

VAS 6790/2 VAS 6792 VAS 6792/1 VAS 6792/2



Pneumatic/hydraulic blind riveting tool

BA3 Instruction manual



Translation of original instruction manual

	Chapter	Page
1.	Safety	
	1.1 Designations	4
	Information regarding this manual	BA1, 3
	Explanation of symbols	BA1, 4
2.	Scope of supply	
	2.1 Operating principles	4
	2.2 Scope of supply and accessories set	5
	2.3 Technical specifications	6
	2.4 Safety instructions	7
	2.5 Working with the blind riveting tool - basic principles	9
	2.6 Maintenance	10
	2.7 Warranty	11
3.	Technical data	
	3.1 Technical data	12
	3.2 Appliance components	13
4.	Startup	
	4.1 Connecting the high-pressure coupling to the Compact Booster	14
	4.2 Connecting the blind riveting tool and the Compact Booster	14
	4.3 Screwing the extension onto the blind riveting tool	14
	4.4 Replacing the rivet head extension	16
	4.5 Removing the extension	16
	4.6 Replacing the conical grip	16
	4.7 Connecting the spiral hose to the Compact Booster and hose adapter	17
	4.8 Connecting the pneumatic hose to the Compact Booster and the spiral hose	17



5.

Application

5.1	Using the blind riveting tool	17
5.2	Replacing the rivet head	18
5.3	Fitting the ejector	18
5.4	Using with the operating unit	19
5.5	Emptying the mandrel collector	20
5.6	Maintenance and cleaning	21

6.

Maintenance / Service

6.1	Spare parts	21
6.2	Troubleshooting	22
6.3	Declaration of conformity	27
	Disposal	BA1, 20
	Liability	BA1, 21
	Warranty	BA1, 22

1.1 Designations

Markings on the blind riveting tool



A	Manufacturer's identification
B	Serial number
C	Production date
D	Warnings (for complete view see Fig. 1.1.3)

2.1 Operating principles

The pneumatic/hydraulic blind riveting tool was specially developed for all common riveting operations on thin sheet metal.



The blind riveting tool must be used exclusively with the pneumatic-hydraulic blind riveting tool Compact Booster.

The blind riveting tool is connected to its Compact Booster by means of a high-pressure coupling.



Overview

No.	Article	VAS 6792	VAS 6790/2
A	1 Case	.	.
B	1 Blind riveting tool	.	.
C	1 Spiral hose complete	.	
D	1 Ejector	.	
E	1 Compact Booster	.	
F	1 High-pressure coupling	.	.
G	1 Assembly spanner	.	.
H	1 Assembly aid	.	.
I	1 Hose adapter	.	
J	1 Blind rivet set	.	.
K	1 Instruction manual	.	.
L	1 Rivet matrix	.	.

Scope of supply



Accessories, optional

No.	Article	VAS 6792/2
A	Extension, 59 mm	.



Accessories set, optional

No.	Article	VAS 6792/1
A	Extension, 160 mm	.
B	Carrying strap	.
C	Hose package	.
D	Operating unit	.
E	Plug connector	.
F	Pneumatic hose	.
G	Supporting belt	.
H	Cardboard box	.
I	Rivet head for extension	.



2.3 Technical specifications

Travel	20 mm
Setting force	24500 N at 6 bar
Weight	0.8 kg (without hose and operating unit)
Hydraulic operating pressure	max. 600 bar
Pneumatic operating pressure	6 bar
Ambient temperature	5 – 50 °C/41 – 122 °F
Prescribed safety clothing	Protective gloves, eye protection, long-sleeved working clothes, close fitting at the neck
Drive unit	Compact Booster



The hydraulic tool kit is strictly approved only for the purposes intended by the manufacturer.



Use original accessories only. There is a high risk to safety if use is made of non-original tools or non-original accessories.



Do not use any hoses or fittings that are not permitted for the equipment's operating pressure.



Ensure that only trained and instructed personnel use the equipment!



Use of the equipment by personnel that have not been trained and instructed is prohibited.



Ensure that the instruction manual is made available to operating personnel.



Protective gloves and a face mask must strictly be worn for all applications of the equipment, because metallic parts can break up and fly off with high energy if the tool is faulty or operated incorrectly. Work clothing should also be long-sleeved and close fitting around the neck.



This gives rise to a risk of severe injury! (See also ANSI Z87.1-1989.) Observe the applicable national regulations for prevention of accidents.



Before any use is made of the tool, a visual surface check must be carried out - no deep scratches must be visible.



Never operate the tool without the rear closing cap in place.



2.4 Safety instructions



Before use, check seals for any oil leaks.



Before use, check the threaded connection on the connecting piston to ensure it is firmly seated and manually tighten as required.



Never throw the tool or allow it to fall. Never misuse the tool or lend it to untrained personnel.



The tool must only be used in ambient temperatures of above 5 °C and at a maximum of 50 °C.



The tool must never be used in potentially explosive areas.



You must read and understand the safety instructions before setting up, operating, repairing or maintaining the machine or replacing accessories on it and before working near the machine for non-threaded fasteners. Not reading the instructions may result in serious bodily injury.



This machine for non-threaded fasteners must not be modified. Modifications may reduce the effectiveness of safety equipment and increase operator risk.



If the machine for non-threaded fasteners is damaged, you must not use it.



**If any abnormality is identified, the tool must not be used.
Please contact Service.**

2.5 Working with the blind riveting tool – basic principles.



Risk of injury

Route all supply lines in a manner that prevents people from tripping over them. Correctly route and attach the compressed air hose. If a compressed air hose whips around out of control, it could cause severe bodily injury.



Before starting work, check the preset air pressure! Incorrectly set air pressure could cause equipment damage or bodily injury!



Max. air pressure

Make sure that the maximum permissible operating air pressure of 6 bar / 87 psi is never exceeded. Check the setting of the pressure regulating valve before each riveting operation!



Clean compressed air

Make sure that the pressure generator is only supplied with clean and dry compressed air. Moisture and contamination could cause equipment malfunction and/or damage. Only use compressed air of quality class 2 as per ISO 8573-1.



Always disconnect the blind riveting tool from the compressed air supply when leaving your work station!



Warranty

The manufacturer accepts no liability for damage or injury caused by improper repair or use of non-original replacement parts.



Incorrect usage of the blind riveting tool that leads to equipment damage invalidates the warranty.



The compressed air supply must be disconnected from the equipment before any adjustment or maintenance work is performed.



2.6 Maintenance



The tool's hydraulic system, pneumatic control systems, hoses and couplings must all be kept free of dirt and other contamination. Foreign bodies in the hydraulic fluid or in the control air will cause the tool system to malfunction.



All maintenance and service work on the blind riveting tool must only be performed with the pressure generator disconnected.

→ 5.6

Under normal circumstances, maintenance of the blind riveting tool is restricted to regular cleaning and replacement of worn conical grips.



All other necessary maintenance work and/or repairs must be performed by the manufacturer or properly trained personnel only.

The user must perform only the maintenance and repair measures outlined in this instruction manual.



Maintenance and repair work not covered in this instruction manual may only be performed by professionals with proper training by TKR. For further information on servicing and training, please contact us at our Service address:

TKR Spezialwerkzeuge GmbH

Service

Phone: +49 23 32 6 66 07-77

Am Waldesrand 9-11

Fax: +49 23 32 6 66 07-51

D-58285 Gevelsberg (Germany) E-Mail: cb-support@tkrgroup.com

Download service and training in use:

www.tkrgroup.com/cb-support.html



Blind riveting tools from TKR Spezialwerkzeuge GmbH come with a 24-month warranty against material and manufacturing defects.

This warranty does not cover the conical grips, which are wear parts.

The warranty begins on the date of delivery, as specified on the invoice or delivery note.

The warranty is valid for the user/customer provided that the tool is obtained from an authorised sales outlet and is used as described in the instructions and for the purposes for which it was designed.

The warranty becomes invalid if the tool is used for purposes other than those for which it was designed.

In addition, the warranty becomes invalid if the tool is not used as described in the instruction manual.

In the event of defect or fault, faulty parts will be repaired or replaced at the company's own discretion only.

Service address

TKR Spezialwerkzeuge GmbH

Service

Phone: +49 23 32 6 66 07-77

Am Waldesrand 9-11

Fax: +49 23 32 6 66 07-51

D-58285 Gevelsberg (Germany)

E-Mail: cb-support@tkrgroup.com

Download service and training in use:

www.tkrgroup.com/cb-support.html

3.1 Technical data



Blind riveting tool with mandrel collector

Overall length	179 mm
Length of mandrel collector	87 mm
Height	58 mm
Width	35 mm
Ø Mandrel collector	34 mm
Ø Rivet head	28 mm



Blind riveting tool with ejector

Overall length	109 mm
Length of ejector	17 mm
Width	35 mm
Height	58 mm
Ø Ejector	38 mm
Ø Rivet head	28 mm



Blind riveting tool with mandrel collector and extension

	VAS 6792/24	VAS 6792/2
Overall length	360 mm	260.2 mm
Height	58 mm	58 mm
Ø Rivet head	20 mm	20 mm
Width	35 mm	35 mm
Length of straight housing	160 mm	59 mm
Length of mandrel collector	87 mm	87 mm
Ø Mandrel collector	34 mm	34 mm



High-pressure coupling

Length	125 mm
Ø Coupling	58 mm
Ø connection	27 mm



VAS 6792

No.	Title
A	Blind riveting tool
B	Front ejector
C	Assembly spanner
D	Assembly aid
E	High-pressure coupling
F	Spiral hose
G	Compact Booster
H	Hose adapter
I	Blind rivet set



VAS 6790/2

No.	Title
A	Blind riveting tool
B	Assembly spanner
C	Assembly aid
D	High-pressure coupling
E	Blind rivet set



4.1 Connecting the high-pressure coupling to the Compact Booster



4.1.1 – 4.1.3

Press the lever on the Compact Booster to turn the locking mechanism clockwise.



4.1.4 – 4.1.6

Insert the high-pressure coupling straight into the seating on the Compact Booster and turn the locking mechanism anti-clockwise until it engages.

4.2 Connecting the blind riveting tool and the Compact Booster



4.2.1/4.2.2

Remove the closing caps from the high-pressure coupling and the blind riveting tool.



4.2.3 – 4.2.5

Use the high-pressure coupling to connect the blind riveting tool and the Compact Booster, until it audibly engages.

4.3 Screwing the extension onto the blind riveting tool



4.3.1

Remove the mandrel collector from the blind riveting tool.



4.3.2/4.3.3

Remove the conical grip from the blind riveting tool. The extension is set up as shown in Ill. 4.3.3.



4.3.4 – 4.3.6

Unscrew the yellow protective cover from the extension. Remove the extension sleeve from the housing. Then remove the extension rod from the extension sleeve.



4.3.7/4.3.8

Insert the appropriate conical grip into the extension rod.

Ensure that the conical side of the conical grip is facing the extension rod.

Only for VAS6792/2: Before setting up, always position the conical grip in the tool correctly, using the assembly aid.



4.3.9

Then relocate the extension rod back into the extension sleeve.



4.3.10/4.3.11

Remove the rivet head from the blind riveting tool before securing the extension sleeve fully in position with the assembly spanner. Take particular care with this, ensuring that the assembly key is located in the notches provided in the blind riveting tool, to allow the extension sleeve to be detached.



4.3.12 – 4.3.14

Fit the extension casing over the extension sleeve and secure it to the blind riveting tool. Hand-tighten the casing with the assembly spanner. Then fit the mandrel collector.



4.4 Replacing the extension rivet head



4.4.1 – 4.4.3

When changing the rivet head on the extension note that it must be hand-tightened using the assembly spanner.

4.5 Removing the extension



4.5.1

To remove the extension sleeve from the blind riveting tool, the mandrel collector must first be removed.



4.5.2

Then fit the assembly spanner to the blind riveting tool at the back. Take particular care to ensure that the assembly key is located in the notches provided in the blind riveting tool, to allow the extension sleeve to be detached. Remove the conical grip from the extension sleeve and replace in the blind riveting tool.

4.6 Replacing the conical grip



4.6.1/4.6.2

Unscrew the rivet head with the assembly spanner and remove.



4.6.3

Position the conical grips at the point of the assembly aid. **Ensure that the conical side is facing upwards.**



4.6.4/4.6.5

Insert the assembly aid into the opening in the blind riveting tool. **Select the right conical grip for the rivet head (see rivet matrix).**



4.6 Replacing the conical grip



4.6.6 – 4.6.9

Once the conical grip has been inserted into the blind riveting tool, the mandrel collector must be fitted.



4.7 Connecting the spiral hose to the Compact Booster and hose adapter

4.7.1/4.7.2

Connect the spiral hose to the Compact Booster.



4.7.3/4.7.4

Connect the plug on the hose to the hose adapter. The hose adapter can now be connected up to the workshop's air supply.



4.8 Connecting the pneumatic hose to the Compact Booster and the spiral hose

4.8.1 – 4.8.3

Connect the spiral hose with the hose adapter and the black pneumatic hose. Then secure the pneumatic hose to the Compact Booster.



5.1 Using the blind riveting tool

5.1.1/5.1.2

Insert the blind rivet, centred in the tool's rivet guide.



5.1.3/5.1.4

Position the blind riveting tool and insert into the hole provided as far as the contact surface.



5.1 Using the blind riveting tool



5.1.5/5.1.6

Start the riveting operation by pressing the lever on the Compact Booster. The mandrel is drawn into the tool. The projecting part of the mandrel breaks at the front side at the intended breaking point. This causes the rivet material to be spread out around the rivet head on the opposite side.

5.2 Replacing the rivet head



5.2.1/5.2.2

When changing the rivet head, the replacement rivet head must be hand-tightened with the assembly spanner.

5.3 Fitting the front ejector



5.3.1/5.3.2

Turn the mandrel collector anti-clockwise.

The compressed-air supply MUST be switched off.



When opening the blind riveting tool hold it angled slightly forward as the conical grip can fall out.



5.3.3/5.3.4

Insert the front ejector and tighten clockwise until the contact surface is reached.



5.3.5/5.3.6

Tighten by hand using the large opening of the assembly spanner.

When not in use, keep the front ejector in the protective cover provided for the purpose.



5.4.1 – 5.4.3

Remove the closing cap on the hose package and connect the coupling to the high-pressure coupling on the Compact Booster.



5.4.4

Lead the blue and black hoses through the opening in the locking mechanism so they do not cause a problem in use.



5.4.5

Connect the blue hose in the hose package with the Compact Booster.



5.4.6 – 5.4.8

Secure the support belt around the depressed lever on the Compact Booster as rivet setting is controlled by the operating unit.



5.4.9

Connect the black hose with the plug connector.

Always ensure that the plug connector symbol is pointing towards the black hose.



5.4.10

Then connect the spiral hose with the other side of the plug connector.



5.4.11

Remove the closing cap from the pressure connection on the operating unit.



5.4.12 – 5.4.15

Now connect the hose package with the operating unit. Then connect the blue and black hoses with the operating unit. **Note that the hoses must be inserted in accordance with the lettering.**



5.4 Using with the operating unit



5.4.16

Remove the front closing cap on the operating unit and the closing cap on the blind riveting tool.



5.4.17/5.4.18

The blind riveting tool can now be connected to the operating unit.



5.4.19

The blind riveting tool must be used as shown in the illustration, by a professional operator trained in its use.

5.5 Emptying the mandrel collector



5.5.1

Press the mandrel collector towards the blind riveting tool, as shown in the laser engraving.



5.5.2 – 5.5.4

The mandrel collector is turned to open the recovery aperture to allow the mandrels to be removed.

Empty the mandrel collector after a max. of 10 riveting operations. If there are more than 10 mandrels in the collector, this can result in damage being caused to the riveting tool.



5.5.5

To close, press the mandrel collector towards the riveting tool, as shown in the laser engraving. The mandrel collector is turned to close the recovery aperture.



5.6.1 – 5.6.3

Disconnect the blind riveting tool from the operating unit and/or the high-pressure coupling. Remove the high-pressure coupling from the Compact Booster.



5.6.4

Remove the conical grip from the housing.

If a cone is left behind the piston and the seal, damage will be caused to both tool and cone.



Clean and check the gripper teeth on the conical grip. Replace the conical grip if it is blunt. Rounded teeth can cause faulty operation or damage to the tool.



Never use compressed air to clean the tool casing. This will result in dirt being blown into the seals. Use a soft, lint-free cloth to clean the tool.

6.1 Spare parts



Overview

		Designation
A	VAS 6790/56	Carrying strap
B	VAS 6790/60	Supporting belt
C	VAS 6792/7	High-pressure coupling
D	VAS 6792/26	Hose package
E	VAS 6790/55	Spiral hose
F	VAS 6792/25	Operating unit
G	VAS 6792/23	Pneumatic hose black Ø6mm
H	VAS 6792/3	Blind riveting toolbox
I	VAS 6790/20	Compact Booster
J	VAS 6792/22	Plug connector
K	VAS 6790/54	Compact Booster hose adapter
L	VAS 6792/6	Assembly spanner
M	VAS 6792/5	Assembly aid
N	VAS 6792/4	Blind riveting tool
O	VAS 6792/24	Extension 160 mm
	VAS 6792/2	Extension 59 mm
P	VAS 6790/50	Empty folder A5
Q	VAS 6792/21	Front ejector



Overview



Designation		
A	VAS 6792/14	Rivet holder for 2.6 mandrel
B	VAS 6792/10	Rivet head for 3.4 mandrel
C	VAS 6792/12	Rivet head for 4.0 mandrel
D	VAS 6792/19	Conical grip welding mandrel
E	VAS 6792/16	Conical grip 2.6 mandrel
F	VAS 6792/13	Rivet holder for 3.0 mandrel
G	VAS 6792/18	Conical grip 3.4 mandrel
H	VAS 6792/11	Rivet head for 2.0 mandrel
I	VAS 6792/17	Conical grip 3.0 mandrel
J	VAS 6792/20	Conical grip 4.2 mandrel
K	VAS 6792/15	Conical grip 2.0 mandrel
L	VAS 6792/8	Blind rivet set box
M	VAS 6792/9	Blind rivet set

6.2 Troubleshooting

Problem	Cause
Blind riveting tool not working	Compressed air supply not connected up
	Control lines (black and blue hoses) incorrectly connected
	Control lines (black and blue hoses) not connected
	Insufficient air pressure
	Hydraulic hose package not coupled up
	Compact Booster faulty
Blind riveting tool cannot be switched off	Control lines (black and blue hoses) incorrectly connected
	Control lines (black and blue hoses) not connected
	Control valve faulty (operating unit)
	Compact Booster faulty
Air leak	Control valve faulty (operating unit)

Remedy	Page
Connect compressed air	see BA1
Connect control lines (black and blue hoses) correctly ensuring they are properly seated.	17, 19
Connect control lines (black and blue hoses) correctly ensuring they are properly seated.	17, 19
Check air supply at pressure intensifier	see BA1
Connect up hydraulic hose package in accordance with Operating Instructions	19/20
Have repaired by manufacturer/service partner	see BA1
Connect control lines (black and blue hoses) correctly ensuring they are properly seated.	17, 19
Connect control lines (black and blue hoses) correctly ensuring they are properly seated.	17, 19
Have repaired by manufacturer/service partner	11
Have repaired by manufacturer/service partner	see BA1
Have repaired by manufacturer/service partner	11

6.2 Troubleshooting

Problem	Cause
Blind rivet not being gripped, conical grips slipping on mandrel	Conical grips dirty
	Gripper teeth on conical grips worn
	Incorrect conical grips
Blind riveting process not completed, rivet shaft is not separated from rivet head	Insufficient quantity of oil (pressure intensifier)
	Gripper teeth on conical grips worn
	Compact Booster faulty
	Insufficient air pressure
Oil leak	Hydraulic hose package faulty
	High-pressure coupling faulty
	Blind riveting tool losing oil
Screwing spring package/ejector into housing requires application of excessive force	Piston not in starting position - quantity of oil present in housing
	Faulty thread

Remedy	Page
Carefully clean conical grips	21
Replace worn conical grips with new	16/17
Check and replace conical grips	16/17
Check oil level and top up if necessary	see BA1
Replace worn conical grips with new.	30/31
Have repaired by manufacturer/service partner	see BA1
Check air supply at pressure intensifier	see BA1
Replace hydraulic hose package	11
Have repaired by manufacturer/service partner	11
Have repaired by manufacturer/service partner	11
Allow residual oil pressure to disperse by connecting up the hydraulic hose and the high-pressure push-fit nipple (wait 10-20 seconds).	19/20
Check thread and replace ejector, if necessary.	18

6.2 Troubleshooting

Problem	Cause
Blind rivet cannot be inserted	Conical grips in piston adapter (3-part) sitting in different positions
	Mandrel collector overfilled - broken off mandrels can no longer be carried back
	Incorrect conical grips

	Remedy	Page
	Unscrew rivet guide and gently push conical grips back 2-5 mm with a blunt implement until they are evenly positioned.	16/17
	Empty the collector. Use a blunt implement to push back any mandrels left in the casing.	20
	Check and replace conical grips	16/17

EU Declaration of Conformity

In accordance with EU Machinery Directive 2006/42/EC

Manufacturer: TKR Spezialwerkzeuge GmbH
Am Waldesrand 9-11
58285 Gevelsberg, Germany

Contact partner: Thorsten Weyland, Director of Development
Technical documentation

Tool type: Pneumatic-hydraulic blind riveting tool
Type designation: HYW-TKR-26

Has been developed and designed in accordance with the standards and guidelines specified below by

TKR Spezialwerkzeuge GmbH
Am Waldesrand 9-11
58285 Gevelsberg (Germany)

Applied Product Safety Law (ProdSG)
harmonised EN 693; EN 11148-1; EN 11148-10; EN 792-13;
standards: EN ISO 4413; EN ISO 4414; ISO 11200;
ISO 11202; EN ISO 12100

EU Machine Directive: 2006/42/EC

As manufacturer, we declare: The products marked accordingly fulfil the requirements of the directive and standards listed.

Thorsten Weyland

Gevelsberg, 21.11.2014 Thorsten Weyland
Director of Development



TKR Group

Am Waldesrand 9-11

D-58285 Gevelsberg (Germany)

Phone +49 2332 66607-77

Fax +49 2332 66607-51

E-mail info@tkrgroup.com

Internet www.tkrgroup.com