

WARNING

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

Do not use a shortening hook before reading these mounting instructions.

1. ABOUT THIS INSTRUCTION

These mounting instructions describe in particular how OCTA STAR shortening 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 shortening hooks.



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



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



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



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



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 shortening hook is designed to support without shock-loading.




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!

Shortening hooks as well as lifting and attachment means to be used must be free from defects!

THE CORRECT POSITION OF THE CHAIN IN THE SHORTENING HOOK IS TO BE VERIFIED FOR EACH INDIVIDUAL LIFTING OPERATION!

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



- Operators, fitters and maintenance personnel must in particular observe the operating instructions of the chain slings into which the shortening 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) and ISO 7593 (Chain slings assembled by methods other than welding; Grade T(8)).
- The specific safety and operating regulations and standards issued locally in the country where the items are used must be observed.
- During operation work, wear your personal protective equipment!
- 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 shortening hooks.
- These mounting instructions must be 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 11.
- Improper assembly and use may cause personal injury and/or damage to property.**
- Assembly and removal as well as inspections and maintenance must exclusively be carried out by skilled, qualified, trained 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 shortening hooks.

SAFETY INSTRUCTIONS

- Only lift loads that do not exceed the working load limit of the corresponding sling chain assembly.
- Never expose shortening hooks to loads exceeding the specified working load limit.
- Shortening hooks must not be attached directly to loads, e.g. metal sheets.
- Only chain legs and shortening hooks of the same nominal size and grade may be connected.
- **No one including you (operator) must be in the way of the moving load (hazard area).**
- Safety elements must not be excessively stressed or strained operationally.
- Do not use force when mounting/positioning the shortening hooks.
- Do not twist or knot the chains together.
- In case of multi-leg sling chain assemblies never allow for sling angles of less than 30 ° and in excess of 75 °.
- Avoid bending loads to act on chain links and shortening hooks.
- Make sure to use shortening/grab hooks or claws for chain shortening purposes.
- During lifting your hands or other body parts must not come into contact with lifting means. Only remove lifting means manually (use your hands).
- Avoid impacts, e.g. due to abruptly lifting loads with chain in slack condition.
- Usage without working safety elements (cotter pins, dowel pins) is not permissible.
- **Shortening hooks must be allowed to move freely in all tensile directions. They must not rest on or against other parts or the load.**
- 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, shortening hooks and chain slings are not permitted for the transportation of persons.

3. DESCRIPTION AND INTENDED USE

OCTA STAR shortening hooks are exclusively intended to shorten individual chain legs within several chain sling according to ASTM A 906/A 906M. Shortening hooks must only be used within a single loaded chain leg.

Eye Grab Hooks are intended to be fixed by connecting links to the chain whereas the sling chains are directly assembled to the **Clevis Grab Hooks** by a clevis fastening system.

WARNING

Shortening hooks must exclusively be used

- within the limits of their permissible working load limit,
- for permissible attachment methods and sling angles,
- within the temperature limits prescribed,
- by trained and authorized persons.

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

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

Shortening hooks are marked with nominal chain size and grade, manufacturer's mark "KWS" and traceability code.

Any lashing purposes is impermissible!

4. COMMISSIONING

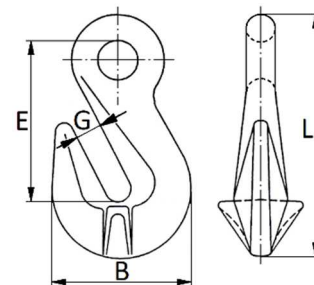
Prior to using the components for the first time assure that

- 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.

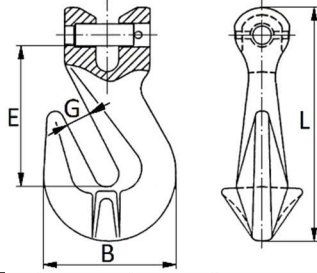
5. TECHNICAL DATA

5.1 Eye grab hooks



Nominal size	Marking	Article no.	WLL [lbs]	Dimensions [mm]				Mass [lbs]
				E	L	B	G	
9/32 5/16	7/8-8	Z08010	4 500	62	93	53	11	0.54
3/8	10-8	Z08011	7 100	80	122	71	13	1.43
1/2	13-8	Z08012	12 000	100	158	90	16.5	3.06
5/8	16-8	Z08013	18 100	107	169	113	19	4.85

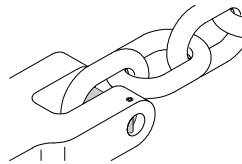
5.2 Clevis grab hooks



Nominal size	Marking	Article no.	WLL [lbs]	Dimensions [mm]				Mass [lbs]
				E	L	B	G	
9/32 5/16	7/8-8	Z06911	4 500	53	89	53	10.5	0.71
3/8	10-8	Z06912	7 100	75	126	71	13	1.61
1/2	13-8	Z06913	12 000	92	164	90	16.5	3.53
5/8	16-8	Z06914	18 100	99	184	113	19	6.17

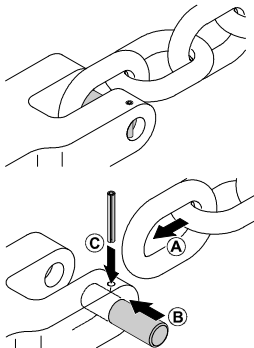
6. CLEVIS FASTENING SYSTEM

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



6.1 Assembly

- If necessary, remove dowel pin and pin.
- (A) Place end of chain leg between the lateral clevis elements.
- (B) Push pin from the side fully into the clevis and through the last chain link of the leg.
- (C) Drive dowel pin fully in (must not project) to secure the pin. The slot must face away from the pin.



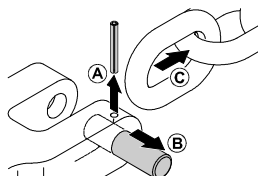
Check whether the chain runs smoothly!

The dowel pins must only be installed once.

Only connect pins and attachment components of identical grades. Starting with $\varnothing \frac{1}{2}$ " the pins are marked on the front end.

6.2 Disassembly

- Slacken the respective chain.
- (A) Drive dowel pin out using hammer and drift punch¹⁾.
- (B) Push pin out using a drift punch.
- (C) Remove the chain.



1) Suitable drift punches are available by article no. Z03303.

7. CONDITIONS OF USE

7.1 Normal use



A shortening hook is only used to shorten a single chain leg and never to transfer the load to additional chain legs. The shortened part of the chain leg must remain unloaded.

Therefore, it is not allowed to create a 4-leg chain sling assembly made of a 2-leg chain sling assembly by adding shortening hooks.

Shortening individual chain legs is indicative of a non-symmetrical load distribution. In this case, attention is to be paid to working load limit reductions.

7.2 General

Assembly and disassembly are only carried out in unloaded condition.

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.

7.3 Chain leg assembly

Push the chain link of the chain leg to be shortened past the hook tip into the slot. Make sure that the lower leg of the chain link inserted into the slot is positioned near the bottom of the hook.

The chain leg to be loaded can be located either to the right or left of the central longitudinal plane of the hook.

7.4 Chain leg disassembly

Lift the shortened chain leg completely out of the slot of the shortening hook to remove it.

7.5 Influence of temperature

The respective temperature range limits must be considered for all components used. Using shortening hooks in high 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 %



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

7.6 Environmental influence



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

8. INSPECTION, MAINTENANCE, DISPOSAL

8.1 General



Inspections and maintenance must be arranged by the owner!

Inspection intervals must be determined by the owner!

Visual inspections must be regularly carried out and documented by competent and trained persons, at least once a year or more frequently if the shortening 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 in 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 shortening hooks that show the following defects:

- missing or illegible identification/markings
- deformation, elongation or fractures of chains or components
- cuts, notches, cracks, incipient cracks, pinching
- links heated beyond permissible limit
- severe corrosion
- reduction of the averaged pin diameter by more than 10 % as mean value of measurements taken perpendicularly towards each other
- missing or damaged dowel pins.



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).

8.2 Maintenance and repair



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 max. 10 % and avoid making more severe cuts or scores.

All maintenance and repair activities must be documented properly.

8.3 Disposal

NOTICE

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

9. SPARE PARTS



Use only original spare parts.

Sets for clevis fastening system consist of pin and dowel pin.

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

10. STORAGE

NOTICE

Shortening hooks must be stored in dry conditions at temperatures between 32 °F and 104 °F.

Do not store in a manner that causes mechanical damage.

11. INSTRUCTIONS DOWNLOAD

NOTICE

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



12. PUBLISHING INFORMATION

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