

Standard Operating Procedure for the Wabash P3H-15-CLX Heated Hydraulic Press

Version: 09 JUL 2019

1. Utility Requirements

- a. System power is provided through a 3-phase 208 VAC 50 A disconnect box mounted to the wall, far to the right of the instrument.
- b. The Wabash press currently uses house Compressed Dry Air (CDA) to control the main cylinder and various cooling system valves.
 - A minimum of 80 psig is required.
 - The cooling system air purge supply is regulated to 40 psig — 20 psi less than the cooling system water pressure.
- c. Platen Cooling System
 - Platen cooling is provided by a house Chilled Process Water (CPW) system. This system is connected to a brazed plate heat exchanger mounted under the press. Coolant is a mix of about.
 - The parallel system connected to the above-mentioned heat exchanger consists of: a 15 gallon vented reservoir, filled with about 10 gallons of coolant [50:50 RO water and inhibited ethylene glycol (Polycool EG-25)]; a 10 micron filter trap; and a PD pump that circulates water at about 17 L/min at 60 psi. The pump is powered by 120 VAC wall outlet (red and black power cord), and switched on-and-off by the press. A manifold is mounted to the back of the press, which is fitted with a pressure gauge, an overpressure valve (set at 5 bar, or about 72 psi), and a bypass solenoid valve that closes when the platen cooling valves open, and vice-versa.

2. General Precautions

- a. **Read and understand this SOP completely before operating this tool. See the companion document, [Building A Recipe](#), for additional information.**
- b. In an emergency, press the red **EMERGENCY STOP** button—located on the top-right of the control panel—to stop all processes.
- c. Pressing the yellow **CLAMP OPEN** button mid-process will halt a program (automatic mode.)
- d. The platens and heated vacuum fixture can get very hot. Use the provided heat-resistant gloves when handling the fixture or any parts removed from the press. Set all hot parts on the teflon sheet.
- e. Setting the **REHEAT** switch to **AUTO** will cause the platens to reheat once the cooling system valves have been closed.

3. General Information

- a. The maximum clamping force is 3 tons, or 6000 lbs (~2720 kg.)
- b. The maximum temperature for both platens is 260 °C.
- c. The **GUARD DOOR** can be manually opened and closed by pressing the *lower* **CLAMP CLOSE** button and turning the **GUARD DOOR** switch to either the **OPEN** or **CLOSE** position.

4. Starting Up the Press

- a. **Enter your information in the provided log book.**
- b. Open the **compressed air** ball valve(s) (one on the back-right of the press for the pneumatics, and –if necessary– one on the wall for the vacuum chuck assembly.)
- c. Ensure that the black **REHEAT** switch is set to **AUTO**.
- d. Ensure that the black **CYCLE** switch is set to **SEMI AUTO**.

- e. Press the green **CONTROL POWER ON** button. **Do not** press the green **PLATEN HEAT ON** button until told to in the next section.
- f. If necessary, reposition the **SLOW DOWN** and **CYCLE RESET** proximity switches
 - **SLOW DOWN** proximity switch
 - Switch the **CYCLE** switch from **SEMI AUTO** to **MAN**.
 - Loosen the set screw and raise the switch as high as it will go.
 - Pressing both **CLOSE CLAMP** buttons, raise the lower platen until there is a 3-6 mm (~1/8"-1/4") air gap between the fixture and the top platen.
 - Slide the proximity switch down from the highest position until the orange LED on the barrel of the switch illuminates. This should be at the top edge of the lower platen.
 - Lower the platen using the **CLAMP OPEN** button.
 - Switch the **CYCLE** switch back from **MAN** to **SEMI AUTO**.
 - **CYCLE RESET** proximity switch
 - Generally, this switch will not need adjustment.
 - If adjustment is required, slide the switch up from the lowest position until the orange LED illuminates at the bottom edge of the lower platen at its lowest position.
 - 1/4" (6.35 mm) is the recommended position.

5. Running a Program

- a. Press **Cycle Overview (F9)** on the panelview touch screen.
- b. Press **Recipe To Run** on the subsequent screen. Using the keypad, enter the appropriate recipe number from the provided **Recipe Chart**. Press the return (↵) button to enter the number.
- c. Press the green **PLATEN HEAT ON** button.
- d. Place your parts or the heated vacuum fixture in the center of the platens.
- e. Press and hold both **CLAMP CLOSE** buttons; the **GUARD DOOR** will automatically close. Hold the buttons until the white **CLAMP SEALED** light illuminates. The program will commence. Program segments with corresponding times, clamp forces and platen temperatures will be displayed.
- f. When the program is complete, the press and guard door will open automatically.
- g. Remove your parts or the heated vacuum fixture.
- h. If additional cycles are required, repeat steps d through g of this section.

6. Shutting Down the Press

- a. Press the red **PLATEN HEAT OFF** button.
- b. Press the red **CONTROL POWER OFF** button
- c. Close the **compressed air** ball valve(s).