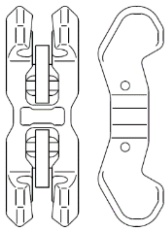


Shortening claws

TWN 1852/1 #

WARNING

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

Do not use a shortening claw before reading these operating instructions.

1. ABOUT THIS INSTRUCTION

These operating instructions describe in particular how RAPID shortening claws according to TWN 1852/1 # grade 100, (TWN = THIELE works standard) are to be safely used for lifting purposes.
The instructions apply analogously to components of identical design.
To comply with these instructions is essential to help avoid hazards and increases the reliability and service life of the shortening claws.

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

Working Load Limit (WLL)

The maximum load, which a RAPID shortening claw is designed to support.

NOTICE

Read ASME B30.9 „Slings“, Chapters 9-0 and 9-1.

2. BASIC SAFETY REQUIREMENTS

WARNING

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

The working load limit must not be exceeded!

RAPID shortening claws 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 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).
- 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 operating instructions and specified documentations relating to safety, assembly, operation, inspection, and maintenance must be made available to persons operating and using the RAPID shortening claw.
- These operating 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.

SAFETY INSTRUCTIONS

- During operation work, wear your personal protective equipment!
- **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 claws.
- Only lift loads that do not exceed the working load limit of the chain sling.
- Never expose chains and claws to loads exceeding the specified working load limits.
- Do not use force when mounting/positioning the attachment components.
- Do not twist or knot the chains together.
- Never guide shortening claws over edges or load them sideways.
- Avoid sharp edges. Use edge protectors or reduce the working load limit by 20 %.
- In case of multi-leg chain slings never allow for sling angles of less than 30 ° and in excess of 75 °.
- Avoid bending loads to act on shortening claws.
- Do not start lifting before you have made sure the load has been correctly attached.
- Make sure no one including you (operator) is 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 impacts, e.g. due to abruptly lifting loads with chain in slack condition.
- Never move a suspended load over persons.
- Never cause suspended loads to swing.
- Always monitor a suspended load.
- Put the load only down in flat places/sites where it can be safely deposited.
- Avoid parts of the sling chain assembly to get caught under the load.
- Operation without functioning safety devices (dowel pins, springs, safety latches) is not permitted.
- The shortened part of the chain legs must not be loaded and not used as an endless chain.
- Shortening claws must be able to align themselves freely in the loading direction.
- 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 regard grade 100, THIELE does not give its approval to the assembly of components sourced from different manufacturers!

As a rule, RAPID shortening claws are not permitted for the transportation of persons.

3. DESCRIPTION AND INTENDED USE

RAPID shortening claws according to TWN 1852/1 # are exclusively intended for shortening individual chain legs of chain slings of grade 100 according to ASTM A 906/A 906M.

They can be used anywhere in the chain leg as a permanent or non-permanent connection.

They are constructed symmetrically in terms of safe handling and have safety latches against unintentional release of the chain.

RAPID shortening claws should only be used within one loaded chain leg and only together with chains according to the marked nominal size and grade 100.

They are not intended for connecting different chain legs.

⚠ WARNING

RAPID shortening claws 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.

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

When using RAPID shortening claws within chain slings observe their operating instructions. In particular, the working load limits as a function of the number of chain legs and angle of inclination are documented here.

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

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

Shortening claws from 2025 onwards can be permanently mounted in a fixed position (not recommended for lashing) using an additional dowel pin supplied loose. See Chapter 6.4. #

RAPID shortening claws can also be used within lashing chains. When used within a lashing system the maximum lashing capacity (LC) is obtained by doubling the working load limit.

If the shortening claws are **exclusively** used for lashing, the maximum lashing capacity (LC) is calculated by doubling the working load limit to LC = 2 x WLL. #

Alternate use for lifting and lashing is only permitted up to the load corresponding to the working load limit (WLL), i.e. LC = WLL! #

Even a single load above the load capacity specification (LC > WLL) makes the further use as a lifting point impermissible. #

4. COMMISSIONING

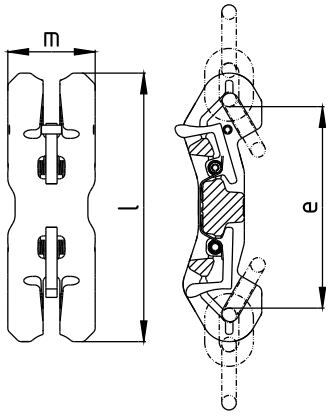
Prior to using the RAPID shortening claws for the first time assure that

- the components comply with the order and have not been damaged,
- test certificates and operating 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

Table includes only article numbers of standard and not customized parts.



Nominal size	Article no.	WLL [lbs]	Dimensions [inch] #			Mass [lbs]
			e	l	m	
5/16	F34775	5 700	4.37	5.83	1.89	1.74
3/8	F34780	8 800	5.28	7.09	2.36	3.31
1/2	F34785	15 000	7.05	9.45	3.07	5.95
5/8	F34790	22 600	8.74	11.65	3.78	10.58

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.

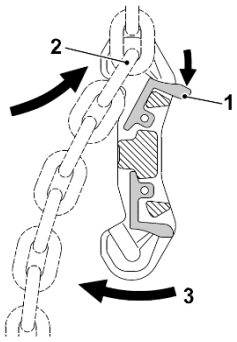
⚠ WARNING

Allways assemble/remove components in load-free condition.

6.2 Assembly

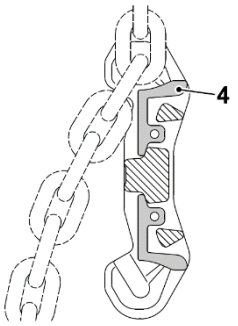
The assembly is carried out on the chain leg to be shortened first with the upper side of the shortening claw.

A) Unload the sling chain assembly totally!



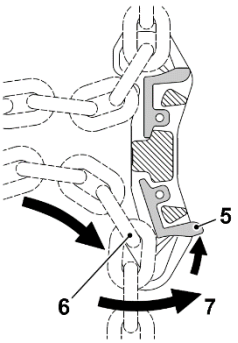
B) Take the shortening claw in one hand and open the upper safety latch with your forefinger (1).
Take the chain slightly below the desired position in the other hand and insert a chain link (2) from below into the upper pocket. Slightly tilt the RAPID shortening claw (3) so that the shortening claw easily fits into the chain leg.

C) Push the chain link (2) into the pocket until it stops. Release the safety latch (4) so that it returns to its basic position (securing position).

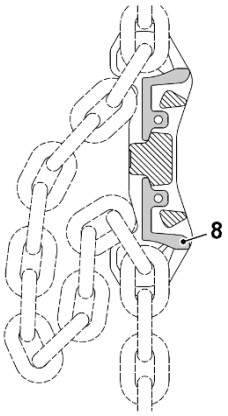


D) Check the correct fit of the chain.

E) Take the shortening claw in one hand and grab the chain leg to be shortened with the other.
Fix the chain link (6) to be positioned in the lower pocket between thumb and forefinger.



F) Slide this chain link (6) into the pocket. Press the lower next chain link against the safety latch (5). Tilt the shortening claw a bit (7) so that it easily fits into the chain leg. Push the chain link (6) into the pocket until it stops.



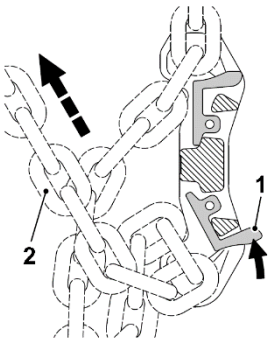
G) Make sure that the safety latch (8) returns to its basic position (securing position). Check that the chain links are in the correct position within the pockets.

6.3 Disassembly

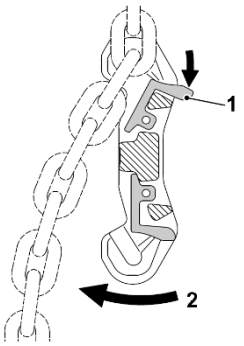
The disassembly is carried out first with the lower side of the shortening claw.

A) Unload the sling chain assembly totally!

B) Unlock the lower safety latch with one hand. With the other hand grab the chain leg below the shortening claw and lift it up so that the chain moves out of the pocket. Be quite energetic. As a result, the chain dissolves better out of the pocket. But do not tear so hard that the flinging chain will hurt you or others!



C) Take the shortening claw in one hand and open the upper safety latch with your forefinger (1).
Tilt the shortening claw slightly (2). Lift the shortening claw and thread the chain from the top of the shortening claw.



6.4 Permanent positioning

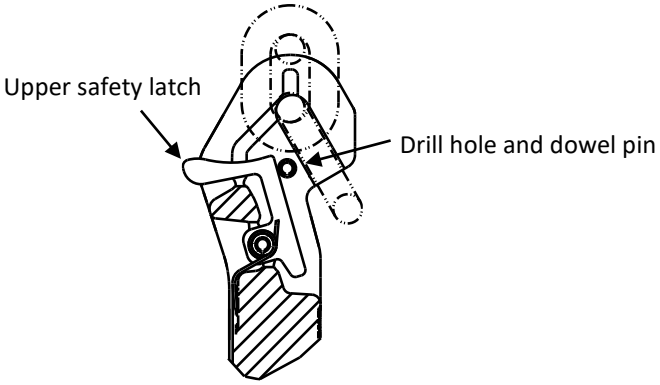
If the shortening claw is to remain in a fixed position, the upper safety catch can be blocked with the loose dowel pin provided.

A) Position the shortening claw with its upper claw pocket at the desired position.

B) Pull back the upper safety latch.

C) Drive in the dowel pin so that it engages over the chain link in the claw pocket and secures it against removal.

D) If required, remove the dowel pin, spring and pawl of the upper claw system.



7. CONDITIONS OF USE

7.1 Normal use

The shortening of individual chain legs in a multi-leg sling chain assembly indicates a non-symmetrical load distribution. In this case, pay attention to the necessary reduction of the working load limit.

WARNING

Note that safety elements must not be loaded during operation.

7.2 Influence of temperature

WARNING

The respective temperature range limits must be considered for all components used.

Temperature Range
-30 °C ≤ t ≤ 205 °C
-22 °F ≤ t ≤ 400 °F

DANGER

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

7.3 Environmental influences

WARNING

RAPID shortening claws 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 as well.

RAPID shortening claws should not be used in blasting plants.

WARNING

RAPID shortening claws should not be used on construction sites because pockets and safety systems may be contaminated by beton.

7.4 Especially hazardous conditions

WARNING

The degree of danger when used for the lifting of hazardous loads, 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.

8. INSPECTION, MAINTENANCE, DISPOSAL

WARNING

Inspections and maintenance must be arranged by the owner!

Inspection intervals shall be determined by the owner!

Inspections must be regularly carried out and documented by competent persons, at least once a year or more frequently if the shortening claws are in heavy-duty service. After three years at the latest shortening claws must additionally be examined for cracks. A load test shall never be considered a substitute for this examination.

The results of the inspection shall be kept in a file that has to be set up for each shortening claw before first use. The register will show characteristic data as well as identity details.

Immediately stop using shortening claws that show the following defects:

- missing or illegible identification/marking,
- deformation, cuts, notches, cracks, incipient cracks,
- pocket wear by more than 10 % of the associated chain diameter,
- missing or damaged dowel pins, springs or safety latches,
- heating beyond permissible limits,
- severe corrosion.

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).

8.1 Inspection service

THIELE offers inspection, maintenance and repair services performed by trained and competent personnel.

8.2 Maintenance

DANGER

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

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

WARNING

Use only original spare parts.

Each set consists of 2 safety latches, 2 springs and 2 dowel pins.

Nominal size	Sets TWN 1931/0 Article no.	Mass [lbs]
5/16	F347750	0,05
3/8	F347800	0,19
1/2	F347850	0,19
5/8	F347900	0,37

10. STORAGE

NOTICE

Special sling components 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.

11. THIELE OPERATING AND MOUNTING INSTRUCTIONS

NOTICE

Current mounting and operating instructions are available as a PDF download on the THIELE-website www.thiele.de.

12. 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