GB

User Manual

XGRIP R50S

MASTERFIX PRODUCTS BV EUROPE

Maastricht-Airport
The Netherlands

CONTENTS OF USER MANUAL R50S

1 AREA OF APPLICATION

The R50S riveter is intended for installing blind rivets in the following materials and sizes [mm]:

Opmerking [*1]:

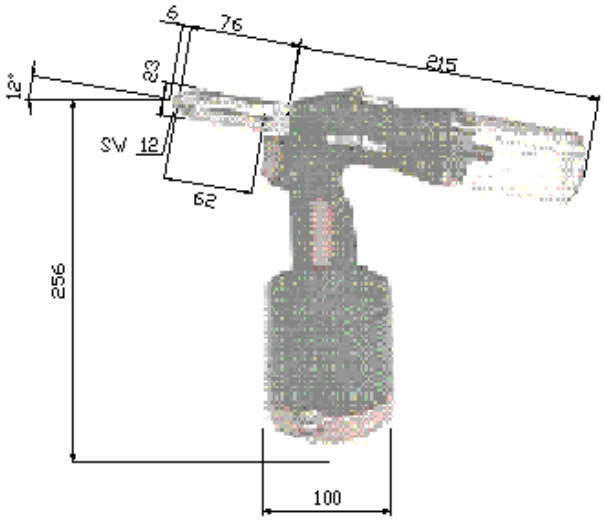
Al aluminium	Cu copper	St steel	RVS stainless steel
2,4	2,4	2,4	2,4
3,0	3,0	3,0	3,0
3,2	3,2	3,2	3,2
4,0	4,0	4,0	4,0
4,8	4,8	4,8	4,8
5,0	5,0	5,0	5,0

2 SPECIFICATIONS

Capacity	from 2,4(3/32”) to 5,0 mm (3/16”) steel
Mandrel diameter	max. 3,0 mm
Weight	2,05 kg
Length	271 mm
Height	267 mm
Stroke	17 mm
Air consumption per stroke	2,1 litres
Operating pressure	5 - 7 bar
Traction power at 6 bar	10.000 N
Jaws	three-part
Nose holder dia. x L	23 x 76 mm

Subject to technical alterations.
The R50S conforms to the EC standard 98/37 EEC.

DIMENSIONS



3 STANDARD EQUIPMENT FOR R50S

- Four nose pieces, i.e.:
  2.4 mm (3/32”)
  3.0/3.2 mm (1/8”)
  4.0 mm (5/32”)
  4.8/5.0 mm (3/16”)

- One key for nose pieces

- One conduit for rivets 2,4 - 4,0 mm
- One conduit for rivets 4,8/5,0 mm

- One mandrel container

- One oil refill kit comprising:
  one bottle of hydraulic oil
  one 3 mm Allen key
  one filling syringe

- One user manual

4 SAFETY INSTRUCTIONS

Anyone who operates or maintains the R50S riveter must first read this User Manual carefully, paying extra attention to the instructions below.

Never dismantle the tool without first having thoroughly studied the instructions given in this User Manual and applying them.

- Always use the tool in accordance with the specified safety instructions.
  Direct any queries regarding optimal and safe operation or use of the tool to Masterfix Products.
- The safety instructions must be made clear to all persons involved.
- Never connect the tool to any medium other than compressed air.
- Hold the air hose firmly when disengaging to prevent it from hurtling to and fro due to the escaping air.
- Use the tool only for the installation of blind rivets. The tool must never be used for giving blows or impacting or as a hammer.
- Do not make any modification(s)/change(s). Any modifications to the tool or (supplied) parts and their consequences are completely outside the liability of Masterfix Products and are entirely the liability of the operator; any guarantee claim shall then be null and void.
  Masterfix Products is always prepared to advise you with regard to different applications.
- The tool must be constantly maintained and examined/inspected at regular intervals. Maintenance shall be performed by staff trained for that purpose. Do not perform any maintenance before reading this User Manual.
  Do not hesitate to contact Masterfix Products if you require training.
- Always shut off the air supply before emptying the collector bowl or replacing the nose piece.
- Always disconnect the tool from the air supply before carrying out repairs or maintenance. Disconnect the tool in case of failure before investigating the reason.
- Never aim the tool at any person or object other than the material to be riveted.
- Adopt a stable position and location before operating the tool.
- The air discharge openings (at the bottom and collecting cup) must never be covered or blocked. Ensure that air hoses are in good condition and can withstand a minimum compressed air pressure of 10 bar.
- Never exceed the maximum air pressure of 7 bar.
- Always wear eye protection when using the riveter. Eye protection must be worn not only by the user but also by everyone at the working place.
- Never use the tool without (or with a defective) collector bowl.
- Prevent excessive contact with hydraulic oil which could produce a rash.
- To prevent accidental operation the trigger must never be touched when the tool is being relocated.
- Ensure that loose garments, ties, long hair, rags, etc. can not be caught by the moving parts of the tool.
- There could be a possibility that the mandrel comes out at the front side.
  Please take account of that.
- Hearing protection is advised.

5 INITIAL START-UP

The tool must be connected to an air filter-/separator unit; this unit filters the compressed air to separate dirt and condensation.
A pressure regulator with a preferred setting of 6 bar (min. 5 bar, max. 7 bar) must be installed if the operating pressure of the compressed air exceeds (or might exceed) 7 bar.

Use dry and clean materials (hoses, couplings, fittings, etc.) to connect the tool to the filter/separator unit.

Check whether any leakage occurs anywhere in the compressed air supply. If so, replace the damaged hoses or coupling.
Check the compressed air supply pressure to the tool; this must not exceed 7 bar.
Drain the condensation from the filter/separator unit. Also check the dirt filter.
The tool is ready for use, please do not add oil.

6 DESCRIPTION OF THE R50S

The following can be found at the bottom of the tool:

The replaceable nose pieces, 3 each (item 1, see figure 6.1).
Compressed air supply hose (0.5 m length, 6 mm ID), with union coupling (item 47).
Pressure relief valve (item 46) acting as safety valve to prevent overloading of the tool. The valve opens if the compressed air pressure exceeds 7 bar.
It is possible to fit the supply hose to the other side (at the location of the pressure relief valve). The pressure relief valve is then relocated to the supply hose connection.
Vacuum valve (item 52) controlling the extraction system of the tool to be switched on and off.
Oil level indicator (item 45, figure 6.1) displaying oil shortage.

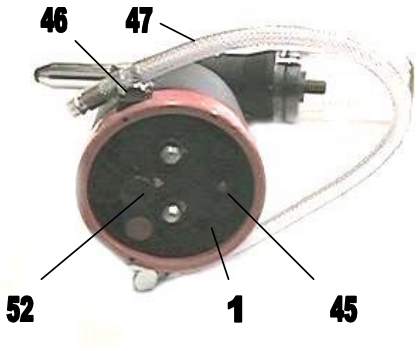


Figure 6.1

6.1 OPERATION

Ensure that the tool is fitted with the correct nose piece. You have the correct nose piece if the diameter of the rivet corresponds to the inscription on the fitted nose piece (see section 6.2, nose piece replacement). Connect the tool to the compressed air supply using a quick-action coupling.
The mandrel container must be fixed on the tool.
The R50S is provided with an extraction system for automatically removing the broken mandrel after the rivet is installed. A switch at the bottom ensures that the extraction system is stopped if the tool is placed on a flat surface. The extraction system is re-started when the tool is lifted.
Take the tool in your hand and place the mandrel of the rivet in the hole of the nose piece. Place the rivet in the material to be riveted. The extraction system ensures that the rivet is retained. Ensure that the correct hole size is used (0.1 mm larger than the rivet diameter for standard rivets); also ensure that rivets with the correct grip range are used.
The rivet will be fixed by operating the trigger. The broken mandrel is automatically removed to the mandrel container by vacuum by releasing the trigger. The next rivet can now be placed in the nose piece.
The mandrel container must be emptied when it is almost full.

Do not use the tool without the mandrel collector, in order to prevent the tool from getting damaged.

6.2 NOSE PIECE REPLACEMENT

The tool must be disconnected from the compressed air supply when a nose piece is being replaced.

To have an optimum functioning of the tool, it is very important to have the correct nose piece and conduit for the rivet to be set.

When using ***rivets 2,4 - 4,0 mm***, the required ***conduit for rivets 2,4 - 4,0 mm with the smaller opening*** should be mounted to have a required vacuum (replacing conduit see section 7.4).
For ***rivets 4,8/5,0 mm***, the required ***conduit with the larger opening for rivets 4,8/5,0 mm with the larger opening*** should be mounted.
By using the correct conduit, the extraction of the mandrels is optimal and blockage of the conduit by mandrels is prevented.

- Screw the required nose piece from the bottom of the tool.
  You have the correct nose piece if the rivet diameter corresponds to the inscription on the nose piece.
- Screw the old nose piece out of the nose piece holder. Ensure that the nose piece is not ejected by the spring load.
- Screw the new nose piece into the nose piece holder.
- Screw the old nose piece into the bottom of the tool.

7 MAINTENANCE OF THE R50S

7.1 DAILY MAINTENANCE

- Check if there are any leakages in the compressed air supply. If so, replace the damaged hoses or couplings.
- Check the compressed air supply pressure to the tool; it may be max. 7 bar.
- Drain the condensate from the filter/separator unit. Also check the dirt filter.
- Check the collector bowl for damage. Replace it, if necessary.

7.2 WEEKLY MAINTENANCE

- Cleaning the jaws (see section 7.4).
- Checking the stroke. The stroke is too short if the oil level indicator pin (item 36) no longer protrudes. Oil must then be added (see section 7.5).

7.3 OVERHAUL

Overhaul shall be performed after every 300,000 rivets or once every 3 years. The tool is then completely dismantled and all seals and worn parts are replaced. Have the overhaul performed by Masterfix Products.

7.4 REPLACING THE CONDUIT - CLEANING/REPLACING THE JAWS

If blind rivets are installed only after operating the tool a few times, the performance of the jaws may be poor.
The jaws must be cleaned regularly - at least once a week. They must also be cleaned if the mandrel is no longer gripped when operating the tool. The jaws must also be cleaned if the tool has to be operated a few times to install the rivets.
The jaws are worn if the mandrel is still not gripped after cleaning and then a new set of jaws must be fitted.

The following procedure is used to change the conduit or to clean or to replace the jaws:

1 Disconnect the tool from the air supply.

2 Place the tool flat on the workbench.

3 Unscrew the nose piece holder (item 9, figure 7.4.1) from the body, using a 24 AF spanner. Do not hit the trigger with the spanner. The nose piece (item 1) may be left on the nose piece holder. Remove the nose piece holder in its entirety.

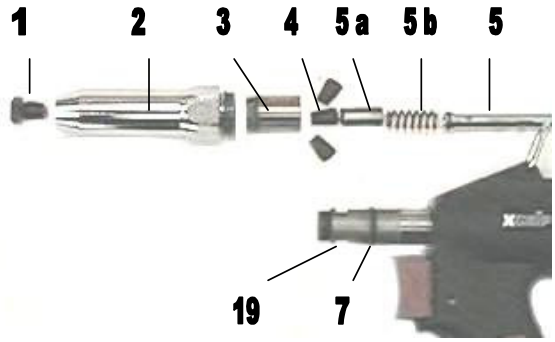


Figure 7.4.1

4 Unscrew the jaw holder (item 3) from the hydraulic plunger (item 19) using a 15 AF spanner. To prevent the hydraulic plunger from turning hold it with a 12 AF spanner. Remove the jaw holder in its entirety. Ensure that the jaw holder (item 3) does not shoot away.

5 Clean the jaws (item 4) with a steel wire brush, for example. A new set must be used if the jaws are worn (this may be assessed from the serrations). Also clean the jaw holder, jaw pusher (item 5a), jaw pusher spring (item 5b) and the jaw pusher conduit (item 5). Replace the relevant part if damaged. Apply a drop of oil to the rounded sides. Then insert the jaws in the jaw holder with the tips protruding from the front of the jaw holder (see Fig. 7.4.2). The serrations of the jaws must face towards the centre.

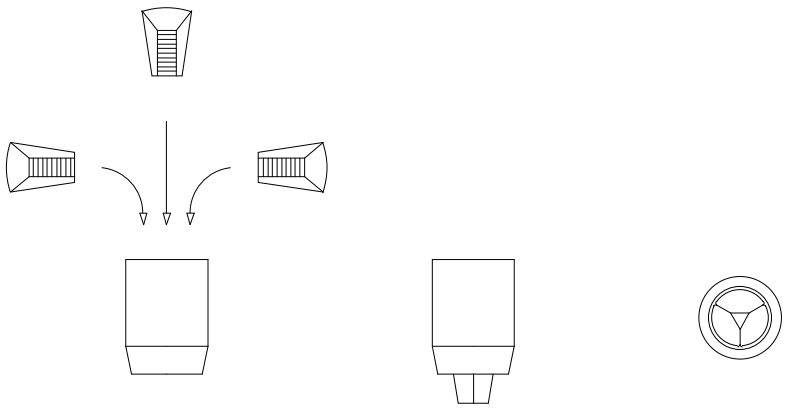
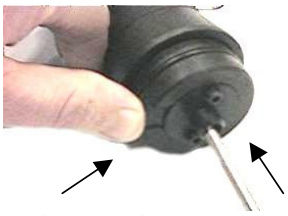


Figure 7.4.2

6 In order to take out or replace the conduit from the hydraulic plunger, proceed as follows:



Take the collector bowl from the tool, press the stop-valve of the extraction and push carefully with a pen or with the delivered accessory the conduit out of the plunger through the back side of the tool.
Replace the conduit by the selected conduit (smallest size for rivets 2.4 - 4.0 mm. and largest size for rivets 4.8 - 5.0 mm.).

7 In case of damaged parts, replace the part concerned.

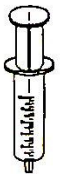
8 Fit the jaw holder to the hydraulic plunger and tighten it with the 15 AF spanner.
Once again, you must retain the hydraulic plunger with the 12 AF spanner.

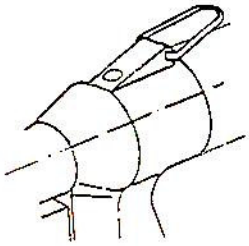
9 Check whether the nose piece holder and the nose piece are clean. Clean them, if necessary.
Fit the nose piece holder to the body. Remember the O-ring (item 7).
- do not damage it when fitting the nose piece holder
- fit a new one if it is already damaged
- if the O-ring is dry, please use grease
- clean the O-ring if it is dirty.

Tighten the nose piece holder with the 24 AF spanner. Do not hit the trigger with the spanner.

7.5 ADDING OIL

There may be insufficient oil in the tool if blind rivets are installed only after operating the tool a few times.
Oil shortage in the tool leads to reduction of the stroke. The oil level indicator (item 29, see chapter 8) shows whether loss of oil has occurred. The tool has lost oil if the oil level indicator pin no longer protrudes. Proceed as follows to add oil:





1 Keep the tool upright during all operations.
Disconnect the tool from the air supply.

2 Unscrew the M4 cap screw (item15, see chapter 8) from the body (item 2) using the size 3 mm Allen key. **Make sure the O-ring (item 14) remains in the hole**.

3 Fill the (supplied) syringe with hydraulic oil (a bottle is also supplied with the tool).

4 Screw the filled syringe up to the O-ring in the hole. Then slowly inject the oil into the tool (ensure no air is injected). Adequate oil has been added as soon as resistance is sensed. The check catch of the oil level indicator is then visible again. The tool now has its optimal stroke (17 mm) again.
The excess oil will flow back when the syringe is released if too much oil has been added.

5 Unscrew and remove the syringe from the body. Check whether the O-ring remains in the hole.

6 Screw the M4 cap screw into the hole using the size 3 mm Allen key.

7 Wipe off the excess oil.

8 PARTS LIST

Item No.	Qty	Description
1	1	nose-piece 2.4 mm (3/32")
1	1	nose-piece 3.0/3.2 mm (1/8")
1	1	nose-piece 4.0 mm (5/32")
1	1	nose-piece 4.8/5.0 (3/16" - 0.196")
2	1	front sleeve
3	1	clamping sleeve
4	1 set	clamping jaws (3 parts)
5	1	conduit 2,4-4
5	1	conduit 5
5a	1	jaw pusher
5b	1	jaw pusher spring
6	2	o-ring 6,5/1,6
7	1	o-ring 14.3/2.4, hydraulic plunger rod
8	1	o-ring 20/1, front sleeve
9	1	lip seal 13/8-4
10	1	ring for compression spring
11	1	o-ring 18/2.2, hydraulic plunger rod
12	1	lip seal 18 x 25, hydraulic plunger rod
13	1	buffer ring, hydraulic plunger
14	1	o-ring 4/1.5
15	1	cap screw M4 x 8
16	1	hanger
17	1	lip seal 34 x 22 x 9.4, hydraulic piston
18	1	guide ring
19	1	hydraulic plunger
20	1	hydraulic body
21	1	compression spring Ø 14 mm
22	1	lip seal 13/8-4
23	1	rear screwed joint
24	1	o-ring 44/3
25	1	spring
26	1	valve
27	2	cap screw M4 x 8
28	1	extension
29	1	mandrel container
30	1	Pin cylindrical 3,0 x 11
31	1	lip seal 22/16-6, pneumatic plunger rod
32	1	guide ring
33	1	o-ring 16/2
34	1	bottom ring
35	1	pneumatic plunger
36	1	safety ring 6
37	1	case
38	1	o-ring 8/2
39	1	Teflon ring for compression spring
40	1	ring
41	1	o-ring 10/2
42	1	o-ring 82,62/3,52 , pneumatic plunger
43	1	pneumatic cylinder
44	1	o-ring 10/1.5, oil level indicator
45	1	oil level indicator

46	1	pressure relief valve
47	1	union coupling 90°
48	2	connecting bolt
49	2	copper washer for connecting bolt
50	2	M6 cap nut for connecting bolt
51	1	bottom ring
52	1	valve complete
53	1	o-ring 4/1,5, valve pin
54	1	muffler hood
55	2	muffler
56	3	o-ring 4/2, valve pin
57	1	valve pin
58	3	Adjusting ring diameter 14
59	3	o-ring 10/2, pneumatic plunger
60	1	eccentric trigger
61	1	Pin cylindrical 3,0 x 20
62	1	trigger
63	1	o-ring 4/1, valve pin
64	1	spring
65	1	ring for compression spring
	1	oil syringe
	1	bottle with oil, 30 cc
	1	key for nose pieces
	1	size 3 mm Allen key

9 GUARANTEE AND SERVICE

The user will not be able claim under guarantee if he does not observe the instructions specified in this User Manual.
A guarantee period of 6 months applies, starting from the date of purchase.
The liability of Masterfix Products for this riveter and/or any of its defective parts shall be limited to their replacement, the changing of worn parts (like jaws, sealings etc.) are excluded. In no case shall the liability exceed the invoiced value of the supplied items.
Masterfix Products shall not be liable under any circumstances for damage or costs occurring due to inexpert use of the tool and repair or replacement of parts performed by anyone other than Masterfix Products itself.

To be able to make any guarantee claim, the guarantee form must be completed and sent to Masterfix Products (see last page of the User Manual for guarantee form).

Maintenance shall be performed in accordance with the instructions solely by technical persons qualified for the purpose.
It is advisable to consult Masterfix Products for advice on repairs or to present the tool for repair to Masterfix Products.

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GUARANTEE FORM

MASTERFIX PRODUCTS BV EUROPE
P.O. BOX 21
6190 AA Beek
The Netherlands

To be completed on purchase and send to Masterfix Products B.V.

This Masterfix XGRIP R50S riveter Nr. _____

was sold to:

Stamp/address buyer:	Stamp/address vendor:

Date _____ Signature of sales person_____

EC-DECLARATION OF CONFORMITY FOR MACHINERY

We

MASTERFIX PRODUCTS BV EUROPE
Europalaan 12
6199 AB Maastricht-Airport
The Netherlands

herewith declare that the product

type: XGRIP R50S pneumatic-hydraulic riveter
application: blind rivets all materials 2.4 - 5.0 mm

which this declaration refers to,
is in conformity with the provisions of the regulations EC standard 98/37 EEC.

The Netherlands, Maastricht-Airport 29-08-2001

J.M.E.L. Aarts

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