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SERVICE BULLETIN

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BULLETIN NO .: WSB0383
SECTION: 5-1 (HYDRAULIC SYSTEM)
MODEL(S): CHD100-277 THRU 281

ATTENTION: WAGNER DEALERS, PARTS AND SERVICE MANAGERS

SUBJECT: HYDRAULIC PRESSURE SETTING AND ADJUSTMENT PROCEDURES

After reading this service bulletin you will be able to set the system stand-by pressure, set the main system relief, set the circuit reliefs, set the steering relief, and set the compensator pressure (system pressure) on all three pumps. Pressures must always be adjusted in this order. For example, you must set, or verify, the stand-by pressure and the main system relief pressure before setting the circuit relief pressure. All pressures are verified or measured at the test ports shown in Figure 1. You must read and understand this Bulletin before attempting to verify or adjust pressures.

System Stand-By Pressure Adjustment

There are two adjustments on each pump. One is the stand-by pressure and the other is the compensator pressure. **In this step we are only adjusting the system stand-by pressure.** Before working on the system you must first relieve pressure in the brake accumulator, See Figure 2.

⚠ WARNING

HIGH PRESSURE FLUID IN ACCUMULATORS. RELEASE PRESSURE FROM THE SYSTEM BEFORE DISASSEMBLING COMPONENTS. FAILURE TO COMPLY WITH THESE INSTRUCTIONS COULD RESULT IN PERSONAL INJURY OR DEATH.

Open the accumulator drain valve on the parking brake valve (loosen jam nut and turn the knob counter clock-wise [CCW]) to discharge pressure in the system. Before starting the engine, remove the load sense

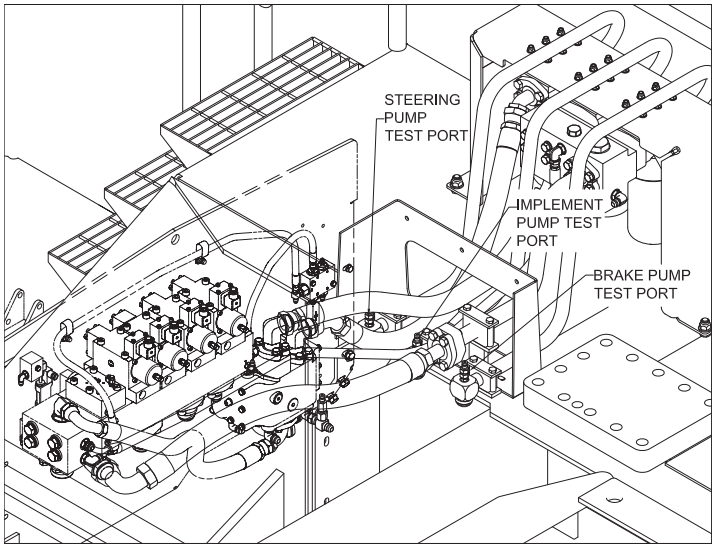


Figure 1: Test Ports

line from the accumulator charge valve for the brake system. Cap and plug this line. This will prevent damage to the gauge, should the brake accumulator charge valve cycle. Close the accumulator drain valve. Install a 1,000 psi test gauge at the appropriate test port for the circuit being tested (see Figure 1). Start the engine and operate at low idle.

NOTE: Do not operate any functions while setting the stand-by pressure.

The pump compensator pressure must be higher than the 400 psi setting for the stand-by pressure. Using a 1/2" wrench, loosen the jam nut on the compensator adjusting screw. Use a 3/16" allen wrench and back the compensator adjusting screw full out. Then turn it back in 1/2 to 1 full turn (1 full turn equals an increase of 1200 psi).

Check the stand-by pressure on each pump. **The proper stand-by pressure is 500 psi**. If stand-by pressure requires adjusting on the brake and implement pumps (See Figure 5), remove the adjuster cap using a 3/16" allen wrench, loosen the long jam nut using an 11/16" open end wrench, and turn the adjusting stem using a 3/16" allen wrench. One turn clockwise increases the pressure approximately 170 psi. Set the stand-by pressure at 500 psi. Tighten jam nut after adjusting pressure.

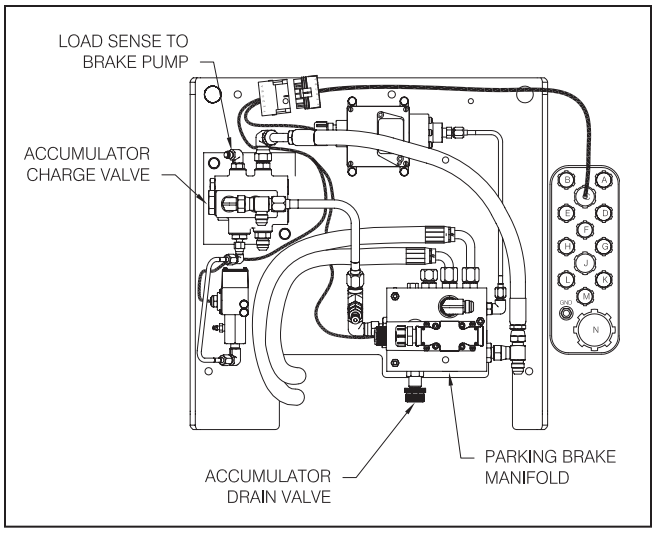


Figure 2: Brake Valve Plate Assembly

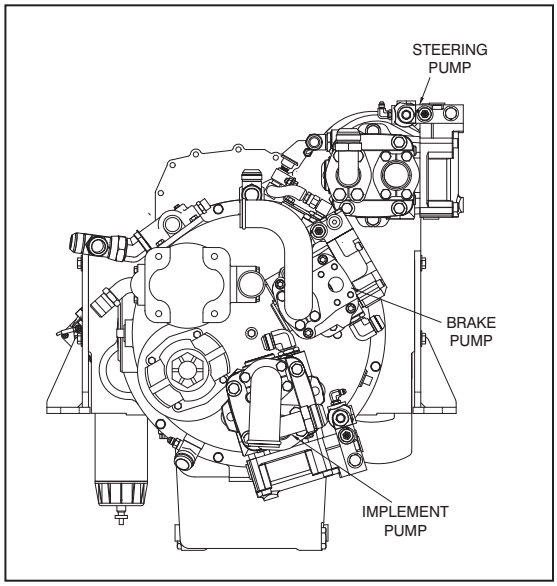


Figure 3: Pump Placement

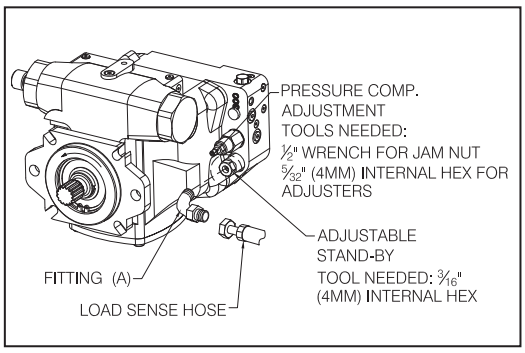


Figure 4: Steering Pump Compensator & Stand-By Adjustments

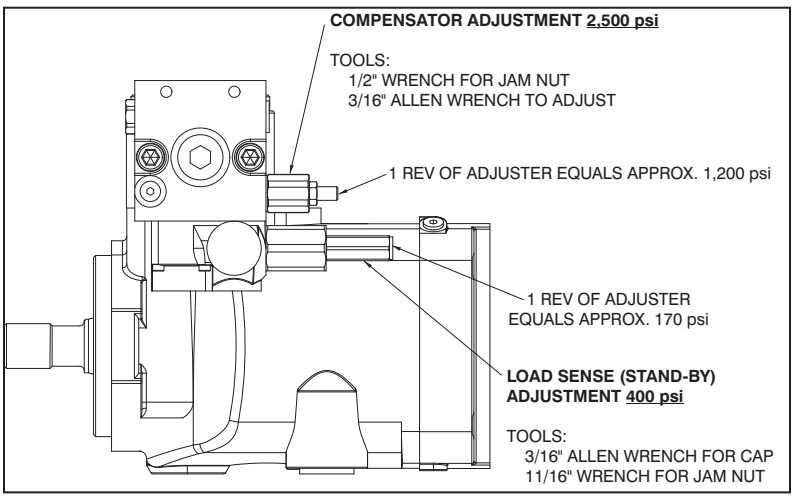


Figure 5: Compensator & Stand-By Adjustments for Implement & Brake Pumps

Steering Pump Stand-By Pressure Adjustment (See Figures 3 & 4)

1. Install a 1,000-psi gauge at the test port for the steering pump (See Figure 1). The stand-by pressure setting is 500 psi.

2. Start the engine. At low idle and with no functions activated, check to see if the stand-by pressure is 500 psi.

3. If pressure adjustment is required, shut down engine, remove the load sense hose at the pump load sense adjustment and install a plug in the hose. See Figures 3 and 4.

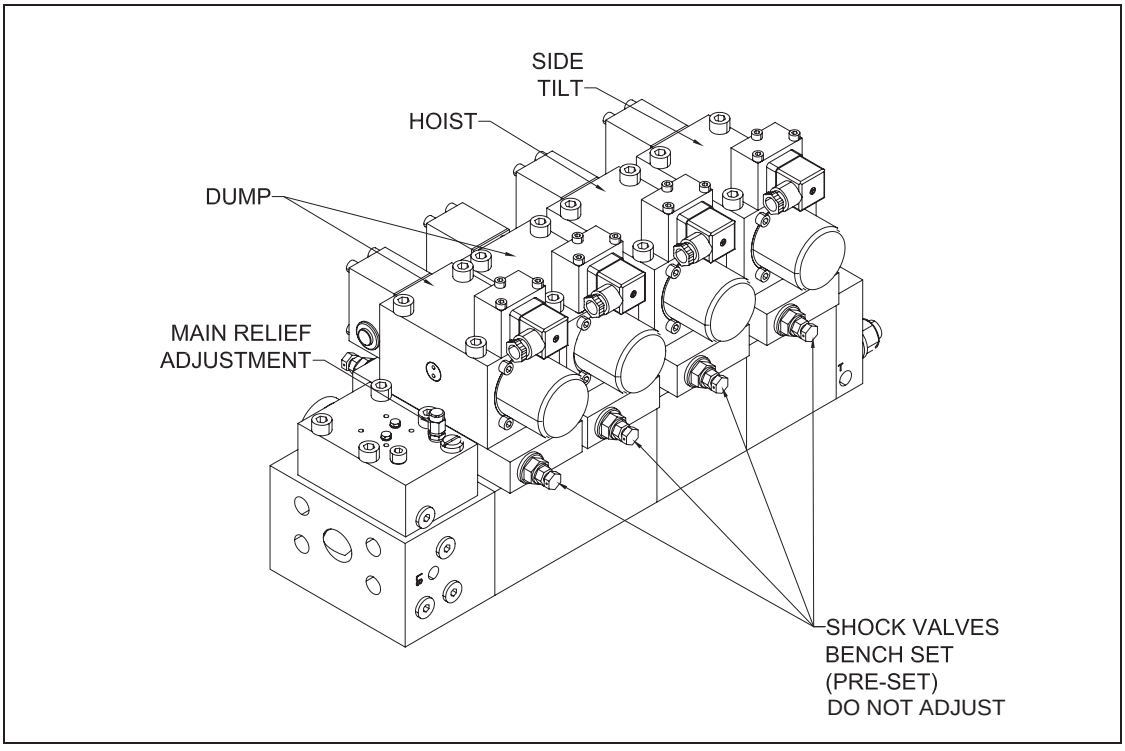
4. Remove fitting (A) from the load sense relief and adjust the pressure using a 3/16" or 4mm Allen wrench (see Figure 3). One turn clockwise increases the pressure by 170 psi.

5. The pressure compensator setting must be higher than the pressure at the load sense. If you are unable to achieve 500 psi stand-by pressure, increase the pump compensator pressure (one rotation clockwise = 1,200 psi). Refer to Figure 3.

6. Replace the load sense hose.

NOTE: It may be necessary to shut down the engine to move test gauge to next port.

Shut the engine off. **Open the accumulator drain valve to discharge stored energy in accumulator**, and reconnect the brake accumulator charge valve load sense line. Close accumulator drain valve when done.



Main System Relief Adjustment

The main system relief must be set at 3,000psi.

With the engine off install a 5,000 psi gauge on the implement pump test port (see Figure 1). Turn the implement control valve main relief full in.

Start the engine and run it at low idle and activate the bucket roll back function. Adjust the implement pump pressure compensator to 2,600 psi as indicated on the gauge installed at the implement pump test port. See Figures 1, 3 and 5.

Bring the main system relief down until the pressure gauge starts to drop below 2,600 psi, or when you hear oil going over relief. Then bring it back up slightly to ensure pressure is not lower than 2,600 psi. Tighten the main relief lock nut (see Figure 6), and return bucket control to neutral. The implement valve is now adjusted. Do not attempt to adjust the shock reliefs; they should only be bench set to 3,400 psi.

Steering Pump Compensator Adjustment

Adjust the pump compensator pressure down to 2,700 psi while operating a function. While operating each spool section, adjust each circuit relief pressure setting to 2,700 psi.

Steering Flow Amplifier Relief Adjustment

Install a 5,000 psi. gauge in steering system test port shown in Figure 4. Activate the bucket roll back function. Adjust the steering pump compensator to 2,700 psi., see Figure 2 and Figure 3. Return bucket control to neutral. Remove the relief cap on the amplifier using an 8mm allen wrench. Next using a 10mm allen wrench to insure that the relief cartridge is sealed properly. Turn clockwise to tighten, torque to 20- 22 lbs/ft. With engine running at a low idle, hold steering on the steering stop, and with pressure against the relief cartridge, check or adjust pressure using a 5mm allen wrench. Check the steering pressure in both directions (2,550 psi). Install the relief cap.

Pump Compensator Pressure Adjustment

See Figure 2 and Figure 3. To set the final pump pressures, set each pump compensator to 2,500 psi by activating the bucket roll-back function. This will bring all three pumps to the compensated pressure setting simultaneously. Adjust each pump (steering, implement and brake) compensator to achieve the desired 2,500 psi. Tighten the compensator jam nut after each pump is set.

The final pressure settings for your unit are summarized in the chart below in the order in which they must be set or verified.

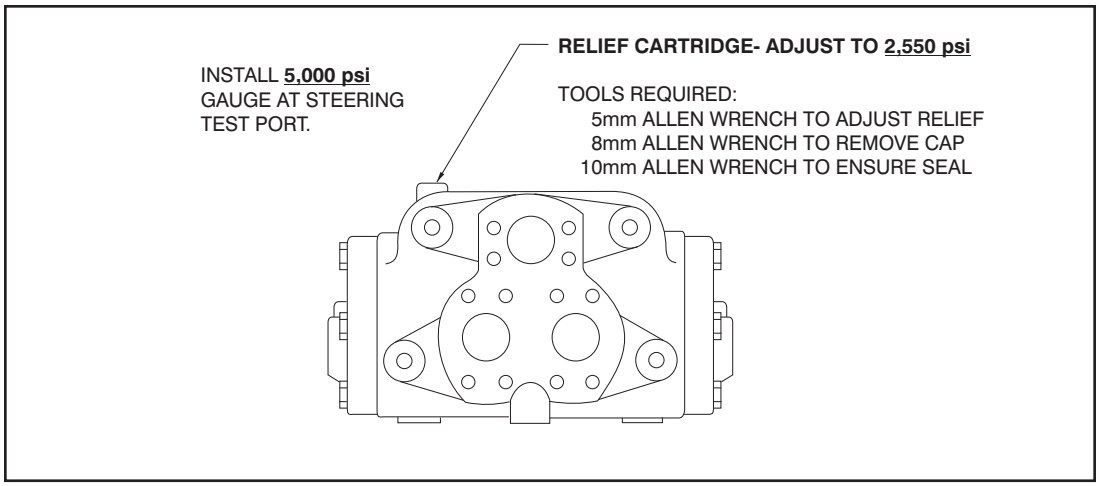


Figure 6: Steering Amplifier Valve

General Notes

- A 5,000 psi test gauge that is on a 24”-36” #4 Hose is very helpful when setting the compensator and standby pressures.

- Care should be taken when loosening relief jam nuts, that the cartridge is not accidentally loosened. A loose cartridge will give a false reading.

For questions or concerns, please contact your local dealer or Allied Systems Company Service Department at (503) 625-2560.

Pump (all three pumps set the same)	
Stand-by Pressure	400 psi
Implement Valve (Using Implement Pump)	
Load Sense Relief	max. adjustment (not used)
Main Relief	2,900 psi
Circuit Relief	2,700 psi
Steering Flow Amplifier	
Relief	2,550 psi
Pump (all three pumps set the same)	
Pressure Compensator	2,500 psi

Chart 1: Final Pressure Settings