

# Instruction Manual

## EPD Series Gas/Hydraulic Pumps

### Models: EPD-1005A, EPD-1008A



Form No. E09102

Rev. A. 19.10.2015



### Features

- The pump unit operates both low pressure and high pressure as two stages: high flow rate with 8.5 l/min at 10 bar and 1.8 l/min at 700 bar
- 5.5hp power motor
- Complete with pressure adjusting valve
- High strength frame with handle for maximum portability
- Manual control valve for use with single or double acting cylinders or tools

Model	EPD-1005/EPD-1008	Continuous Working Time	3-5 hours
First Stage Pressure	5MPa	Flow Rate at First Stage	10 l/min
Second Stage Pressure	70MPa	Flow Rate at Second Stage	1.8 l/min
Usable Oil	15 litre	Oil Type	ISO 32#
Dimensions	650 x 450 x 698mm	Weight	41kg without oil
Motor Model	EA190V Subaru	Cooling Way/Stroke	Air/ 4
Efficiency	5.5hp	Power	190cc
Speed	3600r/min	Cylinder Dia. *Stroke	68*52mm
Lube Oil	API/SE or SAE/10W-30 etc	Petrol Cap	1.2 litre
Fuel	Petrol	Full Tank Working Time	50 minutes

# 01 SAFETY INSTRUCTIONS

Carefully inspect all components for shipping damage. If shipping damage is found, notify the carrier at once. The carrier is responsible for any damage resulting from shipment.

To avoid personal injury or property damage, please read, understand, and follow all safety instructions.

EAGLE PRO is not responsible for injury or damage resulting from unsafe and/or incorrect product use or system operation, or lack of proper maintenance.

**DANGER!** Is used only when your action or lack of action may cause serious injury or death.

**WARNING!** Is used when a potential danger exists that requires correct action to avoid personal injury.

**IMPORTANT!** Is used when action of lack of action can cause equipment failure.



## **IMPORTANT!**

- ◆ To avoid personal injury or property damage, please read, understand, and follow all safety instructions.
- ◆ Always keep work area clean and free of clutter.
- ◆ When not in use, tools should be properly stored to avoid damage .
- ◆ Operator must wear proper safety attire when working with hydraulic equipment. Work gloves, safety glasses, hard hats, approved safety shoes, and hearing protection and/or other required clothing should be worn while operating this equipment.



## **DANGER!**

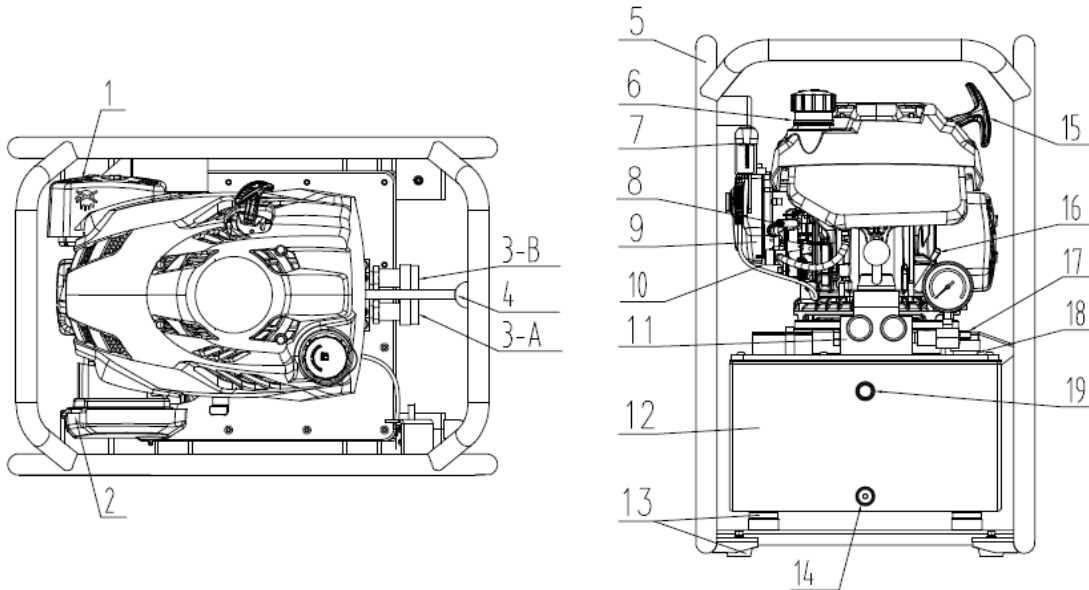
- ◆ The hydraulic equipment user must be a qualified operator with correct training and work experience with hydraulic equipment. Lack of knowledge in any of these areas can lead to equipment damage or personal injury.
- ◆ Carefully inspect hydraulic pump before using . If any damage is found, discontinue use and contact your closest authorized EAGLE PRO Service Center.
- ◆ To avoid personal injury, do not modify or weld hydraulic equipment without approval of EAGLE PRO INDUSTRIAL TOOLS, INC.
- ◆ EPD gas/hydraulic pumps are designed for a maximum of 10,000 PSI/700 bar. Ensure that all hydraulic equipment (cylinders, hoses, accessories, etc.) used with these pumps are rated at 10,000 PSI/700 bar pressure rating or equipment damage may occur.
- ◆ Always stay clear of loads supported only by hydraulic means. A cylinder is a load lifting device, not a load holding device. After a load has been raised or lowered it must always be supported mechanically.

- ◆ Use only rigid cribbing pieces to hold loads. Select solid wood or steel blocks that are capable of supporting the load.
- ◆ Keep hands and feet away from cylinder and work-piece during operation
- ◆ Never exceed equipment ratings. Never attempt to lift a load weighing more than the capacity of the smallest cylinder in the hydraulic system. Overloading will cause equipment failure and possible personal injury.
- ◆ Never set the relief valve higher than the maximum rated pressure of the pump. Higher setting may result in equipment damage and personal injury.
- ◆ Install pressure gauges to monitor system pressure. System pressure must never exceed maximum rated pressure of the electric pump.
- ◆ Do not pick up the hydraulic pump by the power cord, pendant control cord, or hydraulic hose.
- ◆ Gasoline hydraulic pumps should never be used in a potentially explosive environment.
- ◆ Do not use kinked or damaged hydraulic hoses.
- ◆ Carefully inspect the hydraulic couplers on pump, hoses, and other hydraulic tools before using. Never connect tools with damaged couplers or damaged port threads. The damaged coupler(s) or damaged port threads may cause equipment failure and possible personal injury.
- ◆ Install couplers in a clean environment. Always prevent dirt or other debris from entering into the cylinder or tool. Dirt or debris will damage the tool and result in equipment failure and possible personal injury.
- ◆ Before removing or tightening hose(s) or coupler(s), always release hydraulic pressure in system .
- ◆ Never handle pressurized hoses; escaping oil under high pressure can penetrate the skin, causing serious injury. Seek medical aid immediately if injured.
- ◆ When the pump is not in use, release system pressure, remove the hose(s) and use the dust cap to recover the port.
- ◆ Do not drop anything on hydraulic hoses.
- ◆ Do not use equipment in temperatures of 150°F (65°C) or higher. Overheating will soften seals and weakens hose materials, resulting in oil leaks or other equipment failure.
- ◆ For hydraulic technical help or repair service, please contact the closet authorized EAGLE PRO Service Center. EAGLE PRO INDUSTRIAL TOOLS, INC. has no obligations under any warranty with respect to products that have been repaired by unauthorized personnel, modified, or damaged through misuse, abuse, accident, neglect, or mishandling.

## 02 SETUP INSTRUCTIONS

Visually inspect the pump for any shipping damage. If any damage is found, notify the carrier immediately. Carrier is responsible for any damage that occurs during shipment.

### 2.1 Terminology



No.	Description	No.	Description
1	Exhaust	10	Fuel Line
2	Air Filter Housing	11	Hydraulic Valve
3-A	Oil Outlet PORT A	12	Hydraulic Oil Reservoir
3-B	Oil Outlet PORT B	13	Rubber Shock Absorber
4	Valve Control Handle	14	Oil Drain Plug
5	Roll Cage	15	Pull Start Handle
6	Gasoline Filler cap	16	Oil Level Dipstick/Fill Tube
7	Throttle Lever	17	Air Vent Screw
8	Throttle/Choke Assembly	18	Hydraulic Oil Filler Cap
9	Gasoline Engine	19	Hydraulic Oil Level Gauge



#### IMPORTANT!

Please read and understand the enclosed SUBARU Engine Instructions before using this pump.

## 2.2

## INITIAL STARTUP INSTRUCTIONS

For shipping safety, the Subaru motor and hydraulic pump have been shipped without engine oil, gasoline, and hydraulic oil in the reservoir. Remove the pump from the shipping carton and fill the motor and pump with the proper fluids. To fill the motor with oil and gas follow the directions provided in the SUBARU Engine Instructions manual.



### WARNING!

The Subaru motor has been shipped without oil and gas. Before starting ensure that the fluids have been properly filled or damage to the motor may occur.

## 2.3

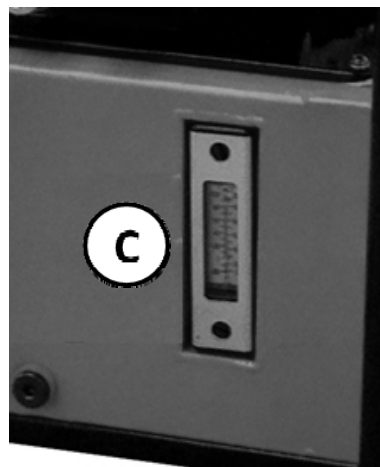
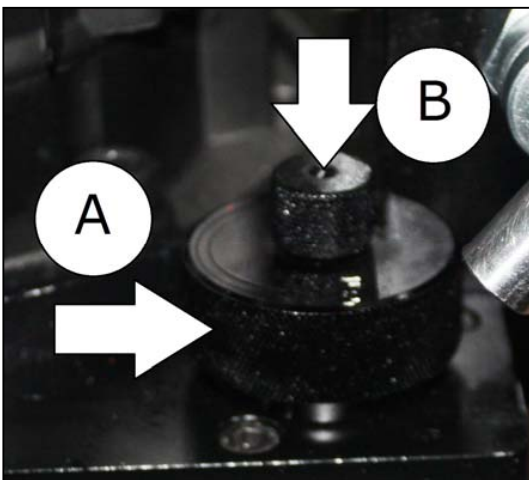
## Filling The Oil Reservoir

For shipping safety, the pump has been shipped without hydraulic oil in the reservoir. Remove the pump from the shipping carton and fill the reservoir with hydraulic fluid. We recommend always using EAGLE PRO brand hydraulic fluid. If EAGLE PRO brand hydraulic fluid is not available, a high quality, ISO-32 hydraulic fluid will work in these pumps.

First, remove the filler cap (A). Using a clean funnel, and the correct hydraulic fluid, fill the reservoir.

The reservoir is full when the oil level covers the oil level is at the top of the oil gauge (C).

Once the oil reservoir is full replace the filler cap (A). and properly dispose of the hydraulic fluid containers.



## 2.4 HYDRAULIC CONNECTIONS

1. Clean all areas around the oil ports of the pump and cylinders or hydraulic tools to be used.
2. Inspect all threads and fittings for wear or damage. Replace if any damage or excessive wear found.
3. Clean all hose ends, couplers or other fittings.
4. Remove the thread protector(s) from the hydraulic oil ports. Thread the hose assembly into the oil port and attach the hose to the cylinder or hydraulic tool. Use a non-hardening thread sealant to seal the threads. PTFE tape may be used to seal hydraulic connections if only one layer of the tape is used. Apply tape carefully, two threads back, to prevent the tape from being pinched by the coupler and broken off inside the fitting. Any loose pieces of tape could travel through the hydraulic system and obstruct the flow of oil.
5. Ensure that all couplers, hoses, valves, and other accessories are securely tightened to prevent accidental removal of components while in use.
6. Ensure all hoses are not kinked or twisted.



### WARNING!

Improperly connected hydraulic couplers can be dangerous if pressurized. Do not grab, touch or come in contact with a pressurized hydraulic fluid leak. Escaping fluid can penetrate the skin and cause severe injury.

Avoid kinking or tightly bending hoses. If a hose becomes kinked or otherwise damaged, it must be replaced. Damaged hoses may rupture at high pressure causing personal injury.

## 03 OPERATION INSTRUCTIONS

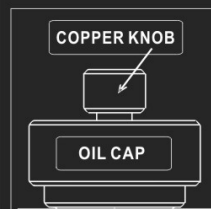


### WARNING!

Before using, always open the reservoir ventilation knob (B) by rotating it 2 complete counter-clockwise rotations.

### WARNING

BEFORE USE, READ THE FOLLOWING INFORMATION.



VENTILATION  
THE SMALL COPPER  
KNOB IS TIGHTENED  
PRIOR TO SHIPPING.  
BEFORE USING THIS  
PUMP, OPEN THE  
VENTILATION KNOB BY  
ROTATING IT COUNTER-  
CLOCKWISE 2  
COMPLETE ROTATIONS.

## 3.1 ASSEMBLING THE SYSTEM

The EAGLE PRO EPD electric pumps are shipped with a shipping plug in the 3/8"-NPT oil outlet port(s). Remove this plug using an 8mm hex head wrench.

For pumps with Single Acting valves, connect the hose assembly into the pump and attach the hose to the cylinder or hydraulic tool being used. See FIG B.

For pumps with Double Acting valves, connect one hose assembly into the ADVANCE port (A) and connect this hose to the bottom port on the cylinder or tool. Connect another hose into the RETRACT port (B) and connect this hose to the top port on the cylinder or tool. See FIG C.

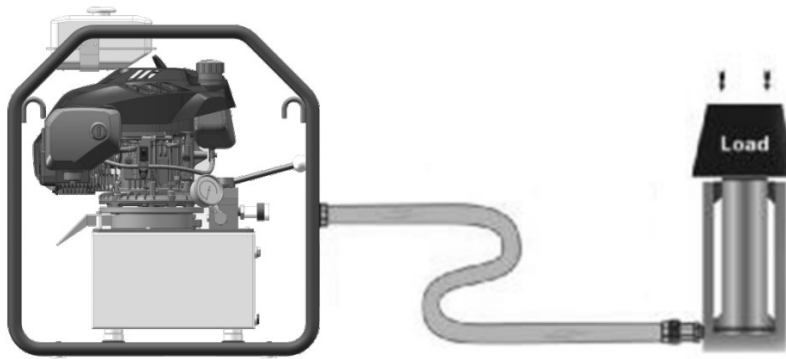
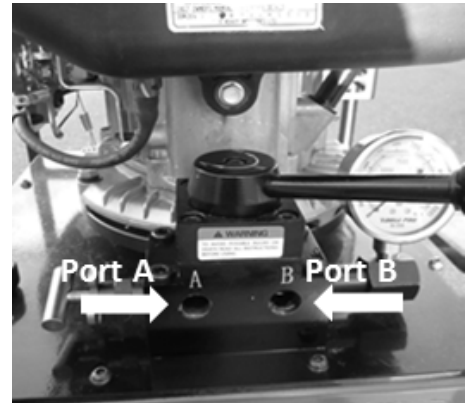


FIG B

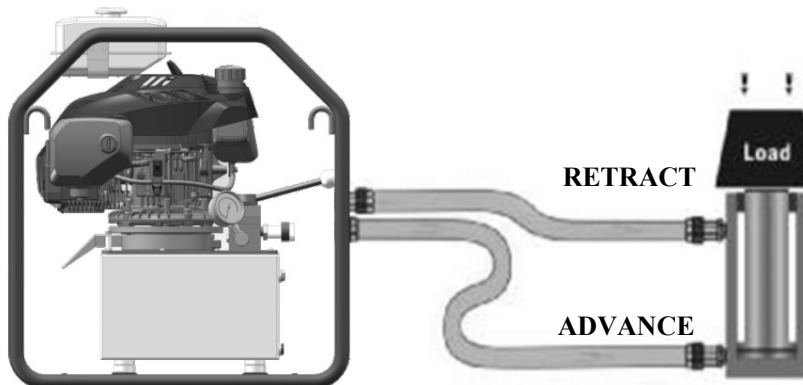


FIG C

## 3.2 MOTOR AND VALVE OPERATION

Always check to ensure engine oil is at the proper level and that the engine has an adequate supply of gasoline.

**Step 1.** Move the valve control level to the neutral (N) position.

**Step 2.** Ensure the fuel valve is in the OPEN position.

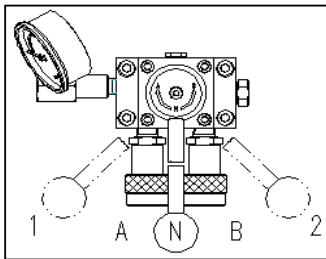
**Step 3.** Push the throttle lever down to the CHOKE position

**Step 4.** Pull the pull start handles slowly until tension is felt. This is the “compression” point. Let the handle return back to its normal position. Quickly pull the start handle, being careful not to pull to far and pull the starting cord out of the motor. This process may have to be repeated. Once the motor has started proceed to Step 5.

**Step 5.** Allow the motor to run with the throttle lever in the CHOKE position without a load, for approximately 30 seconds.

**Step 6.** Slowly push the throttle lever up to the FAST position to increase engine RPM

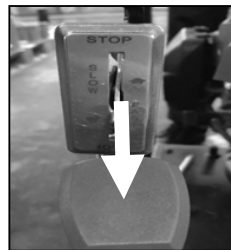
To stop the pump, simply push the throttle lever all the up to the STOP position—this will stop the engine.



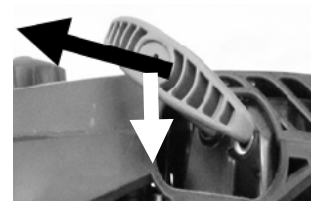
Step 1



Step 2



Step 3



Step 4

### EPD SERIES VALVE OPERATION

Operation	Single Acting Valve Operation	Double Acting Valve Operation
	EV-4x Valve	EV-4x Valve
<b>Advance</b>	Move Handle to A (1)	Move Handle to A (1)
<b>Retract</b>	MoveHandle to B (2)	MoveHandle to B (2)
<b>Hold</b>	A Position or N Position W/Engine off	A Position or N Position W/Engine off
<b>Operating Diagram</b>		



## 04 MAINTENANCE

### 4.1 HYDRAULIC FLUID LEVEL

Before each operation it is important that the fluid level is checked. If the fluid level is low, add hydraulic fluid as Section 02 Initial Setup shows.



#### IMPORTANT!

In order to ensure proper operation of the electric pump, completely drain and clean the pump reservoir every 250 hours, or more frequently if used in dirty environments. In general hydraulic fluid should be a light yellow and transparent liquid. If hydraulic fluid appears dark or cloudy replace the fluid.

### 4.2 CHANGING THE HYDRAULIC FLUID

Follow the steps below to change the hydraulic fluid.

**STEP 1.** Ensure pump is unplugged from power source and system

**STEP 2.** Loosen and remove reservoir drain plug using a 6mm hex wrench. See FIG E.

**STEP 3.** Drain oil into approved container and dispose of properly according to local regulations.

**STEP 4.** Unscrew and remove the bolts holding the reservoir to the top plate of the hydraulic pump.

**STEP 5.** Lift the top plate off of the pump reservoir, being careful not to damage the pump body and set aside.

**STEP 6.** Clean the pump reservoir and reservoir magnet with a mild cleaning agent and wipe dry. Ensure that any small pieces of paper towel or rag are removed from the reservoir.

**STEP 7.** Unscrew the oil filter by hand from the pump body and clean using a mild cleaning agent and a soft brush. Flush the filter with clean hydraulic fluid to ensure any cleaning agents and/or small particles have been removed from the filter. If the oil filter is damaged contact the nearest authorized Eagle Pro service center to order a replacement.

**STEP 8.** Screw oil filter back onto pump body, be sure to only hand tighten oil filter. Over tightening may damage the pump body.

**STEP 9.** Reassemble pump and reservoir.

**STEP 10.** Once pump is completely assembled, add new, clean **ISO #32** hydraulic fluid, see Section 02 Initial Setup Instruction's on how to add hydraulic fluid.

pressure has been released.



FIG E

## 4.3 SUBARU Engine Maintenance

Follow all recommended and prescribed engine maintenance as per the SUBARU EA190V owners manual.

## 05 PUMP TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine will not start	<ol style="list-style-type: none"> <li>1. Insufficient Gasoline in Engine</li> <li>2. Spark plug failure</li> </ol>	<ol style="list-style-type: none"> <li>1. Add gas according to owners manual</li> <li>2. Contact nearest SUBARU service center, or replace spark plug</li> </ol>
Erratic Cylinder Operation	<ol style="list-style-type: none"> <li>1. Air in system or pump cavitation</li> <li>2. External fluid leak</li> <li>3. Internal fluid leak</li> </ol>	<ol style="list-style-type: none"> <li>1. Follow pump/cylinder instructions fro bleeding air</li> <li>2. Ensure all connections are tight and properly sealed</li> <li>3. Contact your local Authorized Eagle Pro Service Center</li> </ol>
Pump Will Not Hold Pressure	<ol style="list-style-type: none"> <li>1. External fluid leak</li> <li>2. Internal fluid leak</li> <li>3. Pump or valve malfunction</li> </ol>	<ol style="list-style-type: none"> <li>1. Ensure all connections are tight and properly sealed</li> <li>2. Contact your local Authorized Eagle Pro Service Center</li> <li>3. Contact your local Authorized Eagle Pro Service Center</li> </ol>
Pump Builds full Pressure, But Load Does Not Move	<ol style="list-style-type: none"> <li>1. Load greater than cylinder capacity</li> <li>2. Flow to cylinder blocked</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce load, or select higher capacity cylinder</li> <li>2. Ensure couplers are properly connected</li> </ol>
Single Acting Cylinder Will Not Retract	<ol style="list-style-type: none"> <li>1. Cylinder return spring is damaged</li> <li>2. Valve is not open</li> <li>3. Valve malfunction</li> <li>4. Pump reservoir too full</li> <li>5. No load on "Load Return" cylinder</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact your local Authorized Eagle Pro Service Center</li> <li>2. Ensure pump valve is opened correctly</li> <li>3. Contact your local Authorized Eagle Pro Service Center</li> <li>4. Drain hydraulic fluid to correct level</li> <li>5. Add load to cylinder</li> </ol>
Double Acting Cylinder Will Not Retract	<ol style="list-style-type: none"> <li>1. Return flow restricted or blocked</li> <li>2. Valve is not open</li> <li>3. Valve malfunction</li> </ol>	<ol style="list-style-type: none"> <li>1. Ensure couplers are properly connected</li> <li>2. Ensure pump valve is opened correctly</li> <li>3. Contact your local Authorized Eagle Pro Service Center</li> </ol>
Pump Runs Hot	<ol style="list-style-type: none"> <li>1. Hydraulic fluid flow blocked</li> <li>2. Hydraulic fluid level low</li> <li>3. Pump running too long</li> <li>4. Work environment too hot</li> </ol>	<ol style="list-style-type: none"> <li>1. Ensure all connections are tight and properly sealed</li> <li>2. Add hydraulic fluid</li> <li>3. Wait for motor to cool before restarting</li> <li>4. Remove from work site. Do not use equipment in temperatures of 150°F (65°C) or higher</li> </ol>
Pump Pressure Too High	<ol style="list-style-type: none"> <li>1. Relief valve set too high</li> <li>2. Relief valve malfunction</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact your local Authorized Eagle Pro Service Center</li> <li>2. Contact your local Authorized Eagle Pro Service Center</li> </ol>