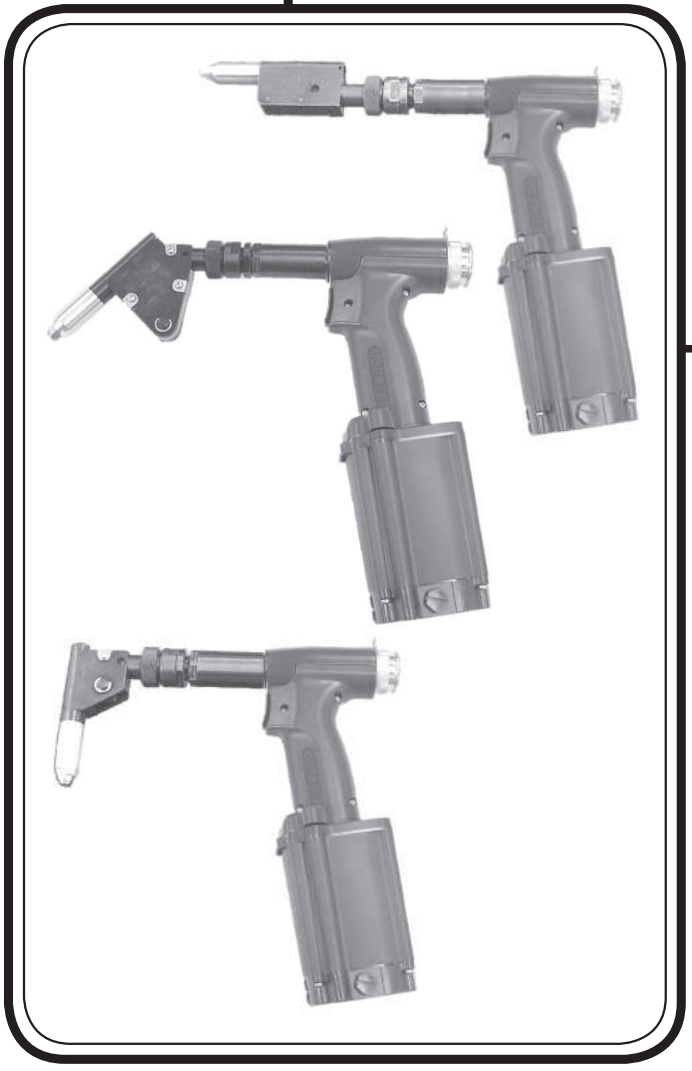
LOBSTER®

AIR RIVETER CE

INSTRUCTION MANUAL

英語／ENGLISH



Angle type

AR−2000A−00
AR−2000A−45
AR−2000A−90

CONTENTS

INTRODUCTION……1
IMPORTANT SAFETY INSTRUCTIONS ……2
NOMENCLATURE…… 5
TECHNICAL DATA…… 7
PREPARATION BEFORE USE…9
OPERATING THE AIR RIVETER …10
MAINTENANCE ……11
PARTS TABLE ……17
STORAGE ……22
ORDERING PARTS……22
TROUBLESHOOTING……23

Professional model of air riveter to install blind rivets.

Thank you very much for purchasing" LOBSTER "air riveter. To ensure correct operation, please read this instruction manual carefully,and keep it in a safe place for later reference.

MANUFACTURER

LOBTEX CO.,LTD.

12-8 Shijo-cho,Higashi-Osaka City

Osaka 579-8053,Japan

Telephone:+81(72)981-7466 Telefacs:+81(72)981-9420

URL http://www.lobtex.co.jp/

PRINTED IN JAPAN

● INTRODUCTION

- This is exclusive tool to install blind rivet.
- This operating manual (called "This manual" afterwards) describes how to use the tool safely and effectively, how to do check and maintenance, and parts information.
- Use rivets for the tool with the specification and strength thoroughly designed and examined.

1 IMPORTANT NOTICES

- Read this manual carefully before using this tool. Follow instructions in this manual for handling this tool, replacing accessories or replacing parts.
- If you have any questions about this manual, check the model (type) and contact the “LOBSTER” dealer where you purchased the tool.
- It is impossible to foresee all potential dangers and describe them in this manual. You must use this tool with paying enough attention to safety as well as observing the instructions in this manual.
- It is user's responsibility to understand the contents of this manual thoroughly.
- Lobtex Co., Ltd. has the copyright of this manual. It is prohibited to publish, copy or translate to other language without prior consent.

2 INDEMNIFICATION

- Our warranty does not apply to direct and indirect damages and lost income caused by the misuse, abuse, and unauthorized modification of the tool. We do not guarantee the strength or quality of blind rivet.
- We do not guarantee any damages and failures caused by any modifications without our written approval.
- We do not guarantee any damages and failures caused by use of parts other than our recommendation.

● IMPORTANT SAFETY INSTRUCTIONS

◆ Be sure to read the following Important Safety Instructions carefully and make sure that you understand them thoroughly before using this tool.

◆ Always wear eye-protection at all times during use. If this is not observed, the rivet 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 into **⚠ WARNING** and **⚠ CAUTION** .
The differences between these two levels are described below.

⚠ 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 **⚠ CAUTION** 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.

◆ After reading this manual, keep it in a safe place where it is easily accessible to tool users.

⚠ WARNING

1.The air pressure should be kept within the range of 0.5 to 0.6 MPa .
- 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.Never look into the nosepiece of the tool, and never point the nosepiece toward other persons.
- If an air pressure which is greater than this is used, the tool may become damaged, and injury or damage to property may result.

3.Always attach the safety cap before use.
- If this is not observed, the mandrel may eject out when the rivets are cut and cause serious injury.

4.Wear protective glasses during use.
- Failure to do so may result in an accident or personal injury in case that a rivet or a piece of cut-mandrels jumps out toward you.

5.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 bands 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.

6.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.

7.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 tool is damaged by objects being dropped onto it, for instance, the damaged part may break and accident or injury may result.
- Don't pull and drag the tool by the air hose. It may trigger some damages on the tool body, breakage of Rotary Joint or some other defects and lead serious troubles with injuries.

8.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.Before starting maintenance or disassembling the unit to replace parts, be sure to stop air supply.
- Performing maintenance or disassembly with air supplied may cause a part to jump out, oil to squirt out, or the unit to perform unexpected behavior, and may result in an accident or personal injury.

2.Tighten the bleed plug firmly before use.
- If the bleed plug is loose or coming off during use, oil may squirt out resulting in an accident or personal injury.

3.Do not operate the tool without equipped the angle frame head.
- Items such as fingers may become caught in the mechanism.

4.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.
- Oil spouted from the air outlet holes may splash onto and dirty clothes or property.

5.Avoid skin contact with substances 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.

6.The parts to be used must be those supplied from us or recommended by us.
Select and attach parts applicable to your rivet.
- Otherwise the unit may not produce maximum performance and may sometimes malfunction resulting in an accident or personal injury.

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

8.Avoid uncomfortable postures while working.
- You may fall down and injure may result.

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

10.Maintain the tool with due care.
- Refer to the Instruction Manual for details on replacing parts and attachments, otherwise injury may occur.

11.Keep the hand grip dry and clean, and avoid adhesion of oil and grease.
- Otherwise the grip may slip from your hand resulting in falling of the unit.

12.Do not leave the floor littered with cut-mandrels.
- Cut-mandrels are dangerous because their ends are sharp. Stepping on them is also dangerous easily causing a slip and fall accident.

13.Use the tool carefully and concentrate on correct operation at all times.
- Use the tool with proper care, paying full attention to methods of handing 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.

14.Ask Lobtex to carry out any repair work required.
- Repair work should only be carried out by a qualified technician. Please contact your nearest "LOBSTER" distributor, representative, or direct to Lobtex Co.,Ltd.,Osaka. If the tool is repaired by someone without the necessary qualifications and experience, the tool may not perform to optimum standards,and accidents or injury may result.

15.Do not attempt to modify the tool.
- Unauthorized modifications may cause malfunctions which can lead to accidents or injury.

⚠ CAUTION

16.When disposing of the tool or packing materials, observe local laws and codes on waste disposal.

17.The year and month of production of the tool are indicated by a code and four-digit number on the cylinder top (Refer to page 7.)

18.Warning labels include important information and tips on using the tool. If the labels become so dirty or damaged that they cannot be read, order and replace them with new labels.
You can order new labels from Lobtex Co., Ltd. through our dealers.

19.This product is a tool for exclusive use of the professional business. When you are the one who uses this tool for the first time, please receive an instruction from the one who has already used this tool before, also please read the Instruction Manual carefully and understand the content.

・When this product is damaged, please do not use.

20.For the maintenance, clean inside (cylinder, spool area) the tool after working 30,000 rivets or 1 years after purchase, if the hydraulic oil level is low, refill it. (Refer to page 12.)

21.Only persons who are well trained and qualified should use, adjust, and maintain this product.

・Only persons who can physically handle the capacity, weight, and performance of the tool should use it.

22.Do not attempt to modify the tool.

・Unauthorized modifications may cause malfunctions which can lead to accidents or injury.

23.Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by use of the tool and also of trip hazards caused by the air hose.

24.Proceed with care in unfamiliar surroundings. There can be hidden hazards, such as electrical or other utility cables.

25.This tool is not intended for use in potentially explosive atmospheres and is not insulated against contact with electric power.

26.Ensure that there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by use of the tool.

27.Using the tool repeatedly may cause pains in your hands, shoulders, neck, and other locations.

・To avoid pain and fatigue, assume an appropriate and natural posture, and change your posture as necessary.
・If you suffer from continuous discomfort, pain, numbness, palpitations, stiffness, or hot flashes, do not ignore it. Consult with your employer and health manager.

28.Compressed air can cause severe injury:

・Never direct air at yourself or anyone else.

29.Whipping hoses can cause severe injury.

・Always make sure there are no damages on hoses and no loose fittings.

30.Do not drag or carry this tool by pulling the hose.

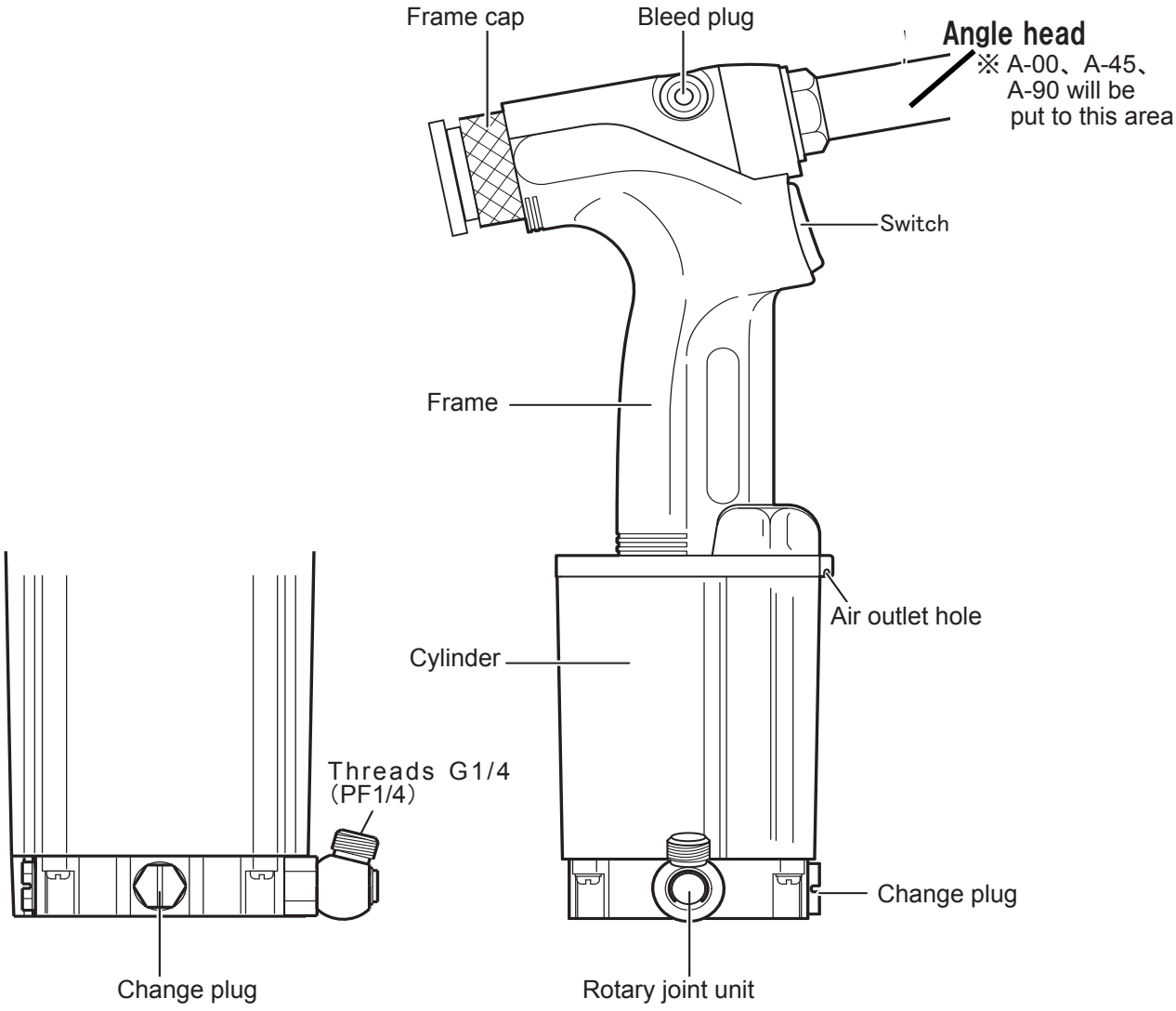
31.The regular preventative maintenance shall be carried out, for instance after a specified time of operation, a specified number of cycles/operations or a stated number of times per year.

32.When you handle oil or grease, obtain the material safety data sheet (SDS) from the supplier, and follow the described instructions.

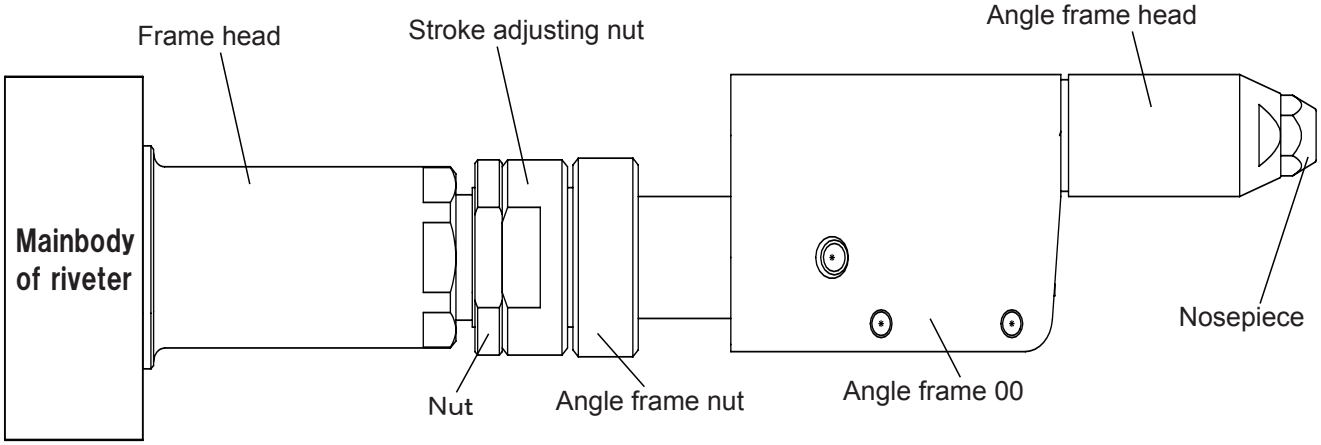
33.Hold and use the product appropriately in order to cope with sudden motions.

● NOMENCLATURE

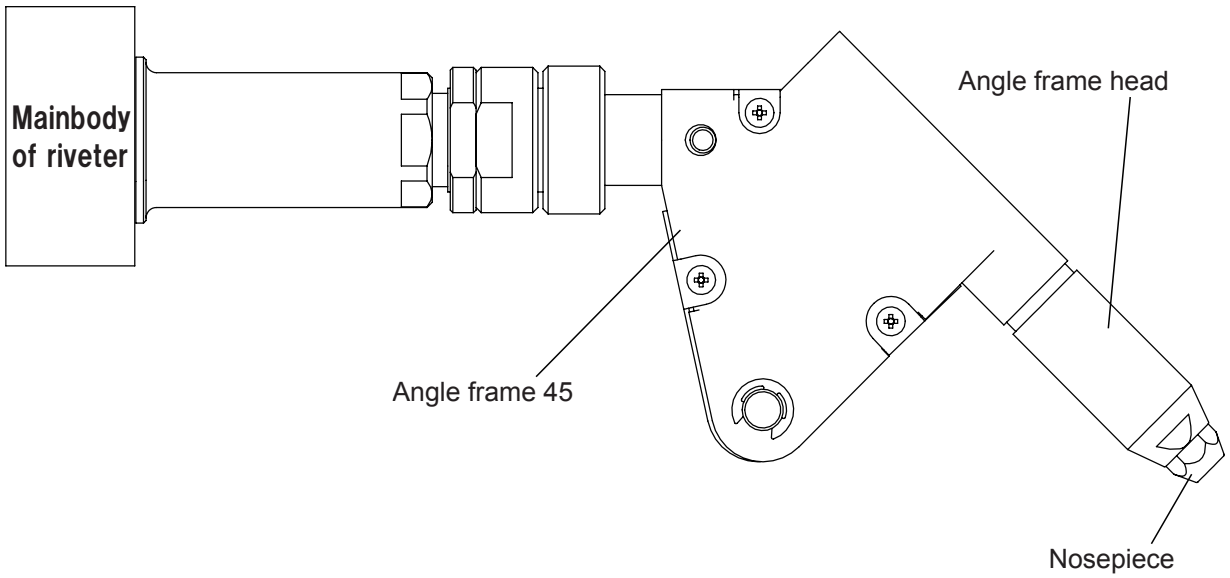
◇ AR−2000A base model



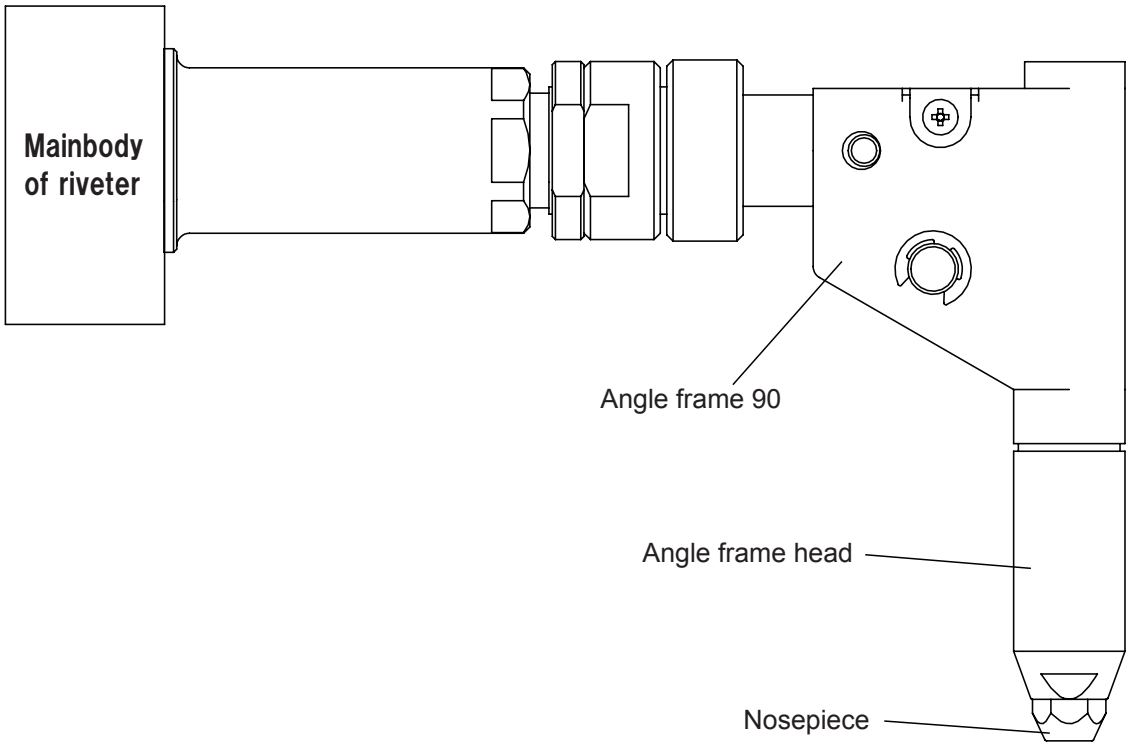
◇ A−00 Angle head



◇ A－ 45 Angle head



◇ A－ 90 Angle head



● TECHNICAL DATA

Model NO.		AR-2000A-00	AR-2000A-45	AR-2000A-90
Weight kg		1.8	1.85	1.75
Operating air pressure MPa		0.5 ～ 0.6		
Dimensions (Length×Height×Width) mm		323×306×82	316×306×82	256×302×82
Air consumption per rivet ℓ		1.7		
Tool stroke mm		16		
Traction power at 0.6MPa kN		8(820)		
Applicable rivets (rivet diameters) ϕ mm		2.4・3.2・4.0・※① 4.8		
Operating environment	Temperature	4℃ to35℃		
	Relative humidity	80% RH max (no condensation)		
Sound	Pressure level(Lpa)	75dB		
Vibration at 0.6MPa	m /sec^2	2.5 Under		
Air intake (Rotary joint)		Size of screw G1/4 (PF1/4)		

※ Product specifications and design are subject to change for improvement without notice.
※ Weight and dimensions given are standard values. Actual products may differ slightly from the values given.
※ The rating plate (note: warning plate attaching location) is on the cylinder cover.
※ The year and month of production of the tool are indicated by code and four-digit number on the cylinder top.
Production year/mouth of angle part is indicated by brevity code of 3-digit numbers.(Refer to page 8.)
※① LOBSTER Bland rivets NSS, NST cannot idonrfy by digit numbers. ※①エビ印ブラインドリベットの品番NSS、NSTについては不可です。

■ Air consumption calculation method ■

Use the following calculation method to obtain the required air consumption,and select the compressor accordingly.

Required air consumption = Air consumption per rivet × No. of rivets per minute

Make sure that this corresponds to the compressor discharge capacity(per minute.)

How to read the year and month of production

A year/month of manufacture	1	2	3	4	5	6	7	8	9	10	11	12
An English character	A	B	M	N	K	W	T	Y	U	O	L	Z

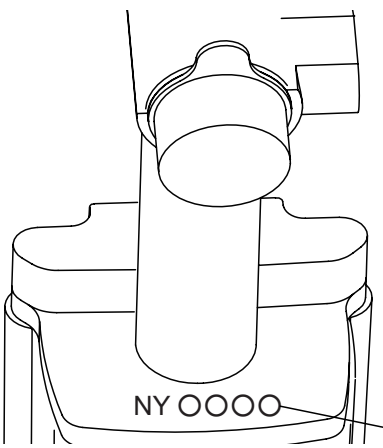
Example

year: 2 0 1 ④ month: ⑧→ NY ○○○○

N Y

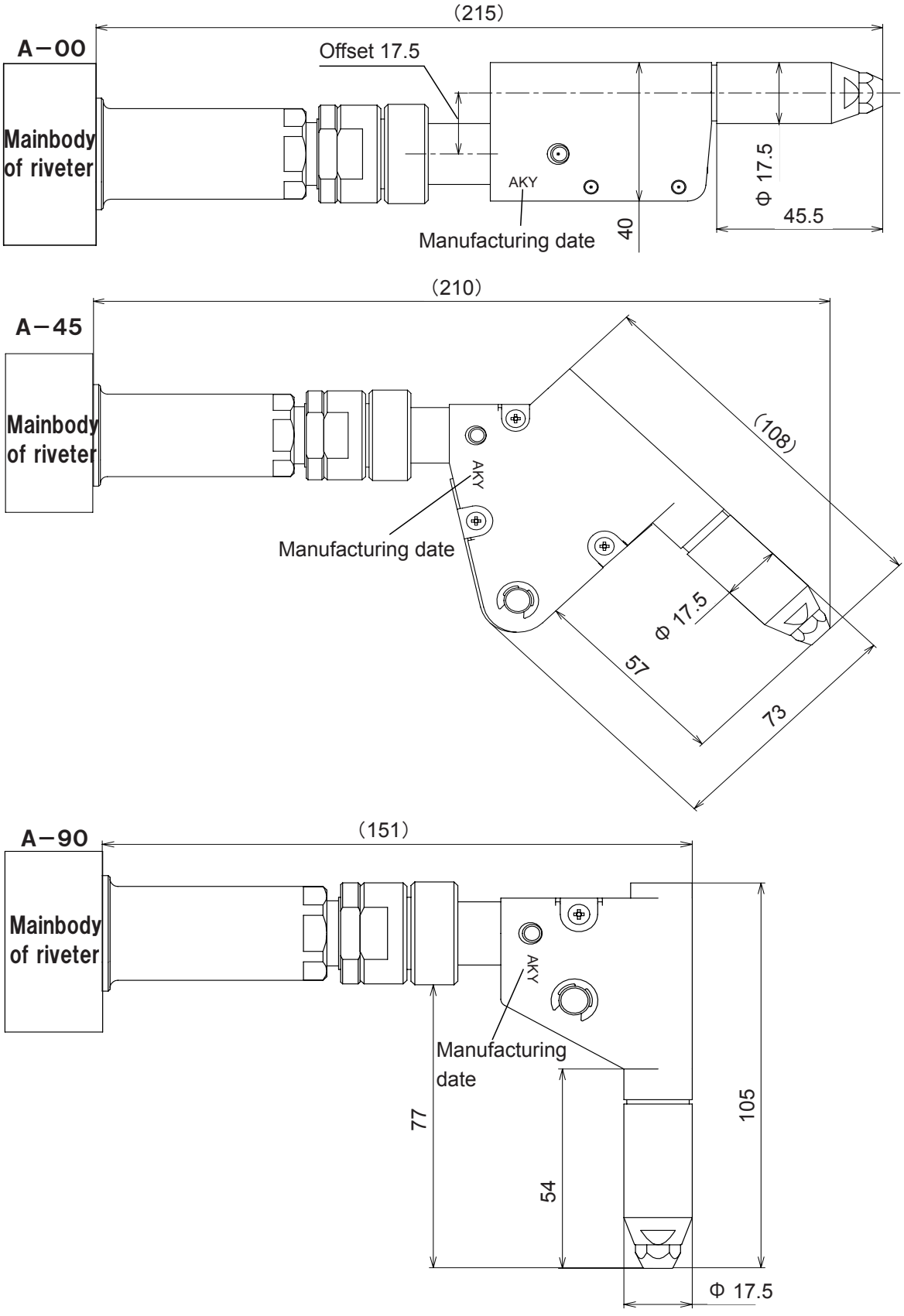
Example) AKY → 158 → 2015 August

Revision history of instruction manual
Item : Air riveter
Model : AR-2000A
Date of first edition: February ,2015



Date of first edition

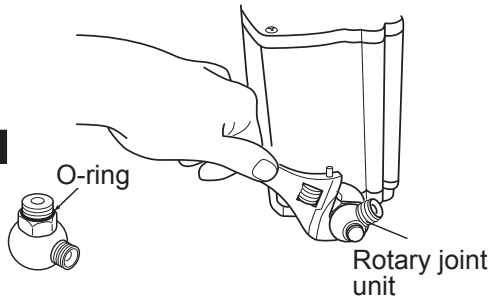
◇Dimensional drawing of Angle nose



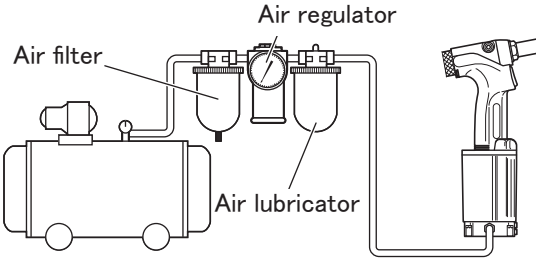
● PREPARATION BEFORE USE

1 Remove the dust-proof cap on the bottom of the tool, and then connect the rotary joint unit.

◘ Connect the end of the rotary joint unit which has the O-ring fitted to the tool. ⚠ WARNING5 (P2)



2 Set up the compressor, and be sure to install an air filter, air regulator and air lubricator (3-device set) between the compressor and the tool.



ATTENTION:

In case of the usage in the cold district, the moisture contented air in the tool body may be frozen on the inside cylinder surface. As the result, it may not work. To dehydrate, we recommend to add the air-dryer unit to the normal three units (Regulator, Filter, and Lubricator).

3 Use the air regulator to adjust the operating air pressure to 0.5 ～ 0.6Mpa. ⚠ WARNING1 (P2)

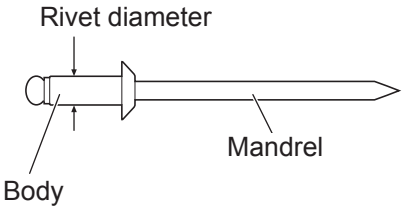
ATTENTION:

- Mandrel will be ejected from front part(nosepiece). Be careful that mandrel may fall off after finger got off from the trigger. (rivets will not be ejected from back side of the tool.)
- If the air pressure is too high, damage to parts to may occur. If the pressure is too low, some size of the rivet may not be correctly installed (cut.)

4 Replace the nosepiece to conform 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 are fitted with a 3.2 nosepiece.
◎ When using the different size please use the accompanying Spanner A to change the nosepiece.



● OPERATING THE AIR RIVETER

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

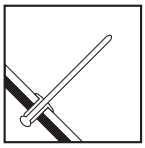
2 Replace the nosepiece with one which matches the size of the rivet to be used.（Refer to item **4** in "Preparation Before Use" on page 9.）

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

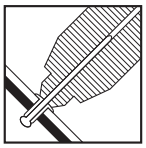
4 Insert the rivet into the hole.

ATTENTION:

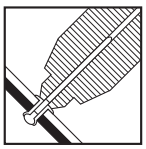
Some rivets have mandrels with sharp ends.
Be careful not to injure your fingers on these ends.



5 Place the nosepiece of the air riveter over the 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 workpiece, press the switch.



7 The rivet will be installed into the workpiece.

8 Release the switch, and then hilt the air riveter to remove the cut mandrel from the nosepiece.

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° ～ 35℃（40° ～ 95°F）.

● MAINTENANCE

After long periods of use, debris from rivet 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 to operating problems. The tool should be cleaned periodically.

1 Jaw maintenance

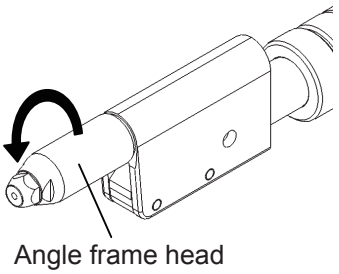
Also refer to this section when replacing parts.

◎ If debris up, the jaws will not move smoothly and normal operation will not be possible.
◎ The jaws should be cleaned on average once 3,000 riveting operations.
・3,000 is rough standard, this may change by usage environment.
◎ Do not disassemble other area besides Angle frame head area.

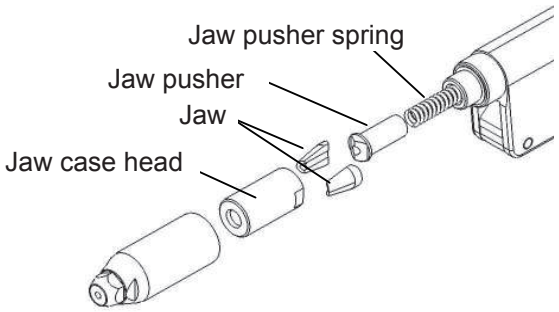
DISASSEMBLY

1 Turn off the air supply. ⚠ CAUTION 1 (P3)

2 Take off Angle frame head by using Spanner A. ⚠ CAUTION 3 (P3)



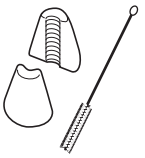
3 Take off Jaw case head and take out Jaw pusher spring, Jaw pusher and Jaws.



CLEANING

4 Use a brush or similar to clean all parts.

◎ Make sure to clean the Jaws and inner side of the Angle frame head since it is the area where dust appears.



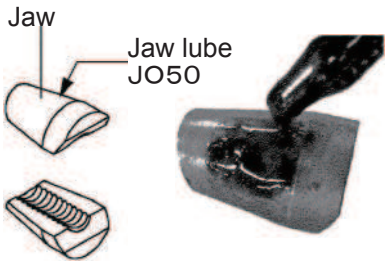
RE-ASSEMBLY

5 Reassemble by following the disassembly procedure in reverse.

◘ Apply "LOBSTER" brand jaw lube (sold separately) to the backs of the jaws.

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.



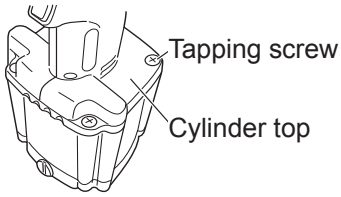
2 Cleaning and filling the cylinder

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

DISASSEMBLY

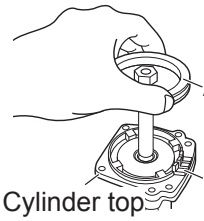
1 Turn off the air supply. ⚠ CAUTION 1 (P3)

2 Take off Angle frame head by using Spanner A. (Refer to page 11.) ⚠ CAUTION 3 (P3)



3 Use a Phillips screwdriver to remove the four tapping screws on the cylinder top, and then separate the cylinder and the frame.

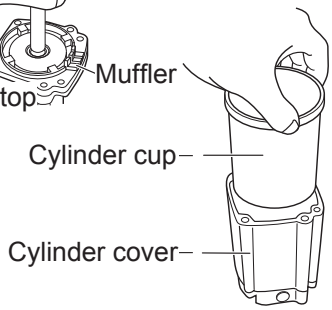
- Hold the frame vertical, as the hydraulic oil will spill out if it is tipped sideways.



4 Hold the frame upside down and pull the air piston out from the cylinder top.

- There are possibility that Air piston may remain inside Cylinder cup.

5 Remove the cylinder cup from the cylinder cover.

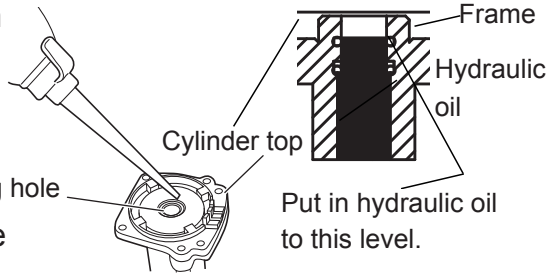


CLEANING

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

FILLING OIL

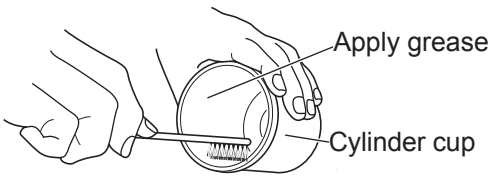
7 Fill with hydraulic oil until just before the oil starts running out from the filling hole.

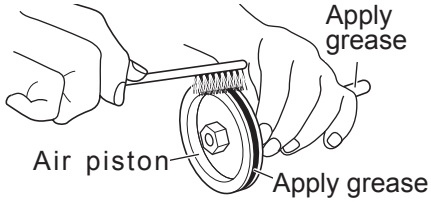


Fill in the oil until the O-ring around the Oil filling hole.

RE-ASSEMBLY

8 Apply grease to the inside of the cylinder cup and to the O-ring and rod of the piston.





- Apply grease to the sliding portion when assembling the tool. Recommended grease is Shell Sunlight Grease 0.

9 Put the cylinder cup back in the cylinder cover.

10 Put the air piston back inside the cylinder cup.

- AT that time, the air piston is susceptible to falling inside the cylinder cup. Carefully press the air piston straight to the bottom. (13-1)
  If the piston inclines, remove it and then press it again. Do not forcibly press the inclining piston. (13-2)

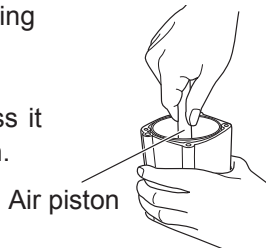


Figure 13-1

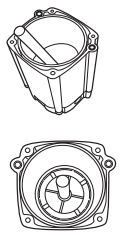
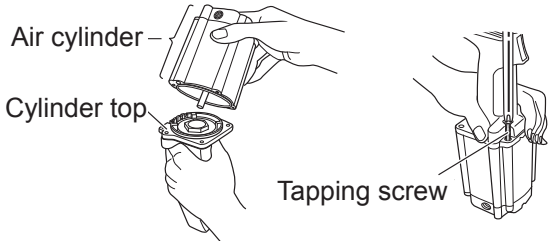


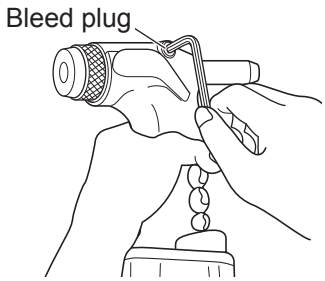
Figure 13-2

11 Put the air cylinder containing the air piston together with the cylinder top. Hold them down while fastening the four tapping screws.



12 After all parts have been reassembled but before the frame head has been re-attached, hold the tool so that the bleed plug (hexagon socket head cap screw) is facing directly upward, and use the accessory hex key wrench to loosen the bleed plug todrain any excess oil.
After checking that no more oil is coming out, re-tighten the bleed plug.

- Be care when loosening the bleed plug, as the hydraulic oil may spurt out strongly.



13 Wipe away any oil outside the tool and clean up any spilt oil before using the tool.

⚠ CAUTION 5（P3） ⚠ CAUTION 11（P3）

NOTE:

- Be careful not to allow any debris or other foreign materials get into the hydraulic oil or the cylinder disassembly and re-assembly.

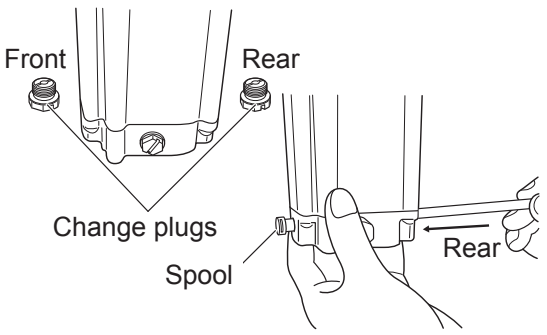
3 Cleaning the spool

DISASSEMBLY

1 Turn off the air supply. ⚠ CAUTION 1（P3）

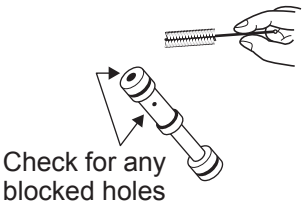
2 Use a spanner or similar tool to remove the change plugs at the front and back.

3 Use a plastic screwdriver or similar to push out the spool from the rear hole.



CLEANING

4 Use a brush or similar to clean all parts.
Check the spool thoroughly to ensure that none of the small holes in the spool are blocked.



RE-ASSEMBLY

5 Reassemble by following the disassembly procedure in reverse.

- Apply grease to the O-ring of the spool before reassembly.
- The front and rear change plugs and the change plug of the air hose connector (refer to page 5) have the same shape, so be careful not to confuse them.

Change plug of spool side and air hose side are the same shape so be careful not to put changeplug to wrong area.

スプール部前後のチェンジプラグとエアーホース取付部（P5参照）のチェンジプラグとは同一形状ですので、付け間違えないようにご注意ください。

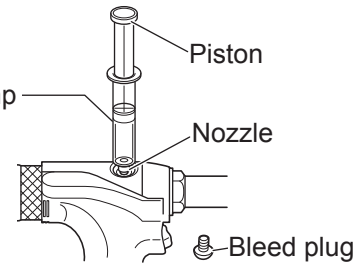
4 Adding oil

◎ Oil addition should always be carried out by following the simple procedure given below.

DISASSEMBLY

1 Turn off the air supply. ⚠ CAUTION 1 (P3)

2 Use the accessory hex key wrench to remove the bleed plug, and attach the priming pump (syringe unit) to the hole.



- Make sure that the priming pump contains the necessary amount of oil beforehand.
- If you hold the main body of the priming pump while tightening, the pump may become damaged.
  Use pliers to hold the nozzle of priming pump while tightening.

FILLING OIL

3 Gently depress the piston of the priming pump.

- When enough hydraulic oil has been added, the piston will become hand to push.
  Stop adding oil at this point.

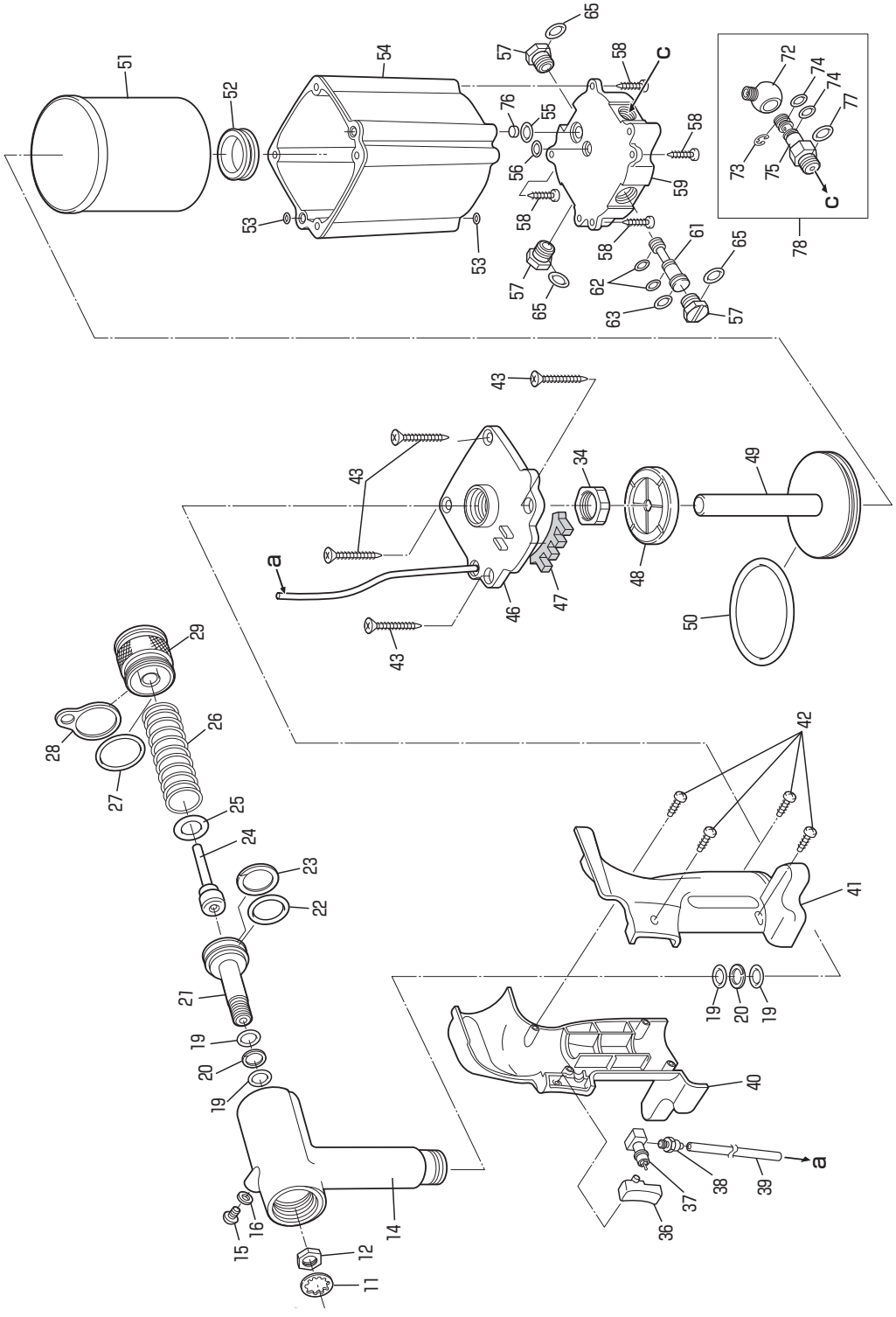
RE-ASSEMBLY

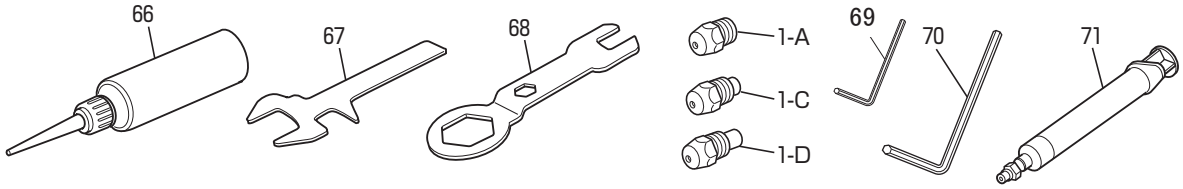
4 Install the bleed plug.

MEMO

PARTS TABLE

AR-2000A Series



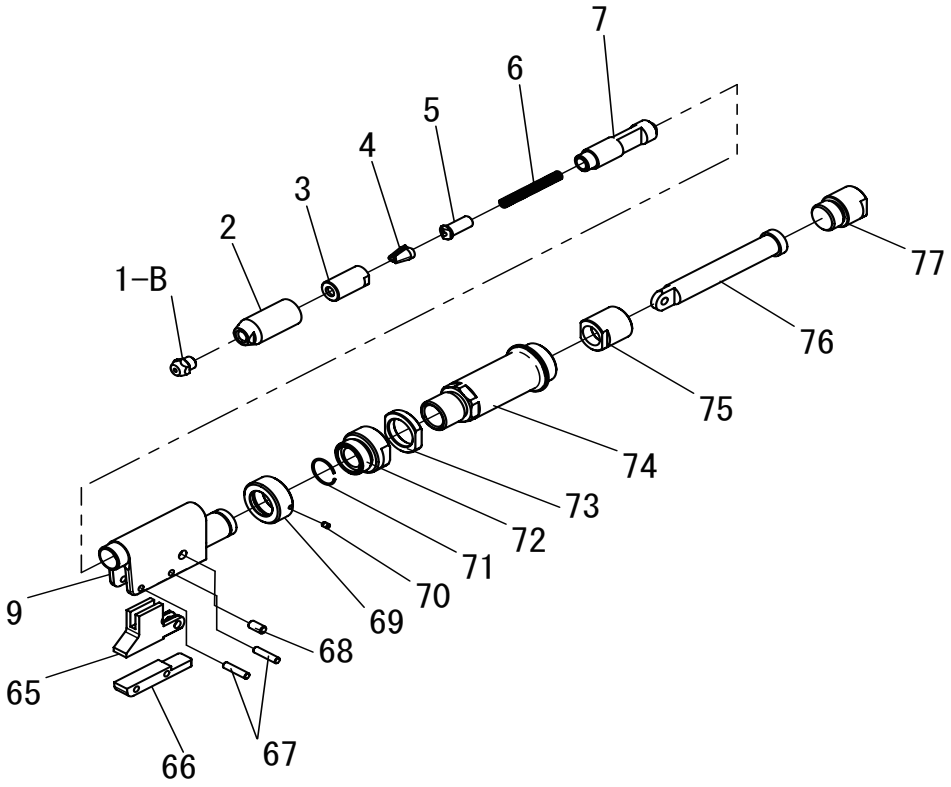


Index No.	Part name	Code No.	Material
	◎ For the Angle head refer to Angle head parts list.		
1−A	Nosepiece 2.4	10027	Steel
1−C	Nosepiece 4.0	10029	Steel
1−D	Nosepiece 4.8	10030	Steel
11	Toothed washer	10148	Steel
12	Jaw case lock nut	10113	Steel
14	Frame unit 'MA'	42486	③
15	Bleed plug	29337	Steel
16	Pack seal 6mm	10355	Plastic
19	O-ring P-12	10128	Rubber
20	B− ring P-12	10129	Plastic
21	Oil piston 'Y'	41264	Steel
22	O-ring P-22A	10130	Rubber
23	B-ring P-22A	10131	Plastic
24	Piston sleeve	42498	Aluminum
25	Flat washer 12×24	42504	Steel
26	Return spring 'M'	29345	Steel
27	O-ring S-30	23685	Rubber
28	Hanger clip	10106	Steel
29	Frame cap 'MA'	42487	Aluminum
34	Frame lock nut	29757	Steel
36	Switch	29348	Plastic
37	Valve sleeve	29350	Brass
38	Miniature straight	42510	⑥
39	Polyurethane tube 115mm	44705	Plastic
40	Frame cover MA-R	42478	Plastic
41	Frame cover MA-L	42500	Plastic
42	Pan head tapping screw 3×10	29340	Steel
43	Flat head tapping screw 5×35	29367	Steel
46	Cylinder top MA	42492	④
47	Muffler	29377	Rubber
48	Cushion rubber 'H'	29736	Rubber
49	Air piston unit 'M'	29635	①
50	O-ring P-60	10134	Rubber
51	Cylinder cup 'M'	29360	Aluminum
52	Grommet	29361	Rubber
53	O-ring S-5	10276	Rubber
54	Cylinder cover 'M'	29359	Plastic
55	O-ring P-10	10274	Rubber
56	O-ring P-6	10150	Rubber
57	Change plug	29375	Plastic
58	Pan head tapping screw 4×20	29610	Steel
59	Cylinder bottom	29366	Aluminum
61	Spool	29612	Brass
62	O-ring P-5 (4D)	29613	Rubber
63	O-ring P-8 (4D)	29614	Rubber
65	O-ring P-9	10219	Rubber
66	Hydraulic oil in a bottle	10012	–––
67	Gauge spanner	48808	Steel
68	Spanner A	48805	Steel
69	Hex key wrench 1.5mm	48765	Steel
70	Hex key wrench 5mm	25777	Steel
71	Priming pump	29624	⑤
72	Rotary joint	42501	Aluminum
73	Retaining ring E-7	10285	Steel
74	O-ring P-7	10149	Rubber
75	Nipple	42479	Aluminum
76	Rubber plate MA	42836	Rubber
77	O-ring S-10	10151	Rubber
78	Rotary joint unit	42502	②
–––	–––	–––	–––
–––	–––	–––	–––

Unit parts materials
① Aluminum、Rubber
② Aluminum、Rubber、Steel
③ Aluminum、Rubber、Steel、Plastic
④ Aluminum、Brass、Rubber、Plastic
⑤ Brass、Rubber、Plastic
⑥ Brass、Rubber

※ Part no.14 includes part nos.15、16、19、and 20.
※ Part no.46 includes part nos. 37、38、39、and 47.

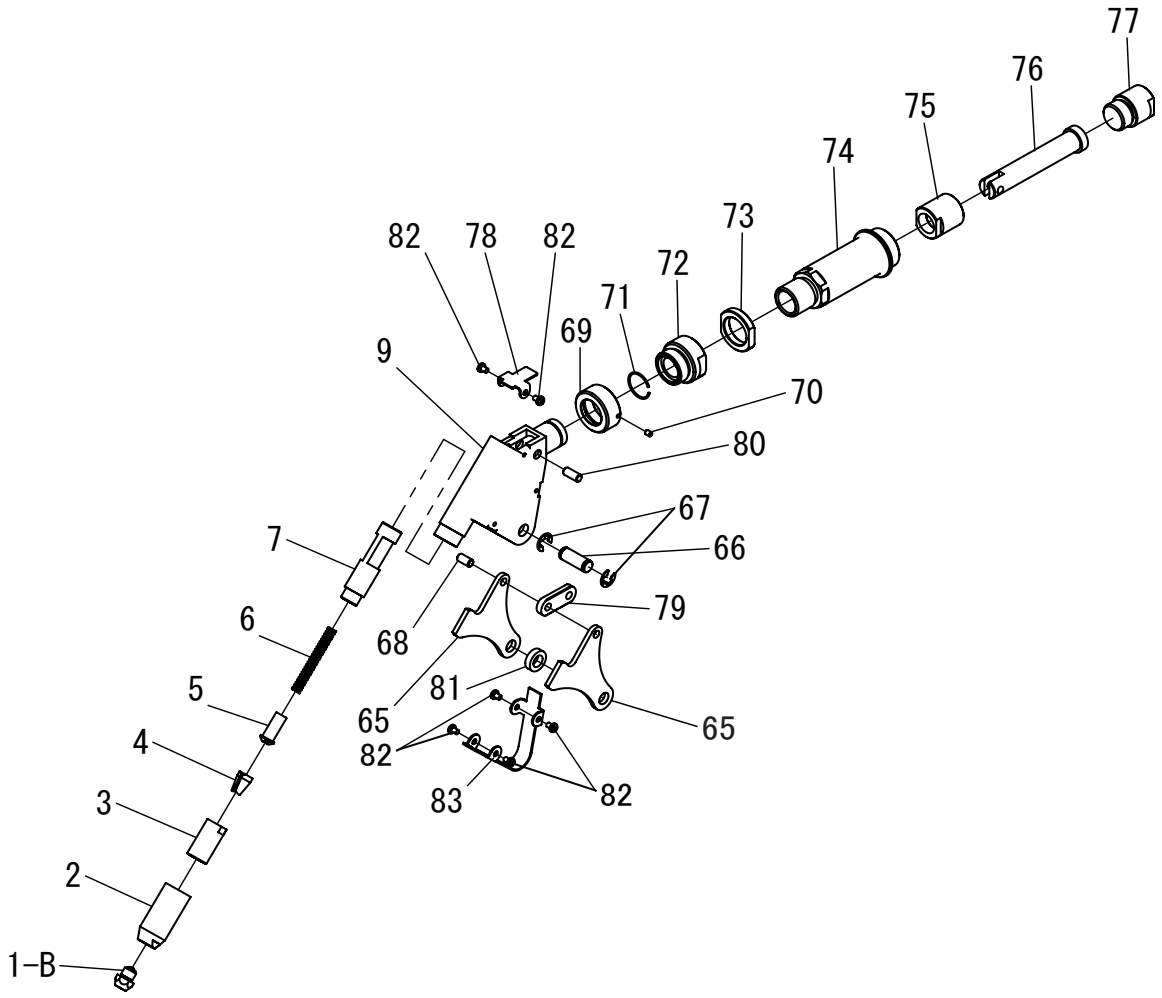
A-00 Angle head



Index No.	Part name	Code No.	Material
1−B	Nosepiece 3.2	10028	Steel
2	Angle frame head	48750	Steel
③	Jaw case head	48748	Steel
④	Jaws (pair) 'S'	10032	Steel
⑤	Jaw pusher	48749	Steel
⑥	Jaw pusher spring	48751	Steel
7	Jaw case	48753	Steel
—	—	—	—
9	Angle frame 00	48792	Steel
65	Lever 00	48755	Steel
66	Plate	48756	Steel
67	Pin (Φ4)	48794	Steel
68	Pin (Φ5×10)	24405	Steel
69	Angle frame nut	24034	Steel
70	Hexagon socket set screws	48761	Steel
71	Ring	24036	Steel
72	Stroke adjusting nut	24038	Steel
73	Nut	48800	Steel
74	Frame head	48796	Steel
75	Stroke adjusting nut A	48759	Steel
76	Rod 00	48757	Steel
77	Stroke adjusting nut B	48798	Steel

◎ Parts with circled Index No. are consumable parts. They should be replaced periodically.

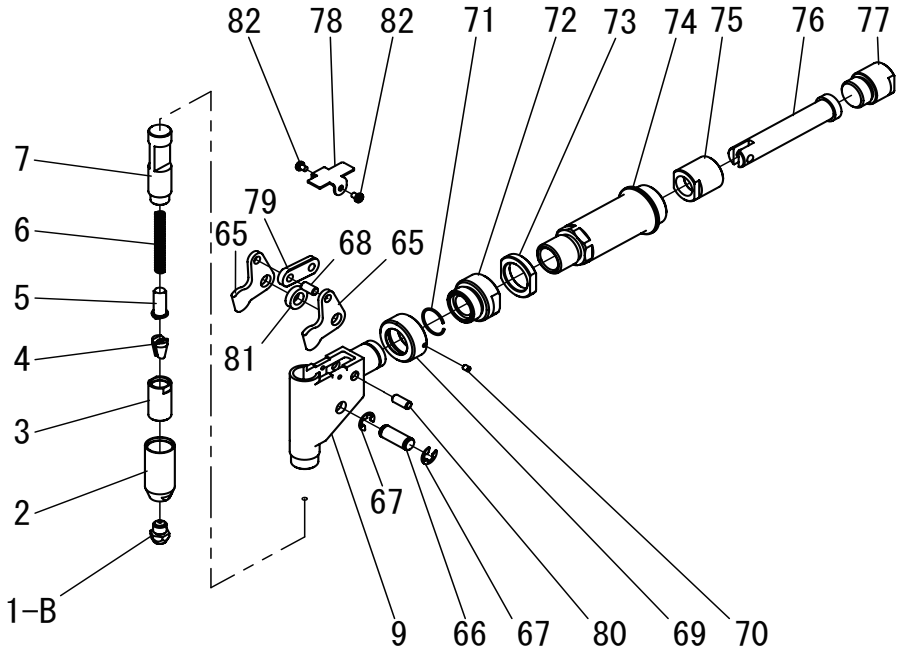
A-45 Angle head



Index No.	Part name	Code No.	Material	Index No.	Part name	Code No.	Material
1-B	Nosepiece 3.2	10028	Steel	70	Hexagon socket set screws	48761	Steel
2	Angle frame head	48750	Steel	71	Ring	24036	Steel
③	Jaw case head	48748	Steel	72	Stroke adjusting nut	24038	Steel
④	Jaws (pair) 'S'	10032	Steel	73	Nut	48800	Steel
⑤	Jaw pusher	48749	Steel	74	Frame head	48796	Steel
⑥	Jaw pusher spring	48751	Steel	75	Stroke adjusting nut A	48759	Steel
7	Jaw case	48753	Steel	76	Rod 4590	48773	Steel
—	—	—	—	77	Stroke adjusting nut B	48798	Steel
9	Angle frame 45	48811	Steel	78	45°Safety cover (1)	48770	Steel
65	Lever 45	48769	Steel	79	Connecting lever	48772	Steel
66	Slotted pin (Φ8)	48768	Steel	80	Pin (Φ5×12)	24403	Steel
67	E-type retaining ring 6	24043	Steel	81	Spacer	24046	Steel
68	Pin (Φ5×10)	24405	Steel	82	Cross recessed pan head screw M3×3	48771	Steel
69	Angle frame nut	24034	Steel	83	45°Safety cover (2)	48774	Steel

◎ Parts with circled Index No. are consumable parts. They should be replaced periodically.

A-90 Angle head



Index No.	Part name	Code No.	Material
1-B	Nosepiece 3.2	10028	Steel
2	Angle frame head	48750	Steel
③	Jaw case head	48748	Steel
④	Jaws (pair) 'S'	10032	Steel
⑤	Jaw pusher	48749	Steel
⑥	Jaw pusher spring	48751	Steel
7	Jaw case	48753	Steel
—	—	—	—
9	Angle frame 90	48814	Steel
65	Lever 90	48776	Steel
66	Slotted pin (Φ8)	48768	Steel
67	E-type retaining ring 6	24043	Steel
68	Pin (Φ5×10)	24405	Steel
69	Angle frame nut	24034	Steel
70	Hexagon socket set screws	48761	Steel
71	Ring	24036	Steel
72	Stroke adjusting nut	24038	Steel
73	Nut	48800	Steel
74	Frame head	48796	Steel
75	Stroke adjusting nut A	48759	Steel
76	Rod 4590	48773	Steel
77	Stroke adjusting nut B	48798	Steel
78	90°Safety cover	48777	Steel
79	Connecting lever	48772	Steel
80	Pin (Φ5×12)	24403	Steel
81	Spacer	24046	Steel
82	Cross recessed pan head screw M3×3	48771	Steel

◎ Parts with circled Index No. are consumable parts. They should be replaced periodically.

● STORAGE

● Store in a place which is well-ventilated and free from excessive dust and humidity, and where there is no danger that tool will fall.

● If the tool has not been used for a long period of time, inspect the parts as shown in “Maintenance” on pages 11 to 15 prior to storing the tool.

● To increase the working life of the tool, it is recommended that you give the periodic overhauls. Contact the place of purchase or your nearest "LOBSTER" dealer for any overhauls and repair work required. (A charge will be made for this service.)

● ORDERING PARTS

Specify the models, parts names, code numbers., and the quantities of parts as shown below, and place an order with the “LOBSTER” dealer where you purchased the tool.

Model	Part name	Code No.	Qty.
AR2000A	Switch	29348	1
AR2000A	Muffler	29377	1

※ When parts are modified for improvement, the older parts are kept in stock for a period of five years.

● TROUBLESHOOTING

If a problem occurs, check the followings.
If the problem persists after checking the items in the table below, contact your nearest "LOBSTER" dealer or direct to us.

In making any enquiries about this product or requests for repair work, first check the troubleshooting items below, and then make a note of the 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 reducing the amount of time required for delivery or repairs to be completed.

Trouble		Cause	Countermeasure
The rivet does not go in, or the mandrel does not come out after riveting.	1	Use incorrect part to the Angle frame head.	Replace with the correct part which matches the rivet size.
	2	Nosepiece or frame head is loose.	Use a spanner or similar to tighten securely.
	3	Contact surfaces between the jaws and the jaw case head are not smooth.	Clean the jaws and inside the jaw case head, and apply "LOBSTER" brand jaw lube JO-50 to the backs of the jaws.
	4	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.
	5	Oil filling was not performed correctly, so that there is excess hydraulic oil inside the tool.	Loosen the bleed plug to allow the excess hydraulic oil to drain out.
Number of switch operations increases before riveting is complete.	1	The rivet length is not correct for the workpiece thickness.	Use rivets which match the workpiece thickness.
	2	Compressor air pressure is incorrect.	Check the air pressure.
	3	Jaws are worn.	Replace the jaws.
	4	Insufficient hydraulic oil, causing a shorter stroke.	Add hydraulic oil.(After adding the hydraulic oil, loosen the bleed plug and let excessive hydraulic oil out.)
Piston does not operate, or returns very slowly, or operation is not smooth.	1	Spool is not moving properly.	Ⅰ Remove the rear part of changeplug (refer to page 14) and push the spool 2 ～ 3mm with a plastic (soft) stick. In case of no improvement, take the Ⅱ measure. Ⅱ Clean the spool and apply grease to the o-rings.
	2	Air outlet hole muffler is blocked.	Replace the muffler.
	3	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.

When using hard rivets.

When using hard rivets (stainless etc.) the Jaws, Jaw pusher and Jaw pusher spring will need early replacement. Please replace the spare parts for adequate riveting.

HYDRAULIC OIL REQUIREMENTS

Use only clean hydraulic oil, as the viscosity of the oil used will affect tool performance.
"LOBSTER" brand Hydraulic Oil is supplied in a plastic filler bottle with the tool, and can also be obtained from your "LOBSTER" dealer or agent in your town. If this is not possible, a good quality mineral oil with the following properties should also be used.

Viscosity ISO :VG46
Viscosity Index :113
Viscosity at 40℃ :46 c.s.t.
Viscosity at 100℃ :7.06 c.s.t.
Flash Point :228

RECOMMENDED OILS are:
Shell Tellus No.46
Esso Teresso No.46
Mobil D.T.E. 25 Oil(Medium)

WARRANTY & SERVICE

LOBSTER® 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 LOBSTER® 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 NO CIRCUMSTANCES WILL LOBSTER® BE LIABLE FOR DAMAGES OR COSTS INCURRED BY THE BUYER OR SUBSEQUENT USER IN RE-PAIRING OR REPLACING DEFECTIVE GOODS.

ROUTINE MAINTENANCE AND REPAIR OF LOBSTER® RIVET TOOLS CAN BE PERFORMED BY AN AVERAGE MECHANIC.
HOWEVER, IF YOU HAVE A LOBSTER® RIVET TOOL THAT IS IN NEED OF MAJOR REPAIR WE RECOMMEND THAT IT BE SENT DIRECTLY TO US POSTAGE PAID FOR SERVICE AT A REASONABLE CHARGES.

MANUFACTURER

LOBTEX CO.,LTD.

OSAKA,JAPAN