MOUNTING INSTRUCTIONS

OCTA STAR SELF-LOCKING HOOKS GRADE 80

Self-locking Eye Hook

Self-locking Clevis Hook

WARNING

The following mounting instructions must always be followed to avoid the risk of personal injury or property damage.

Do not use a self-locking hook before reading these mounting instructions.

1. ABOUT THIS INSTRUCTION

These mounting instructions describes in particular how OCTA STAR self-locking hooks are to be safely used for lifting purposes.
To comply with these instructions is essential to help avoiding hazards and increases the reliability and service life of the self-locking hook.

DANGER **DANGER!** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING **WARNING**! Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION **CAUTION!** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE **NOTICE!** Is used to address practices not related to physical injury.

SAFETY INSTRUCTIONS **Safety Instructions** signs indicate specific safety-related instructions or procedures.

DEFINITIONS

Clevis

A U-shaped fitting with pin.

Working Load Limit (WLL)

The maximum load, which a self-locking hook is designed to support.

NOTICE

Read ASME B30.10 „Hooks“.

Read ASME B30.26 “Rigging Hardware”, Chapters 26-0, 26-1, 26-4.

2. BASIC SAFETY REQUIREMENTS

WARNING

To prevent the risk of injury never walk or stay under lifted loads!

The working load limit (WLL) must not be exceeded!

Self-locking hooks as well as lifting and attachment means to be used must be free from defects!

Working under the influence of drugs, medications impairing the sense and/or alcohol is strictly forbidden!

SAFETY INSTRUCTIONS

- Operators, fitters and maintenance personnel must in particular observe the operating instructions of the chain slings into which the self-locking hooks are to be installed, as well as standards ASTM A 906/A 906 M (Standard Specification for Grade 80 and Grade 100 Alloy Steel Chain Slings for Overhead Lifting), ASTM A 952/A 952 M (Standard Specification for Forged Grade 80 and Grade 100 Steel Lifting Components and Welded Attachment Links), ISO 3056 (Non-calibrated round steel link lifting chain and chain slings; Use and maintenance), ISO 7593 (Chain slings assembled by methods other than welding; Grade T(8)) and ISO 4778 (Round steel short link chains for lifting purposes – Chains slings of welded construction – Grade 8), ISO 1837 Lifting hooks - Nomenclature.
- The specific safety and operating regulations and standards issued locally in the country where the items are used must be observed.
- The directions given in these mounting instructions and specified documentations relating to safety, assembly, operation, inspection, and maintenance must be made available to persons operating and using the self-locking hooks.
- Make sure these mounting instructions are available in a place near the product during the time the equipment is used. Please contact the manufacturer if replacements are needed. Also see chapter 12.
- During operation work, wear your personal protective equipment!
- **Improper assembly and use may cause personal injury and/or damage to property.**

SAFETY INSTRUCTIONS

- Assembly and removal as well as inspections and maintenance must exclusively be carried out by skilled and authorized persons only.
- Structural changes are impermissible (e.g. welding, bending).
- **Operators must carry out a visual inspection and, if necessary, a functional test of the safety equipment before each use.**
- Never use worn-out, bent or damaged self-locking hooks.
- Operation without a functioning safety lever is not permitted.
- Only lift loads that do not exceed the working load limit of the corresponding chain sling.
- Never expose self-locking hooks to loads exceeding the specified working load limit.
- Make sure the load can take the forces to be applied without suffering deformation.
- Do not use force when mounting/positioning the self-locking hooks.
- Self-locking hooks may only be put under load at the bottom of the hook and not at the tip of the hook. Clamping of the load at the tip of the hook between the upper and lower part is not permitted.
- Avoid bending loads to act on chain links and self-locking hooks.
- Always monitor a suspended load.
- Only lift loads that are freely movable and not attached or fastened.
- Safety elements must not be stressed or strained operationally.
- Use only shortening/grab hooks or claws for chain shortening purposes**.**
- Do not start lifting before you have made sure the load has been correctly attached and balanced.
- **No one including you (operator) must be in the way of the moving load (hazard area).**
- During lifting make sure your hands or other body parts do not come into contact with lifting means. Only remove lifting means manually (use your hands).
- Avoid sharp edges.
- Never move a suspended load over persons.
- Never cause suspended loads to swing.
- Self-locking hooks must only be loaded at their base, never at their nose.
- Avoid impacts, e.g. due to abruptly lifting loads with chain in slack condition.
- Do not operate the system without fully functioning safety devices (cotters, spring pins, safety levers).
- Loads must only be lifted when the hooks are in a locked position.
- Self-locking hooks must be allowed to move freely in all tensile directions.
- Put the load only down in flat places/sites where it can be safely deposited.
- Take care for sufficient place for the personnel to move when choosing the route of transportation and storage location. Danger to life and risk of injury by crushing hazards.
- In the event of doubts or concerns about the proper and safe use, inspection, maintenance or similar things contact your safety officer or the manufacturer.

THIELE is not responsible for damage caused by non-observance of the instructions, rules, standards and notes indicated!

As a rule, self-locking hooks are not permitted for the transportation of persons.

3. DESCRIPTION AND INTENDED USE

OCTA STAR self-locking hooks are exclusively intended for the usage in sling chains according to ASTM A 906/A 906M.

The connection to the sling chain is made directly by the clevis or indirectly by using connecting links which are assembled to the eye.

WARNING

OCTA STAR self-locking hooks must exclusively be used

- within the limits of their permissible working load limits,
- within the temperature limits prescribed,
- for permissible attachment methods and sling angles,
- by trained and authorized personnel,
- with original connecting bolts and pins of the specified size.

Failure to do so may cause serious injury or property damage.

OCTA STAR self-locking hooks feature a safety factor of at least 4 based on the working load limit.

They are signed with the corresponding chain size, grade, manufacturer's mark "KWS" and traceability code.

The hooks are designed to withstand 20 000 dynamic load cycles under maximum load conditions. In the event of higher loads (e.g. multi-shift/automatic operation) the working load limit must be reduced.

OCTA STAR self-locking hooks can also be used within lashing chain assemblies. When used within a lashing system the maximum lashing capacity (LC) is obtained by doubling the working load limit.

WARNING

Any alternating use for lifting and lashing purposes is impermissible!

4. COMMISSIONING

Prior to using the components for the first time assure that

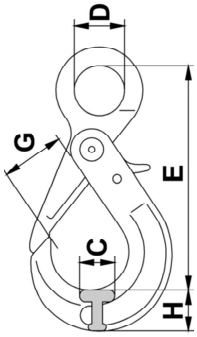
- the components comply with the order and have not been damaged,
- test certificates and Mounting Instructions are at hand,
- markings correspond with what is specified in the documentation,
- inspection deadlines and the qualified persons for examinations are determined,
- visibility and functional testings are carried out and documented,
- documentation is safely kept in an orderly manner.

Dispose of the packing in an environmentally compatible way according to local rule.

5. TECHNICAL DATA

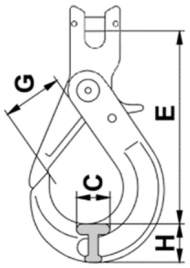
Tables include only article numbers of standard and not customized parts.

5.1 Self-locking hooks with eye, Grade 80



Nom. size	Mark.	Article no.	WLL [lbs]	Dimensions [mm] E	D	G	H	C	Mass [lbs]
1/4	6-8	Z10261	2 500	110	21	28	20	15	1.10
9/32 5/16	7/8-8	Z10262	4 500	136	25	35	26	20	1.83
3/8	10-8	Z10263	7 100	168	34	45	30	26	3.13
1/2	13-8	Z10264	12 000	206	39	52	40	33	6.30
5/8	16-8	Z10265	18 100	254	50	63	51	38	13.0

5.2 Self-locking hooks with clevis, Grade 80



Nominal size	Marking	Article no.	WLL [lbs]	Dimensions [mm] E	G	H	C	Mass [lbs]
1/4	6-8	Z10266	2 500	99	28	20	15	0.99
9/32 5/16	7/8-8	Z10267	4 500	119	35	26	20	1.87
3/8	10-8	Z10268	7 100	142	45	30	26	3.26
1/2	13-8	Z10269	12 000	179	52	40	33	6.28
5/8	16-8	Z10270	18 100	225	63	51	38	13.23

6. ASSEMBLY AND REMOVAL

6.1 General

All components to be installed or used must be in perfect condition and the relevant working load limits of all parts must accommodate the respective load to be handled.

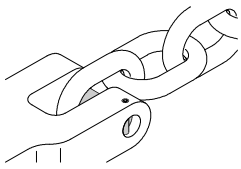
⚠ WARNING

Allways assemble/remove components in load-free condition.

Self-locking hooks with eyes are usually attached to chain slings by means of connecting links. Always observe the mounting instructions for the connecting links.

6.2 Clevis fastening system

The clevis fastening system only permits attachment of the nominal chain size that suits the attachment component.

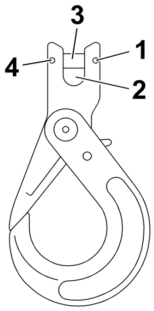


6.3 Assembly of clevis fastening system

The chain and clevis pin must be of the same rated size.

- Remove the spring pins (1) and (4) and the clevis pin (3).
- Introduce the end link of the chain between the sides of the clevis (2).
- Insert the pin (3) sideways into the clevis and through the end link of the chain.
- Drive home the spring pins (1) and (4) so that they sit flush within their recesses.

  The slot must face away from the clevis pin.
- Check that the chain is free to move.



6.4 Disassembly of clevis fastening system

- Loosen the relevant chain sling.
- Use a mandrel to drive out the spring pins (1) and (4).
- Remove the pin (3).
- Remove the last link of the mounted chain.

Only connect together pins and sling parts of the same grade (pins Ø 1/2" and over are marked on their face side).

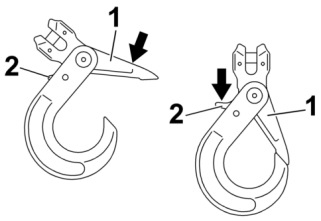
Spring pins are intended for one-off use only.

7. OPERATION

To lock the hook, push the top section (1) down towards the lower section.

When lifting loads do not grasp between the top and bottom sections as the hook automatically closes tight under load.

To open the hook, loosen the chain sling and press down on the locking lever (2).



8. CONDITIONS OF USE

8.1 Normal use

WARNING

Self-locking hooks must always be freely movable when attached to the load and must not rest on or be supported by other structural parts.

8.2 Influence of temperature

WARNING

Using self-locking hooks at elevated temperatures will cause the working load limit (WLL) to be reduced as indicated below.

Temperature range	Remaining WLL
-40 °C ≤ t ≤ 205 °C -40 °F ≤ t ≤ 400 °F	100 %
205 °C < t ≤ 300 °C 400 °F < t ≤ 572 °F	90 %
300 °C < t ≤ 400 °C 572 °F < t ≤ 752 °F	75 %

DANGER

If a self-locking hook has been exposed to temperatures exceeding the maximum value specified, it must not be used furthermore.

8.3 Environmental influence

WARNING

Self-locking hooks must not be used in environments where acids, aggressive or corrosive chemicals or their fumes are present. Hot-dip galvanizing or a galvanic treatment is prohibited.
Self-locking hooks are not intended to be used for abrasive blasting environments.

8.4 Especially hazardous conditions

The degree of danger when used in offshore applications, the lifting of hazardous loads, such as for example liquid metal, or similar risk potentials must be assessed by a competent person in the form of a risk analysis. Any additional rules and directives must be followed in this case.

9. INSPECTION, MAINTENANCE, DISPOSAL

9.1 General

WARNING

Inspections and maintenance must be arranged by the Owner!

Inspection intervals shall be determined by the Owner!

Visual inspections must be carried out and documented by competent and trained persons regularly, but at least once a year or more frequently if the self-locking hooks are in heavy duty service. After three years at the latest they must additionally be examined for cracks. A load test is not a substitute for this examination.

The results of the inspection shall be kept into a file that has to be set up for each chain sling before first use. The register shall show characteristic data of the chains and components as well as identity details.

Immediately stop using self-locking hooks that show the following defects:

- missing or illegible identification/marking,
- deformation, elongation or fractures,
- cuts, notches, cracks, incipient cracks, pinching,
- heating beyond permissible limit,
- severe corrosion,
- broken springs,
- wear in excess of 10 %, e.g. hook attachment area and pin diameter,
- excessive gap between the top and bottom sections,
- less than 50 % overlap between the top section and the tip of the lower part.

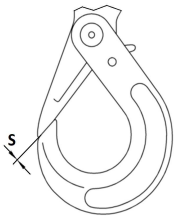
WARNING

Cleaning (e.g. prior to inspections) must not take place by using flames or methods that might cause hydrogen embrittlement (e.g. pickling or immersion in acidic solutions).

9.2 Gap at the hook tip

When locked, the gap between the lower and upper part of the hook (dimension s) must not exceed the values listed below.

Nominal size	Marking	s_{max} [mm]
9/32 5/16	7/8-8	1.0
3/8	10-8	1.0
1/2	13-8	1.5
5/8	16-8	2.0



A larger gap dimension indicates an overload.

Self-locking hooks with a too large gap dimension may no longer be used.

Structural modifications to reduce the gap are not permitted.

9.3 Maintenance

DANGER

Maintenance and repair work must only be performed by competent and trained persons.

Minor notches and cracks may be eliminated by careful grinding observing the maximum cross section reduction requirement of 10 % and avoid making more severe cuts or scores.
All maintenance and repair activities are to be documented.

10. SPARE PARTS

WARNING

Use only original spare parts.

10.1 Spare part sets for safety lever

A set consists of safety lever, spring and dowel pin.

Nominal size	Marking	Article no.
9/32 5/16	7/8-8	Z07175
3/8	10-8	Z07152
1/2	13-8	Z07153
5/8	16-8	Z07154

10.2 Spare part sets for clevis fastening system

A set consists of pin and dowel pin.

Nominal size	Marking	Article no.
9/32 5/16	7/8-8	Z07147
3/8	10-8	Z07148
1/2	13-8	Z07149
5/8	16-8	Z07150

10.3 Disposal

NOTICE

All steel components and accessories taken out of service must be scrapped in accordance with local regulations and provisions.

11. STORAGE

NOTICE

Self-locking hooks must be stored properly sorted and in dry conditions at temperatures between 32 °F and 104 °F.

Do not store in a manner that cause mechanical damage.

12. INSTRUCTIONS DOWNLOAD

NOTICE

Current operating and installation instructions are available as a PDF download on the website www.kwschain.com.

13. PUBLISHING INFORMATION

Company	KWS Inc. (Distributor)	THIELE GmbH & Co. KG (Manufacturer)
Postal address	P.O. Box 470487 Tulsa, OK 74147 USA	Werkstrasse 3 58640 Iserlohn Germany
Phone number	+1 (539) 367 2274	+49 2371/947-0
Fax number	+1 (539) 367 2278	+49 2371/947-241
Email	sales@kwschain.com	info@thiele.de