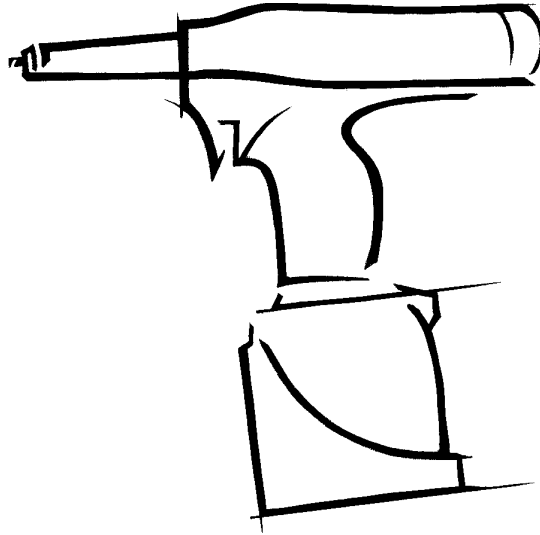


OPERATING INSTRUCTIONS

SETTING TOOL FOR RIVKLE®
BLIND RIVET NUTS AND STUDS



BÖLLHOFF

P803
R I V K L E®

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TOOL DESCRIPTION

Purpose and use of this type of tool

The P803 tool is used to crimp RIVKLE® blind rivet nuts and studs in material which has been pre-drilled or pierced.

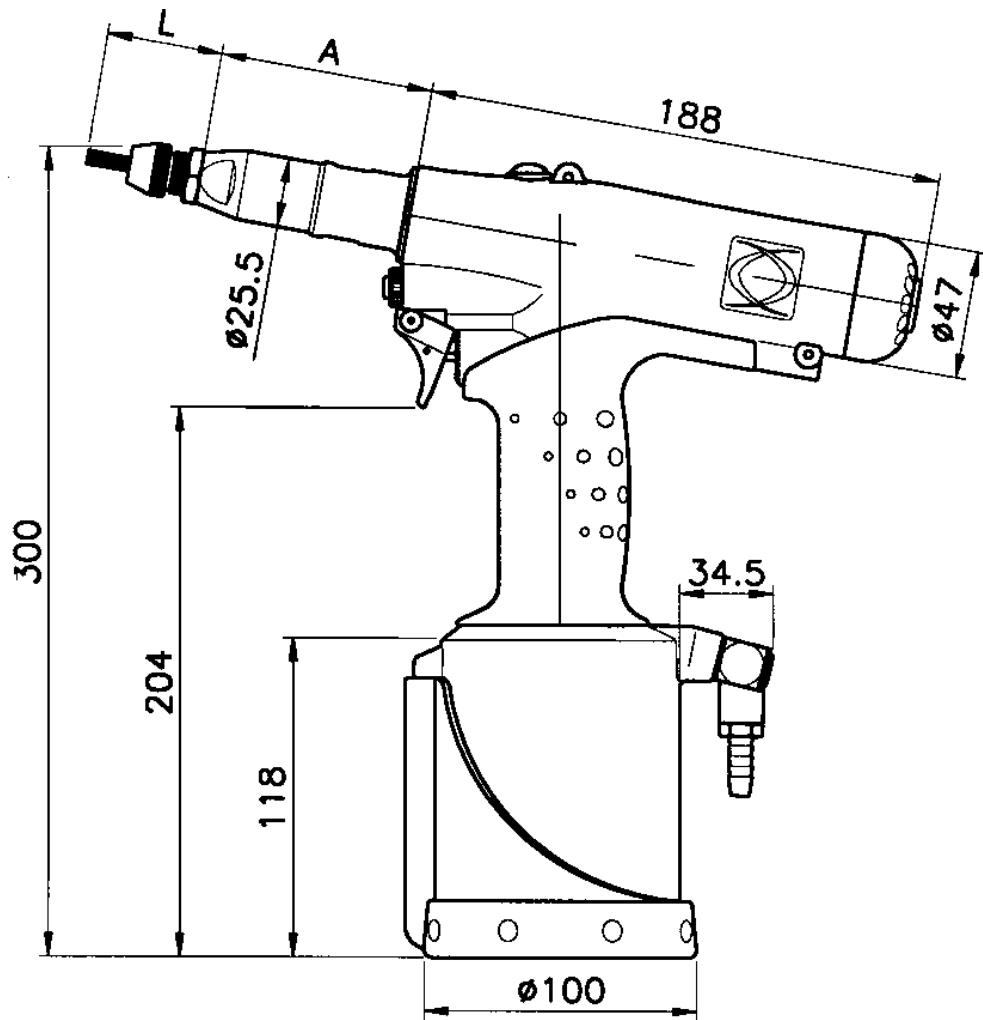
To crimp the RIVKLE® blind rivet nut or stud

The tool provides a setting force using air pressure. This principle has some advantages:

- Ability to crimp the same RIVKLE® on various thickness without any adjustment of the tool.
- improved mandrel and overall tool life due to the ability to supply the optimal force needed for setting.
- Possibility of a second crimping without any risk of stripping the thread.

Specifications

- | | |
|-------------------------------|-----------------------------------------|
| - Setting capacity: | RIVKLE® from M3 to M8 (#6-5/16 unified) |
| - Max. stroke : | 7 mm (0.28 in) |
| - Working pressure: | 5,5 bars min to 7 max. |
| - Weight, when set up for M6: | 2.1 kg |
| - Air consumption: | 8L maximum |
| - Noise level : | < 70 dB (A) |



		M3	M4	M5	M6	M8
Fig. 1	A	78	78	78	78	78
Table 1 (P4)	L	32	31	41	42	42
Fig. 2	A	59	59	59	59	59
Table 2 (P5)	L	33	34	40	42	47

SAFETY : **BEFORE WORKING ON THE P803 TOOL,
PLEASE DISCONNECT THE COMPRESSED AIR**

ACCESSORIES

Configuration when using cap screws as mandrels (Figure 1 & Table 1)

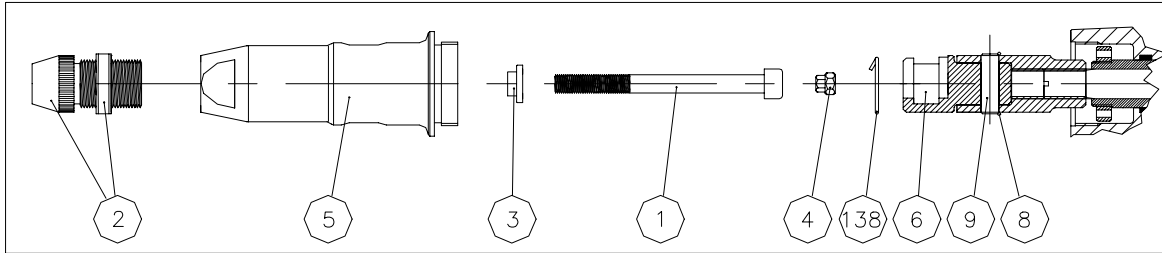


fig. 1

	Kit Including Items 1,2,3,4, & 138	Item 1 (Bolt)	Item 2 (Anvil)	Item 3 (Spacer)	Item 4 (Hex Driver)
M3	2368 0303 000	CHC ISO4762 DIN912 : M3 x 60	2361 1303 030	2368 0303 040	2368 0303 010
M4	2368 0304 000	CHC ISO4762 DIN912 : M4 x 60	2361 1304 030	2368 0304 040	2368 0304 010
M5	2368 0305 000	CHC ISO4762 DIN912 M5 x 70	2361 1305 030	2368 0305 040	2368 0305 010
M6	2368 0306 000	CHC ISO4762 DIN912 : M6 x 70	2361 1306 030	2368 0306 040	2368 0306 010
M8	2368 0308 000	CHC ISO4762 DIN912M8 x 70	2361 1308 030	None required	2368 0308 010

ITEM 138 is PN 2368 0300 138

Table 1

How to change the mandrel

- Loosen the anvil lock-nut and unscrew the anvil (2)
- Unscrew the nose (5)
- Put the screw through the ring(3), which corresponds to the diameter (no ring for M8)
- Put the driver (4) in the recess of the mandrel (1)
- Let the assembly slide into the traction socket (7)
- Replace the nose (5)
- Replace the anvil and the lock-nut (2)

Configuration when using P330/P320 style mandrel (Fig. 2 Table 2)

If you have already bought a P330/P320 tool you can use the mandrel. You only need to buy a nosepiece part number 2368 0300 400.

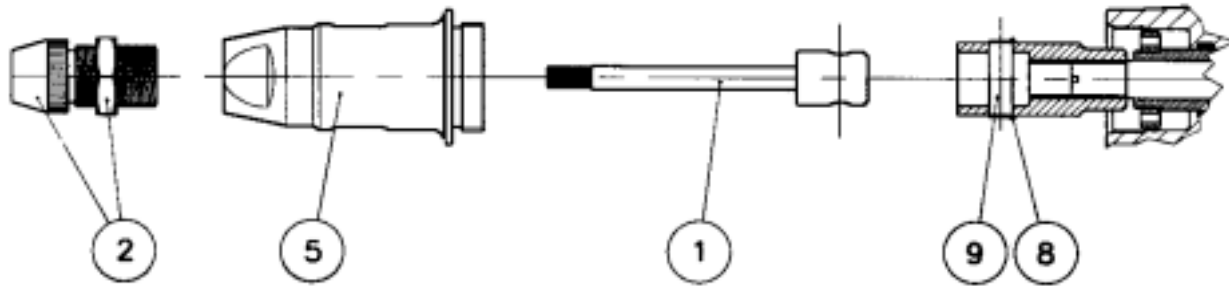


fig. 2

	For Rivet Nuts		For Blind Studs	
	Item 1	Item 2	Item 1	Item 2
M3	2361 1303 020	2361 1303 030	3761 1303 020	3761 1303 030
M4	2361 1304 020	2361 1304 030	3761 1304 020	3761 1304 030
M5	2361 1305 020	2361 1305 030	3761 1305 020	3761 1305 030
M6	2361 1306 020	2361 1306 030	3761 1306 020	3761 1306 030
M8	2361 1308 020	2361 1308 030	3761 1308 020	3761 1308 030
#6-32	2361-1367-620	2361-1335-030		
#8-32	2361-1368-620	2361-1368-030		
#10-24	2361-1369-620	2361-1369-030		
#10-32	2361-1369-720	2361-1369-030		
1/4-20	2361-1374-620	2361-1374-030		
1/4-28	2361-1374-720	2361-1374-030		
5/16-18	2361-1376-620	2361-1308-030		
5/16-24	2361-1376-720	2361-1308-030		

table 2

To change to the mandrel and anvil :

- Hold the nosepiece (5), loosen the anvil locknut and remove the anvil (2) and its locknut.
- Remove the pin (9) with a special tool without damaging the ring (8) and remove the old mandrel (1)
- Place the new mandrel (1) and reinsert the pin (9), making sure that the ring (8) remains in the groove.
- Screw the nosepiece(5) on tightening to 15 Nm.
- Screw the new anvil (2) into the nosepiece, leaving the locknut loose.

TOOL USE

Adjustment of the anvil (fig 3)

- The anvil position depends on the length of the RIVKLE[®] before crimping.
- Adjust the anvil position as indicated in figure 3
- After the adjustment, tighten the anvil lock-nut (2) at 10 Nm.

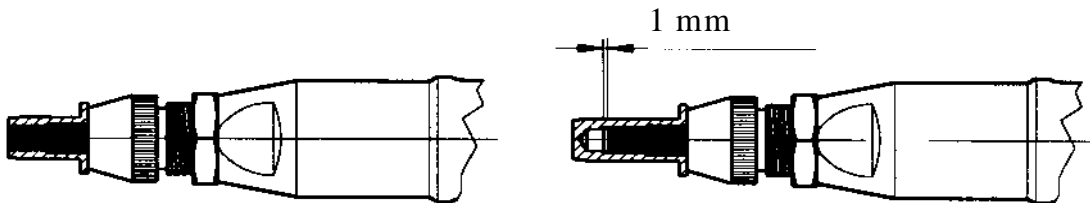


Fig. 3

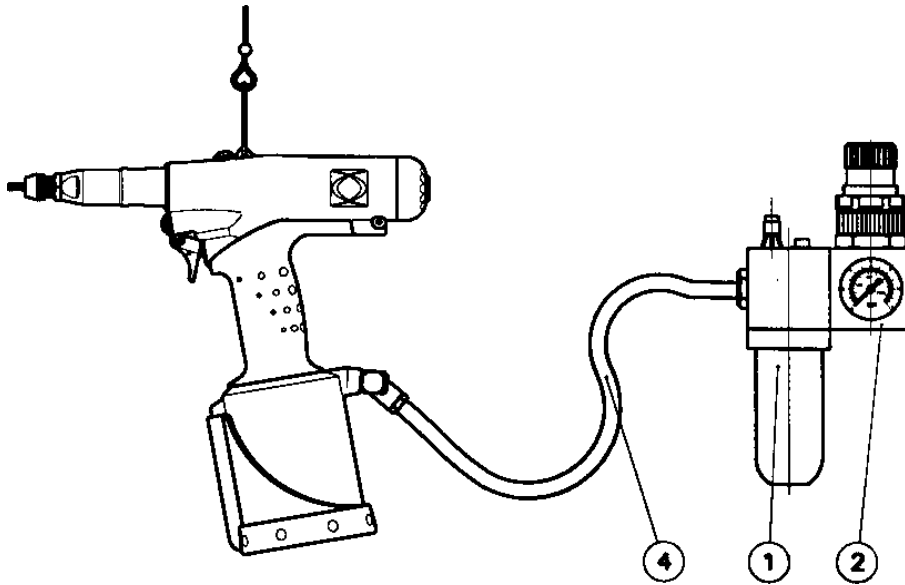


Fig. 4

Item 1	Filter
Item 2	Air Regulator
Item 4	Air hose 3m

Item 1&2 is PN 2368 0300 403

Item 4 is PN 2368 0300 402

Air System (fig 4)

The power supply of the tool is compressed air. The optimum pressure is 6 bars. We suggest the use of an air filtration unit, which includes oiling, filtering processes and pressure regulation in the air power unit. This unit should be placed up to 3 meters from the tool (see the schematic on pg. 7) in order to obtain an optimum life cycle for the tool and to reduce the amount of maintenance to a minimum.

ALL THE AIR HOSES MUST HAVE AT LEAST A 6.4 mm OR A ¼ INCH INTERNAL DIAMETER.

Suspension system (fig 5)

You can use the tool either suspended or unsuspended.

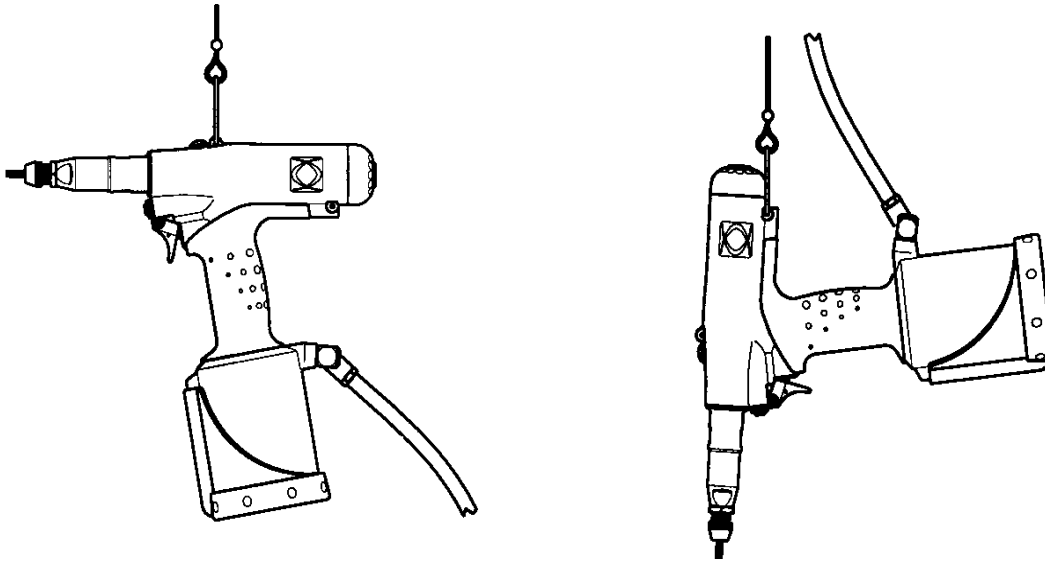


Fig. 5

INSTRUCTIONS FOR TOOL USE

- Connect the air pressure power to the tool.
- To position the RIVKLE® on the mandrel, press the RIVKLE® on the mandrel end and the mandrel will autospin into the RIVKLE®.
- Introduce the RIVKLE® into the workpiece.
- Press the trigger. This crimps the RIVKLE® in the workpiece and auto unscrews the mandrel.

Adjustment of the crimping pressure

- Check that the system pressure is set between 5 and 7 bars (75 - 105 PSI).
- Before activating the crimping process, set the pressure to 0 by turning the setting adjustment to minimum.
- Progressively increase the crimping pressure by turning the adjustment towards (+)
- Step by step, test the crimping quality of the RIVKLE® up to the optimal crimping.
- The optimal crimping (s) is indicated in the Bollhoff RIVKLE® brochure.(fig.6)

CAUTION :

Setting the pressure too high can damage the thread of the RIVKLE® the thread of the mandrel or prevent the mandrel from being unscrewed.

When you find the correct setting, please note the position of the setting adjustment.

Adjustment of the unscrewing time

The unscrewing process is predetermined when delivered. This timing can be optimized when using specific RIVKLE®. In order to improve the process, you must set the screw on the back of the tool (E206). If the screw is turned clockwise, the time is longer, turning counterclockwise shortens the unscrewing time.

Unscrewing button

In case of unscrewing problems, the P803 tool is equipped with a reverse button at the back. To reverse the tool, you need to press the button (34).

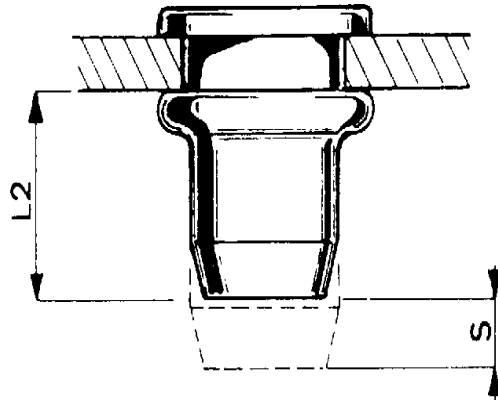
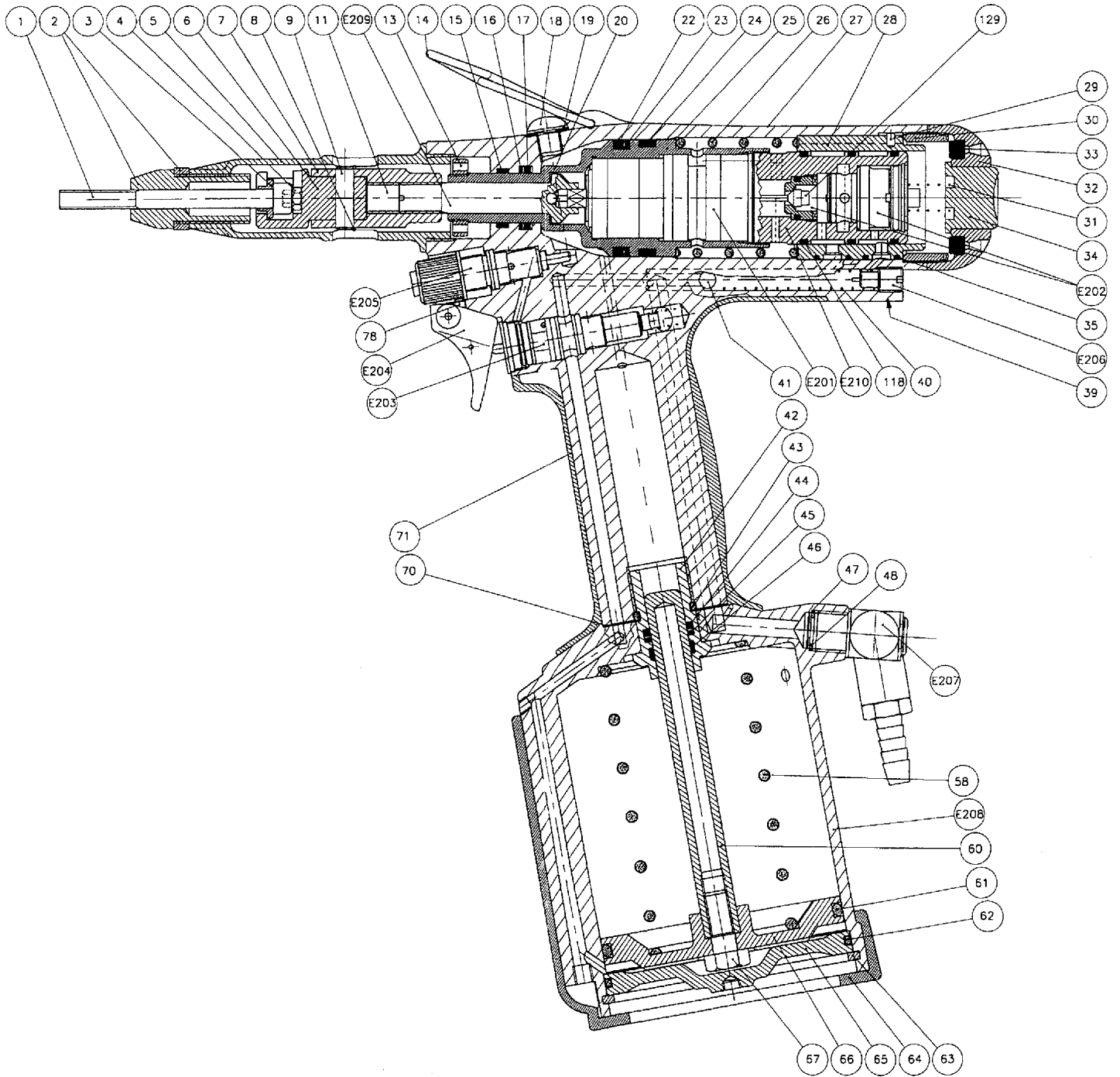


Fig. 6



Part #	Qty	Description	Part #		Description
001	1	Mandrel	040	1	Spring ring
002	1	Anvil	041	1	Nylon ball 7/32
003	1	Bushing	042	1	Tank bushing
004	1	Insert	043*	1	O Ring
005	1	Nose piece	044*	1	O Ring
006	1	Coupling	045*	1	Back-up ring
007	1	Mandrel coupling	046*	1	Guide
008*	1	Spring ring	047*	1	Air inlet rose
009	1	Mandrel drive pin	048	1	Back-up ring
011	1	Dowel	058	1	Spring ring
013	1	Locking nut	060	1	Piston rod
014	1	Hook	061*	1	Seal
015*	1	Guide	062*	1	Seal
016*	1	Back-up ring	063	1	Circlip
017*	1	O Ring	064	1	Base
018	1	Bolt M8x10	065	1	Piston head
019	1	Washer	066	1	Piston
020*	2	Spacer	067	1	M8 bolt
022*	1	O Ring	071	1	Plastic Sleeve
023*	1	Back-up ring	078	1	Ball pin
024*	1	Guide	118	3	Seal
025	1	Receiver piston	129	1	Shutter
026	1	Spring ring	E201	1	Air motor
027	1	Body	E202*	1	Push-pull valve
028	1	Distributor	E203*	1	Trigger valve
029	1	alignment pin	E204	1	Trigger
030	1	Locking ring	E205*	1	Pressure regulator valve
031	1	Spring ring	E206*	1	Needle valve
032	1	Rear plug	E207	1	Air union
033*	1	Silencer	E208	1	Air cylinder
034	1	Reverse button	E209	1	Drive shaft
035*	2	O Ring	E210	1	Push-pull valve sleeve
039	1	Dowel	E211	1	Push-pull rod (not shown)

Codification of the spare parts for your orders:

2368 0300 XXX substitute XXX for one of the part numbers shown above

Ex1: Rep 9 : Mandrel drive pin : 2368 0300 009 Ex2 : Rep E201 : Motor : 2368 0300 201

MAINTENANCE

Daily Maintenance

- Check that the mandrel is suitable for the RIVKLE®.
- Check that the crimping pressure of the tool is suitable for the setting of the designated RIVKLE® (see pressure adjustments).
- If the mandrel is damaged or if you have difficulty unscrewing the nut, you must change the mandrel
- Check that the following processes "screwing- crimping- unscrewing" are activated by pressure on the spindle and trigger, without any RIVKLE® in place.
- Check the anvil adjustment. Verify that the RIVKLE® is firmly and squarely against the anvil.
- Always hold the mandrel perpendicular to the work.
- About every 300 RIVKLE®, the mandrel must be lubricated .
- After use, protect the mandrel with a RIVKLE®

General Maintenance

IMPORTANT

The maintenance of the tools must be carried out by skilled technicians. The operator should not be involved in maintenance or repair of the tool unless the operator is skilled in these types of operations. __

The air pressure supply must be switched off before every repair or maintenance operation.

After 500,000 cycles, the tool should be disassembled, and worn and damaged parts replaced.

The following repair kits are available for the P803 tool.

*Push-pull valve kit	2368 0300 202
*Trigger valve kit	2368 0300 203
*Regulator valve kit	2368 0300 205
*Unscrew check valve kit	2368 0300 206
*Complete repair kit (includes all of the above)	2368 0300 200

The repairs must be performed in a clean area. Special service tools may be required (available from your Bollhoff supplier)

Adding Oil

- Recommended oil type: Mobil DTE (ISO VG 68) Hydrolub H68 Condat or similar.
- Switch off the compressed air pressure.
- Take out the upper screw from the oil reservoir (18)
- Check the oil level in the hole (18), and top-up the oil until full to the bottom of the thread.
- Replace the screw (18) with the seal (19)
- Reconnect the compressed air and check the crimping pressure after maintenance.
- In case of an insufficient stroke, repeat the operation.

TROUBLESHOOTING AND SOLUTIONS

TROUBLE	HYPOTHETICAL REASON	SOLUTIONS
Thread of the mandrel damaged Difficulties in screwing and unscrewing	1 - Incorrect grip range of the RIVKLE® 2 - Too long a crimping stroke 3 - Holding of the tool incorrect when crimping	1 - Check the crimping value in the RIVKLE® brochure. 2 - Try again to crimp the RIVKLE®. Following the instructions 3 - Hold the traction mandrel perpendicular to the component
RIVKLE® thread damaged after setting thread.	1 - Damaged mandrel thread. 2 - RIVKLE® not completely screwed on mandrel. 3 - crimping force too high 4 - Thickness of the crimped component unsuitable with the RIVKLE®	1 - Replace the mandrel according to the instructions 2 - Adjust the anvil position according to the instructions 3 - Try again to crimp the RIVKLE®. Following the instructions 4 - Check the crimping value in the RIVKLE® catalogue
RIVKLE® is not set in the material	1 - Incorrect grip range for the RIVKLE® 2 - The RIVKLE® head is not in contact with the anvil when crimping 3 - Crimping pressure insufficient	1 - Check the crimping value in the RIVKLE® brochure. 2 - Make sure the RIVKLE® head is in contact with the anvil when setting 3 - Try again to crimp following the instructions
Tool pressure insufficient	1 - Compressed air pressure insufficient 2 - Lack of oil	1 - Check the pressure supply 2 - Add oil according to the instructions. (page 12)
Mandrel does not unscrew after installation of the Rivkle	1 - Damaged mandrel thread or RIVKLE® 2 - Time for unscrewing too long 3 - Compressed air pressure insufficient	1 - Replace as required 2 - Turn the screw (E206) 3 - Check the pressure supply
Unscrewing process occurs each time without crimping	1 - Problem in the crimping pressure adjustment	1 - Reduce the air pressure of the crimping and try again on a RIVKLE® 2 - in case of continuous problem, contact your Bollhoff supplier