User Manual

Swivel Hook LKNG



Gunnebo Industries
Stinavägen 1, Växjö, Sweden
www.kitocrosby.com

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1 Introduction and EC declaration

This manual is an original instruction in accordance with:

Directive 2006/42/EC on machinery, section 1.7.4 Instructions and Annex II Declarations.

It also meets the requirements in:

Standard EN 1677-1 and 2.
Part 1: Forged steel components, Grade 8. WLL 25%.
Part 2: Forged steel lifting hooks with latch, Grade 8 (WLL+25%)

This manual is valid for the LKNG-16-10.

This manual is valid together with Gunnebo Industries' instruction for slings.

All manuals are continuously updated and are only valid in their latest version, which can be downloaded from www.kitocrosby.com.

1.1 EC declaration of conformity

The R&D Manager is the authorized person to compile the technical file.

We declare that the lifting component described in this user manual fulfils all the relevant provisions of the Directive 2006/42/EC as a partly completed machine.

The main use of the product is to be incorporated as part of a CE-marked lifting assembly but must not be put into service until the final lifting assembly has been declared to be in conformity with the provisions of the Directive 2006/42/EC.

Our quality management system complies with ISO 9001:2015 and is certified by LRQA Sverige AB for and on behalf of Lloyd's Register Quality Assurance Limited (certificate identity number: 10140613).

Information about harmonized and national standards/technical specifications that apply, and the valid version of this user instruction are available at www.kitocrosby.com.

If the products are modified without approval from Gunnebo Industries, this declaration becomes invalid.

Växjö, June 2025

Fredrik Sandberg

Engineering Manager

1.2 Abbreviations

EC	European Commission
LRQA	Lloyd's Register Quality Assurance
WLL	Working Load Limit
OEM	Original Equipment Manufacturer

Table 1: Abbreviations

2 Safety precautions

2.1 Warnings, cautions and notes

Carefully read the instructions before using the lifting equipment.

The following signs are used in the instructions, to alert about potential dangers and safety related issues.



Warning!

A warning alerts about a situation which, if not avoided, could result in injury, or death.



Caution!

A caution alerts about a situation which, if not avoided, could result in minor or moderate injury, or damage to the equipment or other property.

Note!

Notes are added to give more information.

2.2 General safety precautions

The rigger is responsible for the lifting operation, and for following all related safety regulations.

The rigger is a competent person, with the knowledge to select correctly dimensioned lifting equipment, and to ensure its safe condition.

Before each lifting operation, check that the lifting system parts and connecting parts are correctly attached to each other.

2.3 Lifting precautions



Warning!

Keep a safe distance from overhead loads by staying outside the fall zone. Shattered crates and debris can injure or kill even at some distance from the impact area.



Warning!

Only authorized personnel are allowed inside the exclusion zone during the lifting procedure.

Warning!
Before each lifting operation, check that the lifting equipment aligns with the pull direction. Check that the lifting chain/steel wire/synthetic textile band is not twisted or rotated.

Warning!
Side loading is not allowed on any lifting components. Side loading can cause the load to swing or cause the equipment to fail.



Warning!
Never point load the Swivel Hook. Point loading can cause the Swivel Hook to fail, or the load to drop.



Warning!
Adapt the Swivel Hook variant in terms of size to the lifted object. The lifting object must rest comfortably inside the Swivel Hook without being pinched.



Warning!
Risk of crushing injury. When lifting asymmetric loads, be aware of sudden movements and keep a safe distance. Never stand between the lifted object and any obstacle, such as a wall.

Warning!
Never lift an object without checking that the latch is closed. Lifting without the latch closed can cause the load to drop.



Warning!
Never force an object into the Swivel Hook opening. Use instead a Swivel Hook with a larger opening. Inappropriate size of the object hanging in the Swivel Hook can cause the load to drop.



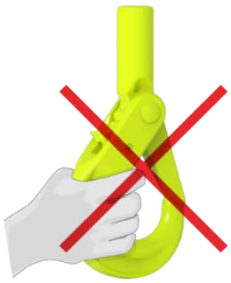
Warning!
Make sure the opening of the Swivel Hook points outwards from the lifting object for a 2, 3, or 4 leg-lifting sling.

Warning!
If multiple objects share one Swivel Hook while lifting, the vertex angle shall not exceed 90 degrees. This can damage the Swivel Hook and cause it to unhinge.

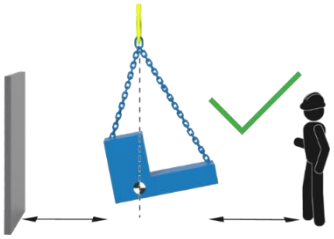
Warning!
Avoid applications where, due to load movement, the bolt can rotate and possibly unscrew.

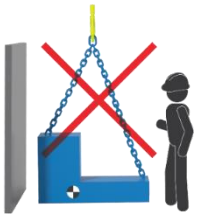
Warning!
Grip the hook by its sides with your fingertips only. Gripping with the entire hand can cause crushing damage to the hand.





Note!
When lifting asymmetric loads be aware of sudden movement of the load. Keep a safe distance!





3 General description

The LKNG Hook is a Lifting Hook with swivel/rotation functionality consisting of a hook spring latch, upper U-connector with dismountable bolt, nut, and spring clip. The main measurements and technical data are available at www.kitocrosby.com.

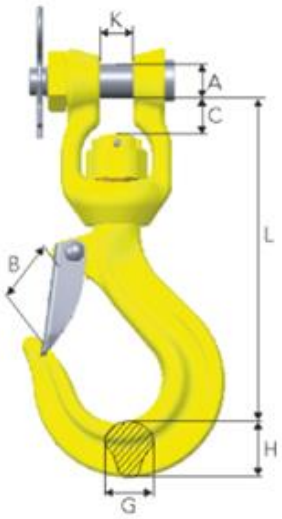


Figure 1: LKNG Hook

The LKNG Hook is designed, manufactured and tested in accordance with EN 1677-1/2.

The LKNG Hook is marked as follows:

- Manufacturer identification (GUNNEBO SWEDEN)
- The LKNG Hook, size, material grade (LKNG-16-10)
- CE mark
- Working Load Limit (WLL) in tonnes (10t)
  WLL is maximum working load that a lifting accessory or lifting assembly can be subjected to. For the LKNG Hook the stated WLL is valid when the hook is loaded in a straight direction.
- batch/traceability codes XXX
  The traceability code consists of letters and numbers that identify which plant the product was made in, the year and the batch. This enables tracing the product back through the manufacturing process, all the way back to the specific raw material.

On the bolt:

- material grade (10G)
- batch/traceability code (XXX)

The LKNG Hook can be used for lifting only when the user has a valid certificate. Gunnebo Industries issue:

- manufacturer´s certificate according to EN 1677-1 and
- 3.1 material certificate acc. to EN 10204

Authorized resellers may provide their own documentation and will be able to provide the original certificates upon request.

4 Intended use and restrictions

4.1 Intended use

The LKNG Hook is suitable for applications where it is semi-permanent with infrequent removal.

The LKNG Hook is designed to be fitted together with 10t cranes as original equipment.

Bolt, nut, and safety clip provide secure pin fixation. Use CAD models and dimensions on www.kitocrosby.com for geometry check.

If it is not possible to assemble the LKNG directly, connect an intermediate chain KLA-22-10.



1. Safety clip
2. Nut
3. Bolt

Figure 2: Positions of the safety clip, nut, and bolt

Although the LKNG is not intended to be included in a sling and is designed to be the top component holding the sling, the LKNG is designed according to the same regulations and standards as a sling component. It applies to the normal sizes and WLLs for grade 10 chain slings according to EN 818-4. The LKNG can also be used together with steel wire rope slings and textile slings.

The intended use of LKNG is broad, it can be used in different customized constructions provided that necessary technical calculations are made with regard to load, safety and environmental factors.

This instruction focuses on the LKNG itself, and is used for lifting. The dimensioning of the upper connecting fixation is not included.

4.2 General limitations of use

- Never modify, repair, or reshape the product by welding, heating or bending as this will affect the nominal WLL.
- Never heat-treat the product as this may affect the WLL.
- The product must not be galvanized or subjected to any plating or coating process without approval of the manufacturer.
- Do not use the product in alkaline or acidic conditions.
- Do not expose the product to aggressive chemicals, such as acids, and vapors.

4.3 Use in exceptionally hazardous conditions

The rating of lifting accessories in European Standards assumes the absence of exceptionally hazardous conditions.

Exceptionally hazardous conditions include offshore activities, the lifting of persons, and lifting of potentially dangerous loads such as molten metals, corrosive materials, or fissile materials.

In such cases a competent person should assess the degree of hazard and adjust the working load limit accordingly.

4.4 WLL reduction at elevated temperatures

The general service temperature is -40 °C/-40 °F to +200 °C/392 °F.

For temperatures higher than +200° C/392 °F, the following apply:

Service temperature	New load capacity in % of original WLL
200-300 °C 392-572 °F	90%
300-400 °C 572-752 °F	75%
> 400 °C > 752 °F	Not allowed

Table 2: Service temperature

If the service temperature exceeds 200 °C/392 °F , the corrosion protection of the bolt will be lost.

4.5 Fatigue

It is important to understand that fatigue failure can occur even if the prescribed WLL is not exceeded.

Scenarios in which the LKNG is subjected to variable load over a prolonged period of time, will carry the risk of fatigue. Consider this when dimensioning and deciding service intervals.

The LKNG is designed for a maximum of 20 000 load cycles.

4.6 Additional marking

If markings such as project code and serial number are added, it must be done in a way that does not reduce the strength, corrosion resistance, or the legibility of the manufacturer's own marking.

The following methods are recommended for marking:

- marking tape
- engraving tool
- low stress punches



Figure 3: Recommended areas for punched or engraved marking

5 Instructions prior to use

Read and understand this manual before using the LKNG Hook. Read the Safety precautions.

For further recommendations regarding safe use of the LKNG Hook in sling applications, refer to the Gunnebo Industries' instruction for safe use of slings and lifting guide. Download the Lifting guide and Instructions for sling at www.kitocrosby.com.

5.1 Verification prior to first use

Before first use ensure that:

- The LKNG Hook is precisely as ordered.
- The manufacturer's certificate is in order.
- The identification and Working Load Limit (WLL) marking on the LKNG Hook correspond to the information on the certificate.
- Full details of the Hook are recorded.

5.2 Inspection prior to each use

Inspect the LKNG Hook for obvious damage or deterioration before each use.

The inspection should be done in accordance with local regulations. Check also against the items listed under Inspection. If there is any doubt regarding meeting these criteria, do not use the LKNG Hook for lifting operation.

5.3 Before loading

- Determine the weight of the load and the center of gravity.
- Check the conformity of the load with the WLL of the lifting equipment for the specific working configuration.
- Ensure that the LKNG Hook has been correctly assembled in accordance with the Assembly instructions.
- Ensure that no obstacles obstruct the lift and prepare the landing site.

6 Assembly

The LKNG Hook is normally not incorporated in the sling certificate (sling tag), as an ingoing part. Instead, it may be incorporated in the crane certificate as part of a crane if built in as OEM equipment.

If the LKNG Hook is assembled, reconnected and used together with different connecting equipment for lifting, make sure to have a valid certificate.

Only a qualified person may assemble the LKNG Hook.

When assembling the LKNG Hook observe the following:

1. Verify that all markings are readable and that all parts of the LKNG Hook are of the correct type and size.



2. Do not tighten the bolt in a way that prevents it from rotating freely. In most cases, hand tightening is sufficient.



3. Ensure that the bolt and nut are properly secured with the spring clip. A poor-fitting between the bow and bolt may be caused by a bent bolt, damaged threads, or misalignment of the bolt holes. Do not use the LKNG in this case.



4. Fully assembled.



7 Maintenance

When performing maintenance or inspection, always read and follow the Safety Precautions.

7.1 Inspection

During service, lifting equipment is subjected to conditions which affect their safety. Therefore ensure that the equipment is safe for continued use.

Withdraw the LKNG Hook from service and refer the product to a competent person for thorough examination if any of the following is observed:

- The LKNG Hook markings are illegible.
- More than 10% reduction of dimension at any point.
- Cuts, nicks, gouges, cracks, excessive pitting or corrosion, heat discoloration, bends, distortion, or other defects.
- Bolt is not straight.
- Incomplete bolt engagement.
- The threads of the bolt or nut are damaged.

If the hook cannot rotate easily without load, lubricate the plane bearing surface. Use a heavy duty penetrating spray, type ZEP 2000 or equivalent.

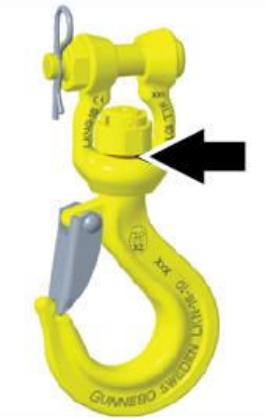


Figure 2: Position lubricate

7.2 Examination

A competent person should thoroughly examine the product at least once every year. The inspection should be carried out more frequently if deemed necessary, taking into consideration the following points.

- Local, national, or branch-specific regulation.
- The service condition of the LKNG Hook.
- Eventual use in demanding environments (such as corrosive or extreme temperature).
- Eventual use where the LKNG Hook is subjected to repeated loads that may induce metal fatigue.

Maintain records of examinations. Before examination, clean the LKNG Hook so it is free from oil, dirt, and rust.

Any cleaning method which does not damage the parent metal is acceptable. Methods to avoid are those using acids, overheating, removal of metal or movement of metal which may cover cracks or surface defects.

See also Safety Precautions.

7.3 Repair

A competent person with relevant knowledge and technical skills must do the repairs. The product shall only be returned to service after approval by a designated person.

Maintain records of repairs.

Any replacement component or part of the LKNG Hook should be in accordance with the appropriate European Standard for that component or part. Use only original Gunnebo spare parts.

Discard or replace components that are cracked, visibly distorted or twisted, severely corroded or have deposits which cannot be removed.

Remove minor damage such as nicks and gouges by careful grinding or filing. The surface should blend smoothly into the adjacent material without abrupt change in the section. The complete removal of the damage should not reduce the thickness of the section at that point to lesser than the manufacturer's specified minimum dimensions or by more than 10% of nominal thickness of the section.

7.4 End of use/Disposal

Recycle as general steel scrap.