



SUPER HEAVY DUTY

STRONGARM®

PROD NO. 033101, 033102
MOD NO. HPS55, HPS140

HYDRAULIC HAND PUMP MANUAL



WARNING:

Important: read these instructions and all warnings prior to using this equipment. Understand all operating procedures, safety warnings and maintenance requirements. Failure to do so could cause an accident resulting in serious or fatal injury and/or personal property damage.


Repair Parts Sheets for hydraulic hand pumps are available from your nearest authorized STRONGARM Service Centre or www.jetgroupbrands.com.


NOTE: PLEASE READ AND FOLLOW THIS INSTRUCTION BEFORE YOU USE STRONGARM HAND PUMPS.


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

1. SAFETY

To avoid personal injury or property damage, please follow all safety precautions. STRONGARM is not responsible for injury or damage resulting from unsafe and/or incorrect product use or system operation, or lack of maintenance.

 **DANGER** is used when your action or lack of action may cause serious injury or even death.

 **WARNING** indicates a potential danger that requires correct action to avoid personal injury.

 **IMPORTANT** indicates correct action to prevent damage or equipment failure.

DANGER

- The hydraulic equipment operator must be a qualified operator must have 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 cylinder(s), coupler(s), hose(s) and hand pump before using hydraulic equipment, if you find any damage please contact with you nearest authorized STRONGARM Service Centre.
- Any damage can cause personal injury when you use the hand pumps.
- To avoid personal injury, please do not modify or weld hydraulic equipment.
- Never lift more than the rated capacity of the cylinder(s), overloading causes equipment failure and serious personal injury.
- The cylinder is a load lifting device, not a load holding device. After the load has been raised or lowered, it must always be held mechanically, never work under a load supported by a hydraulic unit.
- Keep hands and feet away from cylinder(s) and workplace during operation to avoid personal injury.
- Do not put unbalanced or off-centre loads on cylinders. The incorrect load can result in equipment failure and serious personal injury.

WARNING

- Wear safety glasses, helmet and other necessary personal protective equipment when operating hydraulic equipment.
- Cylinder(s) used to lift load must have solid footing for correct support. Please select steel or wood blocks that are capable of supporting the load.
- Install pressure gauges in the system to monitor the operating pressure. The gauge must have the same pressure rating as the pump and cylinder(s). The wrong gauges may result in personal injury.
- The system operating pressure must lower than the lowest rated pressure in the system.
- Carefully inspect the cylinder(s) and couplers before use. Never connect the cylinder(s) with damaged couplers or damaged port threads. The damaged coupler(s) or damaged port threads may cause equipment failure and possible personal injury.
- Change coupler(s) in a clean environment. Prevent dirt or other debris from entering into cylinder(s) body or tube. Dirt or other debris will damage the cylinder(s) and result in equipment failure and possible personal injury.

- Cylinder must be placed on a stable base.
- Before removing or tightening hose(s) or coupler(s), 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.
- Please use high-quality hydraulic oil
- For hydraulic technical help or repair service. Please contact the authorized STRONGARM Service Centre or www.jetgroupbrands.com. STRONGARM 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.

⚠ IMPORTANT

- Keep the hand pump clean all the time.
- When the hand pump is not in use, release the valve, remove hose and use rubber cap to recover the port.
- Do not drop objects on hose.
- Do not lift and carry hydraulic equipment by the hoses or couplers, use the handle or other means.
- Use hydraulic equipment in normal operating temperatures. Do not use equipment in temperatures of 65°C (150°F) or higher. Overheating will soften seals and weakens hose materials, resulting in oil leaking or other equipment failure.

2. SPECIFICATIONS

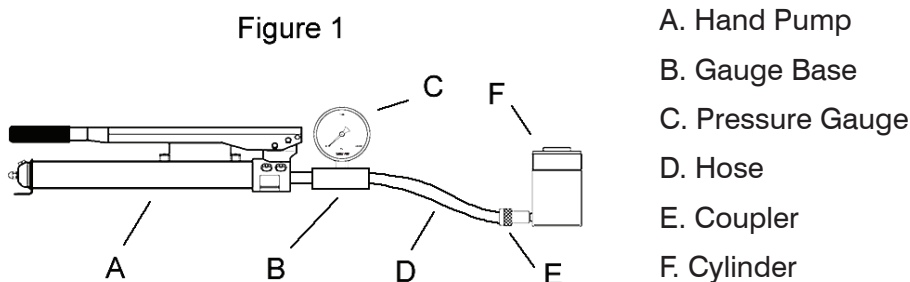
Note: Type:** S=Single Acting

Product No.	Speed	Oil Volume (In ³ /cm)	Type**	Pressure Rating (MPa)		Oil Output per Stroke (In ³ /cm ³)		Handle Force (lbf/kgf)	Output Oil Thread	Weight (lbs/kg)
				1 st stage	2 nd stage	1 st stage	2 nd stage			
033101	Two	55/900	S	2.5	70	2.03/33.4	0.2/3.3	108/49	NPT 3/8	16/7.3
033102	Two	140/2300	S	2.5	70	2.03/33.4	0.2/3.3	108/49	NPT 3/8	22/8.8

3. SET-UP

Before using hand pumps, visually check all units, to make sure there is no damage to pump or other hydraulic equipment. Ensure that no oil is leaking or missing parts. If you find any problems please contact with your nearest authorized STRONGARM Service Centre.

To connect the hand pump, please refer to Figure 1 and follow the steps below.



Step1: Clean all hose ends, couplers and other areas around oil ports of pump and cylinder, remove thread protectors from the hydraulic oil outlets.

Step2: Thread a pressure gauge and gauge adapter into hand pump.

Step3: Thread hose into gauge adapter.

Step4: Connect the hose(s) to cylinder or tool.

NOTE:

- For single-acting hand pump, connect one hose from the pump to the cylinder.

⚠ IMPORTANT

To fully seal the connections, use of Teflon tape or sealing compound is necessary. Please leave first complete thread free to prevent tape particles from entering into the hydraulic system. Any tape particles in the hydraulic system may jam the oil flow.

4. BLEEDING AIR FROM THE CYLINDER

Air may accumulate within a hand pump during shipment or after refilling the hydraulic oil. This trapped air can cause the hand pump feel weak. Use the steps below to bleed the air from cylinder.

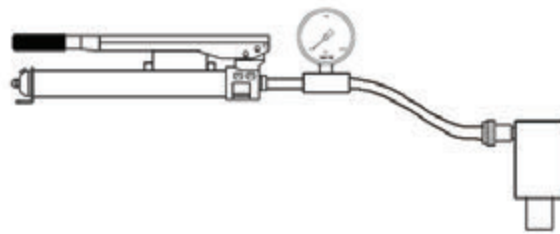


Figure 2

- Single-acting cylinders:
Position the cylinder as figure 2 shows, so that the piston rod is extended down and the cylinder lower than the pump. Fully extend and retract the cylinder 1 or 2 times. It may be necessary to repeat the above steps several times.

5. OPERATION

⚠ Some hand pumps have an air vent screw, be sure loosen it before using the hand pump. To avoid the oil leaking from oil tank, please tighten the air vent screw before shipment.

5.1 Single acting hand pump two-way valve

- Turn the hand pump's release valve clockwise to close the valve. Operate the pump handle up and down to produce pressure to the cylinder, causing the piston to extend.
- Monitor the pressure gauge while completing the application.
- Slowly turn the hand pump's release valve counterclockwise to release the pressure; the release speed is controlled by how fast the valve is opened.

⚠ WARNING

- Hand tighten the valve only, applying too much force to the valve may damage the valve stem
- Always release the pressure slowly
- Do not use an extension handle, an extension handle will damage the pump.

6. MAINTENANCE

6.1 Adding/changing hydraulic oil

When oil level in hand pump is low, please add hydraulic oil. With cylinder fully retracted, set hand pump in

its normal level position, remove oil filler screw. Fill until oil is within the oil filler screw hole opening, reinstall oil filler screw. For best performance and increased system life, completely replace the hydraulic oil at least once per year.

IMPORTANT

Always use clean high-quality hydraulic oil. Never use brake fluid, transmission fluid, turbine oil, motor oil, alcohol, glycerin etc. Use of other than high-quality hydraulic oil will void warranty and damage the pump, hose and application.

6.2 Lubrication

A coating of light lubricating oil to pivot points, axles and hinges will help to prevent rust and assure that pump assemblies move freely.

6.3 Storage

Always keep hand pump and other attachments clean, use dust cap to protect couplers. When not in use, cylinder and hand pump piston must be fully retracted and stored in a clean environment.

7. TROUBLESHOOTING

IMPORTANT

STRONGARM hand pumps should be repaired only by a qualified operator or authorized STRONGARM Service Centres. Repairing hand pumps without special tools and knowledge may result in personal injury. Always release pressure and disconnect hose(s) before making repairs.

Problem	Cause	Solution
Hydraulic unit does not lift, Pipe Bender does not work.	1. Pump release valve not fully closed 2. Couplers not fully tightened 3. Oil level in pump reservoir is low 4. Pump or valve malfunctioning	<ul style="list-style-type: none"> Fully tighten pump release valve Fully tighten couplers Fill oil in pump Contact with your nearest authorized STRONGARM Service Centre for repairing
Hand pump will not maintain pressure	1. Leaky connection 2. Cylinder seals leaking 3. Release valve not fully closed 4. Pump or valve malfunctioning	<ul style="list-style-type: none"> Clean and reseal thread, tighten connection Replace worn seals. Clean inside cylinder and use clean hydraulic oil Fully tighten the release valve Contact with your nearest authorized STRONGARM Service Centre for repairing
Cylinder extends slower than normal	1. Leaky connection 2. Coupler not fully tightened 3. Pump malfunctioning	<ul style="list-style-type: none"> Clean and reseal thread, tighten connection Fully tighten couplers Repair, or use another pump and valve
Cylinder will not retract or Retracts slower than normal	1. Pump release valve closed 2. Couplers are not fully tightened 3. Pump reservoir is full 4. Hose is blocked 5. Return spring is damaged 6. Cylinder damaged	<ul style="list-style-type: none"> Open release valve Tighten the couplers Drain hydraulic oil to correct level Clean or change hose Change return spring Contact your nearest authorized STRONGARM Hydraulic Service Centre for repairing