form may also be used for the certification of interchangeable components of lifting appliances.

3. The expression “tonne” shall mean a tonne of 1,000 kg.

4. The terms “competent person”, “thorough examination” and “lifting appliance” are defined in Form No. 1.

Note: For recommendations on test procedures reference may be made to the ILO document Safety and Health in Dock Work.

Identity of national authority or competent organisation

CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF WIRE ROPE

Name of Ship _____ Certificate No. _____
Official Number _____
Call Sign _____
Port of Registry _____
Name of Owner _____

Name and address of maker or supplier

Nominal diameter of rope (mm)
Number of strands
Number of wires per strand
Core
Lay
Quality of wire (N/mm²)
Date of test of sample
Load at which sample broke (tonnes)
Safe working load of rope (tonnes)
Intended use

Name and address of the firm of competent person who witnessed testing and carried out thorough examination _____

I certify that the above particulars are correct, and that the rope was tested and thoroughly examined and no defects affecting its SWL were found.

Date: _____ Signature: _____
Place: _____

Note: This Certificate is the standard international form as recommended by the International Labour Office in accordance with ILO Convention No. 152.

Instructions

1. Wire rope shall be tested by sample, a piece being tested to destruction.
2. The test procedure should be in accordance with an international or recognised national standard.
3. The SWL of the rope is to be determined by dividing the load at which the sample broke, by a coefficient of utilisation, determined as follows:

Item	Coefficient
Wire rope forming part of a sling	
SWL of the sling:	
SWL ≤ 10 tonnes	5
10 tonnes < SWL ≤ 160 tonnes	10^4
	<hr/>
	(8.85 x SWL) + 1 910
SWL > 160 tonnes	3
Wire rope as integral part of a lifting appliance	
SWL of the lifting appliance:	
SWL ≤ 160 tonnes	10^4
	<hr/>
	(8.85 x SWL) + 1 910
SWL > 160 tonnes	3

These coefficients should be adopted unless other requirements are specified by a national authority.

4. The expression “tonne” shall mean a tonne of 1,000 kg.
5. The terms “competent person”, “thorough examination” and “lifting appliance” are defined in Form No. 1.

Note: For recommendations on test procedures reference may be made to the ILO document Safety and Health in Dock Work.