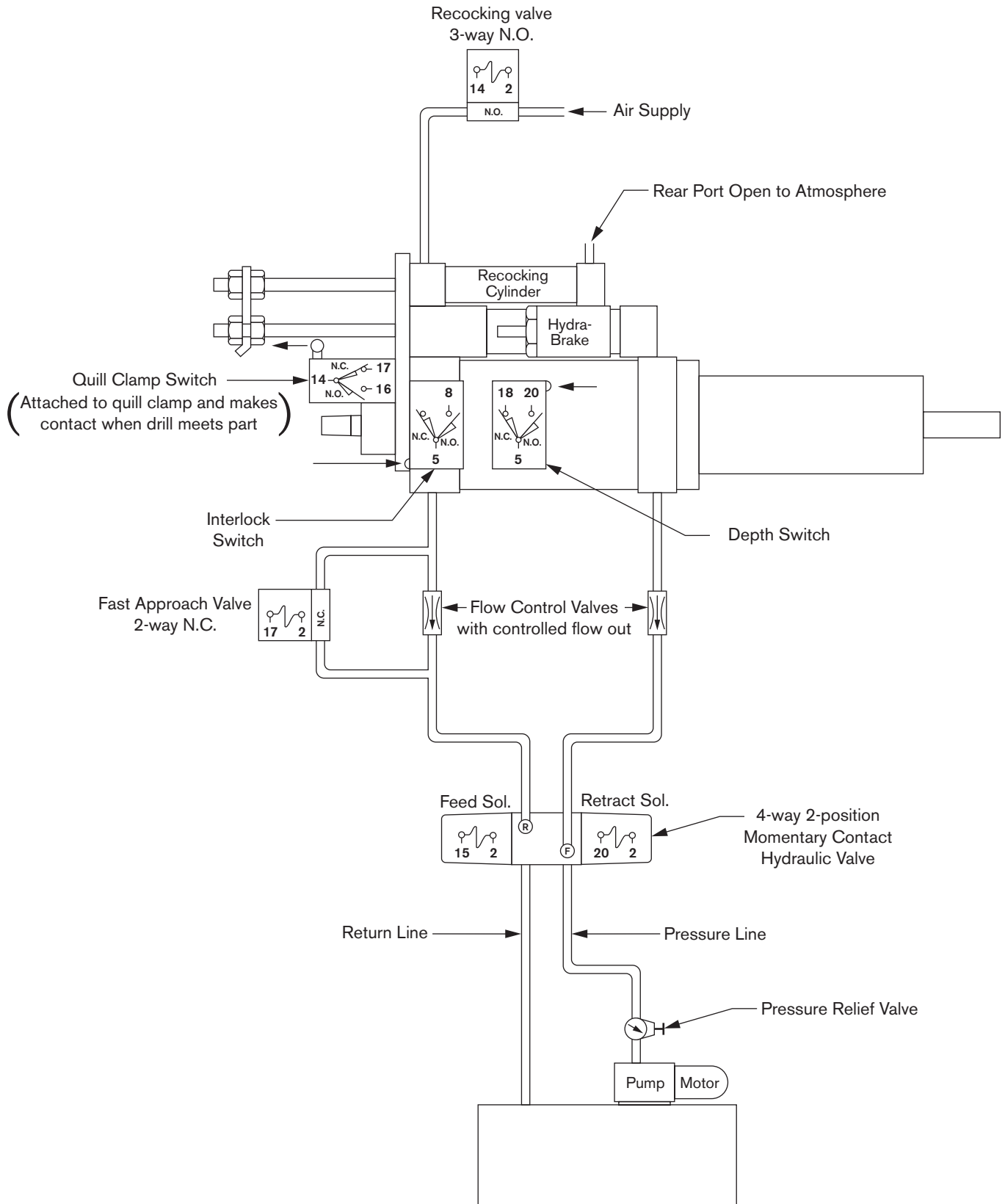


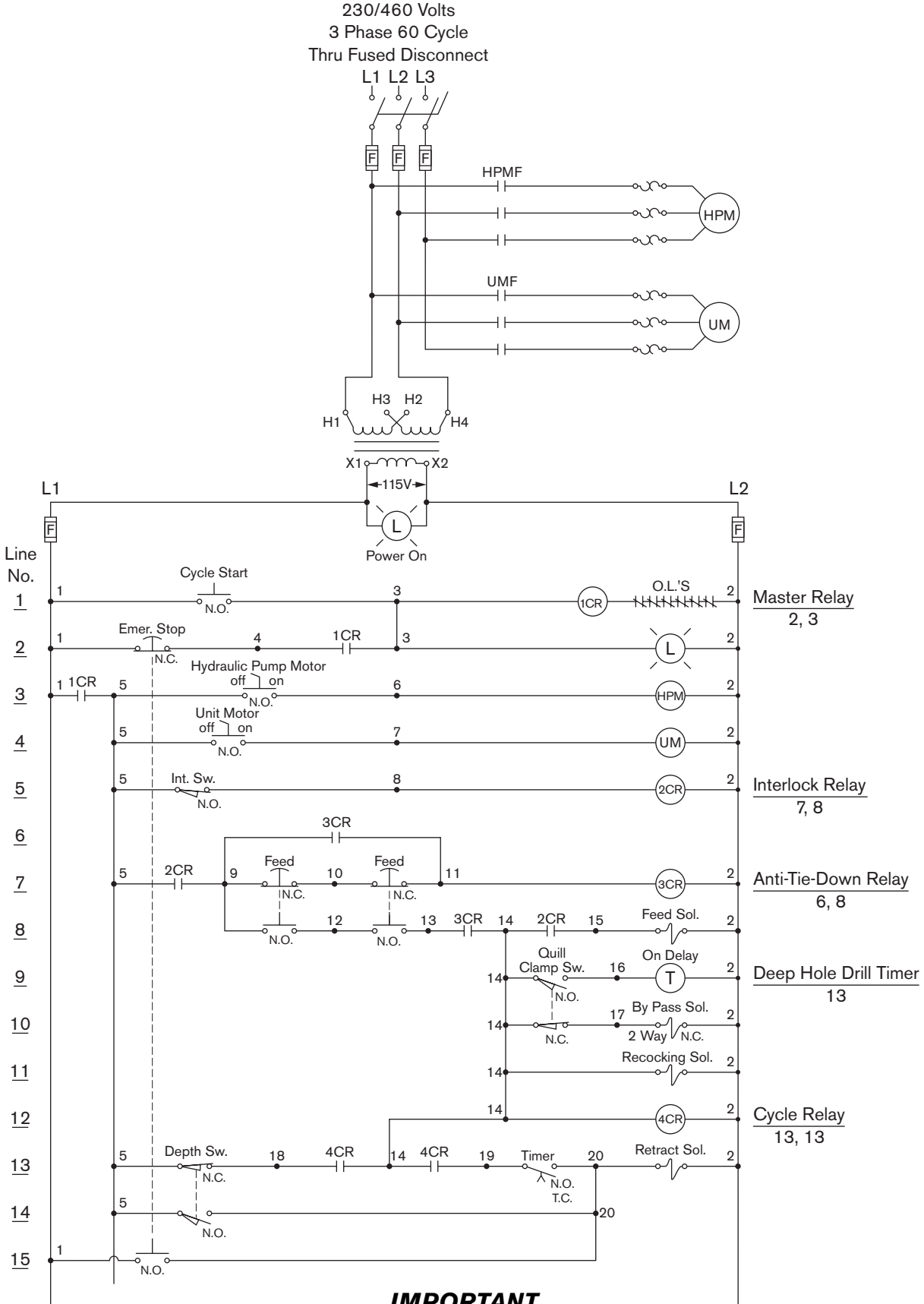
HYPNEUMAT INC.

AUTOMATIC DRILLING & TAPPING UNITS

PIPING FOR BASIC HYDRAULIC DEEP HOLE DRILLING CIRCUIT



BASIC HYDRAULIC DEEP HOLE DRILLING CIRCUIT



IMPORTANT

THIS CIRCUIT IS A BASIC METHOD OF CONTROLLING HYPNEUMAT EQUIPMENT.
 CHECK LOCAL, STATE, & OSHA REGULATIONS FOR SPECIFIC CIRCUIT REQUIREMENTS.

**CYCLE SEQUENCE
 FOR HYDRAULIC DEEP HOLE DRILLING CIRCUIT**

1. Turn Hydraulic Pump Selector Switch to "ON"
2. Turn Unit Motor Selector Switch to "ON"
3. Push Cycle Start Button
 - a. Supplies power to Circuit (1CR)
4. Push Twin Palm Feed Buttons
 - a. Valve shifts and unit feeds forward at rapid approach until "Quill Clamp" switch is actuated
 - b. Cycle relay (4CR) is energized and held
 - c. Recocking Valve is energized and held
5. Quill Clamp Switch is actuated
 - a. Deep hole drill Timer (T) is energized and begins timing out
6. Deep hole drill timer (T) times out
 - a. Valve shifts and unit rapid retracts
 - b. Unit actuates Interlock Relay (2CR)
 - c. Valve shifts and unit feeds forward at rapid approach until "Quill Clamp" switch is actuated
 - d. Deep hole drill timer (T) is energized and begins timing out

NOTE: Operation #6 keeps repeating until Depth Switch is actuated

7. Depth Switch is actuated
 - a. Cycle relay (4CR) is dropped out
 - b. Valve shifts and unit rapid retracts and stays back
 - c. Recocking Valve is dropped out and recocking Cylinder pulls Hydra-Brake to retract position ending cycle

EMERGENCY STOP

1. Push Emergency Stop Button
 - a. 1CR Master Relay Drops Out
 - b. Hydraulic Pump shuts off
 - c. Unit motor shuts off and coasts to stop
 - d. Valve shifts, but unit cannot retract
2. To return unit to retract position, "Cycle Start" Button must be pressed

Visit us on the World Wide Web at <http://www.hypneumat.com>

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