

Subject

Using the **H2000E-30-101 Rev 15** electrical drawing, this guide details how the main control circuit operates the H2000 Thermojet's heater (H1)

Note: The HLC1 circuit for Rev 15 H2000E-30-101 is not part of this publication. To review that bulletin, see tech. bulletin 2026-ES-01 (High Limit Controller HLC1).

The High Limit Control Circuit (HLC1) operates independently from the main heating circuit (H1).

Operation

SW1

When the main power switch (SW1) is turned on, 460 Vac line voltage is applied directly to the heater cutout controller relay, main power transformer, and motor starter relay (refer to drawing **H2000E-30-101 Rev 15**).

When the 460 Vac line voltage is applied to the transformers primary side, it is stepped down to a 120 Vac output. This is the control voltage for the Main Control Circuit.

SW2 from figure 1 below, SW2 has two separate functions;

1st. Closing switch SW2 completes the circuit through contact NO1, applying voltage to A1 of the timer (T1) coil. A2 is connected to the transformer neutral side, completing the circuit on Rung 1.

Activating the timer (T1) causes its normally open contact 15/18 to close on Rung 4. Voltage is then applied to A1 coil of the motor starter (MS) on Rung 4, which starts the motor **See Figure 1 below**.

Note: The overload (OL) contact 95/96, located on the motor starter, is normally closed. This contact will trip (open) only during a fault condition involving the motor, motor starter, or overload.

2nd. Closing switch SW2 completes the circuit through contact NO2, applying voltage to MS 13/14 auxiliary contact, which was closed when the motor starter coil A1/A2 on Rung 4 was energized. (see Figure 1).

At this stage, Heater 1 (H1) remains de-energized, pending the closure of the low-pressure switch (PSL) The low-pressure switch (PSL) monitors the pressure buildup within the tubing leading through the heater to the jet mixer. Once system pressure reaches 135 PSI, the PSL contact closes.

Note: Oil flowing in the reservoir is unrelated to low-pressure switch operation.

With the SCR controller factory set to 180°F, completing the interlock circuit through contacts NO2, MS 15/18, and PSL causes the OUT 1 contact (8/9) to close, turning on control relay CR1 and illuminating Amber pilot light "HEATER ON".

CIRCUIT FOR HEATER (H1) IS NOW ENERGIZED.

This is how the main electrical circuit controls the heater (H1) of any model thermojet.



**Lubrication
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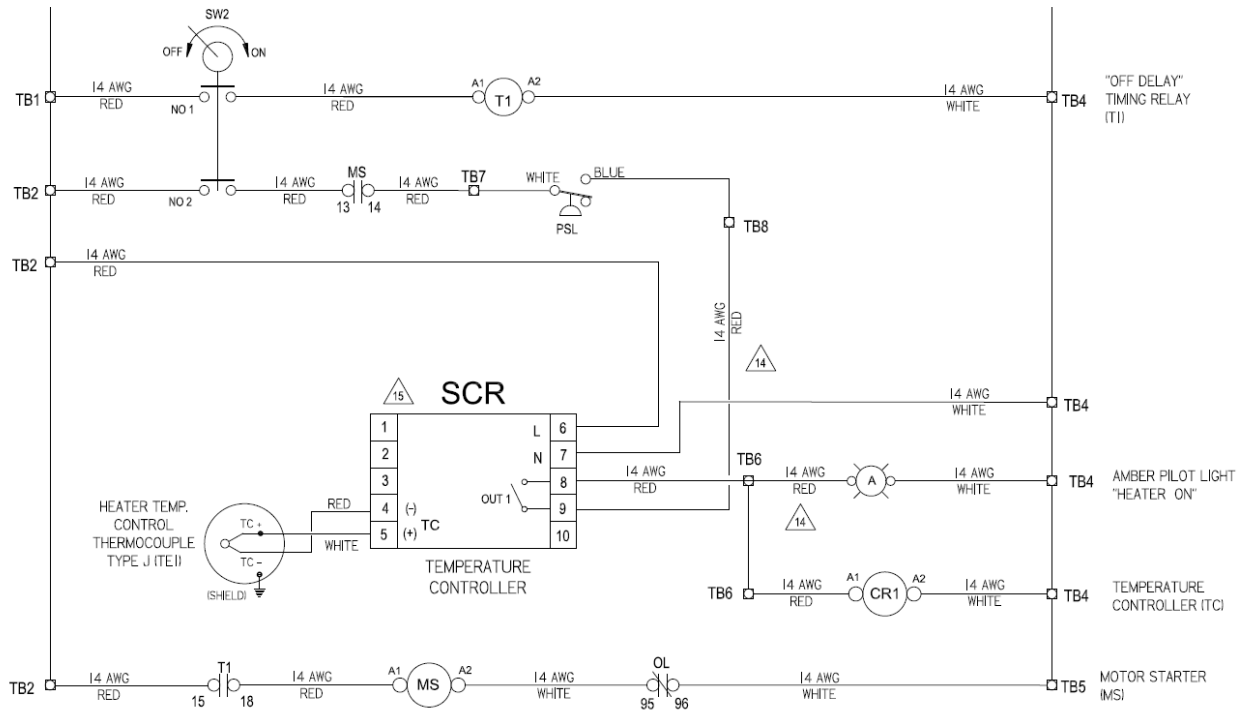


FIGURE 1