



Heavy Duty Grease Distribution Kits Instruction Manual



M3GPHD16



M3GPHD55



WARNING:

Read carefully and understand all **INSTRUCTIONS** before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury. Save these instructions in a safe place and on hand so that they can be read when required. Keep these instructions to assist in future servicing.



GENERAL SAFETY REGULATIONS



WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors that cannot be built into this product, but must be supplied by the operator.

1. Keep the work area clean and dry. Damp or wet work areas can result in injury.
2. Keep children away from work area. Do not allow children to handle this product.
3. Use the right tool for the job. Do not attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. It will do the job better and more safely at the capacity for which it was intended. Do not modify this equipment, and do not use this equipment for a purpose for which it was not intended.
4. Check for damaged parts. Before using this product, carefully check that it will operate properly and perform its intended function. Check for damaged parts and any other conditions that may affect the operation of this product. Replace damaged or worn parts immediately.
5. Do not overreach. Keep proper footing and balance at all times to prevent tripping, falling, back injury, etc.
6. DO NOT use the equipment when tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating this equipment may result in serious personal injury.



WARNING SYMBOL: This manual contains important warnings and information. Read and keep for reference.



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



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

TECHNICAL DETAILS

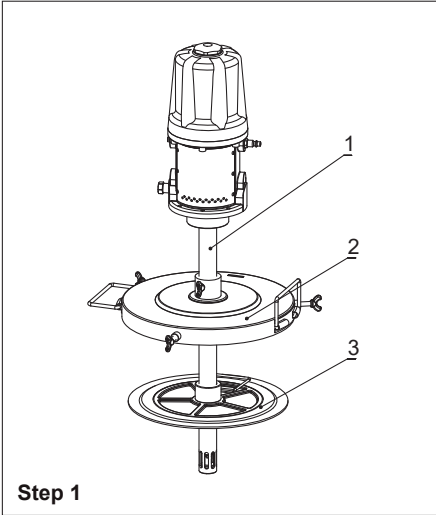
Item No.	M3GPHD55	M3GPHD16	
Product Description	Grease Pump 55 Gal	Grease Pump 16 Gal	
Including	Pump	P/N: 17125062	P/N: 17125052
	Drum Cover	P/N: 19360002	P/N: 19338502
	Follow Plate	P/N: 19458502	P/N: 19437002
	Grease Nozzle	P/N: 18212070	P/N: 18212070
	Connection Hose	1/4"x13ft	1/4"x13ft
	Z Swivel	M3ZSB	M3ZSB

LIMITED WARRANTY

1. Macnaught warrants this product against defects in material and craftsmanship, for a period of 3 years from date of purchase, but not including wearing parts.
2. Macnaught's liability is limited to replacement or repair of defective material within the warranty period, when returned freight prepaid to the distributor or their designated service depot.
3. The warranty does not cover damage caused by accident, misuse or faulty installation.
4. The product must be installed and maintained in compliance with the instructions.

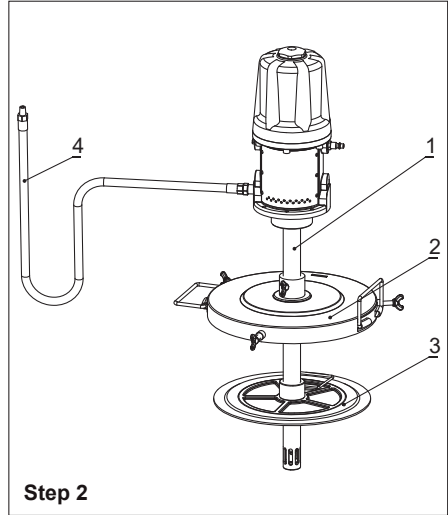
INSTALLATION STEPS

Note: Before connecting and assembling each component, please assemble each component according to the component instructions).



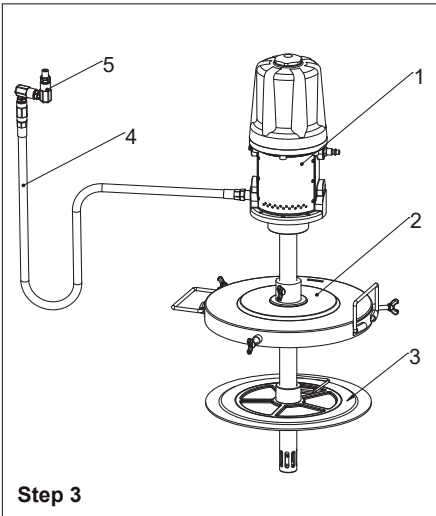
Step 1

1. Put the drum cover (part No.2) and follower plate (part No.3) onto the suction tube of pump respectively.



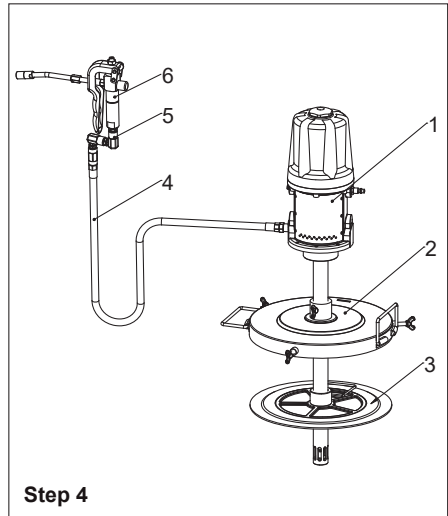
Step 2

1. Tighten the male thread of delivery hose (part No.4) on the female thread of pump outlet.



Step 3

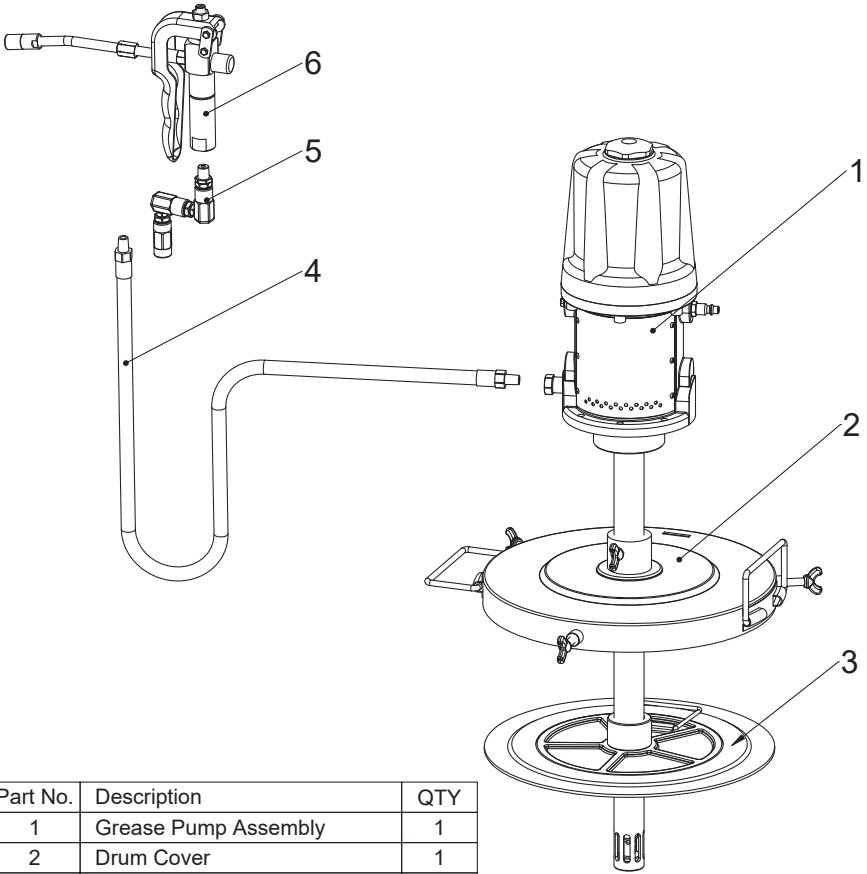
1. Tighten the other male thread of delivery hose (part No.4) with the female thread of Z swivel (part No.5) .



Step 4

1. Tighten the male thread of Z swivel (part No.5) with the female thread of grease control valve (part No.6).

EXPLODED VIEW AND DETAILS



Part No.	Description	QTY
1	Grease Pump Assembly	1
2	Drum Cover	1
3	Follower Plate	1
4*	Delivery Hose Assembly	1
5	Z swivel	1
6	Grease Control Valve Assembly	1

* Wearing Parts.

GREASE PUMP

Pneumatic Grease Pumps Technical Data:

Item No.	17125052	17125062
Air inlet	1/4" NPT	1/4" NPT
Length of suction tube	29-1/8"	37"
Pressure ratio	50:1	
Air inlet working pressure	5-10bar / 70-145psi	
Max. air inlet pressure	12bar / 175psi	
Max. grease outlet pressure	600bar / 8700psi	
Air motor effective diameter	76mm / 3"	
Max. free flow rate	1800g/min. / 4lbs/min.	

SAFETY INSTRUCTIONS



No complying with below requests will result in severely harm to your body even death.

1. 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 us or your local agent.
- Do not modify this equipment. If you need to replace the parts, use the standard parts or components.
- 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.
- Use fluids and solvents which are compatible with the equipment wetted parts. Read the fluid and solvent manufacturer's warnings.
- Forbidding on other chemical or may cause damage to the pumps body .
- 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 use low pressure hoses in the system.. Before operating the control valve, put the hoses straight. Using of the hoses should comply with certain conditions.
- Put on heat insulation gloves when operating the pumps.
- Do not move or lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

2. SKIN INJECTION HAZARD: Fluid from the dispensing valve, leaks, or ruptured components can inject fluid into your body and cause extremely serious injury. Fluid splashed in the eyes or on the skin can also cause serious injury.

- Do not point the dispensing valve at anyone or at any part of the body.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not use the grease which have been polluted.
- Use only extensions and no-drip tips which are designed for use with your dispensing valve. Follow the Pressure Relief Procedure if the grease fitting coupler clogs and before you clean or service 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.

3. MOVING PARTS HAZARD: Moving parts, such as the air motor piston, can pinch or amputate your fingers.

- Keep clear of all moving parts when you start or operate the pump.
- Before you service this equipment, follow the Pressure Relief Procedure to prevent the equipment from starting unexpectedly.

- Before operating the pumps, moving parts should not to be exposed outside.

4. FIRE AND EXPLOSION HAZARD: Improper grounding, poor ventilation, open flames or sparks can cause a hazardous condition and result in a fire or explosion and serious injury.

- Ground the equipment and the object being dispensed to.
- Effective lubricate to the moving parts.
- If there is any static sparking or you feel an electric shock while using this equipment, stop dispensing immediately. Do not use the equipment until you identify and correct or the fluid being dispensed.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being dispensed.
- Keep the dispensing area free of debris, including solvent, rags, and gasoline.
- Do not smoke in the dispensing area.

INSTALLATION

1. Grounding

1. **WARNING:** Before operating the pump, check the grounding of whole system. And avoid occurring of fire and explosion.
2. To reduce the risk of static sparking, effectively ground all of this equipment.
 - Pump: Refer to fig.2. Use a ground wire and clamp as shown in Fig. 2. Remove the ground screw 1, onto the pump and tighten securely. Connect the other end of the ground wire to a true earth ground. Insert through the eye of the ring terminal at end of the ground wire 2. Fasten the ground screw back.
 - Air and fluid hoses: Effectively grounding
 - Air compressor: Follow the manufacturer's recommendations.
 - Control valve: Use proper grounding line to connect the pump. Keep the metal part of the control valve connect with the grounding equipment.
 - Barrel: Use the barrel which is under the permission of local area. If it is a metal barrel, put it on the ground which is with electric capability. If no grounding paper or board, it is not allowed to put on the surface of non-conductor directly.
 - Other components: Comply with local grounding requests.
 - Keep effective grounding when working or pressure releasing.

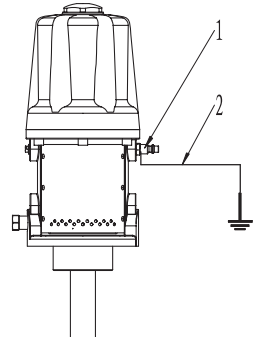


Fig.2: Grounding guide

2 Installation

1. Typical installation

Typical installation refers to Fig.3:

1. Bleed-type master air valves
2. Air line filter
3. Air regulator with gauge
4. Air line lubricator
5. Pump runaway valve
6. Drum cover
7. Follower plate
8. Hose reel

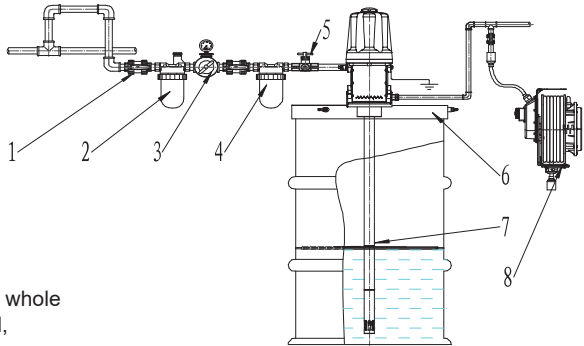


Fig.3: Oil supply system installation

Above typical installation is not for whole system design. If any help needed, please contact us or local agent.

2. Installation of air line

2.1 **NOTE:** Do not hang any equipment to the air inlet as it may cause falling down by poor hanging equipment.

2.2 Process

- Install a pump on drum cover (See fig.3 part 6), and then to barrel.
- On the main line of air compressor, connect bleed-type master air valves which controls on and off air motor. (See fig.3 part 1)
- Install an air line filter. (See fig.3 part 2) to remove harmful dirt and contaminants from your compressed air supply.
- Install the air regulator to control pump speed and pressure. (See fig.3 part 3).
- Install an air line regulator for automatic air motor lubrication. (See fig.3 part 4).
- Install a pump run-away valve to shut off the air to the pump if the pump accelerates beyond the pre-adjusted setting. A pump that runs too fast can be seriously damaged. (See fig.3 part 5).
- Connect outlet line.

OPERATION

1. Pressure relieve

1.1 Skin injection hazard: The equipment stays pressurized until pressure is manually relieved. To reduce the risk of serious injury from pressurized fluid, fluid from the valve or splashing fluid, follow this procedure whenever you.

- Are instructed to relieve pressure.
- Stop dispensing.
- Check, clean or service any system equipment.
- Install or clean dispensing devices.

1.2 Pressure relief procedure

- Close the pump air regulator and the bleed-type master air valve.
- Hold a metal part of the dispensing valve firmly to a grounded metal waste container and trigger the valve to relieve the fluid pressure.
- Open the air line valve and grease line valve.
- Close the control valve.

1.3 When occurs:

- Problems on control valve, flexible hose, rigid tube or manual tip, auto tip.
- Pressure not relieve thoroughly according to above relief procedure.
- Pressure relieved very slowly until relieved thoroughly.
- Please clear obstruction of grease system.

2. Procedure

2.1 **NOTE:** When the pump is primed, and with sufficient air supplied, the pump starts when the dispensing valve is opened and shuts off when it is closed.

2.2 **WARNING:** The maximum working pressure of each component in the system may not be the same. To reduce the risk of over pressurizing any component in the system, be sure you know the maximum working pressure of each component. Never exceed the maximum working pressure of the lowest rated component in the system. Over pressurizing any component can result in rupture, fire, explosion, property damage, and serious injury. The maximum pressure in the system is equal to air input pressure times pump ratio. Regulate air to the pump so that air line or fluid line component or accessory is over pressurized.

2.3 **CAUTION:** Never allow the pump to run dry of the material being pumped. A dry pump will quickly accelerate to a high speed, possibly damaging itself. If your pump accelerates quickly, or is running too fast, stop it immediately and check the material supply. If the supply container is empty and air has been pumped into the lines, prime the pump and lines with material, or flush it and leave it filled with a compatible solvent. Be sure to eliminate all air from the material lines.

2.4 Startup

- If there are multiple pumps on the air line, close the air regulators and bleed-type master air valves to all but one pump.
- Open the master air valve from the compressor.
- Open the dispensing valve into a grounded metal waste container, making firm metal-to-metal contact between the container and valve. Open the bleed-type master air valve and open the pump air regulator slowly, just until the pump is running. When the pump is primed and all air has been pushed out of the lines, close the dispense valve.
- If you have more than one pump, repeat this procedure for each pump.
- Set the air pressure to each pump at the lowest pressure needed to get the desired results.
- Never allow the pump to run dry of the material being pumped.
- Relieve pressure before you check or service any system equipment.

TROUBLE SHOOTING

Warning

- To reduce the risk of serious injury whenever you are instructed to relieve pressure.
- **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.

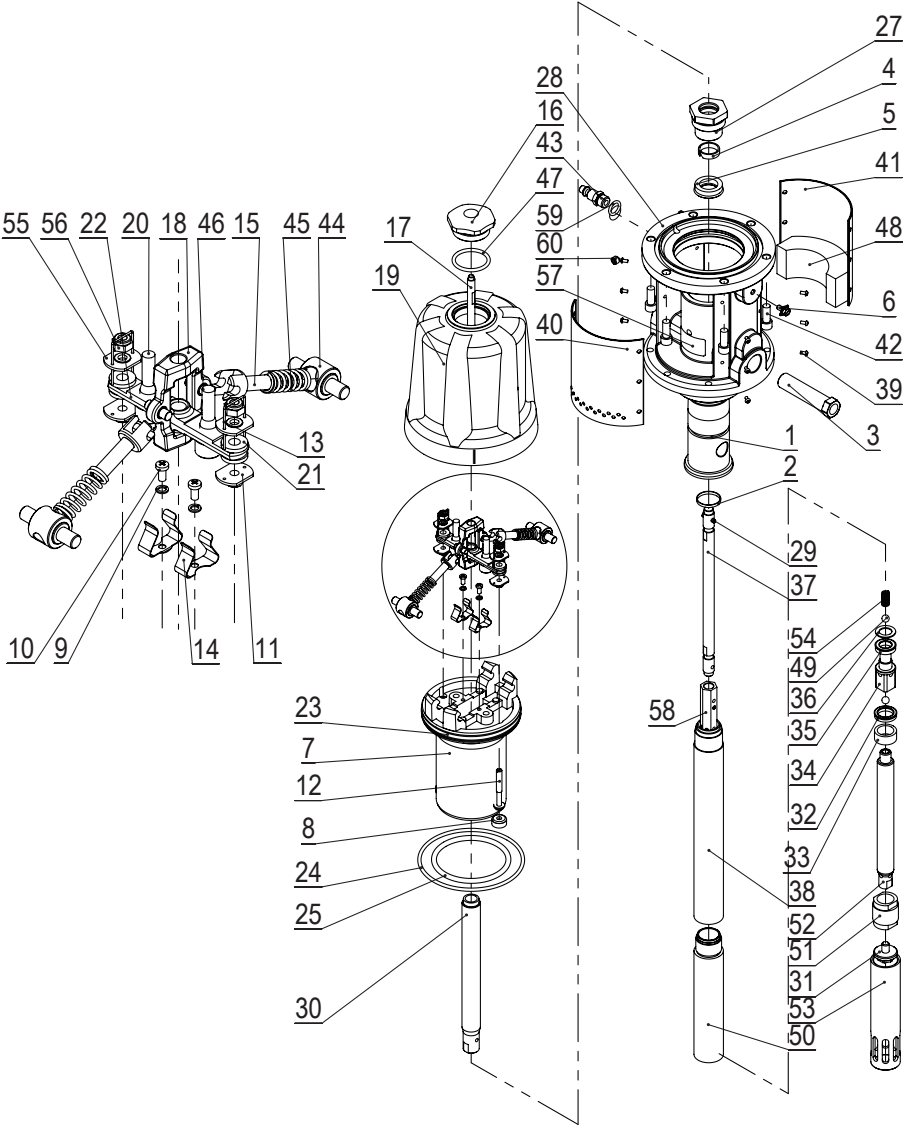
1. Relieve pressure before you check or service any system equipment.

2. Problems, cause and solution, see sheet 4.

Sheet 4: Problems, causes and solutions

Problem	Cause	Solution
Pumps 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	Relieve pressure. Clear obstruction.
	Damaged air motor	Assess damage, and service air motor.
	Exhausted fluid supply	Refill and reprime or flush
Continuous air exhaust	Worn or damaged air motor gasket or seal	Assess wear or damage, and service air motor
Erratic pump operation	Exhausted fluid supply	Refill and reprime or flush
	Worn pump seals	Replace.
	Damaged shovel tube	Replace.
	Worn piston seal	Replace.
Pump operates, but output low	Worn seals	Replace.
	Clogged fluid line, hose, valve, or other accessory	Relieve pressure. Clear obstruction.
Grease leaking from muffler plates	Worn throat seal	Replace

EXPLODED AND PARTS LIST



Part No.	Description	QTY	Part No.	Description	QTY
1	Tube	1	32* #	U Seal	1
2* #	Gasket	2	33	Copper ring	1
3	Oil outlet	1	34	Connector	1
4*	Guiding	1	35* #	Seal	1
5* #	Seal	1	36	Gasket	1
6	Bolt	1	37	Rod	1
7	Piston	1	38	Tube	1
8* #	Seal	2	39	Screw	12
9	Washer	2	40	Right silencer	1
10	Screw	2	41	Left silencer	1
11	Nut	2	42	Screw	6
12	Rod	2	43	Quick plug	1
13*	Steel-wire	2	44	Rocker	2
14* #	Spring piece	2	45* #	Spring	2
15	Rope shaft	2	46	Pin	2
16	Air motor cover	1	47* #	O-ring	1
17	Rod	1	48* #	Sponge	2
18	Yoke	1	49	Ball	2
19	Jar body	1	50	Tube	1
20* #	Gasket	2	51	Adapter	1
21* #	Cushion	2	52	Shaft	1
22	Shaft	1	53	Oil inlet	1
23* #	O-ring	1	54	Spring	1
24* #	O-ring	1	55	Adjustable nut	2
25* #	O-ring	1	56* #	Nut	2
27	Nut	1	57	Label	2
28	Base	1	58	Rod	1
29* #	Pin	2	59* #	O-ring	1
30	Rod	1	60	Screw	2
31	Shovel washer	1			

Note: The Part No. with "*" are the wearing parts for 171250 series .

The Part No. with "#" are the wearing parts for 171275 series.

GREASE CONTROL VALVE

Item No.	Inlet Connection	Pressure Range
18212070	1/4" NPT	8700Psi

Wetted parts: Chrome vanadium, polyurethane, brass, carbon, steel, alloy steel.

Warning Symbol



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

Caution Symbol



CAUTION: 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.

1. This equipment is for professional use only.
2. Read all instruction manuals, tags, and labels before operating the equipment.
3. Use the equipment only for its intended purpose. If you are not sure, call your distributor.
4. Do not alter or modify this equipment.
5. Do not exceed the maximum working pressure of the lowest rated system component. This equipment has a 9000psi (60Mpa, 600bar) maximum working pressure.
6. Check equipment daily. Repair or replace worn or damaged parts immediately.
7. Handle hoses carefully. Do not pull on hoses to move equipment.
8. Route hose away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose hoses to temperatures above 66 °C(150°F) or below -40 °C(-40°F).
9. Comply with all application local, state, and national fire, electrical, and safety regulations.
10. Do not use a low pressure flexible extension on a high pressure dispensing valve.
11. Do not attempt to force lubricant into a fitting.

Injection hazard

Spray from the 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.

1. Fluid injected into the skin might look like just a cut, but it is a serious injury. Get immediate medical attention.
2. Do not point the valve at anyone or at any part of the body.
3. Do not put your hand or fingers over the grease fitting coupler.
4. Do not stop or deflect leaks with your hand, body, glove or rag.
5. Tighten all fluid connections before operating the equipment.
6. Check the hose, tubes, and couplings daily. Replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose.

Toxic fluid hazard

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

1. Know the specific hazards of the fluid you are using.
2. Store hazardous fluid in an approved container. Dispose of the hazardous fluid according to all local, state and national guidelines.
3. Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.

PRESSURE RELIEF PROCEDURE

Injection hazard

Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, splashing fluid, or moving parts, follow the pressure relief procedure whenever you:

1. are instructed to relieve the pressure,
2. stop dispensing,
3. Check or service any of the system equipment,
4. install or clean the nozzle.

To reduce the risk of serious bodily injury, including fluid injection, splashing in the eyes or on the skin, or injury from moving parts, always follow this procedure whenever you shut off the pump, and before inspecting, removing, cleaning or repairing any part the pump or system.

1. Close the supply pump's bleed-type master air valve (required in pneumatic systems).
2. Open the dispensing valve until pressure is fully relieved.
3. Open the fluid drain valve at the pump fluid outlet. Leave the drain valve open until you are ready to use the system again.

Notes:

If you suspect the dispensing valve, extension or grease fitting coupler is clogged, or that pressure has not been fully relieved after following all the previous steps, using a rag very slowly loosen the coupler or hose end coupling and allow pressure to be relieved gradually, then loosen the part completely. Now clear the clog.

OPERATION

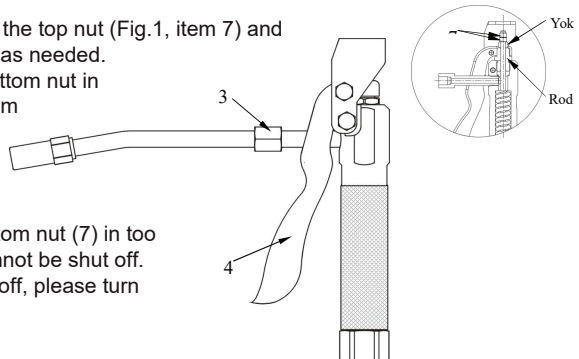
This dispense valve provides positive control of high pressure lubricants. When supplied with air, the pump will start when the valve is triggered and will stall against pressure when the trigger is released.

ADJUSTMENT

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the pressure relief procedure on page 3.

1. Relieve the pressure.
2. To adjust the clearance, loosen the top nut (Fig.1, item 7) and turn the bottom nut (7) in or out as needed.

To increase grease flow turn bottom nut in
to reduce grease flow turn bottom nut out. Hold the bottom nut in place and securely tighten the top nut.



CAUTION: Do not turn bottom nut (7) in too much, or else the valve cannot be shut off. If the valve cannot be shut off, please turn the bottom nut (7) out a bit.

SERVICE

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the pressure relief procedure on page E6.

1. Relieve the pressure.
2. Check all parts thoroughly when disassembling, and carefully replace any that are worn or damaged.
3. Remove bottom seat adapter (19) from grease gun body (12). See parts listing on page 6.
4. Remove nut (5) and bolts (11) from trigger guard (6). Remove trigger guard (6).
5. Remove outlet adapter (3).
6. Remove hex nut (7).
7. Remove Yoke (8).
8. Remove rod guide (9) from grease gun body (12).
9. Push plunger rod (14) through seal (10). Be careful; seat (14), ball (16) and copper gasket (17) will fall out bottom.
10. Replace all parts included in service kit.
11. Reassemble valve.

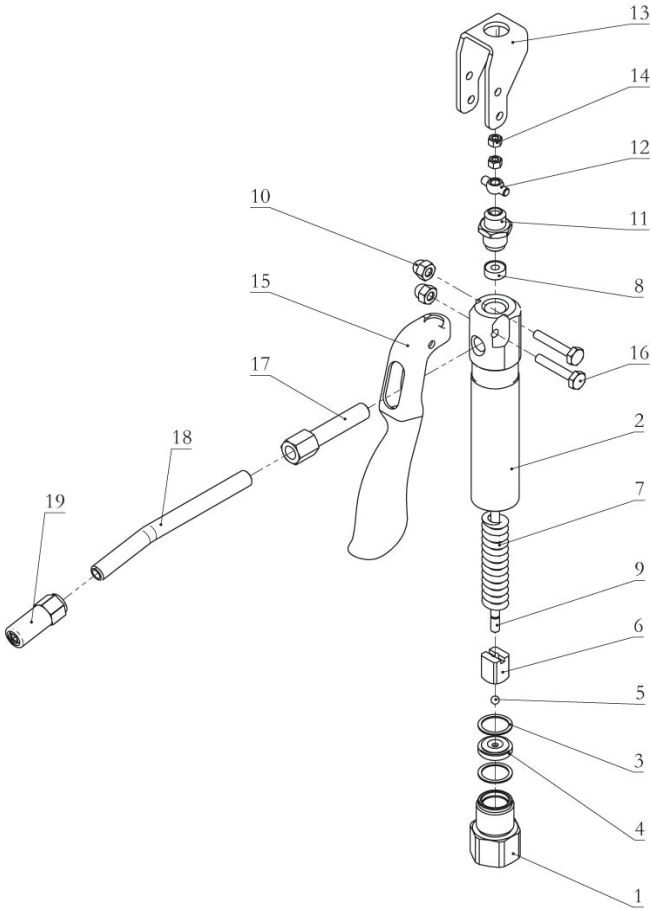
To reduce the risk of serious injury after servicing valve, always make sure the valve is in the closed position with trigger released.

12. With trigger in free position tighten bottom nut (7) until yoke bottoms out on rod guide, see Fig.1, (this is the maximum flow setting). Back off nut approximately 1/8 turn. Hold bottom nut in place and securely tighten.
13. If additional adjustment is desired, follow adjustment procedure.
14. For specific operation problems, see trouble-shooting guide.

TROUBLE SHOOTING

Problem(s)	Possible Cause	Solution
Grease flows with trigger released	Damaged ball Damaged seat Out of adjustment Missing ball	Install service kit Install service Kit Readjust (see Fig.1) Install service kit
No grease flow when trigger pulled	Out of adjustment Plugged seat Disassembled plunger and rod	Readjust (see Fig.1) Clean seat Reassemble
Grease leaking out of bottom of gun	Loose bottom adapter Missing copper gaskets Worn copper gaskets	Tighten adapter (see Fig.1) Install service kit Install service kit
Grease leaking out the top of gun	Worn seal in top of the gun	Install service kit
Short seal life	Worn plunger rod	Install service kit
Trigger will not move	Bent guard Bent pivot pin Damaged handle	Replace guard Install service kit Replace trigger

EXPLODED AND PARTS LIST



Part No.	Description	Q'ty	Part No.	Description	Q'ty
1	Seat adapter	1	11	Guide, rod	1
2	Grease gun body	1	12	Yoke	1
3	Copper gasket	2	13	Trigger guard	1
4	Valve seat	1	14	Hex nut	2
5	Steel ball	1	15	Trigger	1
6	Plunger	1	16	Screw	2
7	Compression spring	1	17	Outlet adapter	1
8	Seal	1	18	Rigid tube	1
9	Plunger rod	1	19	Coupler	1
10	Nut	2			



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* Read Manual Before Use!