

# GUNNEBO ROV RETRIEVE 861 SHACKLE

## USER'S INSTRUCTIONS AND EC DECLARATION OF CONFORMITY



Original instructions according to Directive 2006/42/EC on machinery, section 1.7.4 Instructions, and Annex II.1.A. EC Declaration of Conformity of the Machinery.

These instructions also meet the demands of the standard EN 13889:2003+A1:2008, *Forged steel shackles for general lifting purposes*.

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### **Revision history:**

17.11.2015 User instructions approved for release.

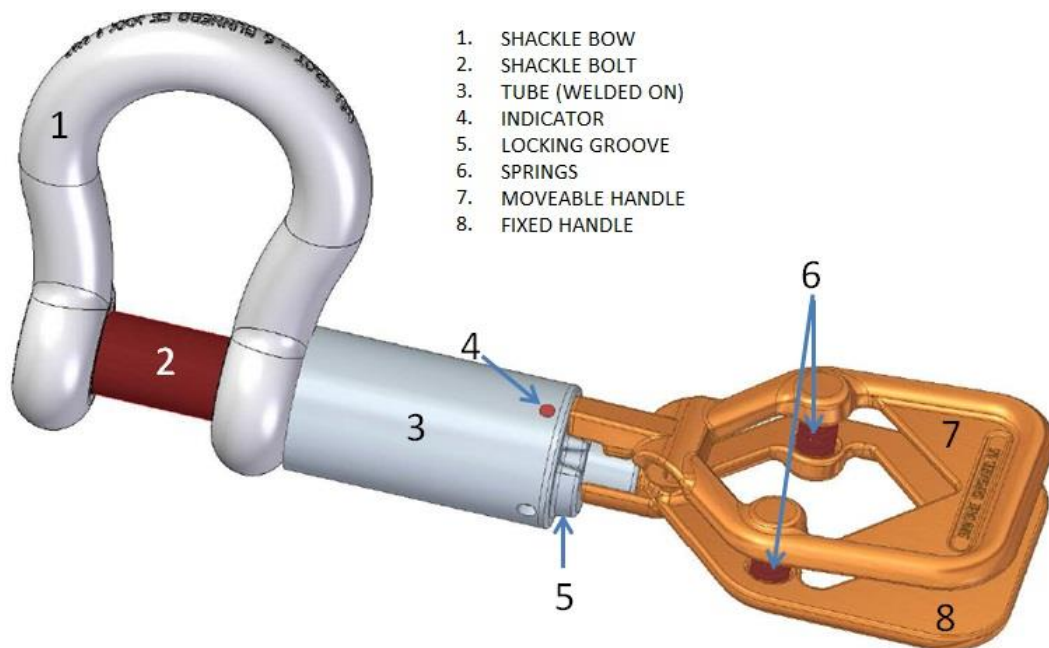
## 1. EC Declaration of Conformity

Numbers in parenthesis refers to the list of requirements detailed in Directive 2006/42/EC on machinery, Annex II.1.A.

<i>Business name and full address of the manufacturer (1):</i>	Gunnebo-Anja Industrier AS, NO-5282 Lonevaag, Norway. E-mail: <a href="mailto:sales@gunneboindustrier.no">sales@gunneboindustrier.no</a> Web: <a href="http://www.gunnebolifting.com">www.gunnebolifting.com</a>
<i>Name and address of the person authorised to compile the technical file (2):</i>	Cf. (1) and (10).
<i>Description and identification of the machinery (3):</i>	Gunnebo ROV retrieve 861 shackle (cf. manufacturer's website for drawings og tables of dimensions).
<i>Declaration (4):</i>	It is hereby declared that Gunnebo ROV retrieve 861 shackle as specified above (3) fulfills all the relevant provisions of Directive 2006/42/EC on machinery.
<i>Name, address and identification number of the notified body which carried out the EC type-examination (6):</i>	Nemko AS, Gaustadalléen 30, NO-0373 Oslo, Norway. Identification number: Norsk Akkreditering MSYS 001.
<i>Standards and specifications used (7+8):</i>	EN 13889:2003+A1:2008; US Fed. Spec. RR-C-271.
<i>Place and date of the declaration (9):</i>	Lonevaag, Norway, 20. February 2015
<i>Identity and signature of the person empowered to draw up the declaration on behalf of the manufacturer (10):</i>	 Audun Seilen Quality Manager Gunnebo-Anja Industrier AS

## 2. General description

Gunnebo ROV Release 861 shackle consists of the parts shown on the drawing below. The load-carrying parts are bow (1) and bolt (2).



## 3. Intended use

The Gunnebo ROV Release 861 shackle is specially designed for subsea lifting operations in which a remotely operated underwater vehicle (ROV) is used to connect or disconnect the lifting gear. The handle grip is designed to be easily operated by the ROV's arm.

## 4. Inspection prior to use

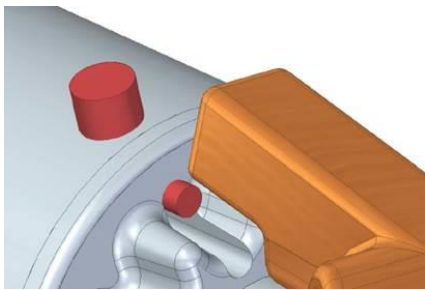
Prior to use, the shackle must be thoroughly inspected to verify that:

- the shackle's WLL and dimensions are suitable for the current application,
- all markings on the body and the pin of the shackle are readable and in compliance with the relevant Test Certificate,
- no parts are missing,
- all moveable parts function properly,
- load-carrying parts are not distorted or unduly worn, and
- load-carrying parts are free from nicks, cracks, grooves and corrosion.

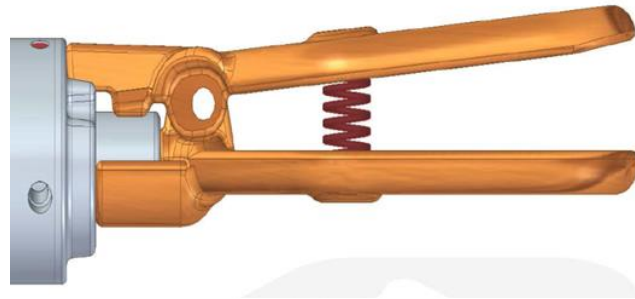
If there is any doubt with regards to the above criteria being met, the shackle should not be used for a lifting operation.

## 5. Assembly

The indicator's (4) function is to indicate whether the shackle bolt is fully screwed in, and the handle position locked.



Open

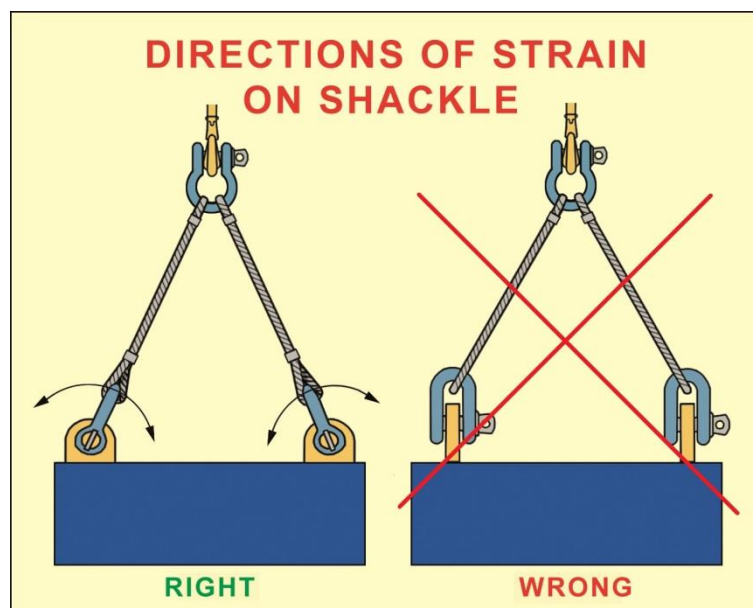


Locked

It is important to ensure that the handle is locked before the shackle is loaded.

The indicator function should be tested prior to each use.

When the shackle is fitted to a lifting lug, ensure that the shackle can rotate freely around the axis of the shackle bolt – see illustration below.



For further recommendations regarding safe use of lifting shackles, the user may refer to EN 13889, Annex A.

The illustrations in section # 5 are taken from the book *Sikker bruk av løfteredskap (Safe Use of Lifting Equipment)*, and are used with the publisher's permission ( [www.Lsi-bok.no](http://www.Lsi-bok.no) ).

## 6. Marking

Gunnebo ROV Release 861 shackle has the following marking:

### On the bow:

- WLL in Tonne,
- material grade (6 or 8),
- manufacturer identification (GUNNEBO or GL),
- CE mark,
- batch/traceability code,
- bow dimension in inches.
- serial number / unique ID.

### On the bolt:

- Country of origin code (NOR),
- manufacturer identification (GL),
- material grade (6 or 8),
- batch/traceability code (stamped on the end of the bolt, so that it can be read when the bolt is assembled).

### On the handle:

- manufacturer identification (GUNNEBO),
- batch,
- «PAT.PEND»

Colour coding: Orange high-visibility colour on the upper part of the bow, the handle and the indicator. Red-brown bolt.



## 7. Certificates

Shackles can be used for lifting only when the user has a valid certificate. Gunnebo lifting shackles are supplied with a manufacturer's certificate acc. to EN 13889:2003 and a 3.1 material certificate acc. to EN 10204:2004. Authorised resellers may provide their own documentation, but will be able to provide the original certificates upon request.

The certificate must include the traceability code from the bow and the bolt. Serial numbers/unique ID may be included, but is not required for the certificate to be valid. As the handle itself is not a load-bearing part, its traceability code is not included on the certificate.

## **8. Periodic thorough examination by a competent person**

Gunnebo recommends that lifting shackles be thoroughly examined regularly by a competent person. As a general rule, this inspection should be carried out at least once a year (12 months interval).

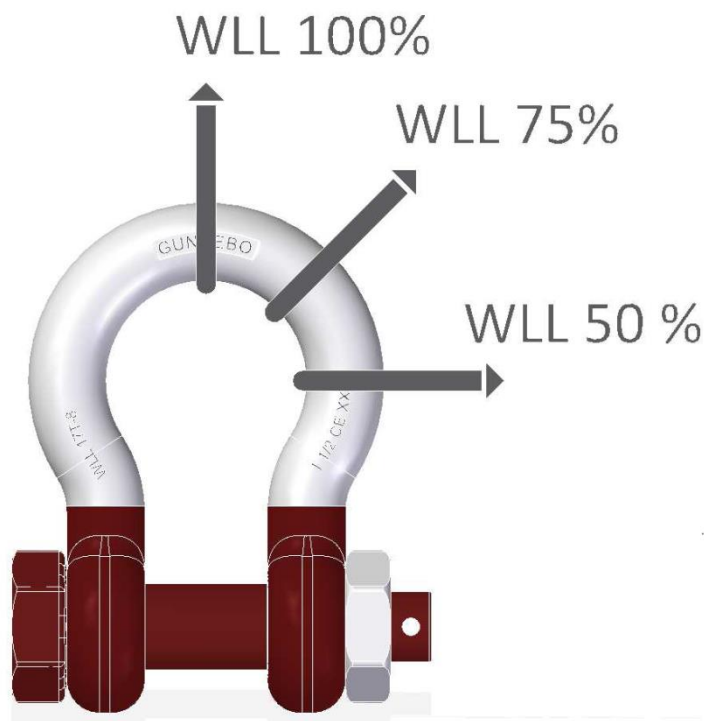
Shorter inspection intervals are required when a shackle

- has not been in use for the last 6 months or longer,
- is used in demanding (e.g. corrosive or extreme temperature) environments ,
- is subjected to repeated loads that may induce metal fatigue.

Local/national/branch-specific/etc. regulation may specify shorter inspection intervals.

## 9. Warnings and limits of use

Asymmetrical loading: Shackles are designed to carry the load at the center/bottom of the bow, and evenly distributed on the shackle bolt. Asymmetrical loading or side loading will reduce the shackle's load capacity. Cf. illustration below.



Deformation: A poor-fitting shackle bow-bolt assembly may be due to misalignment or deformations. Any such shackle should be presented to a competent authority (i.e. dealer, manufacturer)

Chemicals: Shackles must not be exposed to acids, acid fumes or other corrosive chemicals.

Modifications: Modifications of a shackle that may affect its material or load bearing properties are not permitted.

Load distribution: It is generally recommended that the load be distributed evenly across the length of the shackle bolt.

Should point-loading be unavoidable, it should be centered on the bolt to avoid eccentric loading. However, under no circumstances should the opening be forced together, or parts be welded onto the bolt to facilitate centering of the load.

Wear: Shackles with more than 10% wear of the bow or bolt diameter should be discarded. Original diameter is listed in dimension tables in the manufacturer's product catalogue and on the manufacturer's website.

Extreme temperature: Shackles must not be heat treated (e.g. through welding). The general service temperature is -20° til +200° Celcius (some shackle types are approved for use in temperatures down to -40°, contact the manufacturer or dealer for information). For temperatures higher than +200° C, the following apply:

Service temperature	New load capacity in % of original WLL
200-300° C	90%
300-400° C	75%
> 400° C	not allowed

Unstable load, shock load: Lifting operations wherein the load is unstable should be avoided. In particular, shackles should not be subjected to shock loads.

Fatigue: It is important to realize that fatigue failure can occur even if the shackle's WLL has not been exceeded. Scenarios in which the shackle is subjected to variable load over a prolonged period of time, will carry the risk of inducing fatigue. Consider this when choosing shackle type/dimension, and deciding service intervals.

Replacing a lost or damaged shackle bolt: Generally, it is recommended to use only the original bow-bolt combination. In most cases, if a shackle bolt fails to meet the approval criteria, the whole shackle should be discarded. The manufacturer will not issue a certificate on a non-original combination of bow and bolt.

## **10. Definitions**

**WLL:** Working Load Limit. The maximum working load a lifting accessory or lifting assembly can be subjected to. For shackles the stated WLL is valid when the shackle is loaded in a straight direction (cf. paragraph 10 on asymmetrical loading above). Shackles that are not marked with WLL must not be used for lifting (however, older shackles may carry the designation SWL – Safe Working Load).