

# **GUIDE FOR CERTIFICATION OF**

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# **LIFTING APPLIANCES**

## **JANUARY 2018**

### **NOTICE NO. 2 – August 2018**

The following Changes were approved by the ABS Rules Committee on 20 July 2018 and become **EFFECTIVE AS OF 1 AUGUST 2018.**

*(See <http://www.eagle.org> for the consolidated version of the Guide for Certification of Lifting Appliances 2016, with all Notices and Corrigenda incorporated.)*

*Notes - The date in the parentheses means the date that the Rule becomes effective for new construction based on the contract date for construction. (See 1-3/7.1.)*

## **CHAPTER 2      GUIDE FOR CERTIFICATION OF CRANES**

### **SECTION 7      SURVEYS**

#### **11      Retesting Survey (1 August 2018)**

*(Revise Subsection 2-711, as follows:)*

At intervals of five years, in addition to the requirements of the Annual Survey in 2-7/9 above, the crane is to undergo testing and examination as noted in 2-7/5. If movable weights are not available for proof tests, a dynamometer or load cell may be used in lieu of weights, provided that the tests are repeated at two locations, at opposite sides of the slewing circle. Attention is called to the Owner that certain Administrations require the Retesting Survey at four year intervals, and ABS is prepared to do such retesting and note it in the Register of Lifting Appliances.

#### **11.1      Cranes**

##### **11.1.1      Requirements Prior to Load Testing**

###### *11.1.1(a) All Cranes*

- i)*      The ABS Surveyor is to witness a Rocking Test.
  - The Rocking Test is to be performed in accordance with the bearing manufacturer's recommendations or procedures.
- ii)*     A grease sample is to be taken from the slew ring bearing for analysis.
  - The grease sample is to be obtained and analyzed in accordance with the slew ring bearing manufacturer's recommendations.
  - In the absence of other methods, the grease analysis for particulates is to be performed as per ASTM D1404.

If the results of the Rocking Test or grease samples indicate potential bearing wear in excess of the manufacturer's recommendation, the bearing is to be opened for internal examination or replaced.

11.1.1(b) *Additional Requirements for Shipboard and Heavy Lift Cranes which Operate within a Harbor or Sheltered Area under Mild Environmental Conditions.* Cranes fitted with slew ring bearings are to undergo the following tests and examinations:

- i) *Cranes  $18 \leq \text{Age} < 21$  Years Old.* 10 percent of the slew ring bolts are to be removed and nondestructively tested.
- ii) *Cranes 21 Years and Older.* 25 percent of all slew ring bolts are to be removed and nondestructively tested.

Notes:

- 1 The quantity of bolts subjected to nondestructive testing may be based on the age of the bolts rather than the age of the crane, if satisfactory evidence of the bolt age is provided to the attending Surveyor.
- 2 Bolts chosen for examination are to be taken from the most highly-loaded area of the slew ring, and their position is to be noted for future surveys. If any bolts are found with defects, additional bolts are to be removed to confirm suitability for continued use.
- 3 Alternative methods of testing of the slew ring and bolts may be specially considered.
- 4 Manufacturer's recommendations for bolt specifications are to be followed.
- 5 All bolts removed, whether replaced or reinstalled, are to be tested and the reports provided to the attending Surveyor.

11.1.1(c) *Additional Requirements for Offshore Cranes and Heavy Lift Cranes which Operate at Open Sea in Environmental Conditions other than Mild and Certified in Accordance with 2-2/9.* The critical welds of offshore crane pedestals or kingposts are subject to the following nondestructive testing to the satisfaction of the attending Surveyor:

- i) Volumetric NDT of all critical butt welds in the crane pedestals or kingposts, including any transition pieces between the pedestal and crane slew ring.

Note: This may be omitted if both sides are accessible and 100% volumetric NDT has been previously completed in the crane's records.

- ii) 100% surface NDT on both sides of critical fillet welds in the pedestal or kingpost and transition pieces.

Offshore Cranes fitted with slew ring bearings are to undergo the following tests and examinations:

- i) *Cranes  $5 < \text{Age} \leq 10$  Years Old.* 10 percent of the slew ring bolts are to be removed and nondestructively tested.
- ii) *Cranes  $10 < \text{Age} \leq 15$  Years Old.* 15 percent of the slew ring bolts are to be removed and nondestructively tested.
- iii) *Cranes  $15 < \text{Age} \leq 20$  Years Old.* 20 percent of the slew ring bolts are to be removed and nondestructively tested.
- iv) *Cranes  $> 20$  years old.* 25 percent of all slew ring bolts are to be removed and nondestructively tested.

Notes:

- 1 The quantity of bolts subjected to nondestructive testing may be based on the age of the bolts rather than the age of the crane, if satisfactory evidence of the bolt age is provided to the attending Surveyor.
- 2 Bolts chosen for examination are to be taken from the most highly-loaded area of the slew ring, and their position is to be noted for future surveys. If any bolts are found with defects, additional bolts are to be removed to confirm suitability for continued use.
- 3 Alternative methods of testing of the slew ring and bolts may be specially considered.
- 4 Manufacturer's recommendations for bolt specifications are to be followed.
- 5 All bolts removed, whether replaced or reinstalled, are to be tested and the reports provided to the attending Surveyor.

#### 11.1.3 Requirements Upon Completion of Proof Load Testing

Upon completion of proof load testing, in addition to the items noted in 2-7/5, the slew ring, including bolting arrangements and foundation, is to be examined for slack bolts, damaged bearings, and deformed or fractured weldments. Pretensioning of slew ring bolts is to be verified as required by the manufacturer's onboard documentation. Any bolts found to be suspect by the Surveyor are to be removed and examined by NDE.

Cranes with built-up sections with multiple layered plates, as per 2-2/5.9.1, are to have sufficient surface NDE conducted on any laminated sections for the Surveyor to verify that the sections are tightly adhered to prevent buckling and inter layer corrosion. Weld repairs are to be conducted only in accordance with manufacturer's welding procedures.

### 11.3 Conventional Cargo Gear

In the case of derrick systems, the lifting gear is to undergo the proof loads and examination stated in 2-7/5, together with removal of pins from sheaves and pulley blocks. Where the boom head and heel blocks are fitted with ball or roller bearings, the removal of the pins may be dispensed with at the discretion of the Surveyor. If movable weights are not available, a spring or hydraulic balance may be used for testing for swinging loads. In the case of use of spring or hydraulic balance, the proof load is to be applied with the boom swung, as far as possible, first in one direction and then in the other. The Surveyor may at his discretion require the proof load to be applied with the boom at intermediate positions. The test should not be regarded as satisfactory unless the indicator remains constant for a period of at least five minutes. Certificate of survey is to be furnished and attached to Register of Lifting Appliances (see Chapter 2, Section 8).