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HB443
HB444

HYDRAULIC INTENSIFIER

Max. Pressure: See Intensifier Data Plate

Weight: 16 Lbs. (7.26 kg)

Definition: A device that raises the inlet pressure to a higher outlet pressure through the use of a low pressure hydraulic power source.

SAFETY EXPLANATIONS

Two safety symbols are used to identify any action or lack of action that can cause personal injury. Your reading and understanding of these safety symbols is very important.



DANGER - Danger is used only when your action or lack of action will cause serious human injury or death.



WARNING - Warning is used to describe any action or lack of action where a serious injury can occur.

IMPORTANT - Important is used when action or lack of action can cause equipment failure, either immediate or over a long period of time.



WARNING: It is the operator's responsibility to read and understand the following safety statements,

- Only qualified operators should install, operate, adjust, maintain, clean, repair, or transport this machinery.
- These components are designed for general use in normal environments. These components are not specifically designed for lifting and moving people, agri-food machinery, certain types of mobile machinery or special work environments such as: explosive, flammable or corrosive. Only the user can decide the suitability of this machinery in these conditions or extreme environments. Power Team will supply information necessary to help make these decisions.

These instructions are intended for end-user application needs. Most problems with new equipment are caused by improper operation or installation. Detailed service repair instructions or parts lists can be obtained from your nearest Power Team facility (see listing).

Sheet No. 1 of 3

Rev. 3 Date: 28 May 2012

SAFETY PRECAUTIONS

WARNING

General Operation

- All WARNING statements must be carefully observed to help prevent personal injury.
- Before operating the intensifier, all hose connections must be tightened with the proper tools. Do not overtighten. Connections should only be tightened securely and leak-free. Overtightening can cause premature thread failure or high pressure fittings to split at pressures lower than their rated capacities.
- Should a hydraulic hose ever rupture, burst, or need to be disconnected, immediately shut off the intensifier and release all pressure. Never attempt to grasp a leaking pressurized hose with your hands. The force of escaping hydraulic fluid could cause serious injury.
- Do not subject the hose to potential hazard such as fire, sharp surfaces, extreme heat or cold, or heavy impact. Do not allow the hose to be altered or kink, twist, curl, crush, cut, or bend so tightly that the fluid flow within the hose is blocked or reduced. Periodically inspect the hose for wear, because any of these conditions can damage the hose and possibly result in personal injury.
- Do not use the hose to move attached equipment. Stress can damage hose and possibly cause personal injury.
- Hose material and coupler seals must be compatible with the hydraulic fluid used. Hoses also must not come in contact with corrosive materials such as creosote-impregnated objects and some paints. Consult the manufacturer before painting a hose. Hose deterioration due to corrosive materials can result in personal injury. Never paint the couplers.
- Inspect machine for wear, damage, and correct function before each use. Do not use machinery that is not in proper working order, but repair or replace it as necessary.
- Replace worn or damaged safety decals.
- Modification of a product requires written Power Team authorization.
- Use only components with adequate pressure ratings when assembling a system or machine.

Intensifier

- Do not exceed the hydraulic pressure rating noted on the intensifier data plate or tamper with the internal pressure relief valve. Creating pressure beyond the rated pressure can result in personal injury.

Low Pressure Power Supply

- Shut off and disconnect the low pressure supply when the intensifier is not in use or before breaking any connections in the system.

PREPARATION & SET-UP

WARNING: If improperly used, pressurized equipment can be potentially hazardous. Therefore:

- Hydraulic connections must be securely fastened before building pressure in the system.
- Release all system pressure before loosening any hydraulic connection in the system.

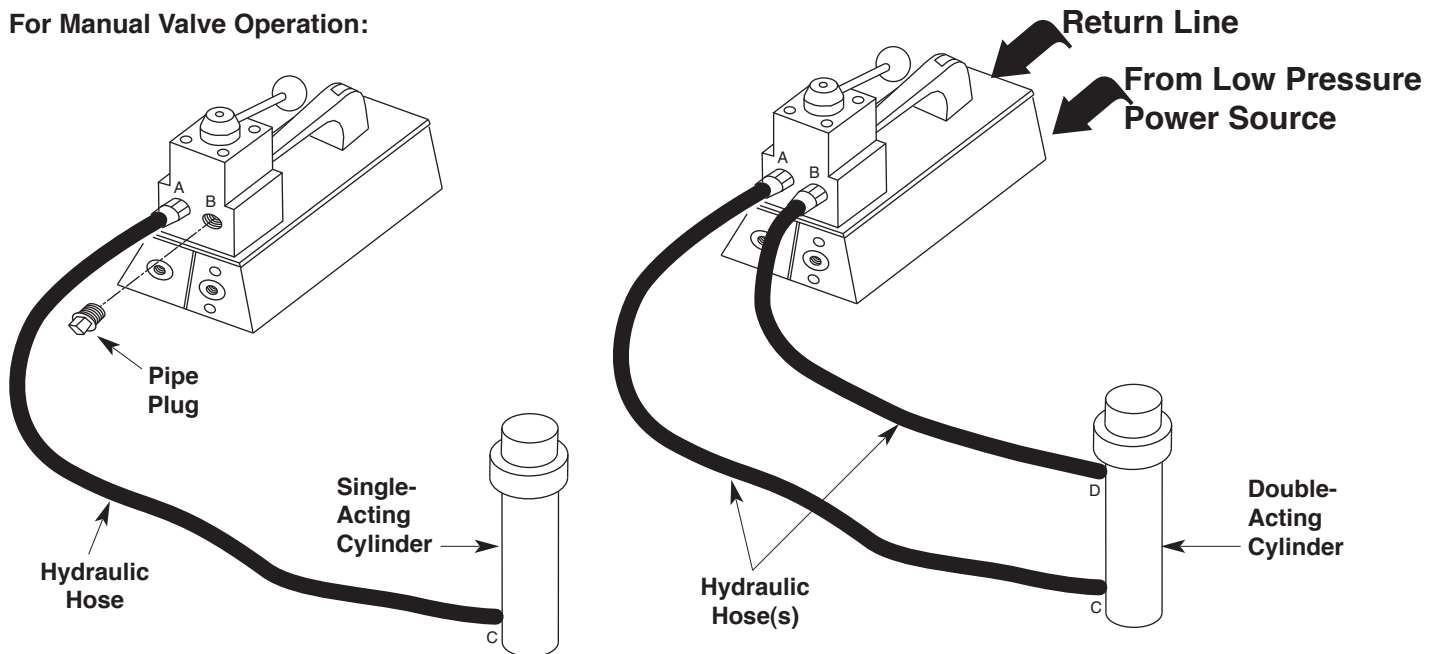
Hydraulic Connections

Clean all the areas around the fluid ports of the intensifier and cylinder. Inspect all threads and fittings for signs of wear or damage and replace as needed. Clean all hose ends, couplers and union ends. Remove the thread protectors from the hydraulic fluid outlets. Connect the hose assembly to the hydraulic fluid outlet and couple the hose to the cylinder. See illustrations on sheet 2 of 3.

IMPORTANT: Seal all external pipe connections with a high quality, nonhardening thread sealant. PTFE tape may also be used to seal hydraulic connections, provided only one layer of tape is used. Apply the tape carefully, two threads back, to prevent it from being pinched by the coupler and broken off inside the system. Any loose pieces of tape could travel through the system and obstruct the flow of fluid or cause jamming of precision-fit parts.

PREPARATION & SET-UP CONTINUED -

For Manual Valve Operation:



This intensifier is equipped with a three position, 3-way/4-way control valve for operating single- or double-acting hydraulic cylinders and requires attaching the hoses in the following manner:

When using a single-acting cylinder, attach one end of a hose to port "A" of valve and the end of the hose to the advance port "C" of the cylinder. Then install a pipe plug in valve port "B." If the hoses are frequently connected and disconnected, quick couplers should be used to prevent wear and tear on the fittings.

When using a double-acting cylinder, attach one hose to port "A" of valve and the other end of the hose to the advance port "C" of cylinder. Attach the second hose to valve port "B" and the other end of the hose to return port "D" of cylinder.

INTENSIFIER OPERATION

Intensifier Operation

General Startup Procedure:

1. Place the manual valve in the center position.
2. Activate the low pressure power source.

Manual Valve Operation:

1. To extend the cylinder, shift the valve handle to the advance or "A" valve position.
2. To hold the cylinder in position, place the valve handle in the center position.
3. To retract the cylinder, shift the valve handle to the retract or "B" valve position.

NOTE: The hydraulic pressure is increased or decreased by adjusting the low pressure inlet power source.

PREVENTIVE MAINTENANCE

IMPORTANT: • Any repair or servicing that requires dismantling the intensifier must be performed in a dirt-free environment by a qualified technician.

NOTE: Any repairs to the intensifier itself (part no. 321213) must be done by the manufacturer.

- Dispose of machine and fluids properly.

Lubrication

If the intensifier is operated on a continuous duty cycle for extended periods, the manufacturer recommends installing a 10 micron nominal filtration system to the low pressure inlet.

Periodic Cleaning

IMPORTANT: The greatest single cause of failure in hydraulic systems is dirt. Keep the intensifier and attached equipment clean to prevent foreign matter from entering the system.

A routine should be established to keep the intensifier as free from dirt as possible. All unused couplers must be sealed with thread protectors. All hose connections must be free of grit and grime. Any equipment hooked up to the pump should also be kept clean.

ACCESSORIES

Gauges and accessories may not be included with the intensifier. However, a hydraulic gauge is strongly recommended whenever the intensifier is used!



WARNING: • The gauge must be of the proper rating for the pressure used!

- Use only Power Team approved accessories and repair parts!.

OPERATOR TROUBLESHOOTING GUIDE

If this guide does not resolve your pump problem,
contact an authorized hydraulic service center.

PROBLEM	CAUSE	SOLUTION
Intensifier reciprocates but no fluid delivery (cylinder will not extend)	1. Outlet pressure is equal to the inlet pressure ratio (approximately 5 to 1).	1. Normal operation. (This unit is designed to make up and/or maintain system operation)
Low fluid delivery (cylinder extends slowly)	1. Inadequate low pressure power source. a. Check inlet pressure. b. Contamination, check inlet port or intensifier (plugged inlet orifice).	1. a. Should be 150 PSI min. (10 BAR). b. Clean and reassemble.
Intensifier will not build to maximum pressure (no visible leakage)	1. Check low pressure power source.	1. 2000 PSI (140 BAR) is required to obtain maximum pressure.
Intensifier builds pressure but will not hold system pressure	1. Check the hydraulic connections and other system components for leakage, including 3 way/4 way valve (if so equipped).	1. Refit or repair as needed.
Intensifier will continue to run slowly even after desired pressure is reached.	1. Leaking components or system creep. 2. Defective 3-way/4-way valve.	1. Normal operation. 2. Repair or replace.
Overheating	1. Excessive inlet flow. 2. Excessive inlet pressure.	1. Restrict flow to intensifier inlet. 2. Reduce pressure to intensifier inlet.

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POWER TEAM®



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