

## INSTRUCTION & PART LIST

### GREASE LUBRICATOR SYSTEM

MODEL No. : A85-G



(A85-G Shown)



#### **WARNING**

Prior to operating this pump, be sure to read this operation manual for safety. After reading the manual, please keep it at hand for your quick reference.

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## 1. WARNING / CAUTION

### For Safe Use of Machine

In order to use the machine safely, the following alert marks are used to give you cautions. Be sure to observe the cautions to prevent injuries and damages on properties.



This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.



### **EQUIPMENT MISUSE HAZARD**

- Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.
- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before you operate this equipment.
- Use the equipment only for its intended purpose. If you are not sure, call your distributor.
- Do not modify this equipment.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated component in your system. This equipment has a **475 bar (47.5 MPa, 6900 psi, 486 Kg/Cm<sup>2</sup>)** maximum working pressure at **9 bar (0.9 MPa, 130 psi, 9 Kg/Cm<sup>2</sup>)** maximum incoming air pressure.
- Handle hoses carefully. Do not pull on hoses to move equipment.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not move or lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

### **INJECTION HAZARD**

- Fluid from the dispensing valve, leaks, or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Fluid splashed in the eyes or on the skin can also cause serious injury.
- Working clothes and safety goggles are recommended.
- Fluid injected into the skin might look like just a cut, but it is a serious injury. Get immediate medical attention.
- Do not point the dispensing valve at anyone or at any part of the body.
- Do not put your head or fingers over the end of the dispensing valve.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Use only extensions and no-drip tips which are designed for use with your dispensing valve.
- Do not use low pressure flexible nozzle with this equipment.
- Follow the Pressure Relief Procedure on page 10 if the grease fitting coupler clogs and before you clean or service this equipment.
- Tighten all fluid connections before you operate this equipment.
- Check the hoses, tubes, and couplings daily. Replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose.

### **MOVING PARTS HAZARD**

- Moving parts, such as air motor piston, can pinch or amputate your fingers.
- Do not operate the pump with the air motor plates removed.
- Keep clear of all moving parts when you start or operate the pump.
- Before you service this equipment, follow the Pressure Relief Procedure on page 5 to prevent the equipment from starting unexpectedly.



CAUTION

- After the end of daily work, at night, and on holidays, be sure to shut off the supply air to this equipment to release the gun so as to bleed the internal pressure.  
Any secondary accident such as pollution of installation, due to pump operation driven by worn-away packing or hose without shutting off the supply air, shall be attributable to the user's responsibility.
- When replacing any part at maintenance, be sure to stop the air supply to the equipment to avoid having fingers nipped because of a malfunction.

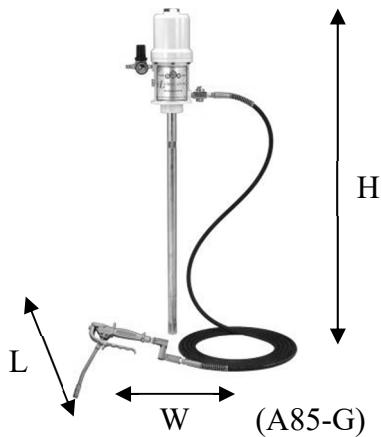
## 2. FEATURE

This machine is a portable type / fixed type lubricator that is indispensable for grease lubrication for machines and vehicles. This lubricator cannot be used for oil lubrication.

The applicable grease is limited to a type of NLGI No.2 or less in the normal operating conditions. If the lubricator is used in an extremely cold or low-temperature environment or any grease type exceeding NLGI No.2 is used, the discharge volume will be remarkably lowered.

Silicone grease is not applicable.

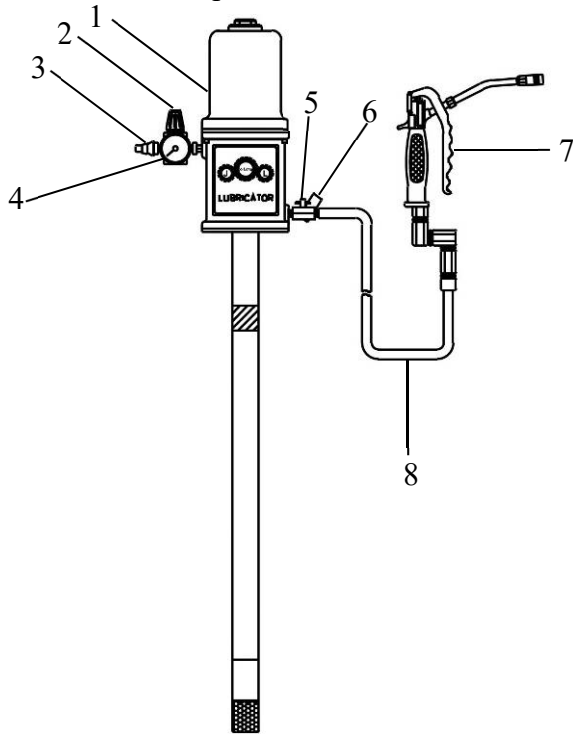
## 3. DIMENSIONS



Dimensions Model	Length (mm)	Width (mm)	Height (mm)
<b>A85-G</b>	<b>280</b>	<b>150</b>	<b>1200</b>

## 4. INSTALLATION & PREPARATIONS BEFORE OPERATION

### 4-1 A85-G Part description



No.	Part No.	Descriptions	Q'ty
1	AG-200L Pump	Pump Ass'y	1
2	P-001	Air Regulator With Gauge	1
*3	AG-31	Air Coupler	1
*4	AG-30	Gauge	1
5	P-019A	Check Valve Set	1
6		Gun Holder	
7	NP-005	Grease Gun	1
8	GH-220-TG	20 Feet Hose	1

\*No.3 & No.4 are including in No.2.

-Contents of package-

The main devices and the accessories are packed in the same cases.

Open the case and check if the device is not damaged and if accessories are all contained in the package.

## PREPARATIONS BEFORE OPERATION

- (1) Put the pump into the original grease barrel. (Fig.1)
- (2) Connect the attached high-pressure hose and the high pressure grease gun to the discharge port of the pump.
- (3) When the air coupler is connected to the pump, the pump will be operated for a while, and the pump and hose will be filled with grease. After that, the pump operation will stop.
- (4) The first applied grease includes the internal air of the pump. This is not a good condition. Obtain a perfect condition by the next operation. First open the check valve and operate the pump until grease is discharged from a small hole under the check valve. (Fig.2)

After grease is discharged in a perfect condition, close the check valve.

At this time, spread paper so that grease may not come into touch with the hand, and dispose of the discharged grease.

-NOTE-

The grease in which air is mixed is cloudy in white.

## 5. HOW TO OPERATE THE EQUIPMENT

-NOTE-

An air regulator permits adjusting the supply air pressure to the pump and reducing unnecessary pump motion, thereby improving the work efficiency and extending the life of the pump. (Fig.3)

When the knob of the air regulator is turned clockwise, the air pressure will be increased (the indicator of the pressure gauge gradually goes from “0” to a larger number). When the knob is turned counterclockwise, the air pressure will be reduce (the indicator of the pressure gauge goes back to “0”).

- (1) Thread the air line into Air coupler.
- (2) If use Air Pressure Regulator, set air pressure within 4-9 bar (4-9 kg/cm<sup>2</sup>, 60-130 psi, 0.4-0.9 MPa) and will get 180-405 bar (180-405 kg/cm<sup>2</sup>, 2600-5800 psi, 18-40.5 MPa) fluid output pressure.
- (3) Wipe the grease nipple to be used for greasing cleanly. After that, push the chuck at the end of grease gun against the nipple to perform chucking as vertically as possible. (Fig.4)
- (4) Pull the gun lever to supply grease. When grease is normally injected, old grease will be squeezed out from the groove or clearance near the nipple.
- (5) Remove the chuck at the end of grease gun. Since pressure is applied to the chuck, the head of the nipple

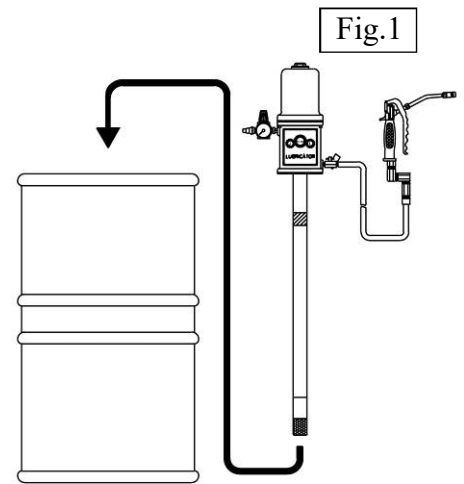


Fig.1

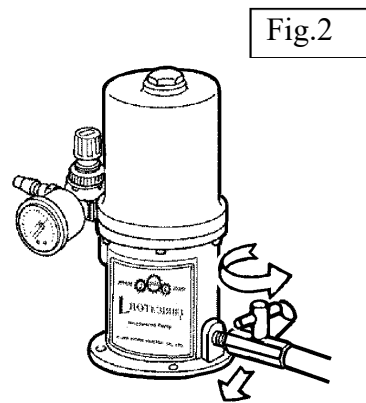


Fig.2

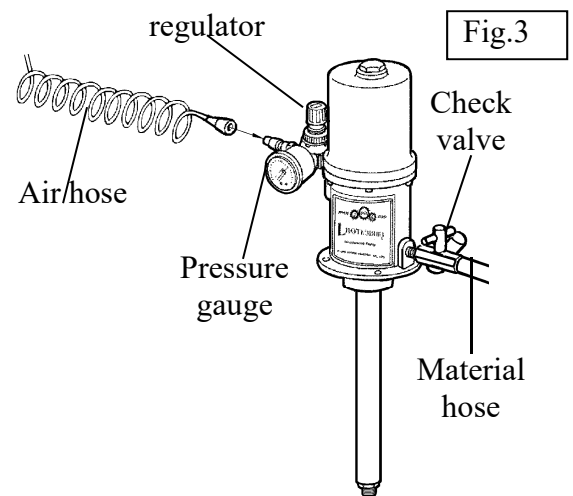


Fig.3

Fig.4



Fig.5



may be broken if it is suddenly pulled. Incline the chuck to bleed the internal pressure, and the chuck can be easily removed. (Fig.5)

- (6) The pump will stop automatically when the resultant force at two terminals of pump is in equilibrium.
- (7) If your air line system doesn't set oilier for lubricating air. For daily, manual lubrication, disconnect the quick air coupler, place about 15 drops of light machine oil in the air inlet, reconnect the hose and turn on the air supply to blow oil into the motor.
- (8) Always shut off the supply air of the pump and release all pressure in system before disconnecting or servicing any parts of system. At reassemble, be sure to tighten all threaded connections securely.
- (9) Never allow the pump to run dry of material. A dry pump will quickly accelerate to a high speed, possibly damaging itself, If your pump accelerate quickly or is running to fast, stop it immediately and check the material supply. If the supply container is empty and air has been pumped into line, prime pump and line with material.

## **6. PRESSURE RELIEF PROCEDURE**

- (1) Close the pump air regulator and disconnect the quick air coupler.
- (2) Hold the grease gun to a grounded meter waste container and trigger the grease gun to relieve the fluid pressure.

## **7. MAINTENANCE**

If your air line system doesn't set oilier for lubricating air. For daily, manual lubrication, disconnect the quick air coupler, place about 15 drops of light machine oil in the air inlet, reconnect the hose and turn on the air supply to blow oil into the motor.

## 8. TROUBLESHOOTING



To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 5.

### MOVING PARTS HAZARD

**Never** operate the pump with the warning plate or the identification plate removed. These plates protect your fingers from pinching or amputation by moving parts in the air motor.

Relieve pressure before you check or service any system equipment.

Problem	Cause	Solution
Pump fails to operate	Inadequate air supply pressure or restricted air lines.	Increase air supply and/or clear restriction.
	Closed or clogged pump valves.	Open and/or clean.
	Clogged fluid line, hose, valve, or other accessory.	<b>Relief Pressure.</b> Clean obstruction.
	Damaged air motor.	Assess damage, and service air motor.
The pump is operated but no fluid comes out	Exhausted fluid supply.	Refill fluid.
Continuous air exhaust	Worn or damaged air motor gasket or seal.	Assess damage, and service air motor.
Erratic pump operation	Exhausted fluid supply.	Refill fluid.
	Worn pump seals.	Replace.
	Damage check seat.	Replace pump piston or shovel rod (or other damaged part).
Grease leaking from muffler plates	Worn throat seal.	Replace.



Gasoline is a high-volatility material. Do not use any gasoline to clean the pump in any case, otherwise it may cause ignition or explosion.



## 9. Lower Pump Service

1. Relieve the pressure before you proceed.
2. Be sure you have all necessary parts on hand before you start. If using a repair kit, use all the parts in the kit for the best results.
3. Lower Pump Repair Kit is available. Parts include in the kit are marked with a diamond in the parts drawing and list.
4. Disconnect the air connection hose, material hose, etc. Remove the pump from its mounting.
5. Fix the air motor base (02) in a vise.
6. Use pipe wrench to screw shovel tube (50) off of cylinder tube.
7. Put a rod through the hole of rod (44) and use strap wrench to screw shovel (49) off of rod.
8. Set a pipe wrench on the knurling part of the cylinder tube (48) and screw cylinder tube (48) off of air motor base to remove the cylinder tube.
9. Screw packing retainer (47) off of cylinder tube and remove guide (45) and packing (46).
10. Use a hammer and punch to remove roll pin (40) from air piston tube (23) then screw connecting (24) out of air piston tube (23).
11. Use a rod to screw rod (44) out of piston (43) and remove copper gasket (38), valve seat (39) and steel ball (37).
12. Then screw piston (43) out of coupling (36) and remove upper copper gasket (38), valve seat (39) and steel ball (37).
13. Remove guide (41), packing (42), clean all parts and inspect them for wear or damage. Replace parts as necessary.
14. Lubricate all parts with light, water-resistant grease and reassemble the pump.

# Lower Pump Service

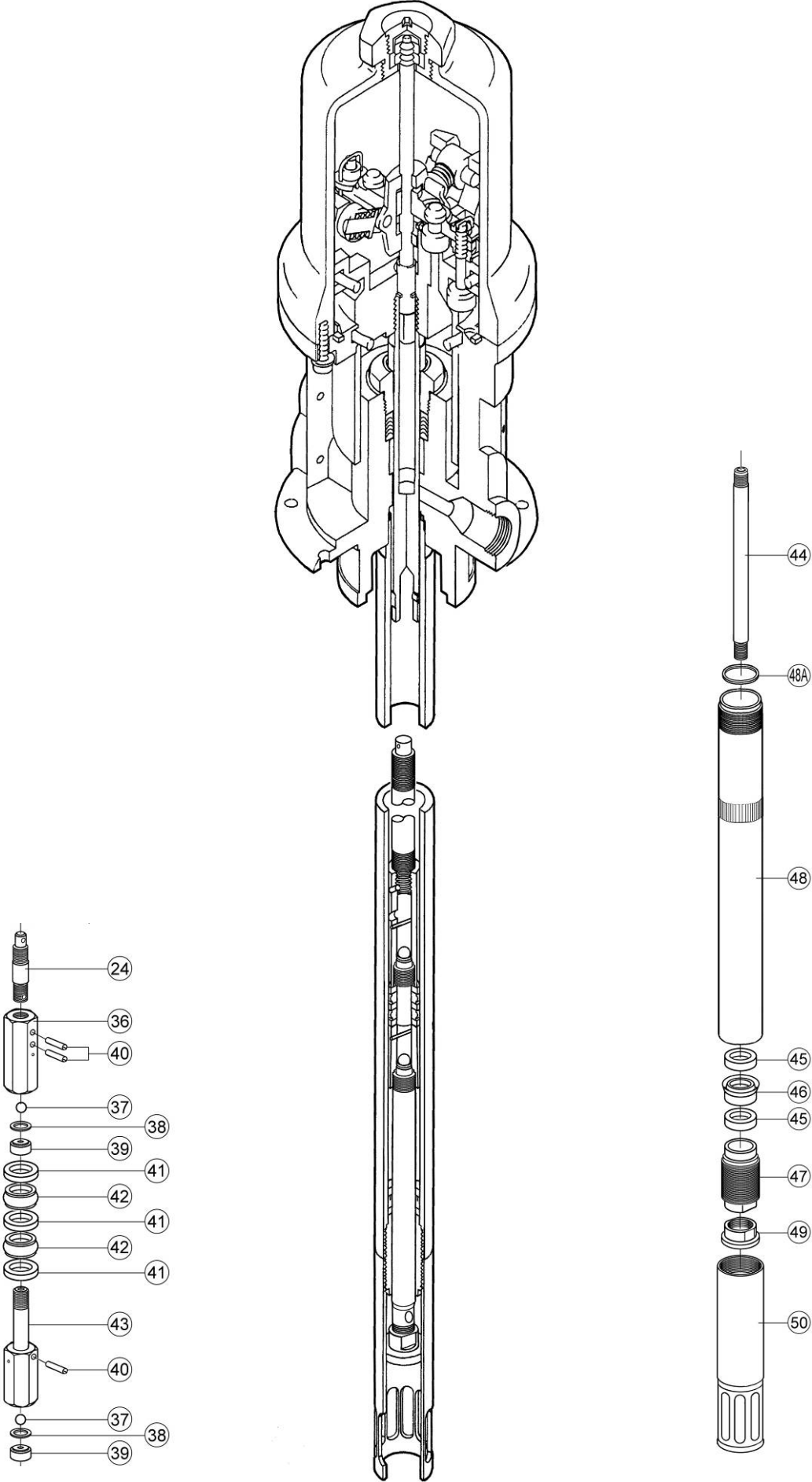


Fig.6

## 10. Air Motor Service

### Disassembly

1. Be sure you have all necessary parts on hand before you start. If using a repair kit, use all the parts in the kit for the best results.
2. Air Motor Repair Kit is available. Parts include in the kit are marked with a star in the parts drawing and list.
3. Clamp air motor base (2) in a vise. Unscrew cylinder cap nut (27) and remove nut (27A).
4. Pull trip rod (13) up, grip trip rod (13) with padded pliers and screw nut (13A) out of rod. Remove cylinder cap nut (27) and use a nut (5/16"(8 m/m)-18UNC) screw in trip rod (13).
5. Remove Screw (34) holding cylinder (3) to the base and carefully pull cylinder (3) straight up off piston (1). See Fig. 7.
6. Press trip rod (13) push down on shuttle (4) to snap the toggle arm (7) down.
7. Move lock wire (18) from adjusting nut (15), screw the top nuts of adjusting nut (15) off and screw stem valve (17) off rubber grommets (16) and bottom nuts of adjusting nut (15).
8. Press trip rod (13) and put a screwdriver under the toggle arm (7), lever it up slowly and carefully.
9. Pull piston (1) up out of air motor base (2), remove throat packing nut (19) and take out the bearing (20) , packing (21)and guide (22).
10. Clean all the parts carefully in a compatible solvent, and inspect for wear or damage. Use all the repair kit parts during reassembly, and replace other parts as necessary.
11. Check the polished surfaces of the piston (1), air piston tube (23), and cylinder (3) wall for scratches or wear. A scored rod causes premature throat seal wear and leaking.

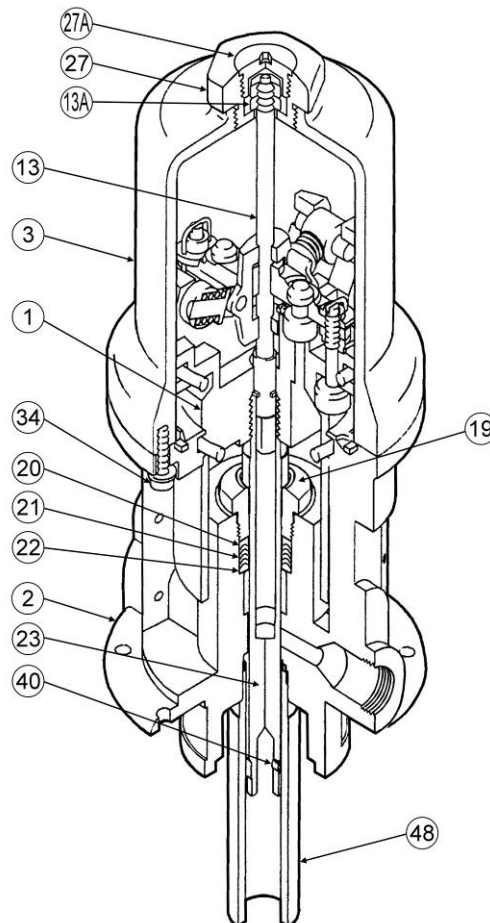
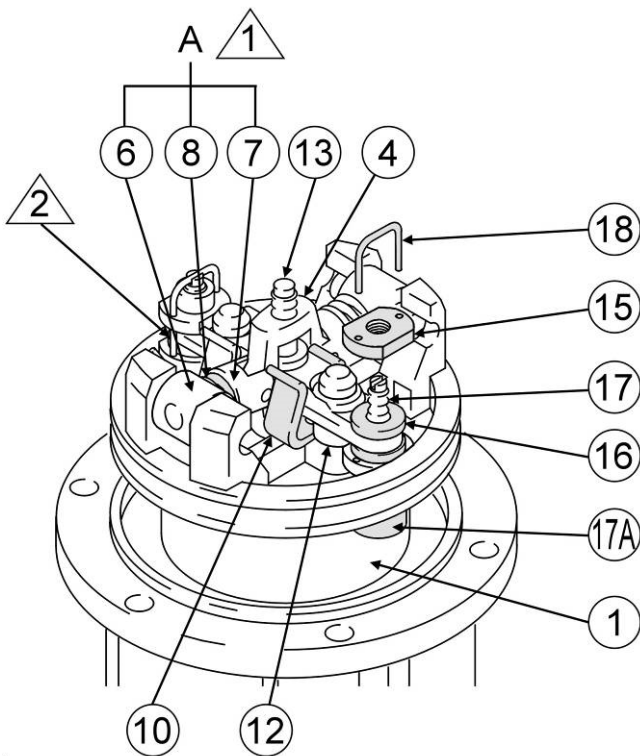


Fig.7

## Reassembly

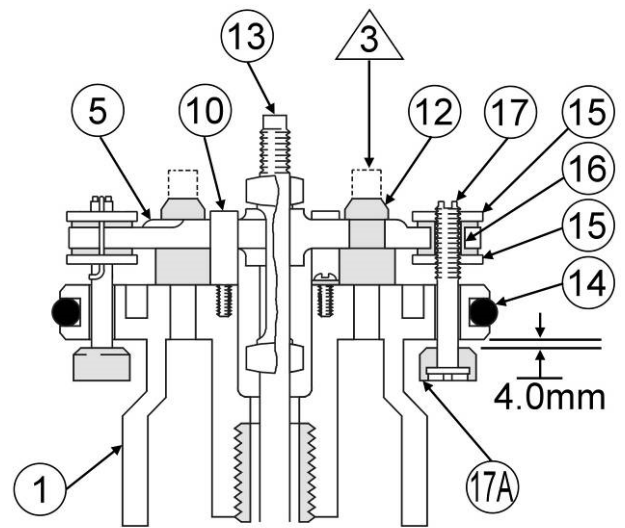
1. Lubricate all parts with light, water-resistant grease.
2. Install the new throat seal, Lips facing down. Screw the throat packing nut (19) in to the base.
3. Slide the air piston tube down through the throat, and lower the piston in to the base. Be sure the O-rings are in place.
4. Pull the rubber valve (12) into the air valve bar (5), and clip off the top parts shown with dotted lines in Fig. 9.
5. Install the transfer valve rubber grommets (16), and reassemble the valve mechanism. When you install the lock wires (18) in the adjusting nuts (15), to adjust the transfer valve so there is 4.0 mm clearance between the valve seal (17A) and seat when it is open. See Fig 16. Snap the toggles arm (7) to the up position.
6. Reassemble the air motor, and assemble to the lower pump. Torque the cylinder tube to the base. Before you install the air motor plate, tighten the throat packing nut (19) snugly; do not over tighten it.
7. Before you remount the pump, connect an air hose, and run the pump slowly, at about 3 bar (3 Kg/cm<sup>2</sup>, 0.9 MPa, 40 psi ), to see that it operates smoothly.



1 Push Toggle (A) in and then up.

2 Turn Wires up.

Fig.8



### Cutaway View

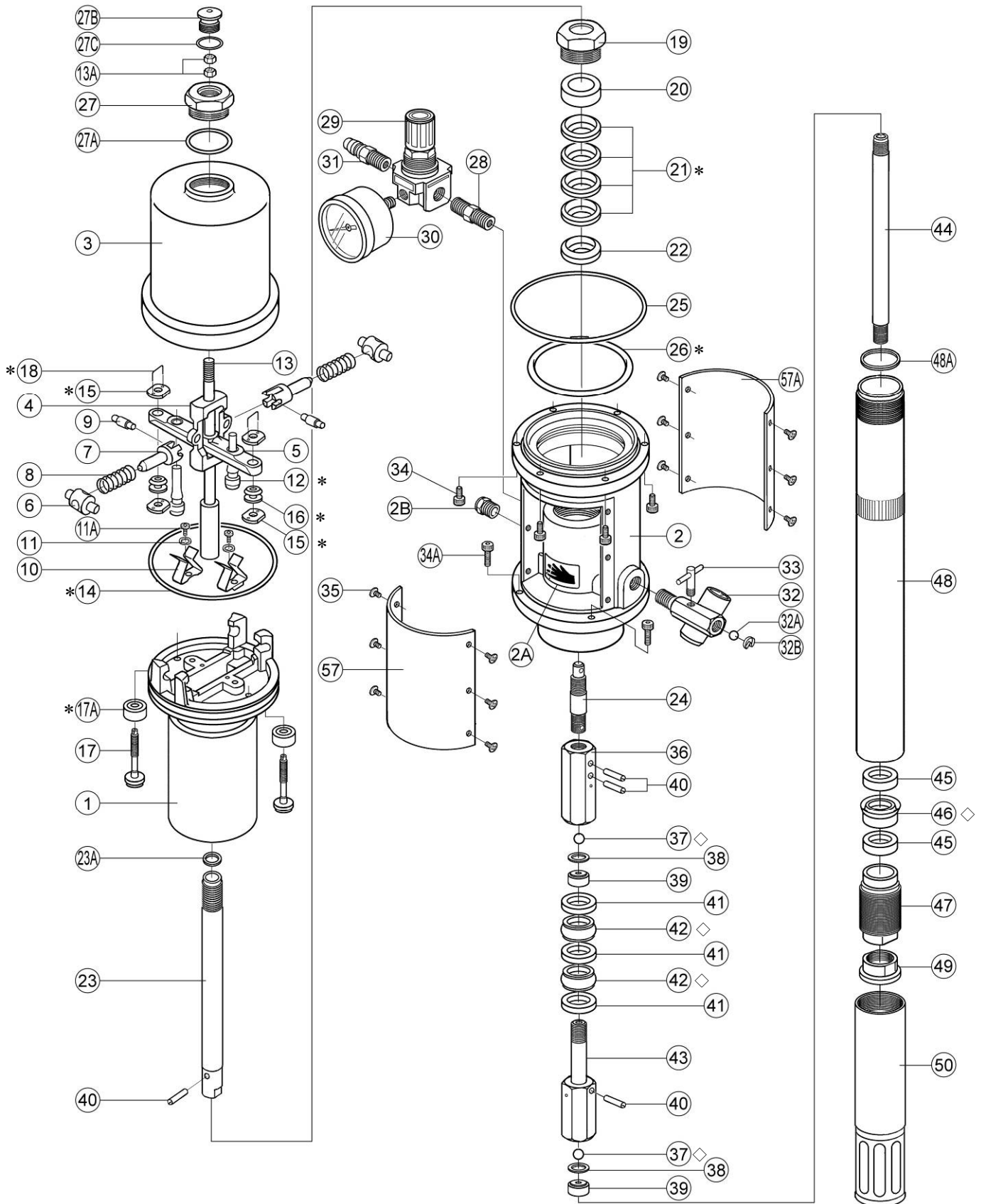
3 Cut off tops of rubber valve as indicated by dotted lines.

Fig.9

# 11. Parts Drawing For Air Motor & Lower Pump

\* The replacements for these parts are available in Air Motor Repair Kit . Purchase the kit separately.

◇ The replacements for these parts are available in Lower Pump Repair Kit . Purchase the kit separately.



## 12. Parts List For Air Motor & Lower Pump

### Air Motor

Ref No	Part No.	Description	Q'ty
1	AG-01	Piston	1
2	AG-02	Air Motor Base	1
2A	AG-02A	Warning Paper	2
2B	AG-02B	Silencer	1
3	AG-03	Cylinder	1
4	AG-04	Shuttle	1
5	AG-05	Air Valve Bar	1
6	AG-06	Rocker Arm	2
7	AG-07	Toggle Arm	2
8	AG-08	Spring	2
9	AG-09	Toggle Pin	2
10	AG-10	Spring Clip	2
11	WAS200	Washer	2
11A	SCR546	Screw	2
*12	AG-12	Rubber Valve	2
13	AG-13	Trip Rod	1
13A	NUT120	Nut	2
*14	AG-14	O-Ring	1
*15	AG-15	Adjusting Nut	4
*16	AG-16	Rubber Grommet	2
17	AG-17	Stem Valve	2
*17A	AG-17A	Valve Seal	2
*18	AG-18	Lock Wire	2
19	AG-19	Throat Packing Nut	1
20	AG-20	Bearing	1
*21	AG-21	Packing	4
22	AG-22	Guide	1
23	AG-23	Air Piston Tube	1
23A	AG-23A	Copper Gasket	1
24	AG-20L-24	Connecting Rod For A45-G A55-G A65-G	1
	AG-200L-24	Connecting Rod For A75-G A85-G	1
25	AG-25	O-Ring	1
*26	AG-26	O-Ring	1
27	AG-27	Cylinder Cap Nut	1
27A	AG-27A	O-Ring	1
27B	AG-27B	Nut	1
27C	AG-27C	O-Ring	1
28	AG-28	Coupler	1
29	AG-29	Air Regulator	1
30	AG-30	Air Pressure Gauge	1
31	AG-31	Quick Coupler	1
32	AG-32	Check Valve	1
32A	SB-05	Steel Ball	1
32B	AG-32B	Spring	1

### Air Motor

Ref No	Part No.	Description	Q'ty
33	AG-33	Needle Valve	1
34	SCR262	Bolt	6
34A	SCR261	Bolt	4
35	SCR856	Bolt	12
57	AG-57	Nameplate	1
57A	AG-57A	Nameplate	1

\* The replacements for these parts are available in Air Motor Repair Kit 920110. Purchase the kit separately.

### Lower Pump

Ref No	Part No.	Description	Q'ty
36	AG-36	Coupling	1
◇37	SB-05	Steel Ball	2
38	AG-38	Gasket	2
39	AG-39	Valve Seat	2
40	WAS330	Roll Pin	4
◇41	AG-41	Guide	3
◇42	AG-42	Packing	2
43	AG-43	Piston	1
44	AG-44	Displacement Tube	1
45	AG-45	Guide	2
◇46	AG-46	Packing	1
47	AG-47	Packing Retainer	1
48	AG-20L-48	Cylinder Tube For A45-G A55-G A65-G	1
	AG-200L-48	Cylinder Tube For A75-G A85-G	
48A	AG-48A	Copper Washer	1
49	AG-49	Shovel	1
50	AG-50	Tube	1

◇ The replacements for these parts are available in Lower Pump Repair Kit 920111. Purchase the kit separately.

### 13. Technical Data

Maximum working pressure..... 400 bar(405 kg/cm<sup>2</sup>, 5800 psi, 40MPa)  
 Fluid pressure ratio..... 45:1  
 Air operating range.....4-9 bar (4-9 kg/cm<sup>2</sup>, 60-130 psi, 0.39-0.88 MPa)  
 Air Consumption..... 0.638 m<sup>3</sup>/min (22.8 cfm) at 0.95 liter/min  
 (0.25 gpm), at 7 bar (7 kg/ cm<sup>2</sup>, 0.7 MPa)  
 Liters (gallons) per pump cycle..... 0.0109(0.003)  
 Maximum recommended pump speed..... 76 cycles/min at 0.561m<sup>3</sup>/min (0.82 liter/min)  
 Wetted parts..... steel, brass, aluminum, nitrile rubber, polyurethane  
 Sound pressure level ..... 82.6 dB(A)  
 Sound power level ..... 95.6 dB(A)

### 14. Specification

Spec.	Model	A85-G
Product capacity	Liter	200
Fluid pressure ratio		45:1
Pressure of air	bar	4-9
Machine net weight	kg	14.5
Gross weight	kg	15.5
Machine dimension	cm	28x15x120

### 15. Limited Warranty

This product is shipped to customers only after meeting strict inspection standards. If an abnormality occurs during normal operation in accordance with the operating instructions and other operating cautions within the warranty period (12 months after date of purchase) that can be attributed to a manufacturing defect, the defective parts of this product will be serviced or the product will be replaced free of charge. However, this warranty will not cover compensation for incidental damage or any malfunction listed below.

1. Warranty period

This warranty will be valid for a period of 12 months after the date of purchase.

2. Warranty

If, during the warranty period, any of the material of the genuine parts of this product or the workmanship of this product is found defective, and is so verified by our company, the servicing cost will be fully born by our company.

3. Exclusion

- (1) Even during the warranty period, this warranty does not cover the following:

- (2) Malfunction arising from use of parts other than manufacturer-specified genuine parts.
- (3) Malfunction arising from misuse or operating errors, or lack of storage or maintenance.
- (4) Malfunction arising from use with a fluid that may cause corrosion, inflation or dissolution of the component parts of the product.
- (5) Irregularity arising from repair made by other than by our firm, our regional office, and dealer or authorized service personnel.
- (6) Malfunction arising from modification of the product by other than authorized service personnel.
- (7) Wear and tear of parts that must be regularly replaced in the course of normal operation, such as diaphragms, valve seals, balls, air switch sleeve valves and O-Rings.
- (8) Malfunction and/or damage due to transportation, moving or unloading of the product after purchase.
- (9) Malfunction and/or damage due to fire, earthquake, flood or other force majeure.
- (10) Malfunction arising from use of compressed air that contains impurities or excessive moisture, or use of gases or fluid other than the specified compressed air.
- (11) Malfunction arising from use with a fluid that causes excessive abrasion or use lubricating oil other than that specified for this product.
- (12) Furthermore, this warranty does not cover the rubber parts, or other parts that are subject to wear in normal operation, used in this product and its accessories.

#### 4. Parts

Parts for this product will be kept available for 5 years after discontinuation of production. Once 5 years have elapsed after close of production, availability of parts for this product cannot be guaranteed.





## EC DECLARATION OF CONFORMITY

We: JO LONG MACHINE INDUSTRIAL CO., LTD.

No. 88, Lane 6, Jianxing Rd., Dali City, Taichung 41277, Taiwan, R.O.C.

declare in sole responsibility that the equipment

Equipment : Air operated grease lubricator

Model/ serial no. : A45-G, A55-G, A65-G, A75-G, A85-G

to which this declaration applies, complies with these normative documents:

- Machinery Directive: 2006/42/EC

and conforms to the following EN standard,

- EN ISO 12100-1/A1: 2009
- EN ISO 12100-2/A1: 2009
- EN 982 : 1996/A1:2009
- EN 983 : 1996/A1:2009
- EN ISO 14121-1 : 2007

Responsible for making this declaration is the:

Manufacturer  Authorized representative established within the EU

Authorized representative established within the EU (if applicable):

Company Name :

Company Address :

Person responsible for compiling the technical file established within the EU

Name, Surname :

Address :

Note : This declaration becomes invalid, if technical or operational modifications are introduced without the manufacturers consent.

Curtis Woo

2010/11/6

TAIWAN