



High Flow Mobile Oil Dispensing Kit Instruction Manual



OKT583-1-001



OKT585-1-001



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.

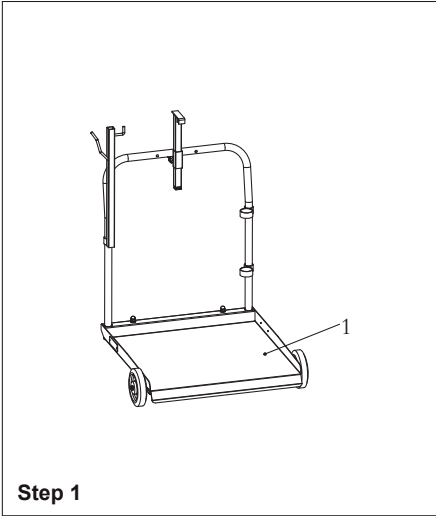


CAUTION SYMBOL: This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.



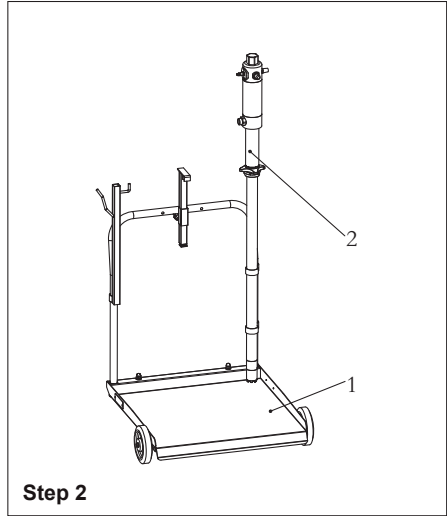
CAUTION: This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

1. Installation steps (Note: before connecting and assembling each component, please assemble each component according to the component instructions).



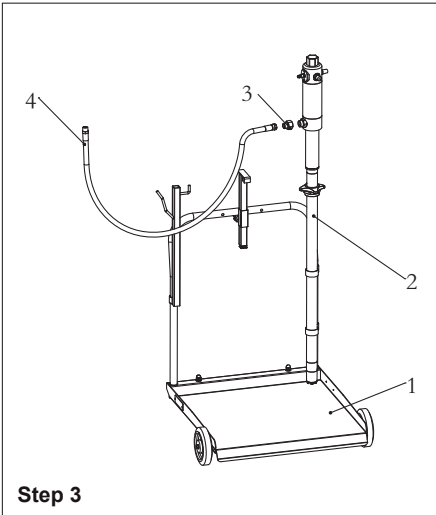
Step 1

1. Assemble trolley parts 1 according to 1708002 trolley instructions.



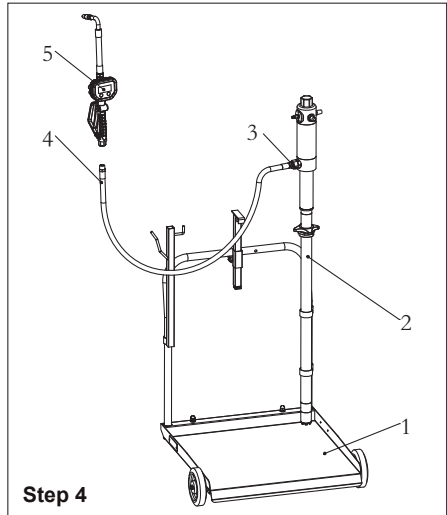
Step 2

1. Install the oil pump assembly 2 into the two 8-shaped assemblies corresponding to the trolley assembly 1.



Step 3

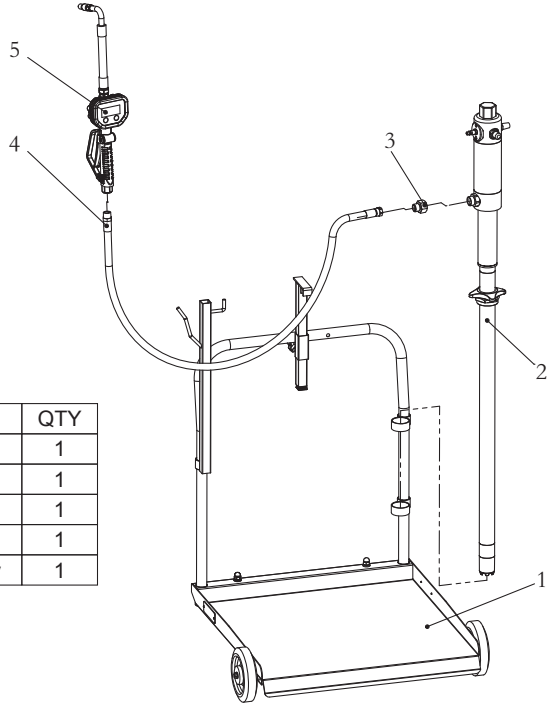
1. Lock the female thread of adapter 3 on the male thread of oil outlet of oil pump 2.
2. Lock the female thread of oil hose 4 on the male thread of adapter 3.



Step 4

1. Lock the male thread of oil delivery hose 4 on the inlet of oil control valve assembly 5.

EXPLODED VIEW AND DETAILS



Part No.	Description	QTY
1	Trolley assembly	1
2	Oil pump assembly	1
3	Adapter	1
4*	Delivery hose assembly	1
5	Oil control valve assembly	1

* Wearing parts.

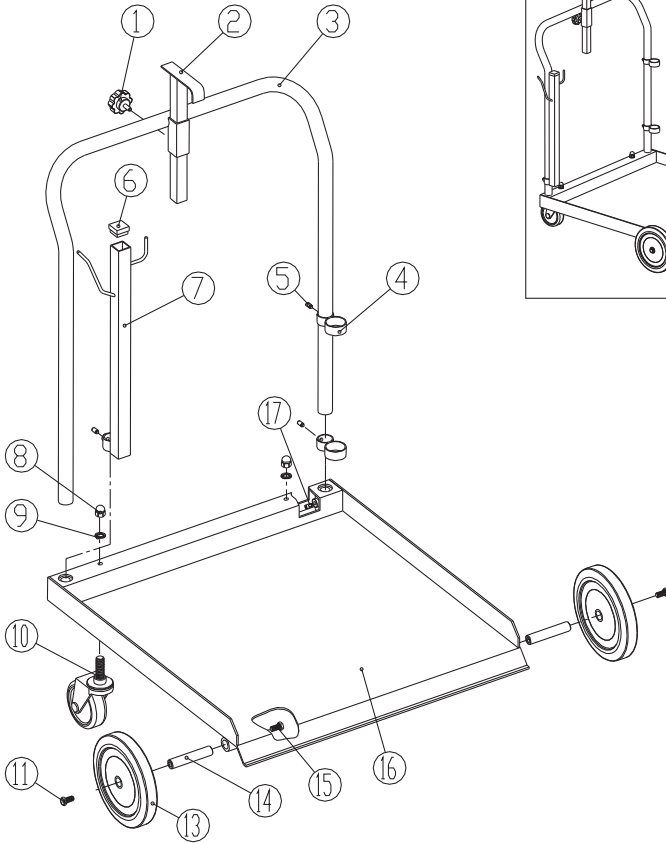
LIMITED WARRANTY

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.

TECHNICAL DETAILS - TROLLEY ASSEMBLY

Item No.	Drums Weight	Drums Diameter
1708002	180-220kgs	600mm

EXPLODED AND PARTS LIST



Part No.	Description	Q'ty	Part No.	Description	Q'ty
1	Accessories	1	10	A Swivelling Wheel	2
2	Drum Holder Support	1	11	Hexagon Bolt	2
3	Handle	1	12	Washer	2
4	Pump Support	2	13	Wheel	2
5	Hexagon Screw Set	3	14	Axle	2
6	Stopper	1	15	Hexagon Bolt	2
7	Accessories Support	1	16	Trolley Top	1
8	Acom Nut	2	17	Hexagon Screw Set	2
9	Washer	2			

TECHNICAL DETAILS - OIL PUMP ASSEMBLY

Item No.	1701036	1701056
Drum application	180-220L / 48-58gallon	180-220L / 48-58gallon
Pressure ratio	3:1	5:1
Air inlet pressure	5-8bar / 70-115psi	5-8bar / 70-115psi
Max. fluid pressure	24bar / 350psi	40bar / 580psi
Air motor effective diameter	63mm / 2.5"	63mm / 2.5"
Air consumption (per minute)	@ 8bar / 140L @ 115psi / 5.0CFM	@ 8bar / 140L @ 115psi / 5.0CFM
Max.free flow rate (per minute)	28L / 7.4gallon	25L / 6.6gallon
Suction tube diameter	42mm / 1-5/8"	42mm / 1-5/8"
Suction tube length	940mm / 37"	940mm / 37"
Air inlet connection	1/4" NPT Female	1/4" NPT Female
Oil outlet connection	3/4" M	3/4" M

SAFETY INSTRUCTIONS

When the pump is connected to the compressed air supply:

1. The compressed air must be filtered to avoid dust and moisture into pump.
2. The max compressed air pressure must not exceed 0.8Mpa/120psi.
3. To deliver oil, press the knob on the delivery pistol; delivery stops when the knob is released but the whole system remains under pressure.
4. Position the pistol so that the circuit can't open accidentally. Otherwise oil could leak onto the ground.
5. Never point the pistol at people or object.
6. Press the pistol knob.
7. Always cut off the air supply after use so that oil can't leak out in case one of the pump's components should break.
8. Use only original spare parts in case the pump has to be repaired or its components have to be replaced.
9. Empty all the oil from the pump in case it has to be disposed of.
10. When not in use, turn off compressed air to stop pump.
11. Do not use the pump near open flames. Do not smoke during this operation.
12. Wear oil-proof gloves.
13. Do not throw the oil away. Used oil has to be disposed of according to national environmental regulations.
14. The pumps can be used only to deliver lubricants, used oil or antifreeze liquids. Do not use the pump for any other substance.

THE MANUAL OF OIL PUMP

Read the following precautions and instructions before you begin assembly or using. Failure to comply with these instructions could result in personal injury or property damage. Keep these instructions in a convenient location for future reference.

IMPORTANT NOTE

The guarantee will be void if the pump has been altered in any way.

PROFILE

Oil pumps can be used to transfer lubrication oil, waste oil and antifreeze liquids. This manual is applicable to the following pump only, please confirm your pump is included.

TROUBLE SHOOTING

Problem	Cause	Solution
The pump continues to operate after the gun trigger has been released.	<ol style="list-style-type: none"> 1. There is an oil leak at some point of the circuit. 2. Valve sets (part No.39, 40, 41) close incorrectly due to dirt or wearing. 	<ol style="list-style-type: none"> 1. Check and tighten unions. Repair the leak. 2. Substitute damaged elements.
Reduction of the oil delivery or reduced pressure in the oil delivery.	<ol style="list-style-type: none"> 1. Silencer (53) dirtied. 2. Blocked at some point of the oil circuit. 3. Ball valve set (35, 36) closes incorrectly due to dirt or wearing. 	<ol style="list-style-type: none"> 1. Clean or recharge silencer. 2. Use clean oil. 3. Substitute damaged elements.
Air loss through the air exhaust.	<ol style="list-style-type: none"> 1. The sliding valve (4) does not close properly. 2. Broken press piece (5). 3. Damaged O-ring (21, 21). 4. Damaged piston (50). 5. Broken spring (18). 	<ol style="list-style-type: none"> 1. Disassemble and clean. Substitute in case of damage. 2. Substitute damaged elements.
Oil leaks through the air exhaust.	Seal set (45, 46, 47) damaged.	Substitute damaged elements.

If the pump has anything wrong, please contact us.

We don't recommend customers repair the pump themselves.

STORAGE AND MAINTENANCE

Pumps are delivered in appropriate carton boxes. Packaging material should be properly disposed.

Handling and storage of the new pump does not require any special procedures.

However after the pump has been used, empty the used oil in the suction tube into an appropriate container. This is done by overturning the pump.

The dust in compressed air can slow down and even block the motor cylinder. The following steps may prevent this from happening:

1. Let in 50 gram of Vaseline oil or other lubricator from the air inlet hole weekly, operate the pump for several minutes after having lubricator.
2. Turn on the pump for several minutes until moving parts is fully lubricated.
3. You may repeat the above operation if necessary.
4. The above steps should be carried out on a weekly base.

For the pumps that are attached with compressed air treatment equipment, please empty the water retained in the reservoir of the filter-purger frequently.

For the pumps that are attached with a lubricator, please pay close attention to the lubricator's oil level and refill with SAE 20, SAE 30 or antifreeze oil for extreme conditions when necessary.

NOTE: The user should perform only routine maintenance operations (such as filters, silencers, cleaning...) with the pump in order not to damage it or compromise its safety.

Contact our sales or service center when the pump needs further maintenance.

HOW TO USE

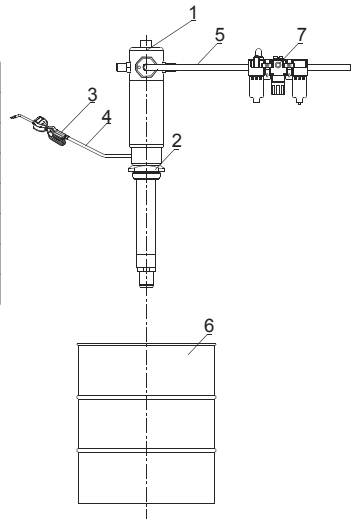
Directly Fitted Pump into the Drum

1. Insert the suction tube of pump into the drum and secure with ring nut, suitable for commercial drums with 57 diameter hole and threading 2" BSP.
2. Fit a oil delivery tube for oil outlet of the air operated pump using only high quality tubes (normally 3/4", according to DIN-SAE norms()), by means of 3/4" BSP threading fitting.
3. Oil delivery pistol: Connect delivery tube with delivery pistol using suitable pipe fittings, and point the pistol at right place.
4. Air inlet connection is 1/4" quick plug (or 1/4" NPT female) in all versions. Compressed air connection (to be supplied by the customer) should be done using suitable tube.
5. A pressure regulator to keep the pump's working pressure at the best possible level (max 5-8bar/70-115psi) between the pump and the compressed air line.
6. A cut-off switch can enable the operator to stop the pump at any given moment by cutting the air supply off between the pump and the compressed air line.
7. Switch on all switch.

Connect the Pump with Other Accessories:

Part List

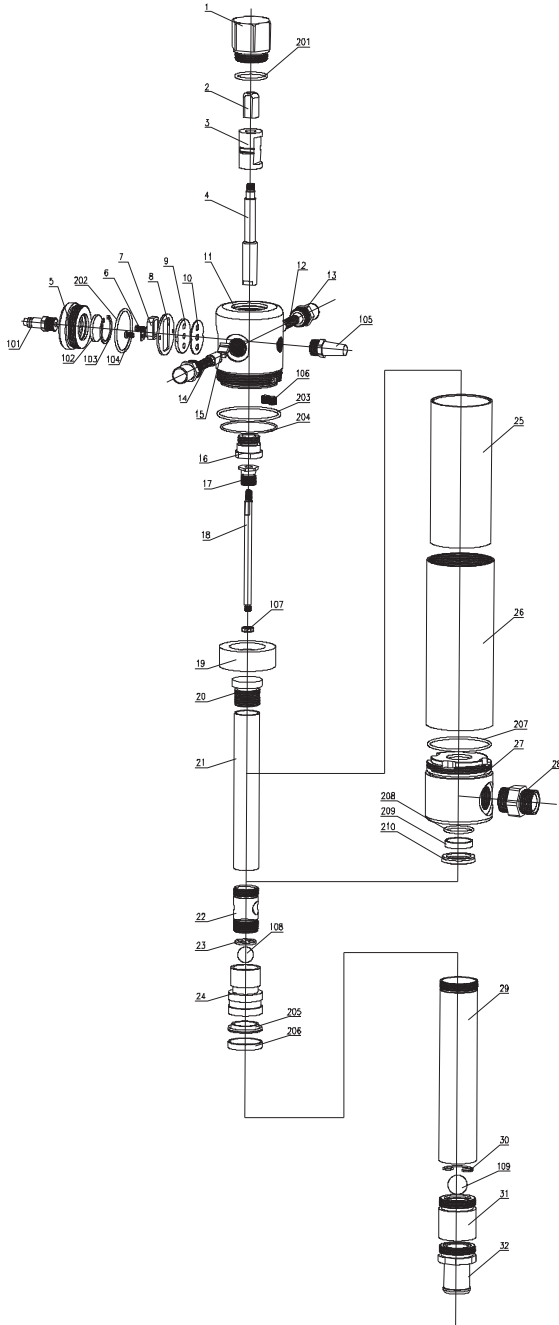
Part No.	Description
1	Oil pump
2	Bung adapter
3	Oil pistol
4	Hose with fitting
5	Air hose with quick coupling
6	Drum
7(7-1, 7-2, 7-3)	Filter, pressure regulator and lubricator



Part No.	Description	QTY	Part No.	Description	QTY
1	Air motor cover	1	29	Piston connect cover	1
2*	O-ring	1	30	Suction tube	1
3	Air motor shell inside	1	31	Piston shaft	1
4*	Slider	1	32	Connector	1
5*	Press piece	1	33*	O-ring	1
6	Screw	2	34	Spring circlip	1
7	Small circlip	1	35	Ball	1
8	Quick coupling	1	36	Valve seat	1
9	Air center cover	1	37	Filter	1
10	Silencer	1	38	Nut	2
11	Circlip	1	39*	U seal	1
12*	O-ring	1	40*	Small piston	1
13*	Securing washer	1	41*	O-ring	1
14*	Goasket	1	42	Retainer	1
15*	Soft gasket	1	43	Connector shaft	1
16*	Trip shoe guide	2	44	Piston stem	1
17	Spring seat	2	45*	O-ring	1
18	Spring	2	46	U seal	1
19	Spring shell	2	47*	O-ring	1
20	O-ring	1	48	Nut	1
21*	O-ring	1	49	Shaft	1
22	Bracket	1	50*	Piston	1
23*	O-ring	2	51	Screw	1
24	Piston cover	1	52	Bracket	1
25	Cut cover	1	53*	Silencer	1
26*	O-ring	1	54	Air control center	1
27	Side cover	1	55	Slider	1
28	Outlet	1			

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

EXPLODED AND PARTS LIST - 5:1 OIL PUMP



Part No.	Description	QTY	Part No.	Description	QTY
1	Air motor cover	1	27	Side cover	1
2	Air motor shell inside	1	28	Outlet	1
3	Slider	1	29	Suction tube	1
4	Bracket	1	30	Spring circlip	1
5	Air center cover	1	31	Valve seat	1
6*	Press piece	1	32	Filter	1
7*	Slider	1	101	Quick coupling	1
8*	Securing washer	1	102*	Silencer	1
9*	Goasket	1	103	Small circlip	1
10*	Soft gasket	1	104	Screw	2
11	Air control cetner	1	105	Silence	1
12	Spring	2	106	Screw	1
13	Spring shell	2	107	Nut	1
14	Spring seat	2	108	Ball	1
15*	Trip shoe guide	2	109	Ball	1
16	Bracket	1	201*	O-ring	1
17	Screw	1	202*	O-ring	1
18	Shaft	1	203*	O-ring	1
19	Piston	1	204*	O-ring	1
20	Piston connect cover	1	205*	U seal	1
21	Piston shaft	1	206*	Guiding	1
22	Piston stem	1	207*	O-ring	1
23	Baffle	1	208*	O-ring	1
24*	Small piston	1	209	Guiding	1
25	Piston cover	1	210*	U-ring	1
26	Cut cover	1			

Note: The Part No. with “*” are the wearing parts.

TECHNICAL DETAILS - OIL CONTROL VALVE

Item No.	18123522
Inlet	1/2" NPT
Configure	Flexible nozzle, auto tip
Flow rate	1-35L/min
Operating pressure range	0.5-100bar
Max operation temperature	60°C
Accuracy	±0.5%
Battery	ER14250 3.6V



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



Warning Symbol

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



Caution Symbol

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

SAFETY PRECAUTIONS

EQUIPMENT MISUSE HAZARD

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. Check equipment daily. Repair or replace worn or damaged parts immediately.
6. Do not exceed the maximum working pressure of the lowest rated system component. This equipment has a 1500psi (10Mpa, 100bar) maximum working pressure.
7. Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the Technical Data section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
8. Route hose away from traffic areas, sharp edges, moving parts, and hot surfaces.
9. Do not lift pressurized equipment.
10. Comply with all application local, state, and national fire, electrical, and safety regulations.

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.

INSTALLATION

Typical Installation

Fig. 1 shows a typical installation.

The installation shown in Fig. 1 is only a guide. The components shown are typical; however, it is not a complete system design. Contact your distributor for assistance in designing a system to suit your particular needs.

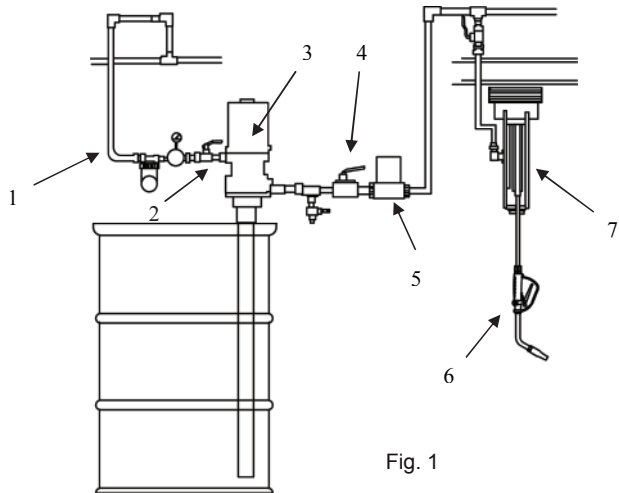
Pre-Installation Procedure

1. Relieve the pressure.
To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the pressure relief procedure.
2. Close the fluid shut-off valve (Item 4 in Fig. 1).
3. Ground the hose and reel or console. Do not use PTFE tape on the pipe joints; it may cause a loss of ground across the pipe joint.

Installation Procedure

If this is a new installation, or if the oil in the lines is contaminated, flush the lines before you install the dispense valve.

- 1: Air inlet
- 2: Air shut-off valve
- 3: Oil pump
- 4: Fluid shut-off valve
- 5: Meter
- 6: Hose reel
- 7: Control valve



NEW INSTALLATION

1. Relieve the pressure.
To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the pressure relief procedure.
2. Close the fluid shut-off valve at each dispense position.
3. Make sure the main fluid outlet valve at the pump is closed, the air pressure to the pump motor is adjusted, and the air valve is open. Slowly open main fluid valve.
4. Place the hose end (with no dispense valve connected) into a container for waste oil. Secure the hose in the container so it will not come out during flushing. If you have multiple dispense positions, first flush the dispense position farthest from the pump, and work your way toward the pump.
5. Slowly open the shut-off valve at the dispense position. Flush out a sufficient amount of oil to ensure that the entire system is clean, and close the valve.
6. Repeat step 5 at all other dispense positions.

- 1: Trigger
- 2: Nozzle
- 3: Tip
- 4: Swivel nut

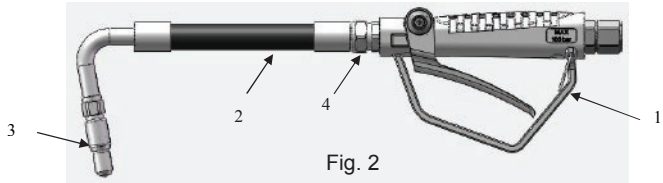


Fig. 2

Remark: If you want to adjust the angle of the nozzle, you can loosen the #4 swivel nut, then turn the nozzle to your desired position and tighten the nut.

Existing Installation

1. Relieve the pressure:
 - To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the pressure relief procedure.
2. Loosen and disconnect the hose from the old dispense valve (the one that you are replacing).
3. Thread the extension into the outlet of the dispense valve, and tighten firmly.
 - NOTE: Do not over tighten the extension tube assembly by using the nozzle adapter to hand turn the nozzle. For rigid extensions, thread the extension in at least three full turns, position the extension for proper alignment, and tighten the sealing nut. The PTFE seal on the sealing nut must face the valve housing.
4. Apply thread sealant to the male threads of the hose fitting, thread the hose fitting into the swivel, and tighten firmly.
5. Thread the new nozzle or nozzle adapter onto the extension, and tighten firmly.
6. Open all dispense position shut-off valves, and start the pump to pressurize the system. See the Operation section for proper operation.
7. For metered dispense valves, to ensure dispensing accuracy, purge all air from the fluid lines and dispense valves before you use them.

Grounding

Proper grounding is an essential part of maintaining a safe system.

To reduce the risk of static sparking, ground all system components per local and national electrical codes.

Refer to the user manuals for the pump and other system components to ground the following:

1. Pump: Follow manufacture's recommendations.
2. Air and Fluid hoses: Use only grounded hoses.
3. Air compressor: Follow manufacture's recommendations.
4. Fluid supply container: Follow your local code.
5. To maintain grounding continuity when flushing or relieving pressure, always hold a metal part of the valve firmly to the side of a grounded metal pail, then trigger the valve.

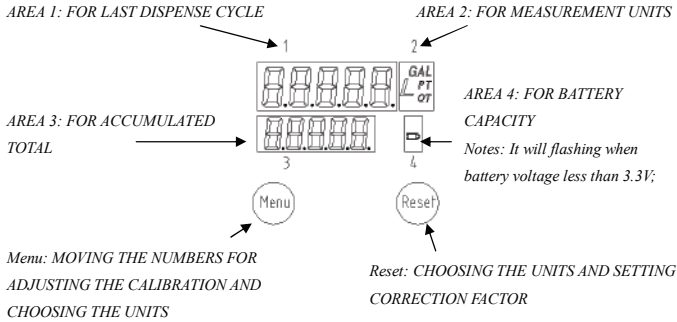
OPERATION



CAUTION

1. Never operate the meter with the plastic cover removed. The cover protects the meter from damage due to impact. Meters are factory sealed to keep moisture and dirt out.
2. To prevent line contamination, which can cause equipment malfunction or damaged, flush the lines before you install this equipment in the system.

Display and Button Usage



To Activate the Digital Display

1. Press the RESET key pad to clear the meter before starting a new dispense cycle. This is the best way to activate the meter, because it also clears the quantity of the last dispense cycle.
2. The digital display can also be activated by pressing the MENU key pad or by running fluid through the meter.

Calibrating Automatically

1. Press Reset key for 1 second and Area 1 shows .000 L;
2. Keep running fluid through the meter until the fluid running out of the certain measuring cylinder. The display will show certain value as *.*L, press the Menu key for 3 seconds. The meter will enter instrument calibration mode and Area 1 shows 00*.*L;
3. Press Menu key to move the flashing digital, press Reset key to choose number, enter the fluid volume and press Menu key again for 3 seconds, then exit the calibration mode. The calibration settled.

Show Current Correction Factor

1. Press Menu key and Reset key together. The display will show the correction factor, which can be reset.

Reset The Resettlement Total

1. Press Menu key for 10 seconds, the accumulated total will be reset to be "0".

To Change the Measurement Units (L / GAL/ PT / QT meter only)

1. Move the flashing display to Area 2 by pressing Menu key, then press Menu key to choose measurement unit;
2. Press Menu key over 3 seconds to exit the setting mode.



CAUTION

1. To be sure the proper amount of fluid is dispensed, always use the same measurement unit for a particular fluid. Units should be changed only by authorized employees.
2. To Verify the Accuracy of a Digital Meter.
3. Use a clean, calibrated container. If using a single container, be sure to clean it after each dispense.
4. Have pump air pressure at the lowest possible setting for dispensing fluid.
5. Put the tip of the nozzle at the bottom of the calibrated container.
6. If the tip of the dispense valve does not reach the bottom of the calibrated container, use a length of plastic tubing over the tip of the nozzle to ensure liquid enters the container from the bottom.
7. Trigger the gun slowly so the fluid immediately covers the tip of the dispense valve.

Pressure Relief Procedure

Pressurized Equipment Hazard:

The equipment stays pressurized. 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 pressure.
2. Check, clean or service any of the system equipment.
3. Install or clean the nozzle.
 1. Turn off the power supply to the pump.
 2. Trigger the valve into a waste container to relieve pressure.
 3. Open any bleed-type master air valves and fluid drain valves in the system.
 4. Leave the drain valve open until you are ready to pressurize the system.

If you suspect that the dispensing valve, extension, or nozzle is clogged or that pressure has not been fully relieved after following the steps above, very slowly loosen a fitting on the fluid line to relieve pressure gradually, then loosen it completely, then clear the clog.

To reduce the risk of a serious bodily injury, including fluid injection, never exceed the maximum working pressure of the valve you are using or of the lowest rated component in your system.

Dispensing Procedure

Note: Before you begin, make sure you understand how to unlock the trigger.

1. Pull the trigger toward the valve body to open the valve and begin dispensing.
2. Lock the valve open by keeping the trigger squeezed and depressing the trigger lock button. Then release the trigger, releasing your forefinger from the trigger lock last.
3. Pull the trigger toward the valve body to release the trigger lock. The trigger lock disengages. Release the trigger to stop dispensing.

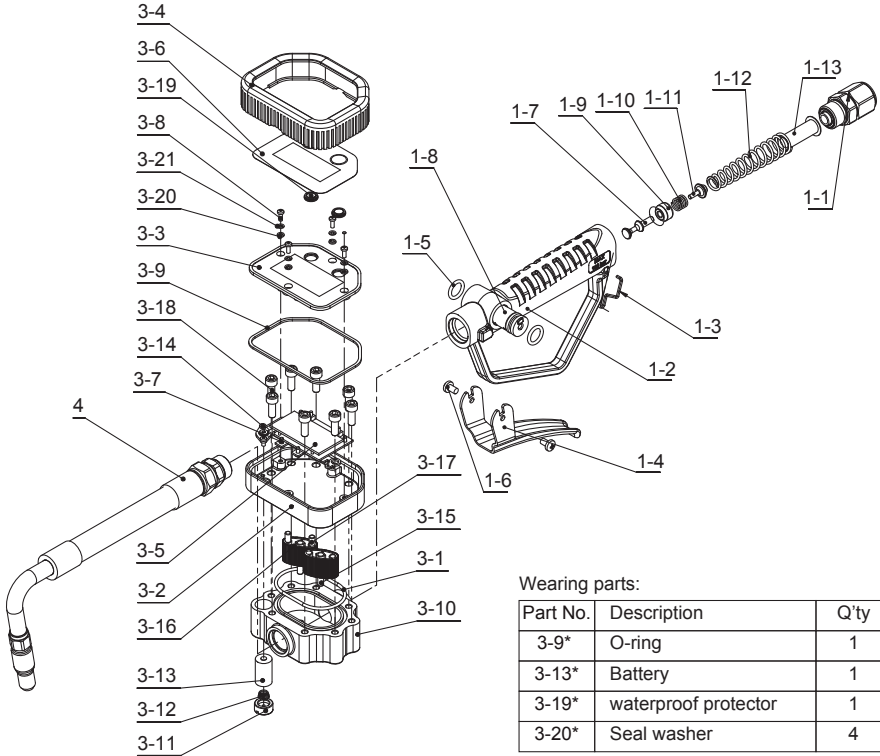
TROUBLE SHOOTING GUIDE

Relieve the pressure before you check or repair the dispensing valve. Be sure all other valves and controls and the pump are operating properly.

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

Problem	Problem	Solution
Slow or no fluid flow.	Filter is clogged, or pump pressure is low, or shut-off valve is not fully open, or foreign materials jammed in the metering element.	<ol style="list-style-type: none"> 1. Relieve the pressure. 2. Loose swivel fitting, clean or replace the filter. 3. If the problem remains, contact your distributor for repair or replacement.
Oil leaks from swivel.	Swivel is loose.	Torque the swivel. If the problem remains, contact your distributor for repair or replacement.
	O-ring is worn or damaged.	Replace the o-ring. If the problem remains, contact your distributor for repair or replacement.
Oil drips from nozzle.	Nozzle is damaged or obstructed.	Inspect the nozzle for damage or obstructions, and replace if damaged. If the problem remains, contact your distributor for repair or replacement.
Valve leaks.	O-rings or valve seat are worn or damaged.	Replace the o-rings and/or the valve seat. If the problem remains, contact your distributor for repair or replacement.
Leakage from meter.	O-ring damaged.	<ol style="list-style-type: none"> 1. Get the meter off from the dispense system. 2. Take off the protector. 3. Loosing four the socket head cap screws on the cover of the meter. 4. Loosing eight the hex bolts on the bottom of the meter. 5. Take off the seat. 6. Check the o-ring, replacing the o-ring if it is damaged. 7. After replacing the o-ring, assemble the meter and fix it back to the dispense system.
No Display.	Loosing Battery.	<ol style="list-style-type: none"> 1. Get the meter off from the dispense system. 2. Take off the protector. 3. Take off the labels sticks on the bottom of the meter. 4. Loosing the five socket head cap screws on the bottom of the meter. 5. Take off the seat. 6. Check the battery, replacing the battery if it is out of power. 7. After replacing the battery, assemble the meter and fix it back to the dispense system.
	Battery out of power.	
Wrong Reading.	correction coefficient error.	Reset the correction factor (follow the instructions on Page 6).

EXPLODED AND PARTS LIST



Wearing parts:

Part No.	Description	Q'ty
3-9*	O-ring	1
3-13*	Battery	1
3-19*	waterproof protector	1
3-20*	Seal washer	4

Part No.	Description	Q'ty	Part No.	Description	Q'ty
1-1	Swivel	1	3-5	Main Circuit Board	1
1-2	handle	1	3-6	Front Label	1
1-3	trigger lock	1	3-7	Screw	4
1-4	Trigger	1	3-8	Screw	4
1-5*	O-ring	2	3-9*	O-ring	1
1-6	Screw	2	3-10	Seat	1
1-7	Rod	1	3-11	Battery cover	11
1-8	Cam	1	3-12	Spring	1
1-9*	Seat	1	3-13*	Battery	1
1-10	Spring	1	3-14	Screw	2
1-11	Seat	1	3-15	Shaft	2
1-12	Spring	1	3-16	Oval Gear	2
1-13*	Filter	1	3-17	Magnetic Rod	2
2	Adapter	1	3-18	Bolt	8
3-1*	O-ring	1	3-19*	Waterproof protector	2
3-2	Meter Holder	1	3-20*	Seal washer	4
3-3	Meter Cover	1	3-21	Washer	4
3-4	Rubber Protector	1	4	Flexible nozzle with tip	1



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* Read Manual Before Use!