



Air-Operated 5:1 Oil Pump Kit

3.7 GPM

Owner's Manual



⚠ WARNING: Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item #58283

READ & SAVE THESE INSTRUCTIONS

Thank you very much for choosing an Ironton™ product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code: _____

Purchase Date: _____

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This pump is designed for certain applications only. Northern Tool and Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-222-5381**.

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Intended Use

The Ironton Air-Operated 5:1 Oil Pump Kit is suitable for dispensing oil at medium/high viscosity for mobile installations and fixed systems at long distances. The multi-drum trolley ensures high mobility and high efficiency.

Packaging Contents

- 5:1 Ratio pump
- Digital control valve
- 1/2" connection hose
- Drum trolley
- Hose reel
- Owner's Manual

Technical Specifications

Property	Specification
Kits List	
5:1 Ratio pump	1701053
Drum application	48-58 gallon
Drum trolley	1708003
Digital control valve	18123522
1/2" connection hose	19125050
1/2" *50' oil hose reel	M860154
Weight	164 lb.
5:1 Ratio Pump	
Compression ratio	5:1
Operating pressure (psi)	70-115
Maximum pressure (psi)	115
Air consumption (min)	@115 psi / 4.5 CFM
Max. free flow rate (gallon/min)	3.7 gallon
Tube diameter (inch)	1-5/8"
Suction tube length (mm/inch)	37"
Digital Control Valve	
Model#	18123522
Inlet	1/2" NPT
Flow rate	1-35 L/min
Max operation temperature	140°F
Accuracy	±0.5%
Battery	ER14250 3.6V
1/2" *50' Oil Hose Reel	
Model#	M860154
Hose I.D.	1/2"
Working pressure	2320 psi
Inlet/outlet	1/2"
Hose material	S.A.E.100R1 wire braid

Important Safety Information

⚠WARNING

- Read and understand all instructions. Failure to follow all instructions may result in serious injury or property damage.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using this tool. Always be aware of the environment and ensure that the tool is used in a safe and responsible manner.
- Do not allow persons to operate or assemble the product until they have read this manual and have developed a thorough understanding of how it works.
- Do not modify this product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the product. There are specific applications for which the product was designed.
- 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. This product will be safer and do a better job at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.
- Industrial or commercial applications must follow OSHA requirements.

⚠WARNING

WORK AREA SAFETY

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well-lit. Cluttered, wet, or dark work areas can result in injury. Using the product in confined work areas may put you dangerously close to cutting tools and rotating parts.
- Do not use the product where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The product can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow the product to come into contact with an electrical source. The tool is not insulated and contact will cause electrical shock.
- Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the product.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

⚠️WARNING

PERSONAL SAFETY

- Stay alert, watch what you are doing, and use common sense when operating the tool. Do not use the tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool may result in serious personal injury.
- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts. Air vents on the tool often cover moving parts and should be avoided.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety goggles (not safety glasses) with side shields, or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all persons in the work area.
- Do not overreach. Keep proper footing and balance at all times.
- Remove keys or wrenches before connecting the tool to an air supply, power supply, or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may cause personal injury.
- Secure the work with clamps or a vise instead of your hand when practical. This safety precaution allows for proper tool operation using both hands.

⚠️CAUTION

PUMP USE AND CARE

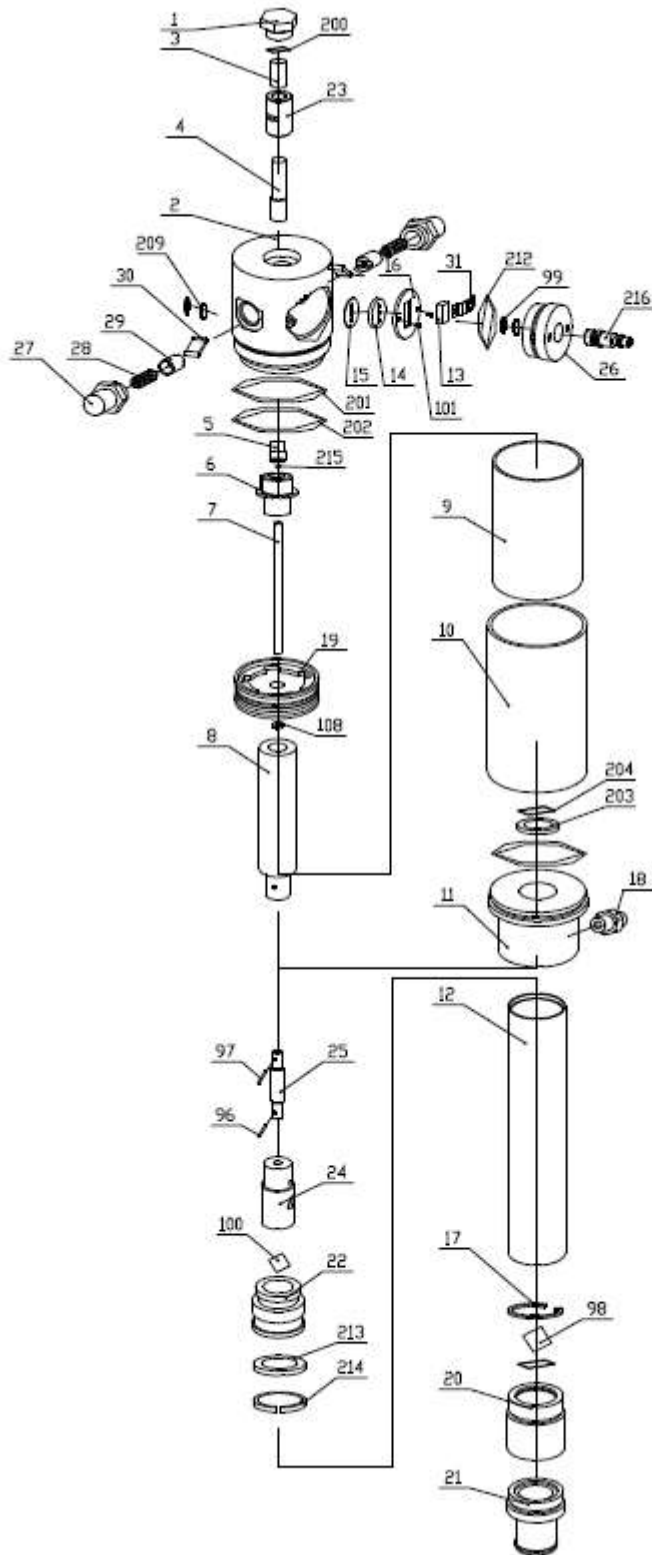
- Do not force the pump. Products are safer and do a better job when used in the manner for which they are designed. Plan your work, and use the correct product for the job.
- Check for damaged parts before each use. Carefully check that the product will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the product with a damaged part.
- Do not use a product with a malfunctioning switch. Any power tool that cannot be controlled with the power switch is dangerous and must be repaired by an authorized service representative before using.
- Disconnect the power/air supply from the product and place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.
- Store the pump when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the tool for good working condition prior to storage and before re-use.
- Use only accessories that are recommended by the manufacturer for use with your product. Accessories that may be suitable for one product may create a risk of injury when used with another tool. Never use an accessory that has a lower operating speed or operating pressure than the tool itself.
- Keep guards in place and in working order. Never operate the product without the guards in place.
- Do not leave the tool running unattended.

Specific Operation Warnings

⚠WARNING

- To prevent serious injury or property damage, read and understand owner's manual before operating.
- Wear ANSI Z87.1 compliant goggles and other protective gear while operating.
- Do not exceed the maximum working air pressure of 115 PSI.
- Never point the dispenser at people or animals.
- Do not use the pump near open flames. Do not smoke during this operation.
- When not in use, disconnect the air supply air to the pump.
- Inspect before each use; check that all connections are tight and secure.
- Never use if parts are damaged or broken; replace damaged or broken parts before operating.
- Use only original parts when repairing the pump.
- Always disconnect the air supply after use so that oil can't leak out in case one of the pump's components should break.
- The compressed air must be filtered to avoid dust and moisture into pump.
- Do not use with any liquid besides the intended oil, lubricants, or antifreeze liquids. See owner's manual for intended oil.
- Disconnect air hose and relieve air pressure before servicing.
- Always dispose of oil and other liquids according to local waste authority guidelines.
- Not for use by or around children.

Main Parts of Product



Reference	Part Description	Quantity
1	Air motor cover	1
2	Air control center	1
3	Air motor shell inside	1
4	Bracket	1
5	Bracket	1
6	Screw	1
7	Shaft	1
8	Piston shaft	1
9	Piston cover	1
10	Out cover	1
11	Side cover	1
12	Suction tube	1
13	Slider	1
14	Gasket	1
15	Soft gasket	1
16	Securing washer	1
17	Spring circlip	1
18	Outlet	1
19	Piston	1
20	Valve seat	1
21	Filter	1
22	Piston	1
23	Slider	1
24	Connecting shell	1
25	Connect shaft	1
26	Air center cover	1
27	Spring shell	2
28	Spring	2
29	Spring seat	2
30	Trip shoe guide	2
31	Press piece	1
96	Pin	1
97	Pin	1
98	Ball	1
99	Small circlip	2
100	Ball	1
101	Screw	2
108	Nut	1
200	O-ring	1
201	O-ring	2
202	O-ring	1
203	U-ring	1
204	O-ring	1
209	Silencer	2
212	O-ring	1

Reference	Part Description	Quantity
213	U seal	1
214	Guiding	1
215	O-ring	1
216	Quick coupling	1

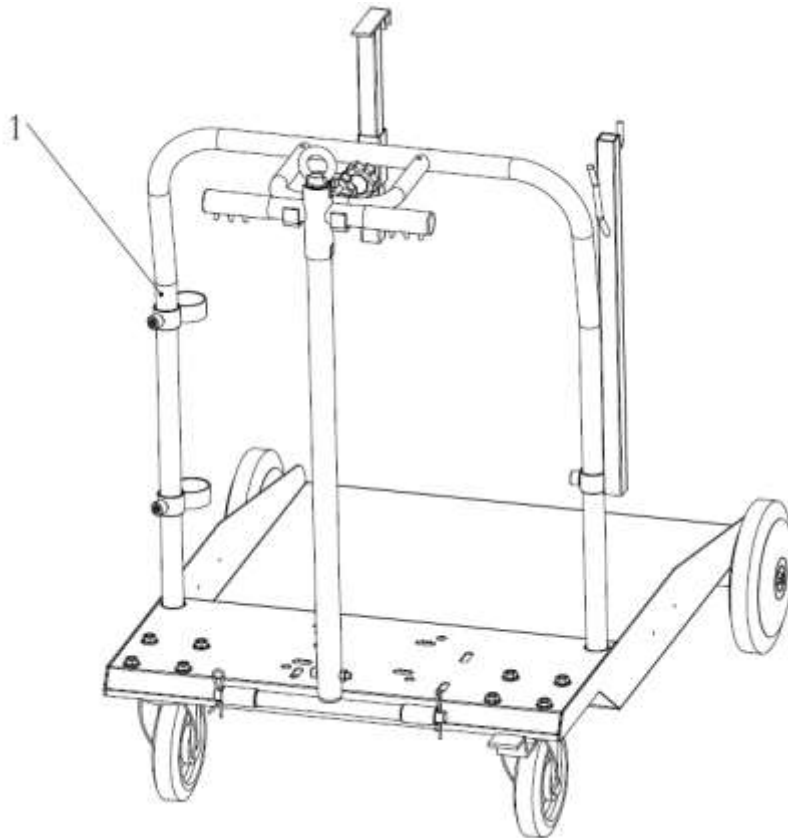
Assembly Instructions

When the pump is connected to the compressed air supply:

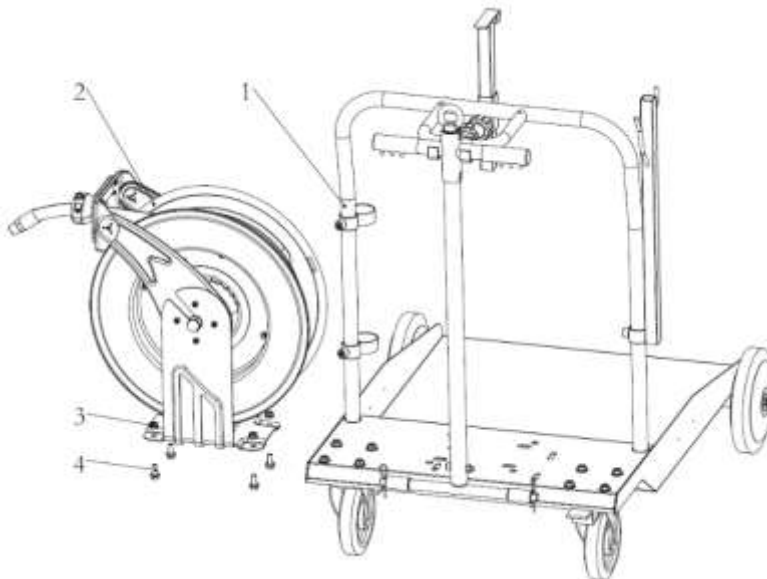
- The compressed air must be filtered to avoid dust into pump.
- The max compressed air pressure must not exceed 115 psi.
- To deliver oil, press the knob on the delivery gun; delivery stops when the knob is released but the whole system remains under pressure.
- Position the gun so that the circuit can't open accidentally. Otherwise oil could leak onto the ground.
- Never point the gun at people or animals.
- Press the gun knob only after you are sure that the gun is in the right place so that the oil doesn't leak onto the ground.
- 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.
- Use only original spare parts in case the pump has to be repaired or its components have to be replaced.
- Ensure the tightness of all joints and screwed connections.
- When there is no load, cut off compressed air to stop pump.

The whole unit assembly instructions:

- a. Assemble the #1 cart accordingly.



b. Connect #2 Hose Reel with #1 cart by #4 4pcs Hexagon headed bolts and #3 4pcs Hexagon nuts.

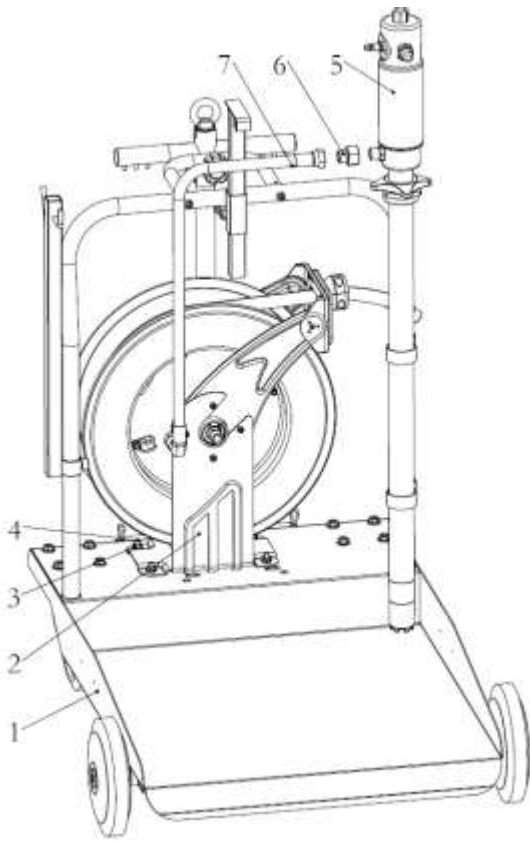


c. Connect #5 oil pump with #1 cart as the following figure.

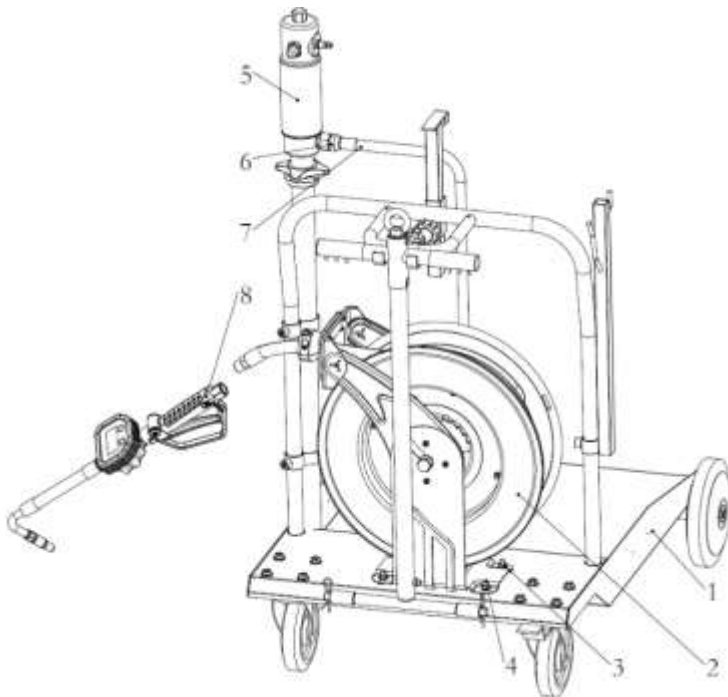
d. Tighten #6 transfer fitting onto #5 oil pump.

e. Connect #7 Oil transfer tube with #6 transfer fitting.

f. Connect #7 Oil Transfer tube with #2 Hose Reel.



g. Tighten #2 Hose Reel male fitting with the inlet of #8 Digital Control valve.



PUMP INSTALLATION

- When the pump is applied to a high viscosity oil, or used in low temperature, an oil follower plate

is recommended to avoid air pockets and to get the most out of your oil.

- The follower plate, which is pulled towards the bottom of the drum by suction pressure produced by the air operated pump, compresses the oil, preventing the formation of air pockets which may cause a blockage in delivery.
- The follower plate will always keep the oil clean to preserve its characteristics and also enable the oil to be collected from the bottom of the drum to avoid waste.
- Loosen the bung adaptor or wall bracket adaptor star nut. Slide the bung adaptor off of the suction tube.
- Carefully place the pump through the bung adaptor and the follower plate. Then tighten the star nut firmly in order to attach the pump.

CONNECTION OF THE AIR INLET LINE

- Air inlet connection is 1/4" quick coupling (or 1/4" NPT female) in all versions.
- Compressed air connection (to be supplied by the customer) should be done using suitable tubes.
- A compressed air treatment unit (filter and regulator) is recommended to be attached to the pump. In order to improve the efficiency of the pump, the installation of a lubricator is also recommended.

CONNECTION OF OIL DISCHARGE

1. The Oil discharge outlet is a 1/2" Male. Connect the outlet to the high pressure hose (according to DIN-SAE norms) through the corresponding adapter and terminal.
2. Ensure the gun or corresponding valve is closed.
3. Slowly open the pump's compressed air inlet valve. The pump will start to function, filling the feed circuit with oil. Maintain pressure on the gun until the oil start to come out. The pump is now ready for its usual function.

PUMP OPERATION

- If the pump has already been primed and the compressed air feed is connected to the appropriate work pressure level (70-115 psi), the pump will start automatically when the nozzle or gun situated at the end of the oil delivery circuit, is opened.
- To stop the pump, simply close the nozzle or disconnect the air inlet line.

Digital 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.

1. Close the fluid shut-off valve (item 4 in Fig.1).

2. 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.

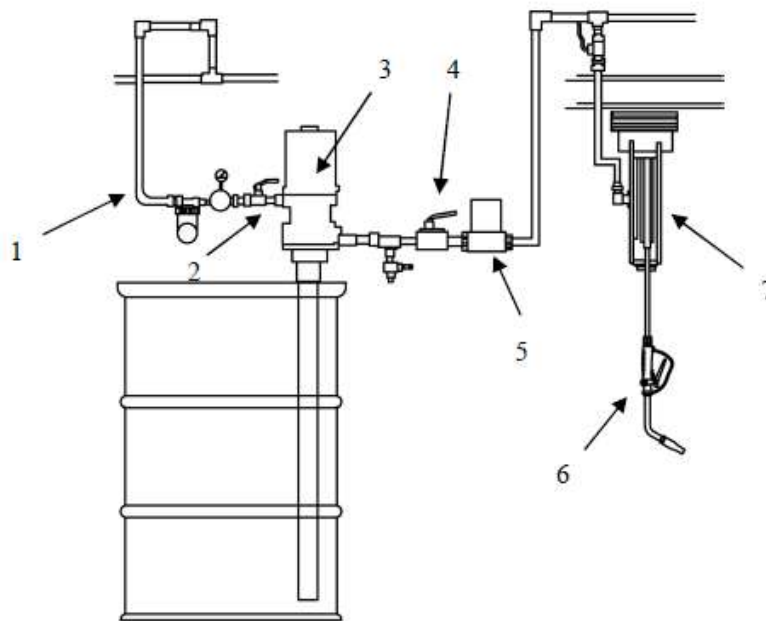


Fig. 1

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

Fig. 1

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.
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 dispenses positions.

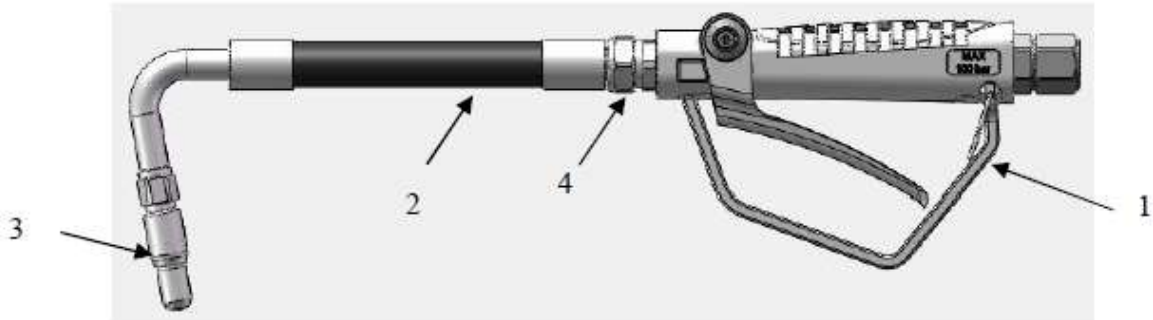


Fig. 2

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

Note: 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.
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.
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 manual for the pump and other system components to ground the following:

- Pump: Follow manufacture's recommendations.
- Air and Fluid hoses: Use only grounded hoses.
- Air compressor: Follow manufacture's recommendations.
- Fluid supply container: Follow your local code.
- 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.

Installation of Hose Reel

- 1) For overhead ceiling mounting: Install reels at least 10 feet above the floor.
- 2) If the reel you have purchased does not have a hose included, you will need to purchase and attach one. Refer to the specifications to determine appropriate hose size and length.
- 3) You will need to purchase appropriate hardware for mounting your new reel.
 - a. The reel base has four 0.4" (or 10.5mm) drilled holes for mounting on a suitable flat surface. Figure 2 is a template showing the correct location of the 4 mounting holes in the base.
 - b. The reel is supplied with a hose guide roller bracket. The bracket position may be changed depending on the reel mounting position. Figure 2 shows "Typical Mounting Positions". If bracket position needs to be changed, do the following:
 - (1) Pull out some hose and let reel latch.
 - (2) Remove the bolts that attach the guide roller bracket to the support post.
 - (3) Rotate guide roller bracket to correct position, replace bolts and tighten.
 - c. Using the four holes in the base, mount the reel in the desired location. Be sure to use appropriate hardware and tighten securely.
 - d. Apply Teflon tape or pipe sealant to supply line threads, attach to reel inlet and tighten. The other end of incoming line can now be connected to desired supply source.
 - e. If hose has been supplied with reel: Apply Teflon tape or pipe sealant to outlet fitting on reel hose, then attach to desired tool, or nozzle. Check connection for leakage, also check hose reel for correct operation (see Operation section).
 - f. If hose stopper adjustment is required, pull hose from reel and allow to latch at desired length. Loosen stopper bolts and slide stopper to a position close to the hose guide. Tighten stopper bolts, and unlatch the reel.

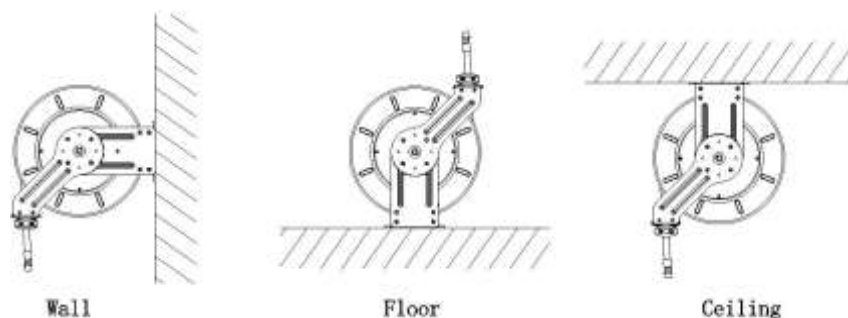
Installation of Hose

1. Securely stabilize the reel.
2. Facing the swivel fitting side of reel: Turn the drum clockwise by hand, until the rewind spring is tight, and drum has latched. As an extra precaution while installing new hose, secure drum in the latched position.
3. Insert end of the hose through guide roller bracket, and feed through the opening in the drum flange.
4. Use Teflon tape or pipe sealant on hose fitting threads, screw fitting into swivel and tighten.

Note: To avoid damage to the swivel, use a wrench to support the swivel fitting while tightening the hose.

5. Attach hose stopper on the other end of hose, near the outlet fitting.
6. Carefully release drum latch, and slowly allow hose to wind onto the reel.

Note: Final spring tension adjustment is accomplished by adding wraps of hose around the drum (to increase tension) or taking off wraps of hose (to decrease tension). Refer to: Adjustment of Spring Tension.



Before Each Use

⚠WARNING

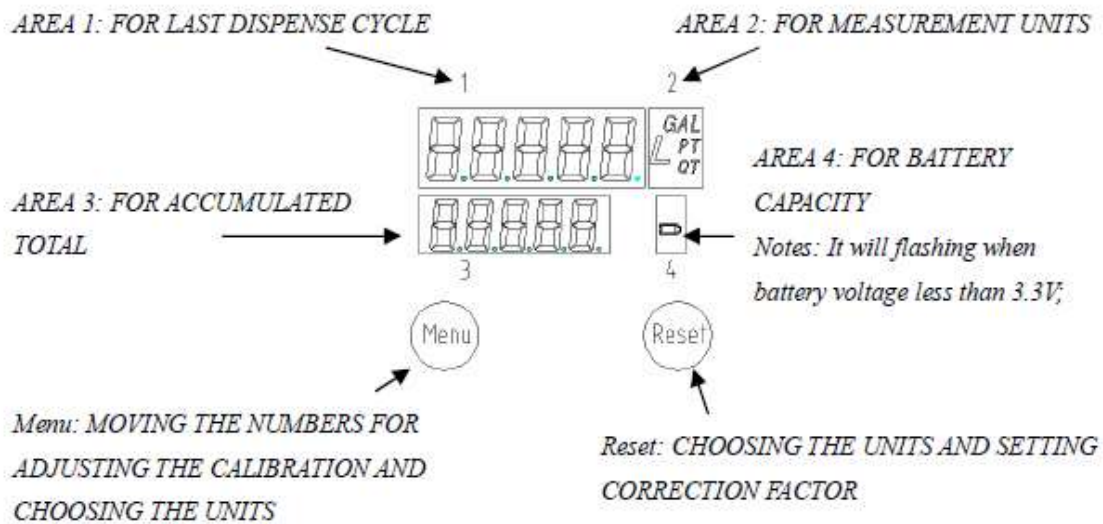
- Inspect before each use; check that all connections are tight and secure.
 - Never use if parts are damaged or broken; replace damaged or broken parts before operating.
 - Disconnect air hose and relieve air pressure before servicing.
-
- **TIGHTEN** all fluid connections securely before each use. High pressure fluid can dislodge a loose coupling or allow high pressure spray to be emitted from the coupling.
 - **NEVER** use a damaged hose. Before each use, check the entire hose for cuts, leaks, abrasion, bulging cover, damage or movement of the hose couplings. If any of these conditions exist, replace the hose immediately.
 - **DO NOT** try to mend it with tape or any other device. A repaired hose cannot safely contain the high pressure fluid.

Operating Instructions

⚠WARNING

- Wear ANSI Z87.1 compliant goggles and other protective gear while operating.
- Do not exceed the maximum working air pressure of 115 PSI.
- Never point the dispenser at people or animals.
- Do not use the pump near open flames. Do not smoke during this operation.
- The compressed air must be filtered to avoid dust and moisture into pump.
- Do not use with any liquid besides the intended oil, lubricants, or antifreeze liquids. See owner's manual for intended oil. 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.
- 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



Activating the Digital Display

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. The digital display can also be activated by pressing the MENU key pad or by running fluid through the meter.

Calibrating Automatically

- Press Reset key for 1 second and Area 1 shows .000 L;
- 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;
- 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 is settled.

Showing Current Correction Factors

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

Resetting the Resettlement Total

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

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

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

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.

Operating the Hose Reel

1. Check reel for correct operation by slowly pulling out the hose. A clicking sound will be heard every half revolution of the drum.
2. To latch the reel, pull out the hose and allow it to retract after hearing the first second or third click.
3. To unlatch, slowly pull out the hose until the clicking sound stops, then let the hose retract until the hose stop rests against the hose guide.
Note: To avoid damage to the reel, always hold on to the hose while it is rewinding.
4. Periodically check the hose condition for wear or damage, and check the swivel fitting for leakage. Replace any worn, damaged, or leaking parts.

Adjusting the Spring Tension

1. Pull out approximately 6ft (2m) of hose and allow the drum to latch.
2. Remove hose stopper from hose, and feed hose back through guide.
3. Wrap the pulled hose one time around the drum to increase tension or un-wrap hose one time from drum to decrease tension.
4. Re-insert hose through guide, and install stopper onto hose end.
5. Unlatch the drum and check tension. Pull hose from reel, and adjust stopper position if necessary.

Replacing the Swivel Seal

1. Turn off and disconnect supply line from swivel inlet.
2. Remove swivel assembly from reel axle.
3. Remove circlip from swivel, and take apart.
Note: You may want to remove swivel from reel hose end, but this is not necessary unless a new swivel is being installed.
4. Replace the seals and reassemble swivel.
5. Use Teflon type or thread sealant on swivel thread fitting, reconnect the swivel thread fitting with axle.
6. Re-connect inlet supply line.

Replacing the Hose

1. Turn off supply to reel.
2. Pull out all the old hose and lock the reel in this position.
Note: Make sure reel drum is securely locked and cannot rotate back.
3. Remove two hose clamps from hose.
4. Carefully disconnect hose from swivel joint on side of reel, or male fitting in axle center and remove old hose.
5. Feed new hose through guide and opening in drum, and connect to swivel. Re-install two hose clamps, on inside and outside of drum flange. Install stopper on other end of hose in the same position as before.
6. Carefully release the drum latch, and slowly allow the hose to wind onto the reel.

Note: Final spring adjustment is accomplished by adding or removing wraps of hose around the drum (see spring tension adjustment).

After Each Use

⚠WARNING

- Always disconnect the air supply after use so that oil can't leak out in case one of the pump's components should break.
- Keep the pump in a dry and cool place out of the reach of children. Pumps are delivered in appropriate cardboard 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:
 - Add 50 grams of appropriate lubricating oil to the air inlet hole weekly; operate the pump for several minutes after adding oil.
 - Turn on the pump for several minutes until moving parts are fully lubricated.
 - You may repeat the above operation if necessary. These steps should be carried out on a weekly base.
- For the pumps that are attached with compressed air treatment equipment, empty the water retained in the reservoir of the filter-purger frequently.
- For the pumps that are attached with a lubricator, pay close attention to the lubricator's oil level and refill with SAE 20, SAE 30, or antifreeze oil for extreme conditions when necessary.
- How to clean the pump: Operate the pump and drain off the oil, then the pump can be used with another oil.

Maintenance

The user should perform only routine maintenance operations (filters, silencers, cleaning) to avoid damaging the unit or compromising the user's safety. Contact our sales or service centers when the pump needs further maintenance.

Troubleshooting

Pump

Failure	Possible Cause	Corrective Action
The pump continues to operate after the gun trigger has been released.	There is oil leak at some point of the circuit.	Check and tighten connections. Repair the leak.
	Valve sets (part # 22 and 203, 204, 213, 214) close incorrectly due to dirt or wearing.	Have damaged parts replaced.
Reduction of the oil delivery or reduced pressure in the oil delivery.	Silencer (209) is dirty.	Clean or recharge silencer.
	Blocked at some point of the oil circuit.	Use clean oil.
	Ball valve set (20,100) close incorrectly due to dirt or wearing.	Have damaged parts replaced.
Air loss through the air exhaust.	Broken press piece (31).	Disassemble and clean. Have damaged parts replaced.
	Damaged O-ring (201, 202, 215).	
	Damaged piston (19).	Have damaged parts replaced.
	Broken spring (28).	
Oil leak through the air exhaust.	Seal set (203, 204) is damaged.	Have damaged parts replaced.

Digital Control Valve

Failure	Possible Cause	Corrective Action
Slow or no fluid flow.	Filter is clogged, pump pressure is low, shut-off valve is not fully open, or foreign material is jammed in the metering element.	Relieve the pressure.
		Loose swivel fitting; clean or replace the filter.
		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.
Valve leaks.	O-rings or valve seat are worn or damaged.	Replace the O-rings and /or the valve set. If the problem remains, contact your distributor for repair or replacement.
Leakage from meter.	O-ring damaged.	<ol style="list-style-type: none"> 1. Take the meter off the dispense system. 2. Take off the protector. 3. Loosen four of the socket head cap screws on the cover of the meter. 4. Loosing eight of the hex bolts on the bottom of the meter. 5. Take off the seat. 6. Check the O-ring and replace the O-ring if it is damaged. After replacing the O-ring, disassemble the meter and attach it back to the dispense system.

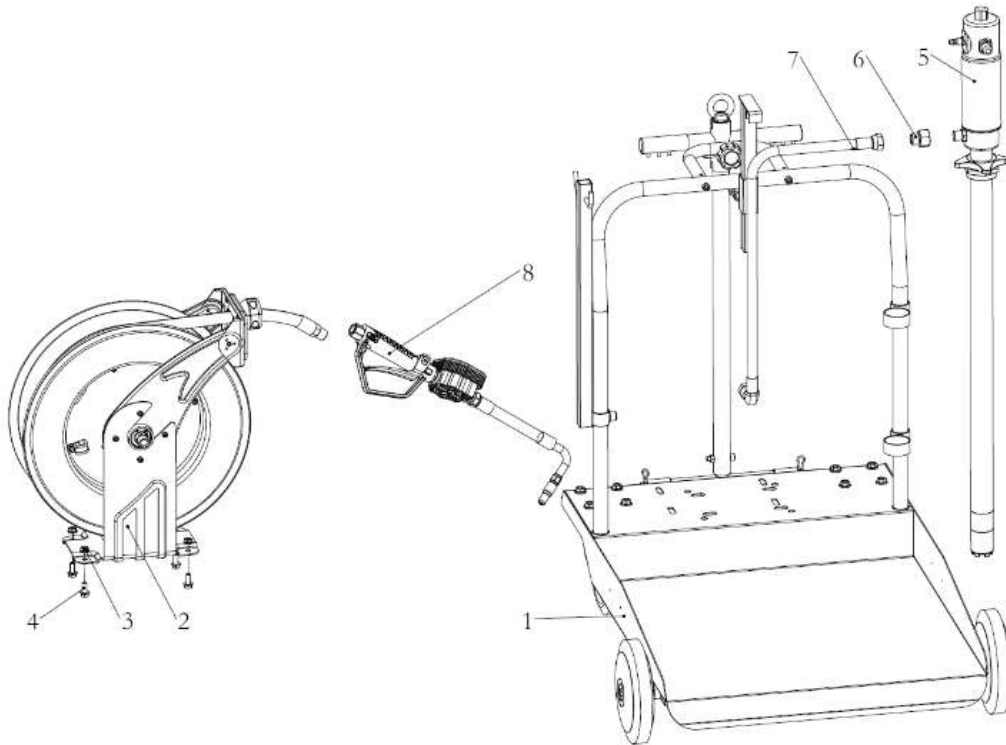
Hose Reel

Failure	Possible Cause	Corrective Action
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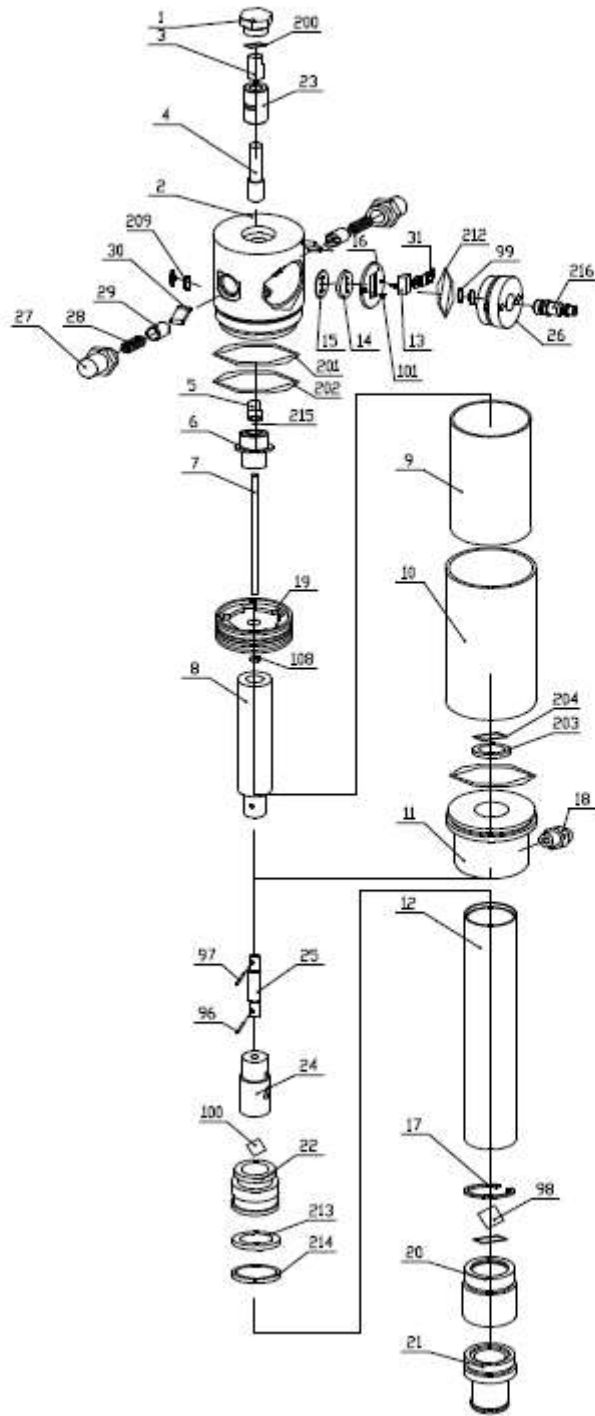
Reel problems.	Reel will not latch.	Contact your local supplier or a qualified technician for service.
	Reel is not retracting.	
Leaking issue.	Leaking from a hose connection.	Tighten the leaking connection. If necessary, check whether the threads are stripped or not. If stripped, contact your local supplier or a qualified technician for service.
Leaking issue.	Leaking from the hose.	Check the hose for damage. If damaged, contact your local supplier or a qualified technician for replacement service.

Parts Diagram

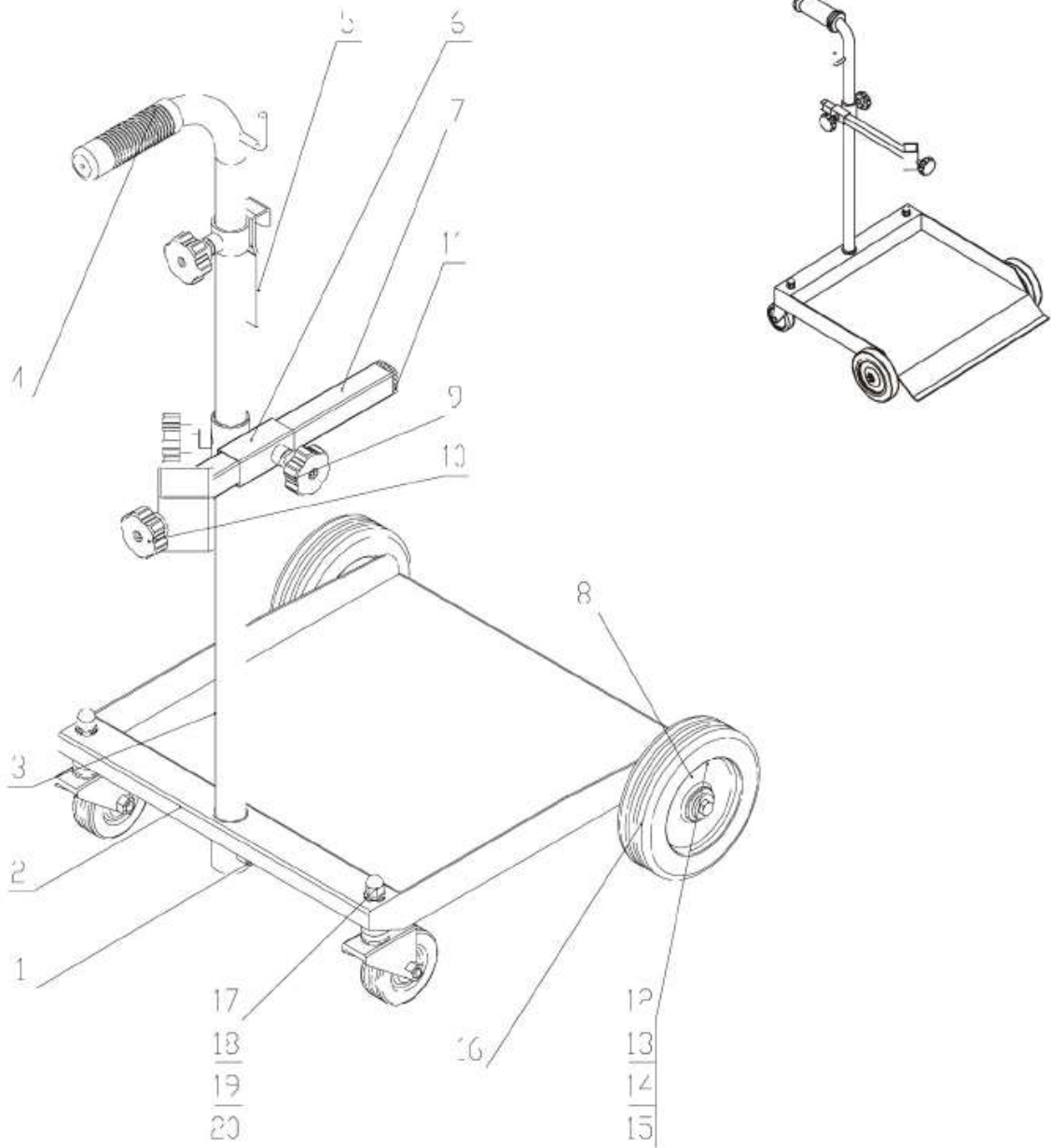
Main Parts of the unit:



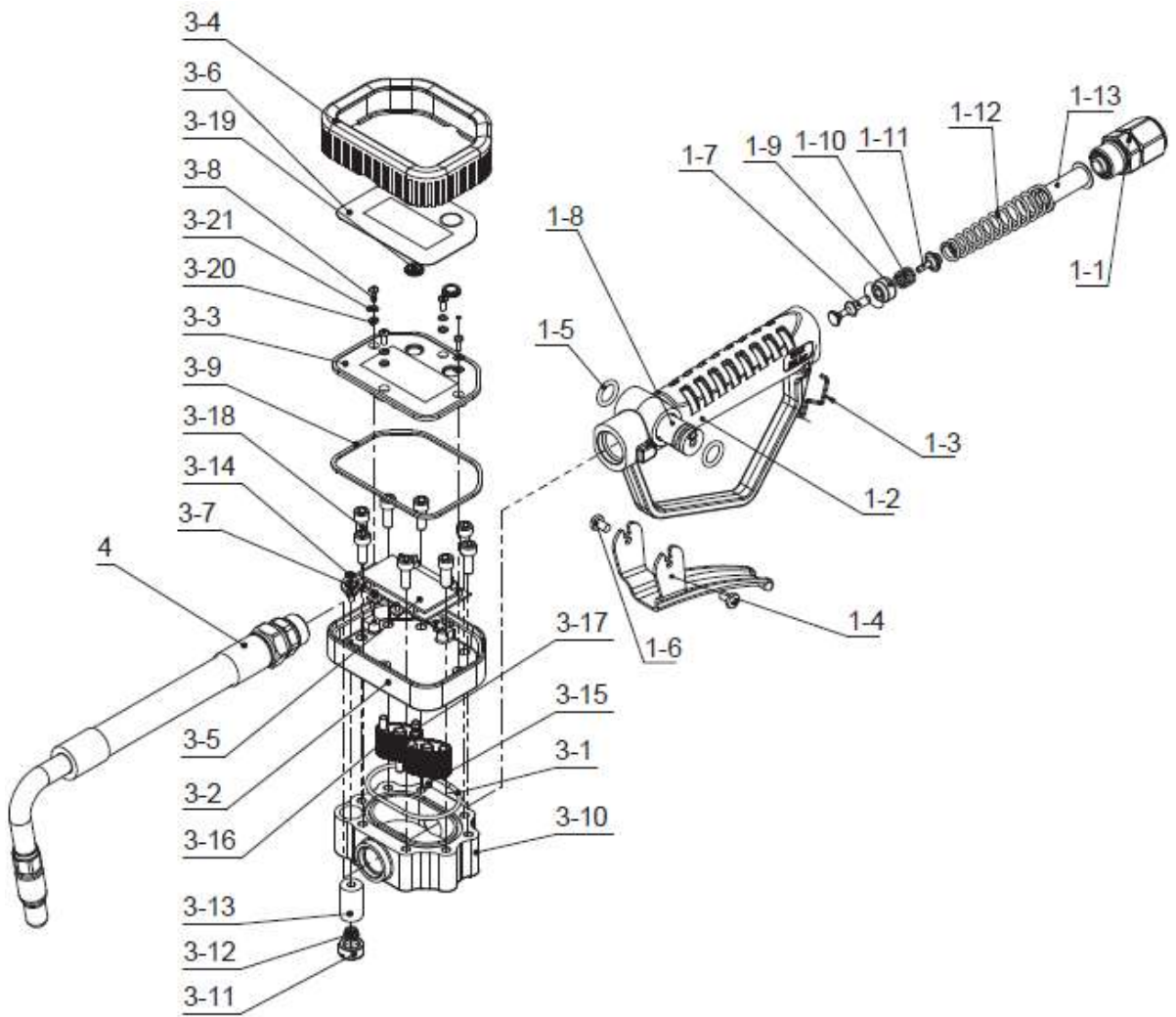
5:1 SERIES OIL PUMP EXPLODED VIEW



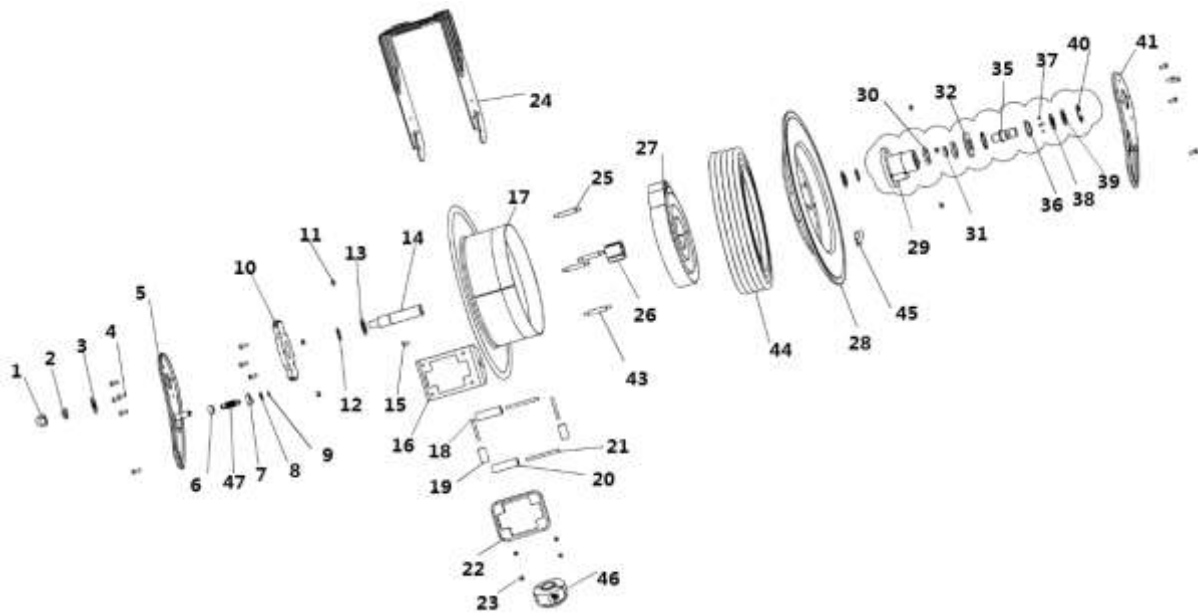
Trolley



Digital Control Valve



Hose Reel



Parts List

Main parts of the unit		
Part Number	Description	Q'ty
1	Cart	1
2	Hose Reel	1
3	Hexagon nut	4
4	Hexagon headed bolt	4
5	Oil Pump	1
6	Transfer fitting	1
7	Oil transfer tube	1
8	Digital control valve	1

Part Number	Part Description	Quantity
Pump Parts List		
1	Air motor cover	1
2	Air control center	1
3	Air motor shell inside	1
4	Bracket	1
5	Bracket	1
6	Screw	1
7	Shaft	1
8	Piston shaft	1

Part Number	Part Description	Quantity
9	Piston cover	1
10	Out cover	1
11	Side cover	1
12	Suction tube	1
13	Slider	1
14	Gasket	1
15	Soft gasket	1
16	Securing washer	1
17	Spring circlip	1
18	Outlet	1
19	Piston	1
20	Valve seat	1
21	Filter	1
22	Piston	1
23	Slider	1
24	Connecting shell	1
25	Connect shaft	1
26	Air center cover	1
27	Spring shell	2
28	Spring	2
29	Spring seat	2
30	Trip shoe guide	2
31	Press piece	1
96	Pin	1
97	Pin	1
98	Ball	1
99	Small circlip	2
100	Ball	1
101	Screw	2
108	Nut	1
200	O-ring	1
201	O-ring	2
202	O-ring	1
203	U-ring	1
204	O-ring	1
209	Silencer	2
212	O-ring	1
213	U seal	1
214	Guiding	1
215	O-ring	1
216	Quick coupling	1
212	O-ring	1
213	U seal	1
214	Guiding	1
Trolley Parts List		
1	Accessories	1
2	Drum holder support	1
3	Handle	1
4	Pump support	2
5	Hexagon set screw	3
6	Stopper	1
7	Accessories support	1
8	Hexagon bolt	8
9	Washer	8

Part Number	Part Description	Quantity
10	Nut	8
11	Wheel with brake	1
12	Hexagon bolt	2
13	Washer	2
14	Wheel	2
15	Axle	2
16	Hexagon bolt	2
17	Trolley top	1
18	Joint pin	1
19	Handle joint	1
20	Hairpin clip	2
21	Stopper	2
22	Handle grip	1
23	Hexagon head screw	1
24	Nut	1
25	Movable handle	1
26	Handle support	1
27	Wheel without brake	1
28	Hexagon head screw	2
Digital Control Valve Parts List		
1-1	Swivel	1
1-2	Handle	1
1-3	Trigger lock	1
1-4	Trigger	1
1-5*	O-ring	2
1-6	Screw	2
1-7*	Rod	1
1-8	Cam	1
1-9*	Seat	1
1-10	Spring	1
1-11	Seat	1
1-12	Spring	1
1-13*	Filter	1
2	Adapter	1
3-1*	O-ring	1
3-2	Meter holder	1
3-3	Meter cover	1
3-4	Rubber protector	1
3-5	Main circuit board	1
3-6	Front label	1
3-7	Screw	4
3-8	Screw	4
3-9	O-ring	1
3-10	Seat	1
3-11	Battery cover	11
3-12	Spring	1
3-13*	Battery	1
3-14	Screw	2
3-15	Shaft	2
3-16	Oval gear	2
3-17	Magnetic rod	2
3-18	Bolt	8
3-19*	Waterproof protector	2
3-20*	Seal washer	4

Part Number	Part Description	Quantity
3-21	Washer	4
4	Nozzle with tip	1
MH10001	Rigid nozzle	N/A
MH10002	Flexible nozzle	N/A
MT10001	Manual tip	N/A
MT10002	Auto tip	N/A
MT10003	Semi-auto tip	N/A
1-5*	O-ring	2
1-9*	Seat	1
1-13*	Filter	1
1-4	Trigger	1
3-1*	O-ring	1
3-9*	O-ring	1
3-13*	Battery	1
3-19*	Waterproof protector	1
3-20*	Seal washer	4

Hose Reel Parts List		
1	Nut	1
2	Spring washer	1
3	Washer	2
4	Bolt	9
5	Bracket arm	1
6	Washer	1
7	Ratchet	1
8	Washer	1
9	Lock washer	1
10	Click pulley	1
11	Nut	8
12	Lock washer	2
13	Washer	4
14	Shaft	1
15	Key	1
16	Guide sub-plate	1
17	Drum	1
18	Roller axle	2
19	Roller	2
20	Roller	2
21	Roller axle	2
22	Guide plate	1
23	Bolt	4
24	Base	1
25	Double bolt	3
26	Spring core	1
27	spring	1
28	Drum	1
29	Swivel shaft	1
30	Washer	2
31	O-ring or seal	1
32	Washer	1
33	Not shown	-
34	Not shown	-
35	Swivel shaft	1
36	Bearing cover	1
37	Ball bearing	17
38	Bearing washer	1
39	Washer	1
40	Lock washer	2
41	Bracket arm	1
42	Not shown	-
43	Double bolt	1
44	Hose assembly	1
45	Clamp	1
46	Stopper assembly	1
47	Ratchet spring	1

Replacement Parts

- For replacement parts and technical questions, please call Customer Service at **1-800-222-5381**.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following information will be required: item description, item model number, item serial number/item lot date code, and the replacement part reference number.
- The distributor reserves the rights to make design changes and improvements to product lines and manuals without notice.

Limited Warranty

Northern Tool and Equipment Company, Inc. ("We" or "Us") warrants to the original purchaser only ("You" or "Your") that the Ironton product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of **90 days** from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.



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