

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 and forwarded with 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).



ICE
Grade 120

VIP
Grade 100



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RUD-Art.-Nr.: 7902326-EN - V2 / 06.021

Shortening hook



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



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: Verkürzungshaken
VVH / IVH

Folgende harmonisierten Normen wurden angewandt:
DIN EN 1677-1 : 2009-03 DIN EN ISO 12100 : 2011-03

Folgende nationalen Normen und technische Spezifikationen wurden außerdem angewandt:
DIN 5692 : 2011-04

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:
Michael Betzler, RUD Ketten, 73432 Aalen

Aalen, den 14.02.2017 Dr.-Ing. Arne Kriegsmann, (Prokurist/QMB)
Name, Funktion und Unterschrift Verantwortlicher *Arne Kriegsmann*



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: Grab hook
VVH / IVH

The following harmonized norms were applied:
DIN EN 1677-1 : 2009-03 DIN EN ISO 12100 : 2011-03

The following national norms and technical specifications were applied:
DIN 5692 : 2011-04

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:
Michael Betzler, RUD Ketten, 73432 Aalen

Aalen, den 14.02.2017 Dr.-Ing. Arne Kriegsmann, (Prokurist/QMB)
Name, function and signature of the responsible person *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 and lashing means before each use.

- Withdraw all body parts (fingers, hands, arms etc.) from the danger zone during the lifting process (risk of crushing).
- RUD Shortening hook must only be used by instructed and competent persons considering DGUV 109-017 and outside Germany noticing the country specific statutory regulations.
- Only RUD round steel link chains of the corresponding nominal size must be attached to the Shortening hook.
- Do not exceed the working load limit (WLL) indicated on the lifting mean.
- Please consider extreme circumstances or shock loading when choosing the used Shortening hook and the components.
- No technical alterations must be implemented on the Shortening hook.
- No people may stay in the danger zone.
- Jerky lifting (strong impacts) should be prevented.
- Always ensure a stable position of the load when lifting. Swinging must be prevented.
- Damaged or worn Shortening hook must never be utilised.

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 and must only be used in the hereby described operation purpose.

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°C up to 250°C	minus 10 %
250°C 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°C up to 300°C	minus 10 %
300°C 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.

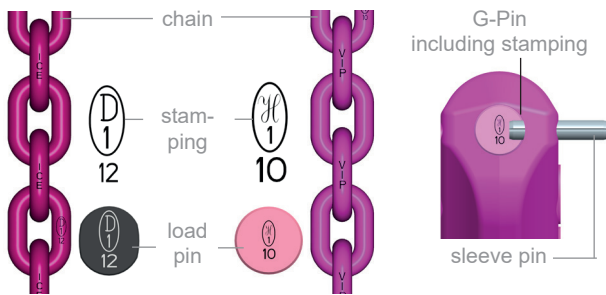


HINT

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.



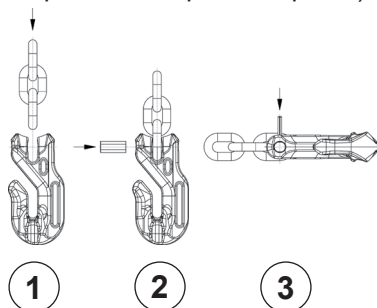
Pic. 1:
Quality Grade 120
ICE- chain,
stamping D1-12
Oval pin D1-12

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

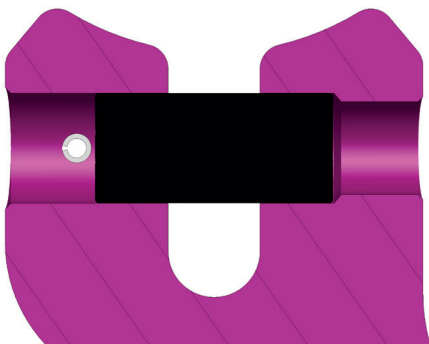
Pic. 3:
VIP- G-pin
incl. VIP-
stamping +
sleeve pin

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 / Repair / Disposal*).



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 / Repair / Disposal*).



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!

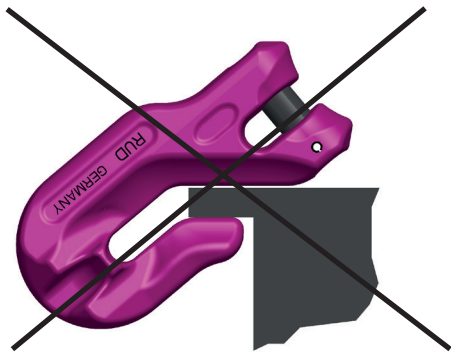
- RUD components are designed according to DIN EN 818 and DIN EN 1677 for a dynamic load of 20,000 load cycles.
 - Keep in mind that several load cycles can occur with a lifting procedure
 - Keep in mind that, due to the high dynamic stress with high numbers of load cycles, that there is a danger that the product will be damaged.
 - The BG/DGUV recommends: For higher dynamic loading with a high number of load cycles (continuous operation), the working load stress must be reduced according to the driving mechanism group 1Bm (M3 in accordance with DIN EN 818-7). Use a lifting mean with a higher working load limit.
- 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:

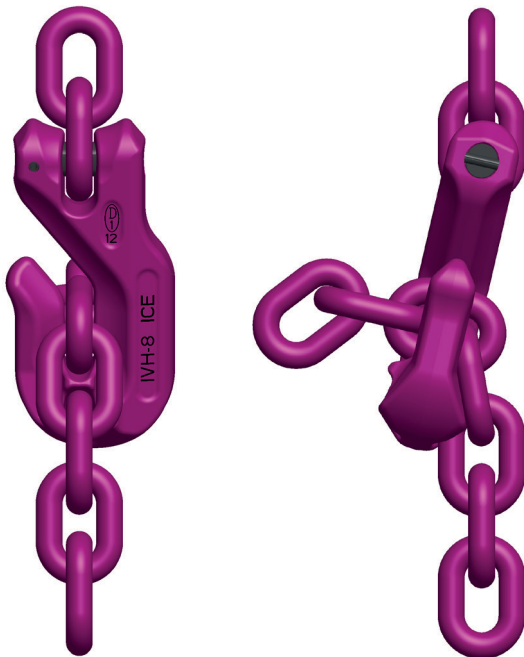
- The attached chain must lay at the bottom of the shortening hook.



HINT

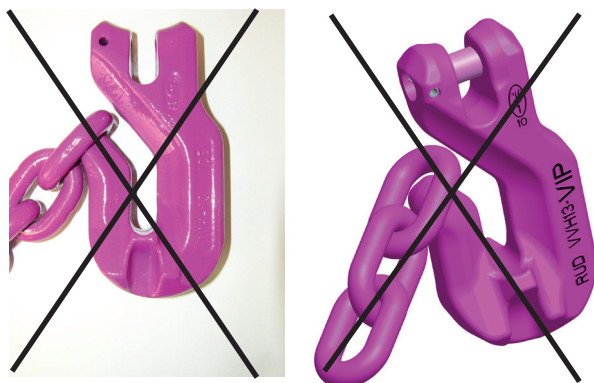
The angled opening (form closure) fulfills the requirements of DIN 5692.

- 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).

4 Inspection / Repair / Disposal

4.1 Hints for periodical inspections

The operator must determine and specify the nature and scope of the required tests as well as the periods of repeating tests by means of a risk assessment (see sections 4.2 and 4.3).

The continuing suitability of the lifting and lashing mean must be checked at least 1x year by an expert. Depending on the usage conditions, f.e. frequent usage, increased wear or corrosion, it might be necessary to check in shorter periods than one year. The inspection has also to be carried out after accidents and special incidents.

4.2 Test criteria for the regular visual inspection by the user

- Completeness of the Shortening hook
- readable size and manufacturer sign
- mechanical damage like strong notches, especially in areas where tensile stress occurs
- Deformation of component

4.3 Additional test criteria for the competent person / repair worker

- Strong corrosion
- Cracks or other damage, especially existing notches at the bail of the hook
- further checks may be required, depending on the result of the risk assessment (e.g. testing for cracks in load-bearing parts).

4.4 Disposal

Dispose worn out components / attachments or packaging according to the local waste removal requirements.

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 AYE-D.NET.
- Only load pins or sleeve pins must be exchanged.

Type	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

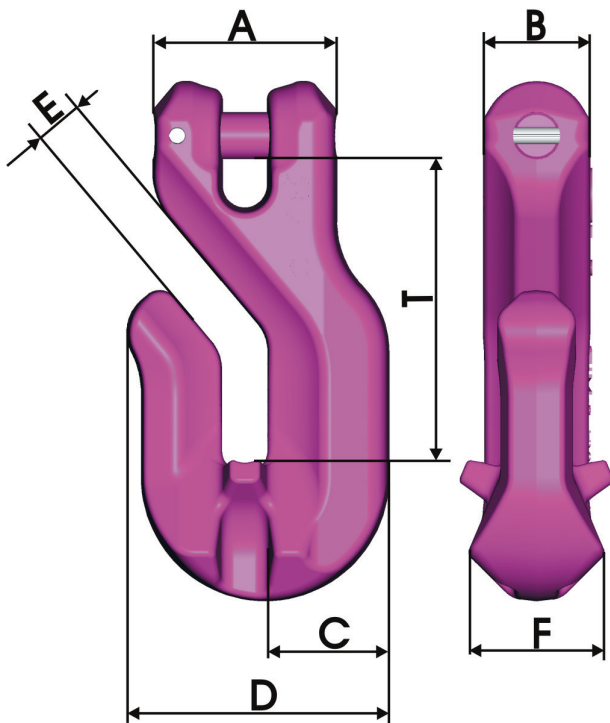
Chart 1: Dimension chart

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).



Pic. 10: Dimensioning