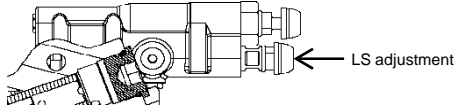


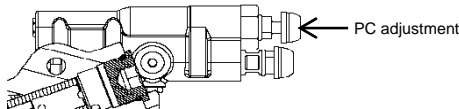
## LS and PC Adjustment Procedure

**WARNING:** Before machine start up, all implements **MUST** be locked in place.

- Install a gauge at the valve inlet (if not installed).
- Start the vehicle, engage prime mover (or PTO), allow truck to idle.
- **Observe pressure at the valve** – Recommended Standby Pressure = **250-400 psi**.



- To adjust the LS setting:
    - Locate the pump on the truck
    - Remove the protective cover from the LS adjustment screw (do not discard)
    - Loosen the adjustment screw lock nut
    - Watch the pressure on the gauge located at the valve inlet
    - Turn the adjustment screw clockwise to increase LS pressure and counterclockwise to decrease LS pressure
    - When desired pressure is reached, lock the adjustment screw nut
    - Re install the protective cover
- 
- To adjust the PC setting: (requires 2 people)
    - Locate the pump on the truck
    - Remove the protective cover from the PC adjustment screw (do not discard)
    - Loosen the adjustment screw lock nut
    - Activate and hold plow function (do not use hoist down) to the end of its stroke = "dead head"  
(if no implements are attached, confirm that the work ports are plugged, as this will work too)
    - Watch the pressure gauge located at the valve inlet. The pressure on the gauge = the LS pressure setting + the PC setting (see example below)
    - Turn the adjustment screw clockwise to increase PC pressure and counterclockwise to decrease PC pressure
    - When desired pressure is reached, lock the adjustment screw nut
    - Stop activating the function
    - Re install the protective cover
      - Example: **LS setting** = 350 PSI  
**Desired PC setting** = **2,300 PSI**  
**Gauge must read** = **2,650 PSI**



- **Note:** Consult the manufacturer if the desired max pressure is higher than 2,500 PSI.



## OPEN LOOP PISTON PUMP INSTALLATION, STARTUP & WARRANTY PRECAUTIONS

REV: 1 - 9/09

### Installation of Pump

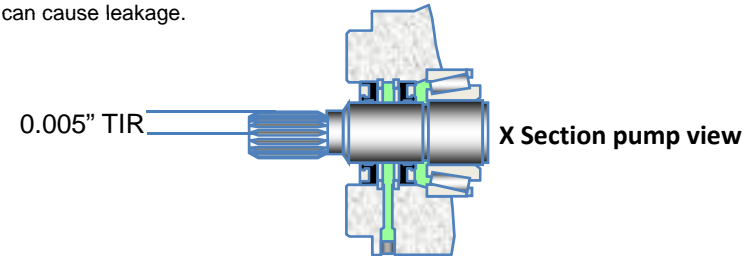
#### Check for proper rotation of pump;

1. Front Mount Pump – counter clockwise rotation;
2. PTO Mount Pump – clockwise rotation;

**Connect the pump to the prime mover (Drive Shaft or PTO).**

**Front Mount: set screw (balanced drive line kit):** **do not modify the pump shaft by cutting or excessive grinding to create a flat spot for the set screw. Modification voids the pump warranty.**

**Front Mount (Drive Shaft) Alignment:** alignment must be .005" TIR (total indicated run out) or better. Incorrect shaft alignment may result in damage to the drive shaft, bearings, or seal which can cause leakage.



**Do not drive coupling onto the shaft.** This will ruin the bearings. Install coupling by hand onto the shaft.

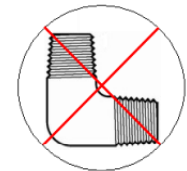
### Plumbing Requirements

**Case drain lines must match the pump and must be full size #12 (3/4"),** plumbing must be unrestricted and be plumbed to keep the entire case full. If case drain is within 4 inches of the normal oil level in reservoir, use a plumbing loop to gain clearance above the pump.



- This line must have no restrictions in between the fittings on each end.

- Case drains may not be connected to other tanks, filters or return lines;



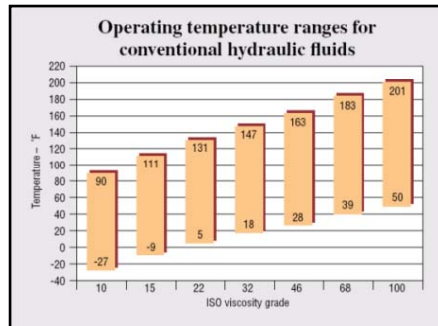
- If an in-tank strainer must be installed, it must have a minimum rating of 3 times the flow rating of the pump.

- Use minimum 10 micron filters. All filters should have an indicator to show when they need to be serviced.

## Choose Hydraulic Oil for your operating conditions;

Typical: ATF oil

(or choose by  
ISO # for  
your operating  
temperature  
Range)



### Pre filling the system

- Before the pump is started, fill the case through the uppermost drain port with filtered hydraulic fluid.
- Purge all air from the pump discharge line.
- Make sure the inlet line leading from the pump to the reservoir is full of oil. Check the inlet line for properly tightened fittings and be certain it is free of restrictions and air leaks.
- Make sure the tank is clean and free of dirt or debris prior to filling with hydraulic fluid.
- Make sure tank/reservoir is full of hydraulic fluid. It is good practice to filter the fluid through a 10 micron filter when pouring into the reservoir. Visually confirm the tank is clean and free of debris before filling with fluid.
- If the reservoir has a sight gauge, make sure the fluid is clear – not milky.
  - If fluid is milky, find source of air or water, repair leaking connection and allow air to rise out of fluid before use;

### Definitions:

- **Load Sense (LS)** – pressure at which the pump will react to a flow demand (also referred to as “standby” pressure). The LS is set at 220-260 psi by the factory. (The lowest setting that allows all functions to work is the most efficient.) Do not set load sense pressure above 400 psi without consulting factory.
- **Pressure Compensator (PC)** – adjustment that controls the max operating pressure of the pump. The PC is factory set at 2100psi.



### Low Pressure Start Up

While watching the pressure gauge on the valve, jog the prime mover or **run at the lowest possible speed** until system pressure builds to normal level to purge any air.

Once the system pressure is established, increase to full operating speed. If system pressure is not maintained, shut down the prime mover, determine cause and correct.

**Operate the hydraulic system for at least 35 minutes under light load conditions.**

**Listen to operation** – loud noise coming from the pump indicates a problem that must be corrected.

**Verify fluid temperature:** Normal = 140-180 degrees F. Do not exceed 200 degrees F.

**Remove & inspect 10 micron filter** for evidence of plugging. If dirty, replace filter element.

**Finally check the fluid level in the reservoir; add clean filter fluid if necessary.**

### In case of a Problem with Pump

**Contact authorized service representative: Do not disassemble the pump without factory authorization; Disassembly without authorization may void the warranty;**

### Pressure Setting Procedure for Eaton 420 series piston pump

**Correct pressure setting is the responsibility of the installer**

Potential for injury due to unexpected operation of system.  
Entanglement with implements will cause severe injury to extremities;

**Before machine start up, all implements MUST be locked in place;**

All personnel must stay clear of all implements during all startup, programming and operation procedures. Implements may move without warning.



**Warning**

**Note:** It is recommended that while performing any LS or PC adjustments, that the plow be removed from the truck and the work ports either plugged or plumbed to a sealed quick disconnect fitting.