

Shortening hook

>IVH<

>VVH<

Assembly instruction

This assembly instruction/declaration of the manufacturer has to be kept on file for the whole lifetime of the product.

TRANSLATION OF THE ORIGINAL ASSEMBLY INSTRUCTION

This assembly instruction is valid in addition to the safety instructions for RUD Sling chains (ICE-Nr. 7995555 or VIP-Nr. 7101649).



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RUD-Art.-Nr.: 7902326-EN / 05.015



ICE
Grade 120



VIP
Grade 100



Shortening hook



Simple inspection, administration and documentation of work equipment and components which must be inspected regularly.



EC-Mounting declaration

According to the EC-Machinery Directive 2006/42/EC, annex II B and amendments

Manufacturer: **RUD Ketten**
Rieger & Dietz GmbH u. Co. KG
Friedensinsel
73432 Aalen

We hereby declare that the following incomplete machines correspond to the basic requirements of the Machinery Directive 2006/42/EC (annex 1). The following incomplete machine, in the delivered machine, may only be put into operation when the machine in which the incomplete machine shall be assembled, has been tested according to the requirements of the EC-Machinery Directive 2006/42/EC.

Product name: Shortening claw
IMVK / VMVK / VV / BSEK / V

The following harmonized norms were applied:

<u>EN 12100 : 2011-03</u>	<u>EN 1677-1 : 2009-03</u>
_____	_____
_____	_____
_____	_____

The following national norms and technical specifications were applied:

<u>BGR 500, KAP2.8 : 2008-04</u>	<u>DIN 5692 : 2011-04</u>
_____	_____
_____	_____
_____	_____

The special documents about the incomplete machine according to annex VII part B have been created and can be handed over in a suitable form on request.

Authorized person for the configuration of the declaration documents:
Reinhard Smetz, RUD Ketten, 73432 Aalen

Aalen, den 27.06.2014 Dr.-Ing. Arne Kriegsmann (Prokurist/QMB)
Name, function and signature of the responsible person *Arne Kriegsmann*

EG-Einbauerklärung

entsprechend der EG-Maschinenrichtlinie 2006/42/EG, Anhang II B und ihren Änderungen

Hersteller: **RUD Ketten**
Rieger & Dietz GmbH u. Co. KG
Friedensinsel
73432 Aalen

Hiermit erklären wir, dass die nachfolgend bezeichnete unvollständige Maschine den grundlegenden Anforderungen der Maschinenrichtlinie 2006/42/EG (Anhang 1) entspricht. Die nachfolgend bezeichnete unvollständige Maschine darf, in der gelieferten Ausführung erst dann in Betrieb genommen werden, wenn festgestellt wurde, dass die Maschine, in die diese unvollständige Maschine eingebaut werden soll, den Anforderungen der EG-Maschinenrichtlinie 2006/42/EG entspricht.

Produktbezeichnung: Verkürzungsklaue
IMVK / VMVK / VV / BSEK / V

Folgende harmonisierten Normen wurden angewandt:

<u>EN 12100 : 2011-03</u>	<u>EN 1677-1 : 2009-03</u>
_____	_____
_____	_____
_____	_____

Folgende nationalen Normen und technische Spezifikationen wurden außerdem angewandt:

<u>BGR 500, KAP2.8 : 2008-04</u>	<u>DIN 5692 : 2011-04</u>
_____	_____
_____	_____
_____	_____

Die speziellen Unterlagen zur unvollständigen Maschine nach Anhang VII Teil B wurden erstellt und werden auf begründetes Verlangen in geeigneter Form übermittelt.

Für die Zusammenstellung der Konformitätsdokumentation bevollmächtigte Person:
Reinhard Smetz, RUD Ketten, 73432 Aalen

Aalen, den 27.06.2014 Dr.-Ing. Arne Kriegsmann (Prokurist/QMB)
Name, Funktion und Unterschrift Verantwortlicher *Arne Kriegsmann*

The present instruction is only valid for the following variants of the shortening hook

- **IVH** ICE-Shortening hook in ICE-Pink (Purple colour, quality grade 120, D1 stamping)
- **VVH** VIP-Shortening hook in VIP-Pink (Magenta colour, quality grade 100, H1 stamping)



Please read assembly instruction carefully before initial operation of the Shortening hook. Make sure to understand all volumes. Nonobservance of this assembly manual can lead to serious physical injury and property damage and eliminates warranty. In doubt or in misconception please note that the German version of this document is decisive.

1 Safety instructions



ATTENTION

Wrong assembled or damaged lifting and lashing means as well as improper use can lead to injuries of persons and damage of objects when load drops. Please inspect all lifting points before each use.

- Please consider extreme circumstances or shock loading when choosing the used Shortening hook and the components.
- Only RUD round steel link chains of the corresponding nominal size must be attached to the Shortening hook.
- RUD Shortening hook must only be used by instructed and competent persons considering BGR 500 (DGUV 100-500) and outside Germany noticing the country specific statutory regulations.

2 Intended use

Hereby described shortening hooks must only be used for lifting, lashing or transporting of loads.

Please observe that the shortening hook/chain can straighten out in the loading direction

Only RUD round steel link chains of the corresponding nominal size must be attached to the shortening hook.

The shortening hooks are designed acc. to DIN 5692.

3 Assembly- and instruction manual

3.1 General information

- Capability of temperature usage **ICE-components (IVH)**: When using the ICE Shortening hook at

temperatures beyond 200°C the permissible WLL has to be reduced.

- -60°C up to 200°C no reduction
- 200° up to 250°C minus 10 %
- 250° up to 300°C minus 40 %
- Temperatures exceeding 300°C are prohibited!

- Capability of temperature usage **VIP-components (VVH)**: When using the VIP Shortening hook at temperatures beyond 200°C the permissible WLL has to be reduced.

- -40°C up to 200°C no reduction
- 200° up to 300°C minus 10 %
- 300° up to 380°C minus 40 %
- Temperatures exceeding 380°C are prohibited!

- RUD VIP Shortening hooks must not be used with aggressive chemicals such as acids, alkaline solutions and their vapours.

- The WLL of the components are depending on the following variables:

- Quality grade of component (picture 1 to 3)
- Nominal size of component
- Present load factor

The permissible WLL can be taken out of the corresponding ICE- and VIP user instructions (or alternatively from the website www.rud.com).

3.2 Hints for the assembly

When assembling the shortening hook please observe the correct dimensioning of chain and component. The quality grade/nominal size can be recognized by the stamping/markings at the component/pin/chain resp. by the colour.

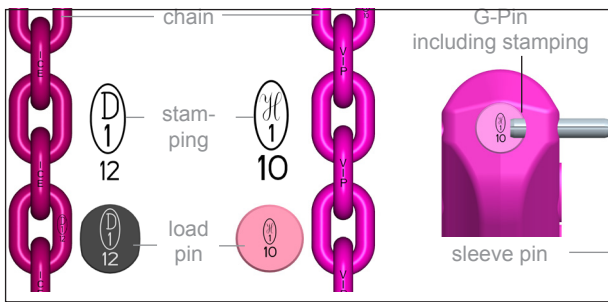


HINT

Observe in any case the quality grade assignment at the components

- Please assemble only load pins with D1-12 stamping into the **ICE components (IVH)**
- Please assemble only load pins with H1-10 stamping into the **VIP components (VVH)**

Mixing of system components of different quality grades/ nominal sizes is not allowed.



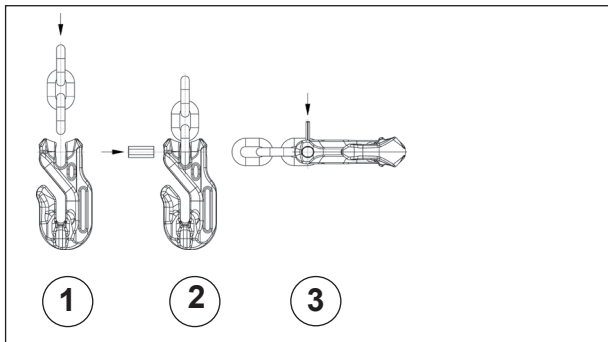
Pic. 1:
Quality Grade 120
ICE- chain,
stamping D1-12
Oval pin D1-12

Pic. 2:
Quality Grade 10
VIP- chain,
stamping H1-12
Round pin H1-12

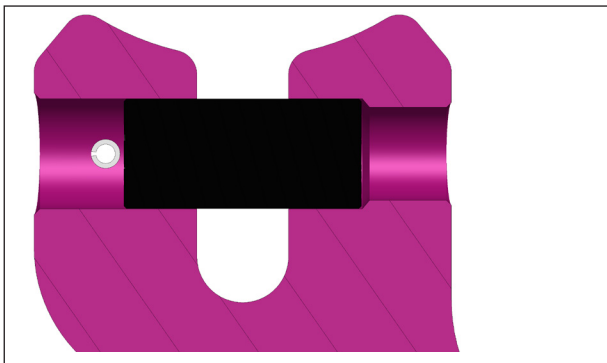
Pic. 3:
VIP- G-pin
incl. VIP-
stamping +
sleeve pin

Basically essential:

- Assemble sleeve pin for the securing of the load pin in such a way at the clevis that the opening can be seen from outside.
- RUD G-pins are foolproof
 - For ICE components use only the oval ICE-G-Pin (picture 1)
 - For VIP components use only the round VIP-G-Pin (picture 2)
- G-Pin must be assembled captive with a sleeve pin in the step hole (picture 5)
- Use sleeve pin only once!
- Use only original RUD spare parts.
- Check finally the correct assembly (see chapter 4 Inspection criteria).



Pic. 4: Assembly of connecting pin



Pic.5: Assembly of G-Pin and fixture by the sleeve pin in the step hole. G-Pin of the next smaller size falls out.

3.3 General information



Pic. 6: Usage possibilities of the shortening hook

- Check before each usage of the Shortening hook that the securing of the G-Pin is in correct position.
- Make sure that the load force happens in the straight leg without being twisted, fold-over or kinked.
- Control frequently and before each operation the total lifting/lashing mean in regard of ongoing ability, strong corrosion, wear, deformation etc. (see chapter 4 Inspection criteria).



ATTENTION

Wrong assembled or damaged lifting- and lashing means as well as improper usage can lead to physical injury and damage of property when load falls.
Inspect lifting means before each use carefully!

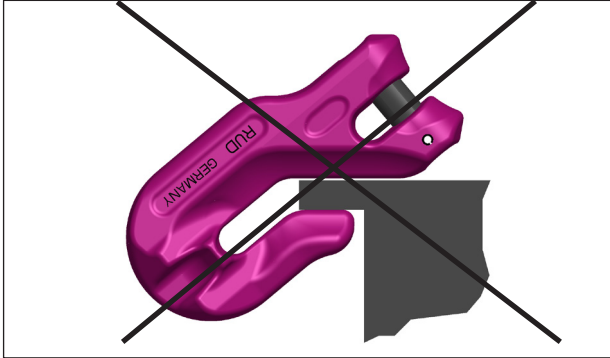
- Leave hazardous area when possible.
- Watch always attached loads.
- Read for all lifting/lashing means the RUD sling chain Safety instructions for RUD sling chains resp. the corresponding WLL (ICE quality grade 120 or VIP grade 100).

3.4 Usage of the shortening hook



ATTENTION

Only RUD round steel link chains of the corresponding dimension must be attached to the shortening hook. Attaching directly into a machine component f.e. is not allowed.



Pic.7: Forbidden attachment in components

During usage please observe the following:

- The attached chain must lay at the bottom of the shortening hook.



HINT

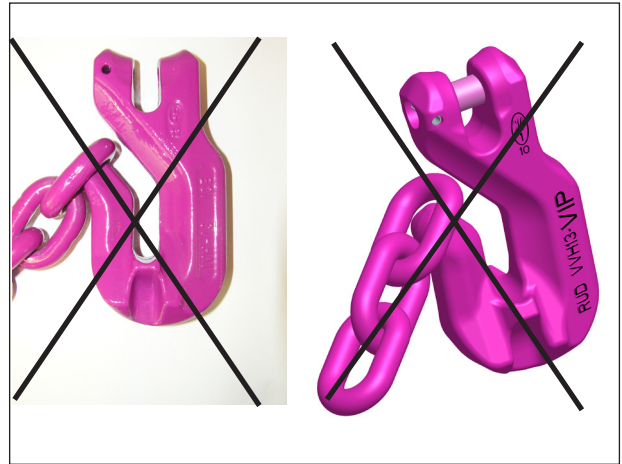
The angled opening (form closure) fulfills the requirements of DIN 5692

- The shortening hook resp. the chain must be able to straighten out (pic. 8)



Pic. 8: Alignment

- Loading must not occur at the tip of the hook (pic 9).



Pic. 9: Forbidden attaching into the tip of hook

- Only one end of the chain strand must be loaded (exception: endless chains).

3.5 Hints for the periodic inspection

Check by a competent person in periods, which are determined by usage but at least 1x year, the continuous appropriateness of the lifting means (see chapter 4 Inspection criteria).

Depending on the working conditions, f.e. when often used, increased wear or corrosion, inspections could be necessary in shorter periods than one year.

4 Inspection criteria

Check and control the following points before each initial operation, in periodical periods after the assembly and after special incidents:

- completeness of the Shortening hook
- readable size and manufacturer sign
- mechanical damage like strong notches, especially in areas where tensile stress occurs
- Cracks or other damage, especially existing notches at the bail of the hook
- Deformation of component

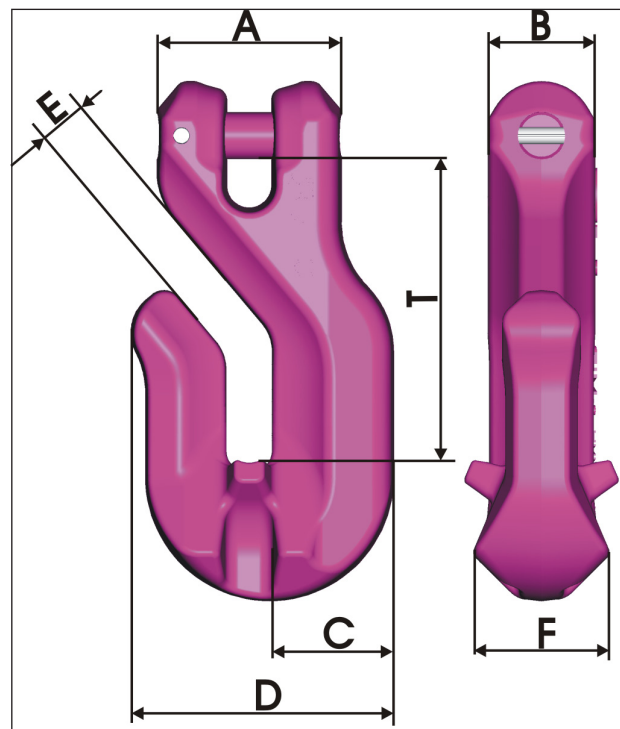
5 Hints for repairing and maintenance

- Only RUD original spare parts must be used and all repairing and overhauling operations must be documented in the chain card file (of the complete lifting mean) or use the RUD-ID-System®.
- Only load pins or sleeve pins must be exchanged.

RUD components are acc. to DIN EN 818 and 1677 for a dynamical load of 20,000 cycles designed.

At high dynamical loads with high number of load cycles the bearing stress must be reduced acc. to FEM Group 1Bm (M3 acc. To DIN EN 818-7).

RUD components are acc. to DIN EN 818 and 1677 for a dynamical load of 20,000 cycles designed.



Pic. 10: Dimensioning

	Denomination	chain	WLL [t]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	T [mm]	weight [kg/pc.]	Ref.-No.
ICE	IVH-6	ICE-6	1.8	34	18	20	44	7.5	22	53	0.27	7900129
	IVH-8	ICE-8	3.0	43	24	26	55	9.5	29	67	0.5	7900133
	IVH-10	ICE-10	5.0	55	30	34	71	12	38	86	1.2	7900134
	IVH-13	ICE-13	8.0	70	38	43	90	15	48	105	2.5	7900136
	IVH-16	ICE-16	12.5	86	46	53	110	18.5	59	128	4.5	7900138
VIP	VVH-6	VIP-6	1.5	34	18	20	44	7.5	23	53	0.27	7988658
	VVH-8	VIP-8	2.5	38	22	25	54	9.5	33	64	0.35	7987319
	VVH-10	VIP-10	4.0	47	28	31	68	12	42	80	0.8	7987320
	VVH-13	VIP-13	6.7	60	36	40	87	15	47	103	2.2	7987321
	VVH-16	VIP-16	10	75	45	50	108	18.5	57	125	3.5	7988669
	VVH-20	VIP-20	16	92	58	64	138	24	76	162	8.4	8503630
	VVH-22	VIP-22	20	102	62	69	151	26	83	179	11	8503631

Chart 1: Dimension chart

Technical alterations subject to change



HINT

The permissible WLL should be taken out of the according ICE- and VIP user's instruction (or alternatively from the RUD website www.rud.com).