

Rivet tools / tools for blind rivets

RL75-2 Riveting tool

Operating manual



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1. Operating instructions

Read the operating instructions carefully prior to use. Improper use may cause the tool to work incorrectly. All information and instructions apply to the specified tool and may only be used for the purpose of operating this tool.

All persons that adjust, operate or service the tool have to become familiarized with the operating instructions and have to follow them. In special cases training can be offered and organized by the seller.

The professional and safety measures must be followed in order to ensure that the tool works properly.

2. General description

The riveting tool RL75-2 works with the high-speed hydro pneumatic principle. The tool is designed for precise setting of two-piece lockbolt pin and collar combination, as well as structural blind rivets.

The operating instructions must be read by every person using this tool. Pay attention to the safety regulations.

3. Occupational health and safety

The following instructions and directives apply to the riveting tool described in these operating instructions and to all user groups.

In addition to the general instructions in this chapter that concerns the entire document and all procedures of using the riveting system, some parts of this document may contain additional safety instructions which then specifically relate to the described matter.

4. Safety measures

Basic safety measures to avoid damages and injuries.

Improper use of the tool may lead to an injury or damage of property. To avoid damages, always adhere to the corresponding safety instructions of the safety measure. Only qualified staff is authorized to perform maintenance and repairs of the tool.

5. Special safety advice

The riveting tool is exclusively designed for setting Lockbolts and structural blind rivets. The Customer bears individual responsibility for each and every change of the riveting tool!

ATTENTION!

- Use the tool only after reading and understanding the operating instructions.
- Do not operate with the tool if you are ill, under the influence of drugs or alcohol.
- Do not use the tool when it is incomplete and when it has visible mechanical defects.
- Never aim the riveting tool at people and do not rivet without material.
- Use the riveting tool only at working temperature ranging from 5°C to 45°C.
- Never get over the maximum limit of input air pressure of 7 bar
- In case the provided air pressure exceeds the max of 7 bars, use appropriate equipment to reduce it.
- Use only fittings and hoses for an approved operating pressure of 10 bar in pneumatics.
- Before adjusting or replacing components, disconnect the tool from the compressed air supply
- For processing rivets, use the recommended pulling head for lockbolts or jaw case and nosepiece for structural blind rivets accordingly.
- Always use personal protective clothing.

- Tool not in current use must not be connected to the compressed air supply
- Use the tool only for riveting
- Do not use the tool without assembled rubber cover (5).
- The riveting tool must not be carried or lifted by the air hose

ATTENTION!

Make sure that the riveting tool is always equipped with the rubber cover (5) for catching the rivet mandrels, otherwise there is a high risk of injury.

NOTE

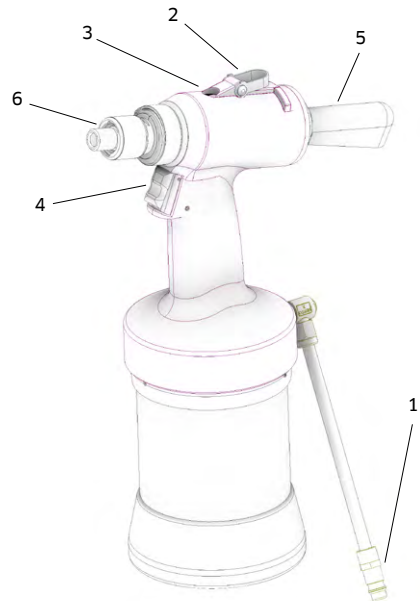
The Manufacturer bears no liability for damages incurred due to incorrect repair or due to using spare parts from other sources.

The warranty is deemed invalid in case of any repairs have been performed on the riveting tool, leading to the damage of the riveting tool or the seals.

6. Basic tool equipment

Overview of RL75-2 basic tool equipment

1. Air connection
2. Balancer suspension attachment
3. Screw for oil refill
4. Trigger
5. Rubber cover
6. Adapter



7. Commissioning

Check the riveting tool visually before commencing any work

- For visible damages
- For oil leaks

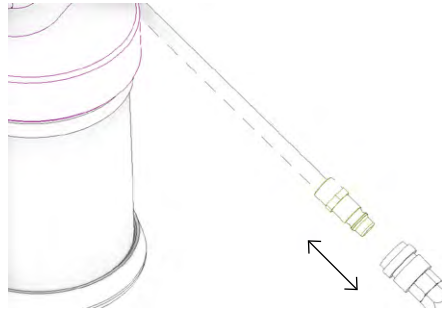
Select the correct pulling head unit for the used lockbolt or the recommended conversion kit and nosepiece when processing structural blind rivets. Check that assemblies are installed correctly and tightened firmly.

After connecting to the air supply check for exhausting air

Test of the tool function without rivets prior processing –20 times
(Tool operation)

8. Tool operation

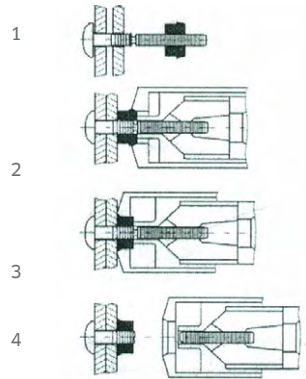
- Check the tool operation after inspection or before first use (commissioning)
- Always make sure that you are using a recommended pulling head for the used rivet. Note that pulling heads might provide specific adaptations and sizes. To choose the correct adapter to fit this tool, refer to the table in chapter 11: “Pulling heads”
- Connect the tool to the air supply (6 - 7 bar)
- To avoid damage to the tool, caused by exceeded air pressure, the integrated safety valve will switch to release air. In this case, adjust the air pressure to the correct value.
- Check for correct assembly and fit of the quick connectors - no air discharge is audible
- Press the riveting trigger - the riveting tool performs the pulling movement (gripping, pulling, ripping and releasing of the mandrel)
- After riveting, release the trigger. The riveting unit automatically returns to the starting position



Connecting the tool
with the air supply

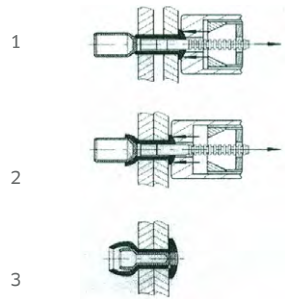
Procedure for processing lockbolts

1. Choose the correct lockbolt and collar according to your application.
2. Make sure the tool and the installed pulling head is suiting the setting requirements for the chosen lockbolt system.
3. Insert the lockbolt into the premanufactured holes, in the components that will be fastened and slide the collar on the bolt from the other side. (1)
4. Slide the riveting head on the lockbolt until the head pushes the collar tightly to the backside of the component. (2)
Make sure that the head of the lockbolt is still touching the component from the other side.
5. Press the trigger and keep it pushed until the end of the process.
 - The jaws grab the mandrel and pull the lockbolt. (3)
 - The nose cap moves towards the component, builds up the clamping force, deforms the collar and rips the mandrel at the end of the process. (4)
6. Release the trigger and make sure that the ripped mandrel is ejected out of the tool



Procedure for using blind rivet

1. Make sure that the stroke and force of the tool is sufficient for the chosen structural blind rivet
2. Choose the recommended nose piece for the chosen rivet
3. Push the mandrel of the blind rivet in the nosepiece until it touches the rivet head. Then push the rivet into the premanufactured holes of the components (1)
4. Press the trigger and hold it down
 - The mandrel will be pulled and deforms the rivet according to its build (2)
 - The rivet is assembled as soon as the mandrel is ripped by the continuing pulling force of the tool (3)
5. Release the trigger and make sure that the ripped mandrel is ejected out of the tool.



9. Proper use

To ensure that all the corresponding safety measures are observed and that the riveting tool will work properly, the following is required:

- The system has to be used in compliance with the tool's technical data and specifications concerning the use, assembly, connection, environment and work conditions. These conditions are stipulated in the documents related to the order, user information (tags etc.) and in the documentation delivered with the system, which includes the operating instructions, as well as the maintenance and inspection instructions in this manual.
- The users have to act in compliance with local and system-specific conditions and pay corresponding attention to the operating hazards and specifications.
- All measures required for the maintenance of the tool, e.g. transport and storage, as well as the requirements for maintenance and regular inspection must be observed.
- Use only a safety quick coupler for permanent connection to the compressed air sources
- Always set the riveting tool at the right angle (90°) to the assembly surface
- Consider range of use of the selected rivet.

Compressed air supply

- For correct operation of the device, it is necessary to observe the range of inlet air pressure between the minimum and maximum permissible value of 6 – 7 bar. If necessary an appropriate pressure reduction valve has to be used. In case of non-compliance, personal injury or damage to the device may occur.
- The pressure regulator must be equipped with a filter unit for separating dirt and condensate from the air supply. In case pressure regulator with a filter unit will not be used, it must be ensured that the compressed air cannot contain dirt and condensate.
- Length between the air supply pressure regulator and the tool must not exceed 3m.
- Used supply line must be resistant to oil, liquids and operating conditions
- Used air hoses must have a 6 mm minimum inner diameter.
- Maximum force depends on compliance of the air inlet pressure

10. Requirements for compressed air modification

ISO 8573-1

Air quality classes under ISO 8573-1	Solid particles		Water	Oil
				
	<p>Maximum size μm</p>	<p>Maximum concentration mg/m³</p>	<p>Maximum pressure dew point °C</p>	<p>Maximum concentration mg/m³</p>
2	1	1	-40	0.1

Note: The stated maximum concentrations relate to 1 bar abs., +20°C and 60% relative humidity. The individual concentrations are proportionally higher when the pressure is higher than atmospheric pressure.

11. Pulling heads

To install the pulling heads, always follow the assembly instructions. Installation may vary depending on the used pulling head.

The RL75-2 tool contains a pre-mounted adapter, which can be used to mount the Howmet® pulling heads as specified in the brochure. For assembly, please follow the instructions (Chapter 17: Inspection and Maintenance).

Pulling heads that can be used with the RL75-2 riveting tool

	Type	Rivet diameter	Material	Pulling head	Adapters
Lockbolts	Standart lockbolts	4.8	Aluminium/steel/stainless	99-3003 L	X
		6.4	Aluminium/steel/stainless	99-3006 L	X
	Multigrip	4.8	Aluminium/steel	99-1456	X
		6.4	Aluminium/steel	99-1477 UK	X
	Tainer	9.5	Steel	99-3465	87-0818
				87-0294	87-0817
DeltaBolt	4.8	Steel	99-3003 L	X	
			6.4	Steel	99-3006 L
Blind rivets	MAGNA-LOCK, MAGNA-BULB	4.8	Aluminium/steel/stainless	99-3303	X
		6.5	Aluminium/steel/stainless	99-3305	X
	TIBULB	4.8	Aluminium/steel/stainless	99-3303	X
		6.4	Aluminium/steel/stainless	99-3305	X
		7.8	Aluminium/steel/stainless	87-0294	87-0817

Always make sure that you are using the correct nose cap for the used rivet.

12. Riveting Tool Storage

After the first use

If you are not going to use the riveting tool any further, place it in the original packaging and store it in a dry and dust free environment.

After long-term storage

After long-term storage (about 3 years), replace the hydraulic oil before use. The hydraulic oil may only be replaced by a trained expert, according to the operating instructions. If required, you can contact the Titgemeyer service centre for a professional service.

13. Transport Instructions

The tool is delivered completely assembled. It has to be handled like a fragile equipment. This product contains hydraulic oil.

14. Requirements for Operators

All planning, assemblies, installations, activations, maintenance and repairs may only be performed by trained staff and inspected by technical experts. Training may be provided by the manufacturer by agreement.

The persons responsible for labour safety must ensure the following:

- All works related to safety are only performed by qualified staff.
- The staff must be qualified on the basis of their specialization (training, education, experience) or on the basis of their knowledge of corresponding standards, specifications, accident-prevention regulations and system properties. It is essential that such persons are capable of identifying and avoiding any potential risks in timely manner.

15. Tool Modifications

No structural modifications that could make safety worse may be performed on the tool without the manufacturer's consent. Any unprofessionally performed repairs and the use of incorrect spare parts are deemed to be interference in the design of the tool; the manufacturer cannot guarantee the correct function of the tool or provide warranty to the product in such cases. The warranty does not apply to the tool with damaged seals.

Risk of injury in case of incorrect manipulation!

Working with this tool may not be dangerous for the operator, when the regulations in this manual will be read, understood and followed. The operator must follow the operations described in this document. The maintenance and service work that is not described in these operating instructions may only be performed by trained experts who are trained by TTA.

16. Inspection Plan

Intervals of inspection plans

- Daily inspection
 - Check for oil leaks
 - Check for unexpected air exhaustion
 - Check if the tool works well and performs a correct setting process
 - Check if the pulling head is worn - in case of visible wear replace the nose cap/ jaws
 - Check that the rubber cover (5) is assembled correctly
 - Stop using the tool immediately when you notice any sign of a fault
- Weekly inspection/ or after 5000 cycles
 - Check the pulling head and jaws, clean the tool and replace the damaged and worn parts
 - Refill the oil, if necessary
- Complete inspection made by authorized person (or by producer) once per year/ or after 500 000 cycles
 - Complete check and service of the tool mechanism
 - Inspection and change any worn parts
 - Perform oil change

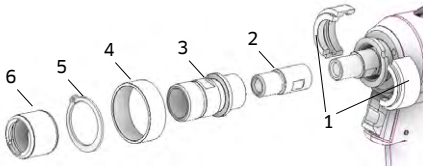
Do not use any highly active cleaning agents or flammable liquids when cleaning!

The riveting tool must be cleaned and checked in case of any mechanical defects as for the corresponding type of application. After the riveting tool has been cleaned to be stored for a longer period of time, all external metal parts need to be lightly greased with corrosion inhibitor.

17. Inspection and Maintenance

Adapters consist of:

1. Nozzle lock
2. Adapter for hydraulic piston
3. Adapter for nose cap
4. Ring
5. Shaft retaining ring
6. Counter nut



Changing of pulling heads

- Disconnect the tool from the compressed air supply
- Disassemble the counter nut (6) and remove the nose cap
- In case of using a TTA pulling head, mount the jaw case with the jaws on the hydraulic piston and nose cap on the tool
- In case of using a Howmet® pulling head please refer to the instructions below

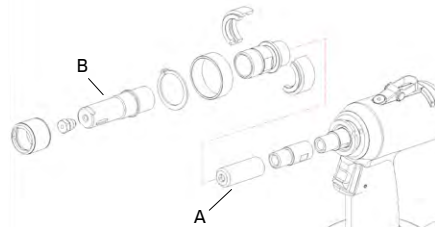
Assembly of Howmet® pulling heads

Mount tension head (99-3303; 99-3305)

Before mounting the tension head, make sure that you have chosen the right tension head

The assembly is identical for the tension heads listed.

The tension head 99-3303 is displayed in the illustrations.



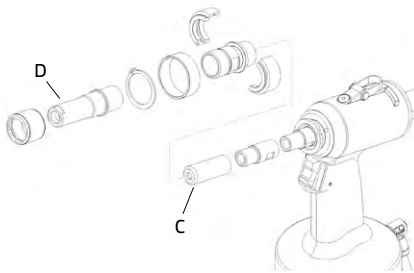
- Disconnect from compressed air connection.
- Disassemble whole front setup of the tool (1,2,3,4,5,6)
- On the standard adapter for hydraulic piston (2) mount the jaw case (A) without Howmet® spacer and tighten both parts on the tool
- Mount the adapter for the nose cap (1,3,4,5) on the tool
- Slip nose cap (B) over the jaw case and push into the nose cap up to the limit.
- Slip counter nut (6) over the nose cap, screw onto the adapter for nose cap and screw hand tight.

Mount tension head (99-3003; 99-3006; 99-1456; 99-1477UK)

Before mounting the tension head, make sure that you have chosen the right tension head

The assembly is identical for the tension heads listed.

The tension head 99-3003 is displayed in the illustrations.

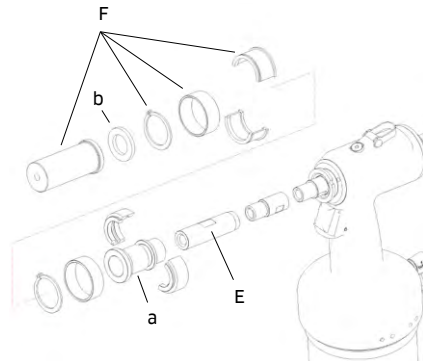


- Loosen compressed air connection.
- Disassemble whole front setup of the tool (1,2,3,4,5,6)
- On the standard adapter for hydraulic piston (2) mount the jaw case (C) without Howmet® spacer and tighten both parts on the tool
- Mount the adapter for the nose cap (1,3,4,5) on the tool
- Slip nose cap (D) over the jaw case (C) and push into the nose cap up to the limit.
- Slip counter nut (6) over the nose cap (D), screw onto the adapter for nose cap and screw hand tight.

Rivet Head Assembly (99-3465)

Before mounting the tensioning head, make sure that you have chosen the right tension head

Adapters from kit 87-0818 are required for this assembly

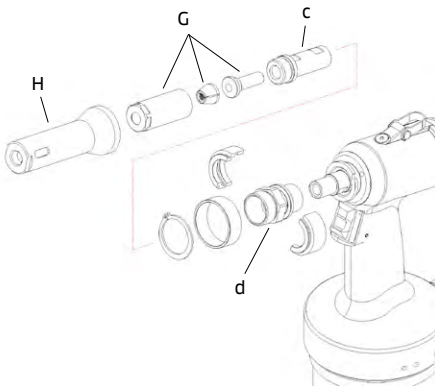


- Disconnect the compressed air connection.
- Disassemble whole front setup of the tool (1,2,3,4,5,6)
- On the standard adapter for hydraulic piston (2) mount the jaw case (E) without Howmet® spacer and tighten both parts on the tool
- Assemble the nose cap adapter (a) from kit 87-0818 to the tool and secure with parts from standard adapter (1,4,5)
- Insert the washer (b) between the adapter on the nose cap (a) and attach the nose cap (F)

Rivet Head Assembly (87-0294)

Before mounting the tensioning head, make sure that you have chosen the right tension head

Adapters from kit 87-0817 are required for this assembly



- Disconnect the compressed air connection.
- Disassemble whole front setup of the tool (1,2,3,4,5,6)
- Mount the adapter for the hydraulic piston (c) from the set 87-0818 and then mount jaw case (G) and tighten both parts on the tool
- Assemble the nose cap adapter (d) from kit 87-0817 to the tool and secure with parts from standard adapter (1,4,5)
- Assemble nose cap (H)

Oil refilling

- Oil needs to be refilled when the working stroke is reduced during working process
- During oil refilling, prevent dirt from entering the hydraulic system
- Disconnect the tool from the compressed air
- Remove the nosecap (see chapter jaws cleaning and replacement)
- Use allen key no. 4 to unscrew the screw in the top of the tool
- Fill up the syringe with the recommended hydraulic oil (chapter 19. Technical parameters), attach it to the brass adapter and screw the adapter on the outlet
- Press the hydraulic oil into the tool and pump the syringe piston several times. As you are pumping, you can see that the hydraulic piston is moving forward and backwards.
- Unscrew the adapter, mount the screw and USIT ring, mount the nosecap (see chapter jaws cleaning and replacement)
- Clean the tool from any spilled oil
- Activation of the tool without rivets - 20 times (Tool operation)



18. Troubleshooting

The operator must ensure the following:

- Customer's maintenance staff can be notified immediately and at any time during the work.
- The maintenance staff is qualified to properly respond to the failure of the riveting tool and the failure of related systems.
- The failures are analysed by qualified staff, any defects are repaired and the operation is optimised in a way that prevents any similar failures in the future.

19. Technical parameters

Total weight (according to the version)	1,71 kg
Dimensions (HxL)	331 x 218 mm
Blind rivet diameter	6,4 mm
Lockbolts	5 - 6,5 mm
Tractive force	28 kN / 6 bars
Stroke	17 mm
Speed of riveting cycle	0,9 s
Air consumption	5,8 l [ANR]
Noise level	86 dB
Operating pressure	6 bars, max. pressure 7 bar
Compressed air connection	6 mm (G 1/4")
Hydraulic oil standard	ISO HN 32
Hydraulic oil example	OH-HM 32
Lubricant standard	ISO XCCHB-2
Lubricant example	LV2EP

20. Disposal of the Riveting Tool

Disposal of the tool in compliance with the directives valid for EU. Check for hydraulic oil inside the riveting tool. Remove it and dispose of the oil in an environmentally friendly manner.

21. Warranty

Titgemeyer GmbH & Co. KG provides a 12- month warranty from the date of purchase. The warranty does not cover consumables (jaws, nosepieces, mandrels, etc.)

Titgemeyer GmbH & Co. KG warrants that all power tools have been carefully manufactured and that they will be free from defect in material and workmanship under normal use and service for a period of one (1) year. This warranty applies to the first time purchaser of the tool for original use only.

Exclusions: Normal wear and tear. Periodic maintenance, repair and replacement parts due to normal wear and tear are excluded from coverage. Abuse & misuse. Defect or damage that results from improper operation, storage, misuse or abuse, accident or neglect, such as physical damage are excluded from coverage. Unauthorized service or modification. Defects or damages resulting from service, testing adjustment, installation,

maintenance, alteration or modification in any way by anyone other than Titgemeyer GmbH & Co. KG, or its authorized service centres, are excluded from coverage.

Should this tool fail to meet the warranty, promptly return the tool to our Titgemeyer GmbH & Co. KG service center or factory authorized service centre location nearest you.

Titgemeyer GmbH & Co. KG will then replace, free of charge, any part or parts found by us to be defective due to faulty material or workmanship, and return the tool repaired. This represents our sole obligation under this warranty. In no event shall Titgemeyer GmbH & Co. KG be liable for any consequential or special damages arising out of the purchase or use of this tool.

22. Package Contents

- 1 x riveting tool
- 1 x Allen key no. 4
- 1 x syringe
- 1 x adapter

23. List of Safety Pictograms



Use protective goggles



Use protective gloves



Use ear protection



Tools & Automation

DECLARATION OF CONFORMITY

Product Name: Riveting tool RL75-2

Catalogue Number: 99-0305:TTA

Type number: 99030502012021

The riveting tool RL75-2 works with the high-speed hydro pneumatic principle. The tool is designed for precise setting of two-piece lockbolt pin and collar combination, as well as structural blind rivets.

Manufacturer:

Titgemeyer Tools & Automation spol. s r.o.

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CZ 397 01 Písek

IČ 60647761

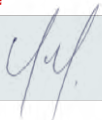
Tel: + 420 382 206 711

info@rivetec.cz

tta-sales@titgemeyer.com

We hereby declare that the products conform to the following standards and guidelines:

2006/42/ES, the Machinery Directive

Name	Date and place	Signature
Approved by Director Antonín Solfronk	In Písek 31.03.2021	

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