Clamp and Work PLC Wiring Diagram

Start pushbutton (X0) is pressed, output C1 is turned ON

Clamp cylinder begins to extend & “rolls off” X1 Start button released

All of the C1 contacts change to ON, Solenoid Y0 turns ON

Clamp cylinder hits X2 Output C2 is turned ON
Contacts C2 on Rungs #3b and #4 are turned ON. Output Y1 goes ON.

Work cylinder begins to extend, "rolls off" of X4 & X4 contacts go OFF. Rung #3b holds C2 ON.

Work cylinder hits limit switch X3, breaks hold for C2. Counter CT3 reaches count of 1 (K1).

C2 contacts on runs #3b and #4 go OFF, NC CT3 contact on rung #3a goes OFF, NO CT3 contact on rung #6 goes ON.

Solenoid Y1 goes OFF, work cylinder retracts, NC contact X3 on rung #3B goes ON. NO contact X3 on rung #5a goes OFF.

Work cylinder retracts and hits X4, NO contacts X4 on runs #1a, #3a, #6 go ON. Output C4 is turned ON.
NC contact C4 on rung #1b goes OFF, breaks hold for output C1

Clamp cylinder begins to retract, X2 contacts go OFF, Output C4 goes OFF

All N.O. C1 contacts go OFF
solenoid Y0 goes OFF

NC contact C4 goes ON, clamp cylinder hits X1

System ready to restart

Start pushbutton (X0) is pressed, output C1 is turned ON (CT3 is turned OFF by reset)