PATTA®

Air Riveter

AR-600 / 800

User Manual
& Safety Instructions

AIR SUPPLY PRESSURE
5-6
kgf/cm2

www.patta.com

Important Safety Instructions

- Be sure to read following Important Safety Instructions carefully and make sure that you understand them thoroughly before using this tool.
- Always wear eye-protection at oil times during use. if this is not observed, the rivet shaft (cut-mandrel) may eject out when the rivets are cut and cause serious injury.
- This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
- The Important Safety Instructions are divided in to **WARNING** and **CAUTION**

WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator.
CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in moderate injury to the operator or physical damage.
Moreover, failure to follow the instructions marked with the WARNING symbol or cautions without a CAUTION symbol which appear in the text of this manual may also have serious results in some cases.
Always be sure to observe the instructions given in the Important Safety Instructions.
Attar reading this manual, keep it in a safe place where it is easily accessible lo lool users.

WARNING

1. **The air pressure should be kept within the range of 0.49 to 0.59 MPa(5 to 6kgf/cm2, 71 to 85 psi).**
   If an air pressure which is greater than this is used, the tool may become damaged, and injury or damage to property may result.

2. **Always attach the safety cap before use.**
   If this is not observed, the rivet shafts (mandrel) may eject out when the rivets are cut and serious injury.

3. **Be sure to remove the frame head when adding hydraulic oil.**
   If the frame head is not removed before adding oil, excess oil may remain inside the tool, and damage to the tool or personal injury may result.

4. **Make sure that the tool and the air source are connected securely.**
   If the threads of the joints do not match or if the screws are not inserted far enough, the air hose may become disconnected during use and injury may result.
   Use hose bonds to securely connect the air hose joint and air hose. If they are not connected securely enough, the air hose may become disconnected during use and injury may result.

5. **Turn off the air supply before disconnecting the tool from the air source.**
   Compressed air may cause the air hose to whip around, and injury may result.

6. **Check that all the tool parts are free from damage before use.**
   Any damaged parts should be repaired before the tool is used.
   If the tool is used while any parts are still damaged, injury may result.
   If the hose is damaged by objects being dropped onto it. for instance, the damaged part may rupture and accident or injury may result.

7. **If using in elevated locations, use a safety harness, and take care to avoid dropping rivets or the tool itself.**
   Accident or injury may result if this practice is not followed.

CAUTION

1. **Always turn off the air supply before disassembling the tool for cleaning and maintenance purposes.**
   If the tool is cleaned or disassembled with the air supply connected, injury may result.

2. **Do not use the tool with the frame head removed.**
   Items such as fingers may become caught in the mechanism.

3. **Do not bring your face close to the air outlet holes.**
   Pressurized air containing fine particles is discharged from the air outlet holes during use. Keep eyes away from this area.

4. **Avoid skin contact with substance such as hydraulic oil, lubricating oil and grease.**
   Such substances may cause inflammation of the skin. If they come into contact with your skin, wash the affected area thoroughly.

5. **Make sure that the workplace is safe, clean and organized.**
   Accidents can easily occur in untidy workplace.
   If the cut-mandrels are allowed to fall onto the floor, you may slip on them, and injury may result.

6. **Avoid uncomfortable postures while working.**
   You may fall down and injury may result.

7. **Keep people who are not involved in work away from the workplace.**
   Accidents or injury may result.

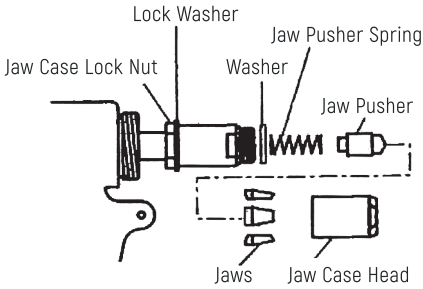
8. **Maintain the tool with due care.**
   Refer to the Instruction Manual for details on replacing parts and attachments, otherwise injury may occur.
   Keep the grip clean and dry at all times, and never let it become greasy, otherwise injury may occur during use.

9. **Use the tool carefully and concentrate on correct operation at all times.**
   Use the tool with proper care, paying full attention to methods of handling and operation and surrounding conditions. Accidents and injury may result if this practice is not followed.
   Use common sense at all times, otherwise accidents or injury may result.
   When you are tired, do not use the tool, otherwise accidents or injury may result.

10. **Do not attempt to modify the tool.**
    Unauthorized modification may cause malfunctions which can lead to accidents or injury.

Nomenclature

Frame Head Internal Parts



Technical Data

Model No.	AR-600	AR-800
Net weight	1.5 kg	2.0 kg
Operating air pressure	0.49-0.59MPa (5-6kgf/cm2, 71-85 psi)	
Air consumption per rivet	1.5 L (0.053 c.ft)	2.9 L (0.102 c.ft)
Tool stroke	14 mm (35/64")	16 mm (41/64")
Traction power at 0.59 mpa	8 KN (820 kgf)	12 KN (1250 kgf)
Applicable breaksteam rivets	3.2, 4.0 mm (1/8", 5/32")	4.0, 4.8, 6.4 mm (5/32", 3/16", 1/4")

For stainless steel rivets placing, please choose our PAR Air Hydraulic Riveter Series

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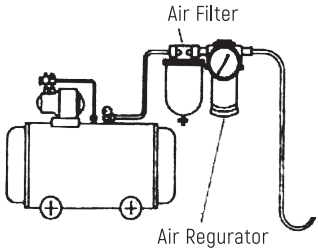
Preparation Before Use

1. Install the safety cap to the tool.

2. Set up the compressor, and be sure to install an air filter and air regulator between the compressor and the tool.



3. Use the air regulator to adjust the operating air pressure to 0.49 - 0.59 MPa (5 - 6 kgf/cm3, 71-85 psi).

ATTENTION

If the air pressure is too high, damage to parts may occur. If the pressure is too low, some size of the rivet may not be correctly installed (cut).

4. Replace the nosepiece to confirm to the size of the rivet being used. The rivet size indicates the diameter of the rivet.

- Different-sized rivets can be used just by replacing the nosepiece.
- At the time of purchase, the tools are fitted with a 4.0 mm (5/32") nosepiece.
- If you'd like to use other sizes, use a spanner to remove and replace the nosepiece.

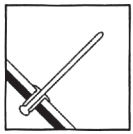
Operating The Air Riveter

1. Select a rivet of o size which is suitable for the workpiece to be riveted.

2. Replace the nosepiece with one which matches the size of the rivet to be used.

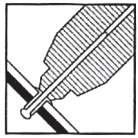
3. Drill a hole of appropriate size (0.1 to 0.2 mm large than the diameter of the rivet) into the workpiece.

4. Insert the rivet into the hole.

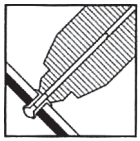


ATTENTION
Some rivets have shafts (mandrels) with sharp ends.
Be careful not to injure your fingers on these ends.

5. Place the nosepiece of the air riveter over the shaft (mandrel) of the rivet.



6. Gently press the nosepiece of the air riveter against the workpiece.
After checking that there is no gap between the nosepiece and the workpiece, pull the switch.



7. The rivet will be installed into the workpiece.

8. Release the trigger, and then tilt the air riveter to remove the cut mandrel from the nosepiece or safety cap.

NOTE: Make sure that the cut mandrel has been completely removed before proceeding to the next riveting.

Operating temperature
The ambient temperature for working is within the range of 4'C - 35'C (40T ~ 95'F).

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Maintenance

After long periods of use, debris from rivet shaft (mandrel) and other foreign materials tend to build up in various parts of the tool, and the hydraulic oil level also drops, both of which can lead 1o operating problems. The tool should be cleaned periodically.

1. **Jaw maintenance**

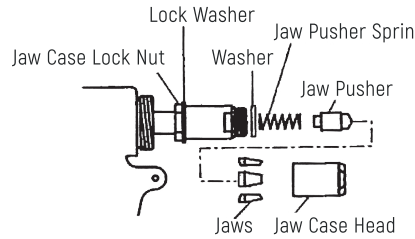
   If debris builds up, the jaws will not smoothly and normal operation will not be possible.
   The jaws should be cleaned on average once every 3.000 riveting operations.

   DISASSEMBLY

   a. Turn off the air supply. **CAUTION**

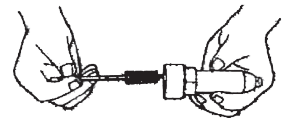
   b. Use a spanner or similar tool to remove the frame head. **CAUTION**

   c. Use a spanner A and spanner B to loosen and remove the jaw case head, and then remove the jaw pusher spring, jaw pusher and jaws.



   CLEANIN

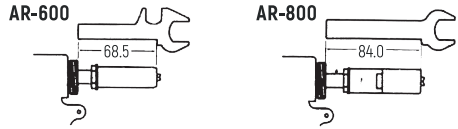
   d. Use a brush or similar to clean all parts.



   RE-ASSEMBLY

   e. Re-assemble by following the disassembly procedure in reverse.

   f. Install the jaw case head so that its distance matches those shown in the illustration at below using a spanner



   g. Use a spanner A to install the Frame head securely.

   NOTE:

   When re-assembling, be sure to apply a lubricant such as grease to all moving and sliding parts.
   Be careful not to leave out any parts, and tighten all connections securely.
   The jaws are consumable parts, and they should be replaced periodically.

2. **Cleaning and filling the cylinder**
   If foreign materials build up in the cylinder, it will not operate smoothly and service life will be reduced.

DISASSEMBLY

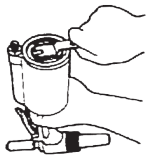
a. Turn off the air supply. **CAUTION**

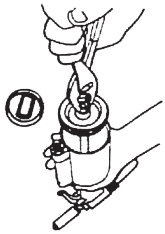
b. Use a spanner A to remove the frame head.

WARNING

Be sure to remove the frame head when adding hydraulic oil through the cylinder.

c. Use a spanner A to remove the cylinder cap and pull-out the air piston straightly using suitable pliers. Hold the frame vertical, as the hydraulic oil will spill out if it is tipped sideways.



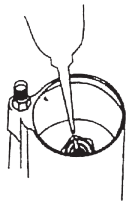


CLEANING

d. Use a rag, brush or similar to clean all parts.

FILLING OI

e. Fill with hydraulic oil until just before the oil starts running out from the filling hole.



RE-ASSEMBLY

f. Apply grease to the inside of the O-ring and shaft of the piston and then reassemble by following the disassembly procedure in reverse.

g. After assemble the air cylinder cap, check the jaw case setting position.

h. Install frame head securely using a spanner A.

Storage

- Store in a place which is well-ventilated and free from excessive dust and humidity, and where there is no danger that the tool will fail.
- If not using the tool for an extended period of time, carry out a maintenance inspection before storing it away.
- To increase the working life of the tool, it is recommended that you give it periodic overhauls.

Troubleshooting

If a problem occurs, check the following.

If the problem persists after checking the items in the table below, contact us directly.

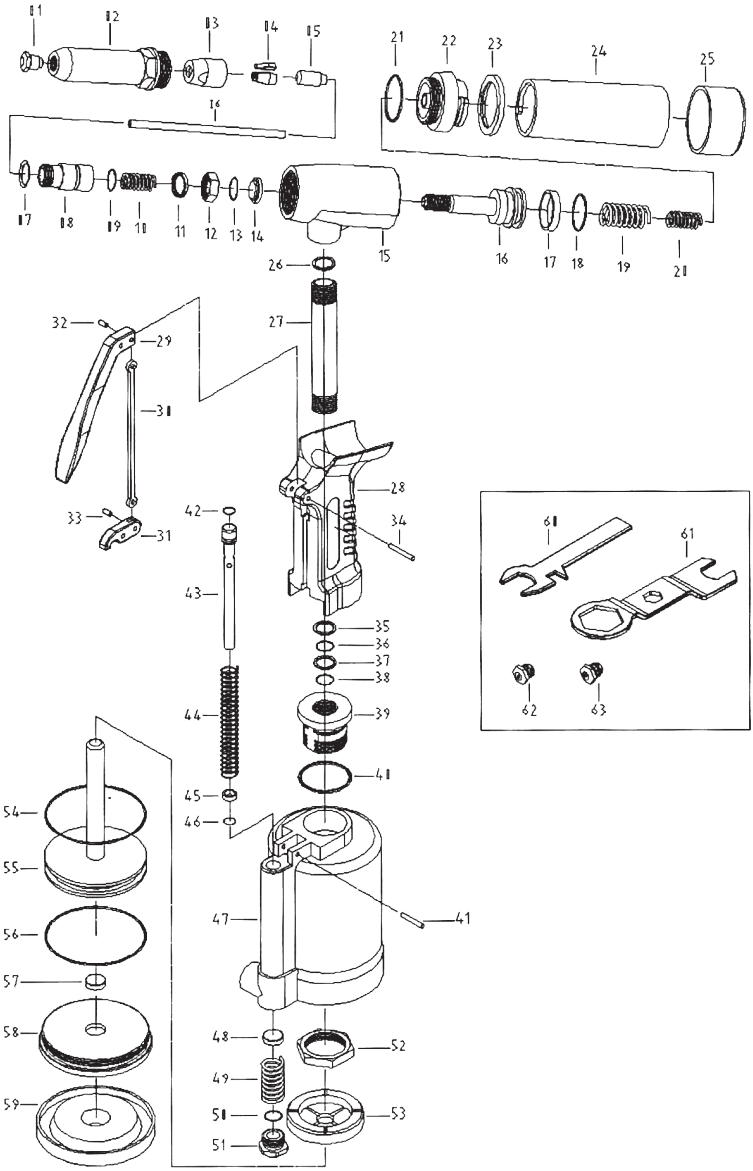
In making any enquires about this product or requests for repair work, first check the **Troubleshooting** items below, and then make a note of model number, the usage conditions and the trouble symptoms in as much detail as possible. If you can provide this kind of information, it will contribute to reducing the amount of time required for delivery or repairs to be completed.

Symptom	Cause	Countermeasure
The rivet does not go in, or the shaft does not come out after riveting.	Incorrect combination of replacement parts being used.	Replace with the correct part which matches the rivet size.
	Nosepiece or frame head is loose.	Use a spanner to tighten securely.
	Jaw case is incorrectly assembled.	Check the jaw case setting position.
	Contact surfaces between the jaws and the jaw case head are not smooth.	Clean the jaws and inside the jaw case head, end apply recommended jaw lube (or spray-type lubricating oil or accessory hydraulic oil) to the backs of the jaws.
	The inside of the cylinder is dirty so that the air piston cannot return to its proper position.	Clean inside the cylinder, and apply grease inside the cylinder and to the O-ring.
	Oil filling was not performed correctly, so that there is excess hydraulic oil inside the tool.	Refit the hydraulic oil otter remove the frame head.
Number of switch operations increases before riveting is complete.	The river length is not correct for the workpiece thickness.	Use rivets which match the workpiece thickness.
	Compressor air pressure is incorrect.	Check the air pressure.
	Jaw case is incorrectly assembled.	Check the jaw case setting position.
	Jaws are worn.	Replace the jaws.
	Insufficient hydraulic oil, causing a shorter stroke.	Add hydraulic oil.
	Oil spill seriously or stroke disappear fast.	Replace seal and O-ring in hydraulic system.

HYDRAULIC OIL REQUIREMENTS

Use only clean hydraulic oil, as the viscosity of the oil used will affect fool performance.
A good quality mineral oil with the following properties should also be used.

AR-600 Parts Explosion



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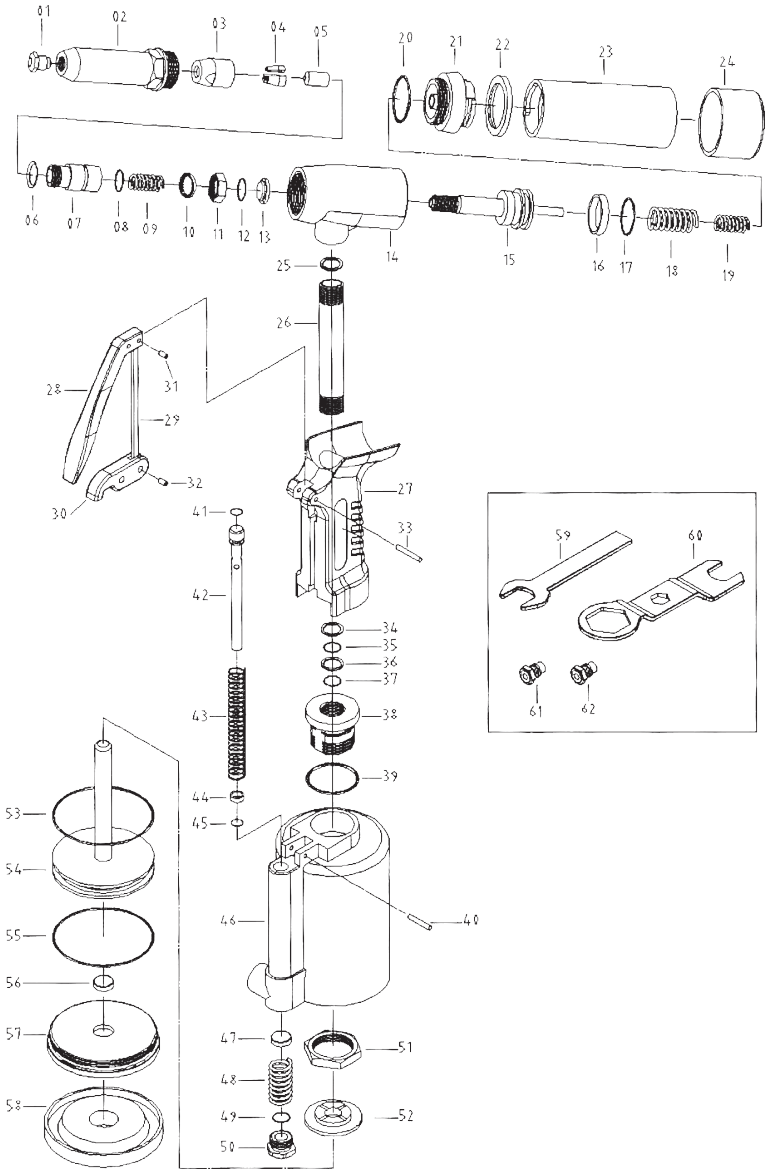
NO.		Description	NO.		Description
1		4.0 mm Nose piece	33		Spring Pin
2		Frame Head	34		Spring Pin
3		Jaw Case	35	⊗	Washer
4		Jaws	36		O-ring
5		Jaw Pusher	37		Teflon Washer
6		Tube	38		O-ring
7		Lock Washer	39	⊗	Oil Pipe Base
8		Case	40		O-ring
9		O-ring	41		Spring Pin
10		Spring	42		O-ring
11		Lock Washer	43	⊗	Valve Pusher
12		Nut	44		Spring
13		O-ring	45		Washer
14		Seal	46		O-ring
15	⊗	Frame	47	⊗	Air Cylinder
16	⊗	Oil Piston	48		Valve
17		Seal	49		Spring
18		O-ring	50		O-ring
19		Spring	51		Screw
20		Spring	52		Nut
21		O-ring	53		Butter
22	⊗	Frame Cap	54		O-ring
23		Rubber Ring	55	⊗	Air Piston
24		Safety Cap	56		O-ring
25		Cover	57		Buffer
26	⊗	Washer	58	⊗	Air Cylinder Cap
27	⊗	Oil Pipe	59		Air Cylinder Buffer
28	⊗	Handle	60		Spanner A
29	⊗	Trigger	61		Spanner B
30	⊗	Trigger Connector Rod	62		2.4 mm Nose piece
31	⊗	Trigger Lever	63		3.2 mm Nose piece
32		Spring Pin			

⊗ **NON-REPLACEABLE PARTS**

AR-800 Parts Explosion



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NO.		Description	NO.		Description
1		4.0 mm Nose piece	33		Spring Pin
2		Frame Head	34	⊗	Washer
3		Jaw Case	35		O-ring
4		Jaws	36		Teflon Washer
5		Jaw Pusher	37		O-ring
6		Lock Washer	38	⊗	Oil Pipe Base
7		Case	39		O-ring
8		O-ring	40		Spring Pin
9		Spring	41		O-ring
10		Lock Washer	42	⊗	Valve Pusher
11		Nut	43		Spring
12		O-ring	44		Washer
13		Seal	45		O-ring
14	⊗	Frame	46	⊗	Air Cylinder
15	⊗	Oil Piston	47		Valve
16		Seal	48		Spring
17		O-ring	49		O-ring
18		Spring	50		Screw
19		Spring	51		Nut
20		O-ring	52		Buffer
21	⊗	Frame Cap	53		O-ring
22		Rubber Ring	54	⊗	Air Piston
23		Safety Cap	55		O-ring
24		Cover	56		Buffer
25	⊗	Washer	57	⊗	Air Cylinder Cap
26	⊗	Oil Pipe	58		Air Cylinder Buffer
27	⊗	Handle	59		Spanner A
28	⊗	Trigger	60		Spanner B
29	⊗	Trigger Connector Rod	61		4.8 mm Nose piece
30	⊗	Trigger Lever	62		6.4 mm Nose piece
31		Spring Pin			
32		Spring Pin			

⊗ **NON-REPLACEABLE PARTS**

Warranty & Service

PATTA warrants that goods covered by this manual will conform to applicable specifications and drawings and that such goods will be manufactured and inspected according to generally accepted practices of companies manufacturing industrial tools. there are no warranties which extend beyond the foregoing.

The liability of PATTA on parts found to be defective is limited to re-work or the replacement of such goods and in no case to exceed the invoice value of the said goods under circumstances will PATTA be liable for damages or costs incurred by the buyer or subsequent user in repairing or replacing defective goods.

Routine maintenance and repair of PATTA rivet tools can be performed by an average mechanic. however, if you have a PATTA rivet tool that is in need of major repair we recommend that it be sent directly to us.

PATTA International Limited

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