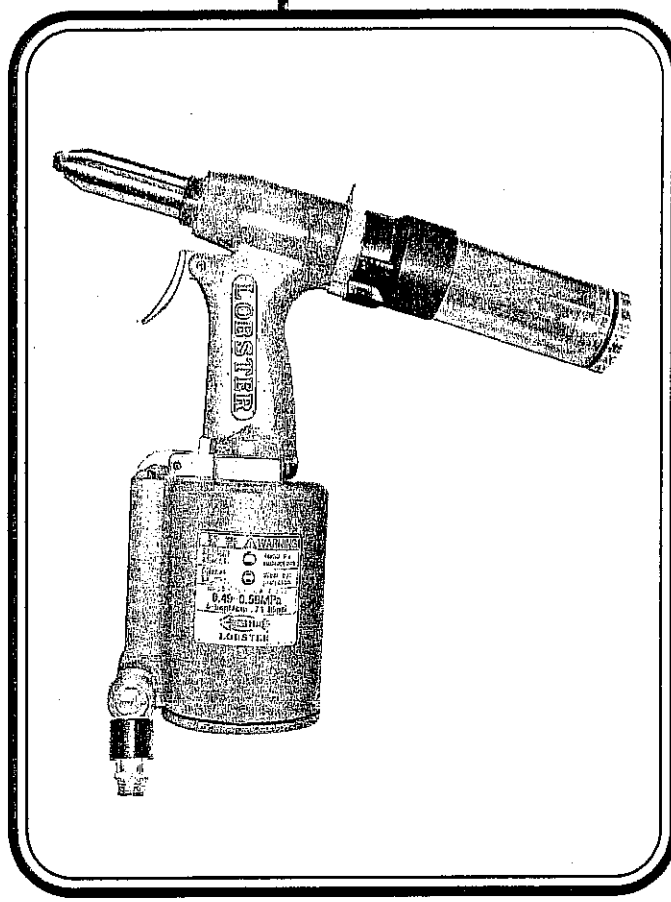
LOBSTER®

AIR RIVETER CE

INSTRUCTION MANUAL

BUILT-IN ON-DEMAND VACUUM SYSTEM

日本語/ENGLISH



ARV-041M

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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

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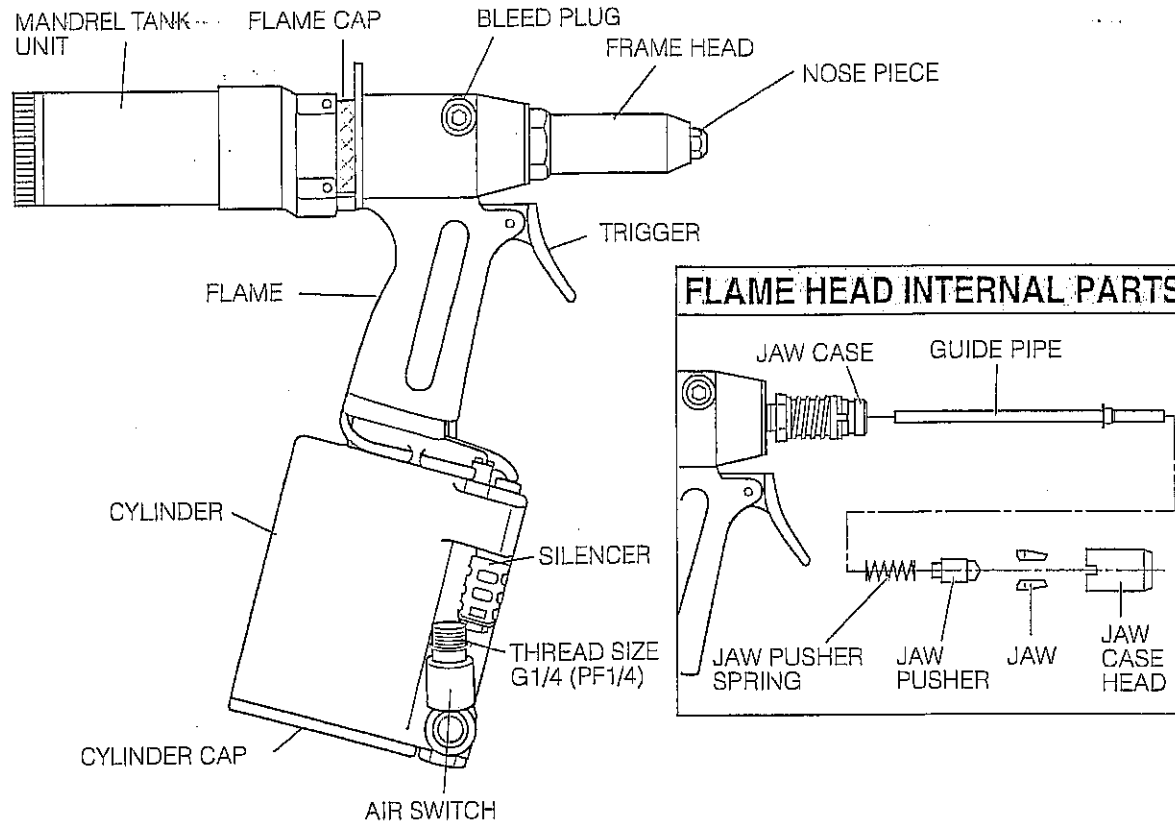
RAM041B80110-SI PRINTED IN JAPAN

NOMENCLATURE



TECHNICAL DATA

Model No.	ARV-041M
Weight kg (lbs)	1.2
Operating air pressure MPa (kgf/cm²)[psi]	0.49-0.59 (5-6) [71-85]
Dimensions (Length × Height × Width) mm	225 × 271 × 80
Air consumption per minute liter(c.ft.)	100 (3.53)
Tool stroke mm (inch)	16 (41/64)
Traction power at 0.59 MPa kN (kgf)	8 (820)
Applicable rivets ϕ mm (rivet diameters) ϕ inch	2.4, 3.2, 4.0, 4.8 3/32, 1/8, 5/32, 3/16

- 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.

■ Air consumption calculation method

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

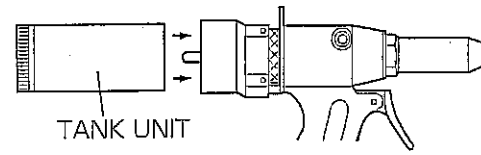
Required air consumption = Air consumption per minute

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

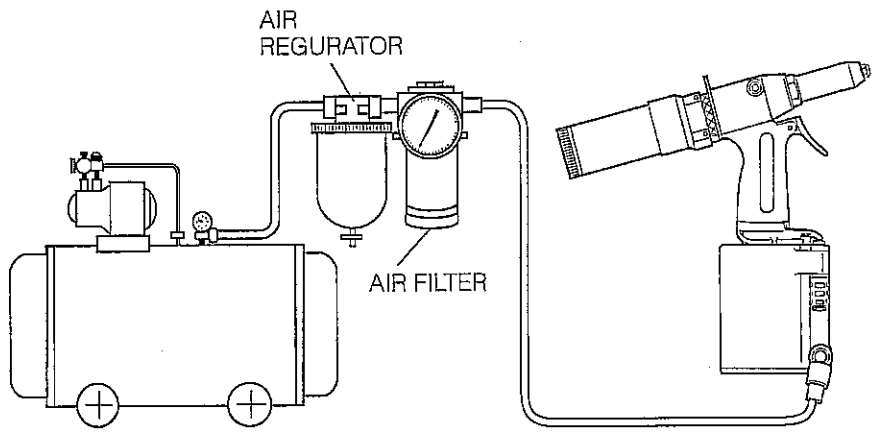
PREPARATION BEFORE USE

1 **Install the tank unit to the tool.**

- Fit the tank unit onto the riveter securely as shown in the illustration. **⚠WARNING 3 (P.1)**



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



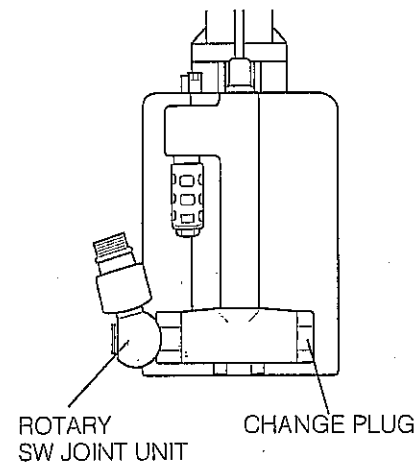
Either the left or right connector can be used. Be sure to insert the change plug into the connector which is not being used.

3 **Use the air regulator to adjust the operating air pressure to 0.49 ~ 0.59 MPa (5 ~ 6 kgf/cm², 71 ~ 85 psi).** **⚠WARNING 1 (P.1)**

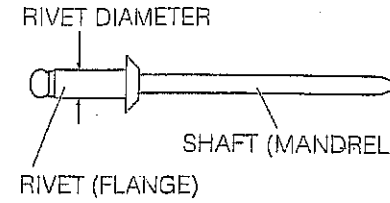
- If installing stainless steel rivets with a diameter of 4.8 mm (3/16") with the ARV-041M, set the air pressure to 0.54 ~ 0.59 MPa (5.5 ~ 6 kgf/cm², 78 ~ 85 psi).

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 and guide pipe as indicated below to conform to the size of the rivet being used.**
Refer to "Jaw maintenance" on page 7 for details on replacing the guide pipe.



Part No.	Rivet Dia.	Nosepiece	Guide Pipe	
ARV-041M	2.4 mm (3/32")	2.4	A (Yellow)	
	3.2 mm (1/8")	3.2		B (Silvery)
	4.0 mm (5/32")	4.0		
	4.8 mm (3/16")	4.8		

Shaded areas indicate parts which are installed in the tool as standard accessories.

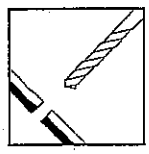
* If using the ARV-041M, either guide pipe A or guide pipe B can be used for 3.2 mm (1/8") diameter rivets.

OPERATING THE AIR RIVETER

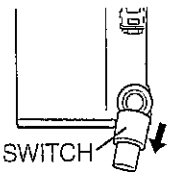
1 Select a rivet of a size which is suitable for the workpiece to be riveted.

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 5.)

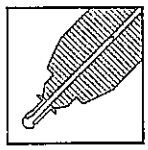
3 Drill a hole of appropriate size (0.1 to 0.2 mm larger than the diameter of the rivet) into the workpiece.



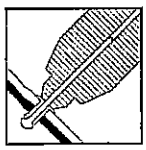
4 Turn the air switch to switch on the vacuum system.
Insert the shaft (mandrel) of the rivet into the tool's nosepiece.



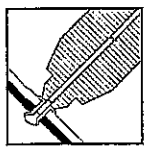
ATTENTION:
Some rivets have shafts (mandrels) with sharp ends. Be careful not to injure your fingers on these ends.



5 After inserting the shaft (mandrel) of the rivet into the nosepiece, insert the head of the rivet into the hole.



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, press the trigger.



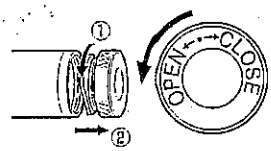
7 The rivet will be installed into the workpiece.

8 Release the trigger. The cut mandrel (shaft) will then be drawn into the tank unit.
NOTE: Make sure that the cut mandrel has been completely removed before proceeding to the next riveting.

⚠WARNING 3 (P.1)

9 Once the tank unit is about half full, turn the tank cap at the end of the tank in the OPEN direction to remove the cap. Then empty out the cut mandrels from inside the tank unit.

NOTE: It is strongly recommended to dispose of the spent mandrels as soon the Mandrel collection tank become half filled.
Failure to do this, jamming of the spent mandrels inside the Guide Pipe will occur and the vacuum will cease to function, resulting in a back flow of air from the Nosepiece.



<Operating temperature>The ambient temperature for working is within the range of 4° ~ 35°C (40° ~ 95°F).

MAINTENANCE

ENGLISH

After long periods of use, debris from rivet shafts (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.

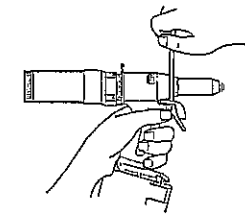
1 Jaw maintenance

Also refer to this section when replacing parts.

◎ If debris builds up, the jaws will not move smoothly and normal operation will not be possible.
◎ The jaws should be cleaned on average once every 3,000 riveting operations.

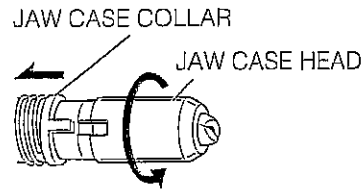
DISASSEMBLY

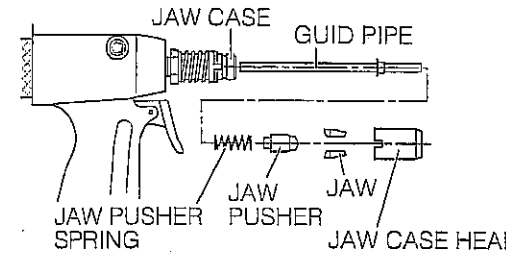
1 Turn off the air supply.
⚠CAUTION 1 (P.2)



2 Use a spanner or similar tool to remove the frame head.
⚠CAUTION 2 (P.2)

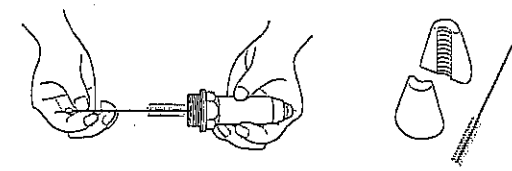
3 Pull backwards the jaw case collar to loosen and remove the jaw case head, and then remove the guide pipe, the jaw pusher spring, jaw pusher and jaws.





CLEANING

4 Use a brush or similar to clean all parts.

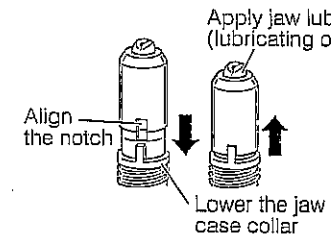


RE-ASSEMBLY

5 Reassembly by following the disassembly procedure in reverse.
Tighten the jaw case head fully, and then turn it back so that the notch is aligned with the tab on the jaw case collar, and move the collar in placa.

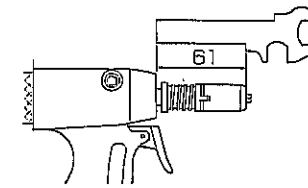
◘ Apply "LOBSTER" brand jaw lube (sold separately) to the backs of the jaws.

6 In the case of the ARV-041M, the jaw case and jaw case lock nut do not need to be removed during maintenance. If they are removed by mistake, replace them so that the distance matches those shown in the illustration at right.



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

<Jaw case setting position>



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

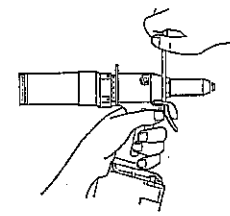
◎ If foreign materials build up in the cylinder, it will not operate smoothly and service life will be reduced.

DISASSEMBLY

1 Turn off the air supply.
⚠CAUTION 1 (P.2)

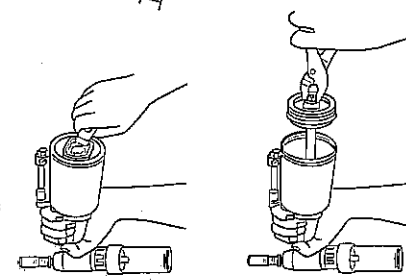
2 Use a spanner A to remove the frame head.

> **⚠ WARNING 4 (P.1)**
> Be sure to remove the frame head when adding hydraulic oil through the cylinder.



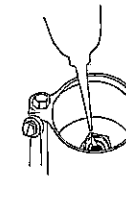
3 Use a spanner A to remove the cylinder cap and pull-out the air piston straightly using suitable pliers.

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



CLEANING

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

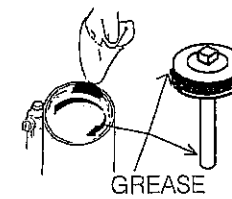


FILLING OIL

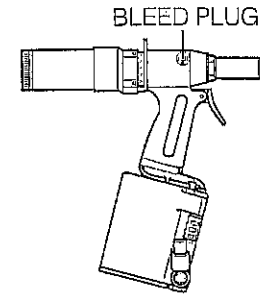
5 Fill with hydraulic oil until just before the oil starts running out from the filling hole.

RE-ASSEMBLY

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



7 After all parts have been reassembled, install frame head securely using a spanner A.



NOTE:

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

日本語/ENGLISH

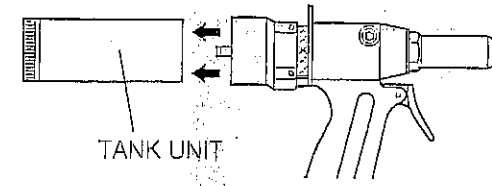
3 Cleaning the nozzle

ENGLISH 英語

DISASSEMBLY

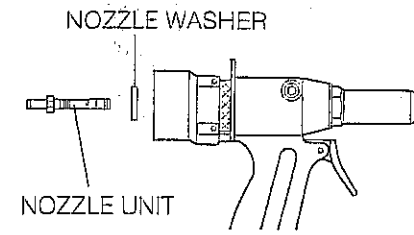
1) Turn off the air supply. ⚠CAUTION 1 (P.2)

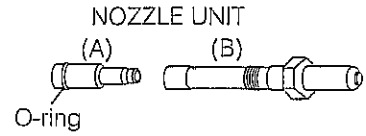
2) Remove the tank unit.

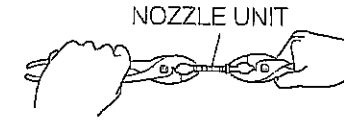


3) Use a spanner C to remove the nozzle unit.

4) Disconnect the joint part of the nozzle unit using a plier. Clean the hole of nozzle B and the top part of nozzle A.

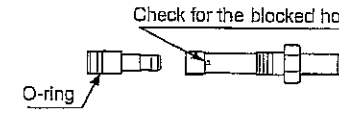






CLEANING

5) Use a brush or similar tool to clean the nozzle. Check for the blocked hole.



RE-ASSEMBLY

6) Reassemble by following the disassembly procedure in reverse.

☐ Apply grease to each O-ring before installing them.

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 fall.
- If not using the tool for an extended period of time, carry out a maintenance inspection before storing it away. (Refer to "Maintenance" on pages 7 ~ 9.)
- To increase the working life of the tool, it is recommended that you give it 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.)

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°C	: 46 c.s.t.
Viscosity at 100°C	: 7.06 c.s.t.
Flash Point	: 228

RECOMMENDED OILS are:

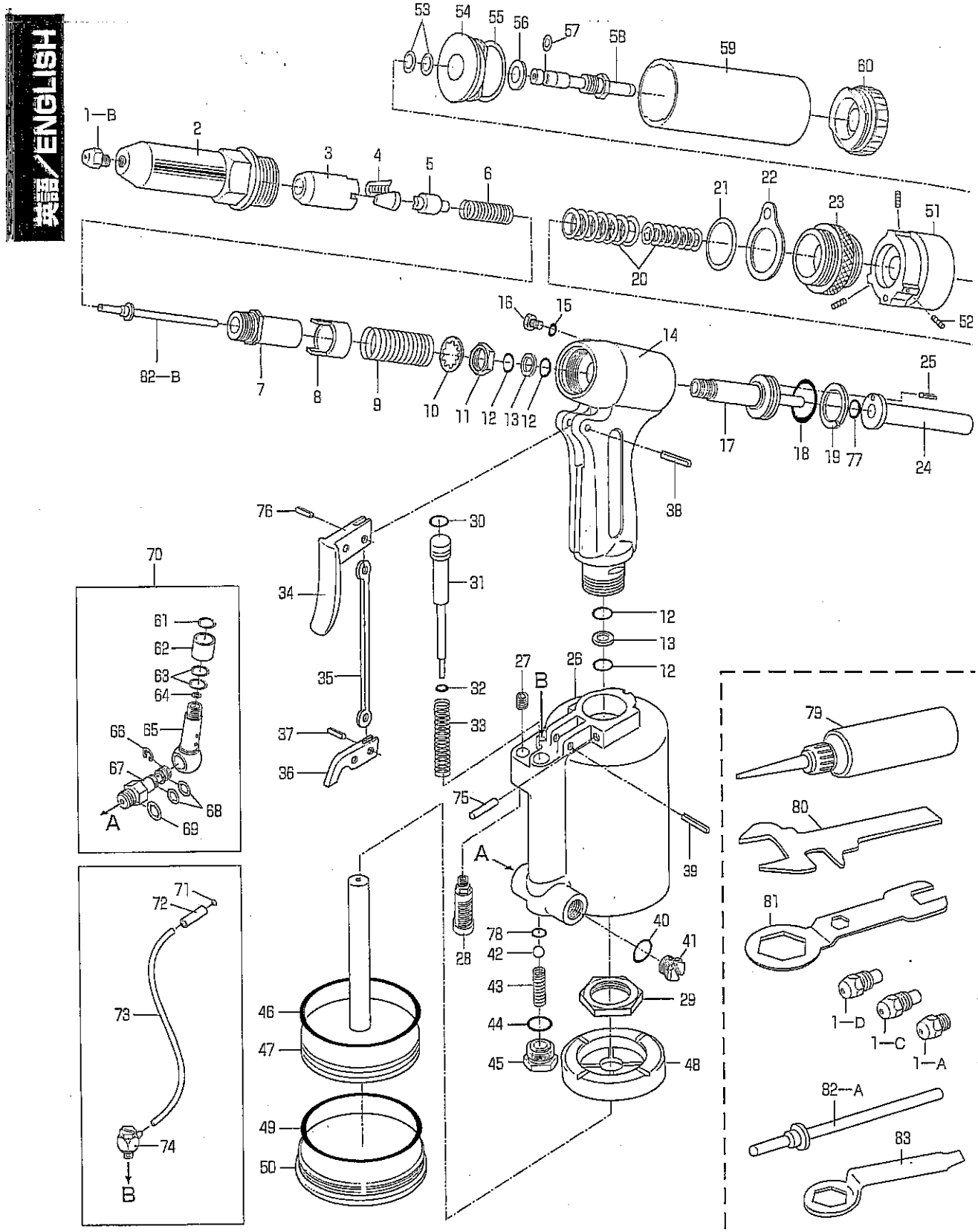
Shell Tellus No. 46
Esso Teresso No. 46
Mobil D.T.E. 25 Oil (Medium)

TROUBLESHOOTING

If a problem occurs, check the following.
If the problem persists after checking the items in the table below, contact your nearest "LOBSTER" dealer or direct to us.
In making any enquires 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 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.	1	Incorrect combination of replacement parts being used.	Replace with the correct part which matches the rivet size. (Refer to page 5.)
	2	Nosepiece or frame head is loose.	Use a spanner A to tighten securely.
	3	Jaw case is incorrectly assembled.	Check the jaw case setting position. (Refer to page 7.)
	4	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 (or spray-type lubricating oil or the accessory hydraulic oil) to the backs of the jaws. (Refer to page 7.)
	5	The inside of the frame head is dirty so that the jaws cannot open property.	Clean the inside of the frame head and the jaws. (Refer to page 7.)
	6	The tail end of the nosepiece is damaged so that the jaws cannot open properly.	Replace the nosepiece.
	7	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. (Refer to page 8.)
	8	Oil filling was not performed correctly, so that there is excess hydraulic oil inside the tool.	Refill the hydraulic oil after remove the frame head. (Refer to page 8.)
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. (Refer to page 4.)
	3	Jaw case is incorrectly assembled.	Check the jaw case setting position. (Refer to page 7.)
	4	Jaws are worn.	Replace the jaws. (Refer to page 7.)
	5	Insufficient hydraulic oil, causing a shorter stroke.	Add hydraulic oil. (Refer to page 8.)
Piston does not operate, or returns very slowly, or operation is not smooth.	1	Air outlet hole muffler is blocked.	Replace the muffler.
	2	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. (Refer to pages 8.)
The suction power is weak and the shafts (cut mandrels) cannot be drawn out.	1	The air switch is not open far enough.	Turn the air switch.
	2	There are too many cut mandrels inside the tank unit.	Remove the tank cap and empty out the cut mandrels from inside the tank unit.
	3	The guide pipe is blocked with cut mandrels.	Take out the guide pipe and remove the cut mandrels which are blocking it. (Refer to page 7.)
	4	The nozzle is dirty, causing the suction power to drop.	Clean the nozzle. (Refer to page 9.)

ARV-041M PARTS TABLE



Index No.	Part name	Code No.	Index No.	Part name	Code No.
1−A	Nosepiece 'S' 2.4 (3/32)	10027	42	Valve (Steel ball 8.0)	10247
1−B	Nosepiece 'S' 3.2 (1/8)	10028	43	Valve spring	10444
1−C	Nosepiece 'S' 4.0 (5/32)	10029	44	O-ring S-14	10152
1−D	Nosepiece 'S' 4.8 (3/16)	10030	45	End plug	14073
2	Frame head	29332	46	O-ring P-60	10134
③	Jaw case head	10280	47	Air piston	46319
④	Ultra Jaws (pair) 'M'	10281	48	Bumper (Rubber cushion)	29736
⑤	Jaw pusher	10132	49	O-ring G-70	10080
⑥	Jaw pusher spring	10133	50	Air cylinder cap	45692
⑦	Jaw case	10279	51	Frame cap 'B'	45694
8	Jaw case collar	10286	52	Hexagon socket set screws M4	10269
9	Collar spring	10287	53	O-ring P-10	10274
10	Lock washer	10148	54	Tank joint unit (with O-ring)	45696
11	Jaw case lock nut	10113	55	O-ring P-30	14445
12	O-ring P-12	10128	56	Lock washer	10258
13	B-ring P-12	10129	57	O-ring S-5	10276
14	Frame unit (includes 12 & 13)	45687	58	Nozzle unit (with O-ring)	14230
15	Pacd seal 6 mm	10355	59	Mandrel tank	29674
16	Bleed plug	29337	60	Tank cap	29703
17	Oil piston	10241	61	O-ring P-11 (Urethane)	40504
18	O-ring P-22A	10130	62	Switch tube	40473
19	B-ring P-22A	10131	63	O-ring P-14 (4D)	40508
20	Return spring	14200	64	Steel ball	12355
21	O-ring S-26	10153	65	Rotary SW joint	40472
22	Hanger clip	10106	66	Retaining ring E-7	10285
23	Frame cap	10240	67	Nipple	42479
24	Adaptor	10252	68	O-ring P-7	10149
25	Spring pin 2.5 × 5	12116	69	O-ring S-10	10151
26*1	Air cylinder	45689	70	Rotary SW joint unit	45697
27	Plug	14359	71	O-ring S-4	29664
28	Silencer	14355	72	Collar	45698
29	Frame lock nut	10112	73	Polyurethane tube ϕ4 × 195	45699
30	O-ring P-7	10149	74	Miniature elbow	42837
31	Valve pusher	12121	75	Slotted pin 4 × 31	14154
32	O-ring P-4	10454	76	Spring pin 3 × 6	10147
33	Valve pusher spring	12132	77	O-ring S-6	10220
34	Trigger	10135	78	O-ring P-5	12120
35	Trigger connector rod	10120	79	Hydraulic oil (In a bottle)	10012
36	Trigger lever	10119	80	Spanner 'B'	29642
37	Spring pin 3 × 7.2	23595	81	Spanner 'A'	10141
38	Spring pin 3 × 22	10144	82-A	Guide pipe 'A'	14238
39	Spring pin 3 × 18	10145	82-B	Guide pipe 'B'	14234
40	O-ring S-10	10151	83	Spanner 'C'	10250
41	Change plug (with O-ring)	46305			

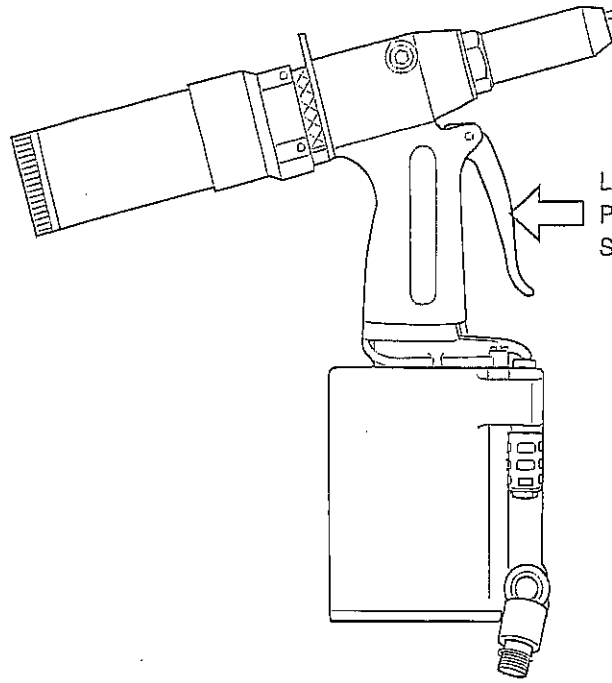
*1 Part no.26 includes part no. 27.
◎Parts with circled Index No. are consumable parts. They should be replaced periodically.

ORDERING PARTS

Indicate the tool model, part name, code no. and quantity as shown below when ordering.

Model	Part Name	Code No.	Qty.
ARV-041M	Ultra Jaws (pair) 'M'	10281	1
ARV-041M	Frame head	29332	1

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



Long Trigger is a available as the optional part. Please indicate "Code No. 8164 Long Trigger Set" when ordering.

Index No. 14 Frame, 26 Air Cylinder, 47 Air Piston and 50 Air Cylinder Cap of this air riveter are made of magnesium alloy. Magnesium alloy is excellent at recycling efficiency and can be used as the post-consumer material.
We appreciate your cooperation on recycling of limited resources.