

Power Catwalk E-Stop Function Upgrade

Models Impacted

This Product Bulletin applies to Canrig Automated Catwalk PC2000, PC3000, and PC4000 series with the following serial numbers:

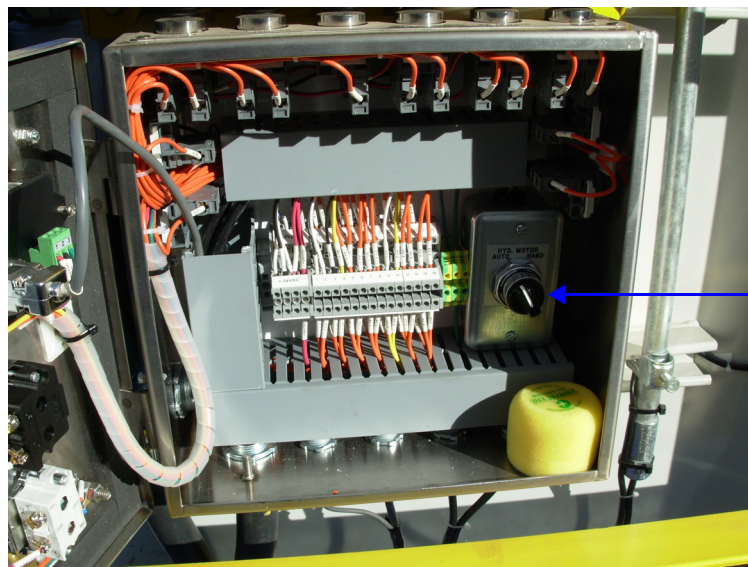
PC2000–1001 thru PC20008

PC300170 thru PC300374

PM(PC)4000–1001 thru PC400057

Issue

The intended use of the HAND position (Figure 1) of the Hydraulic Motor AUTO/HAND selector inside the control console is for setup and commissioning purposes and should not be used for pipe conveyance operations. If the selector is switched from the AUTO to HAND position **while the motor is running**, the E-STOP button (Figure 2, page 2) will become inactive. The E-STOP button will remain active if the selector is switched from AUTO to HAND while the motor is off.



Pump (Hydraulic Motor)
AUTO/HAND Selector

Figure 1: AUTO/HAND Selector Inside Control Console

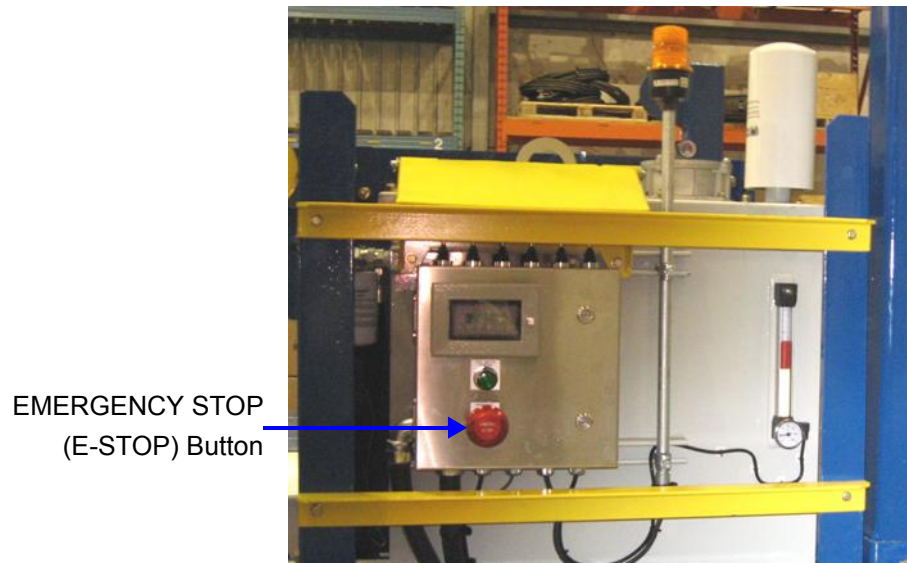


Figure 2: Control Console



Note:

The E-STOP button works in the HAND position if
HAND is selected when the motor is off.

Recommendation

- Do not switch the hydraulic motor AUTO/HAND selector to the HAND position while the motor is running.
- Do not use the HAND position for pipe conveyance operations.

Canrig Power Catwalk E-Stop Upgrade Kit No. AY50002 is now available which modifies the E-STOP button electric circuitry and functionality to work at all times. Contact RigLine 24/7™ Support to order the kit and arrange installation.



Product: PC2000,
PC3000, PC4000
Serial #: See Models
Impacted

September 3, 2013

Parts List

Table 1: Parts List Canrig Kit No. AY50002

Item	Qty	U/M	Canrig Part No.	Description
1	4	EA	E11773	RELAY, ELECTROMECHANICAL, 700-HL
2	1	EA	E16020	JUMPER BAR, 20 POLE, RED
3	1	EA	E11904	RELAY, JUMPER LINK
4	1	EA	E10955	END BRACKET, TS 35 RAIL, 9.5MM
5	1	EA	E18-1000-01B	CONTACT BLOCK, 1-NC
6	15 ft	EA	E13660	CABLE, 1 C, 16 STRANDS, 18 AWG, RED
7	3 ft	EA	E13661	CABLE, 1 C, 16 STRANDS, 18 AWG, BLACK

Installation

Tools Needed

Screwdriver

Procedure



Caution! The installation should only be performed by a qualified electrical technician.

1. Prior to beginning the installation, perform lockout and tagout of electrical equipment in accordance with local procedures.
2. Check the E-STOP button wiring configuration to ensure modification has not been done. The original wiring configuration should be as follows:
 - Only one contact block is affixed to the back of the E-STOP button with two wire connections.
 - No additional hardware exists between the PLC modules and 120VAC receptacle on the DIN rail.

- Attach the new contact block (Canrig Part No. E18-1000-01B) alongside the existing contact block on the back of the E-STOP button. A sample of the contact block is shown in Figure 3; this stacks onto the existing contact block.



Figure 3: Sample E-Stop Button Contact Block

- Install the four electromechanical relays (Canrig Part No. E11773) on the DIN rail between the PLC modules and 120VAC receptacle (Figure 5, page 7) using the end bracket (Canrig Part No. E10955) to ensure they stay in place.
- Attach the red jumper bar (Canrig Part No. E16020) across the A1 terminals of the relays (R6, R7, R8, R9), and the gray jumper relay (Canrig Part No. E11904) across the A2 terminals (Figure 8, page 9).
- Use black 18 AWG cable (Canrig Part No. E13661) to connect the A2 terminals to the 0VDC terminal block in the PLC panel (Figure 8, page 9, 0V.e).
- Use red 18 AWG cable (Canrig Part No. E13660) to connect the red jumper bar to terminal TB1L28 in the control console (Figures 5, 6, and 8 on pages 7, 8, and 9 respectively).
- Use red 18 AWG cable to connect the 24VDC terminal block in the PLC panel to terminal TB1L27 in the control console (Figures 6, 7, and 8 on pages 8 and 9 respectively, +24hh).
- Use red 18 AWG cable to connect terminal TB1L28 in the control console to one side of the NC contact block on the E-STOP button (Figure 7, page 8, +24.hl).
- Use red 18 AWG cable to connect terminal TB1L27 in the control console to the other side of the NC E-STOP button (Figure 7, page 8, +24.hk).
- Disconnect wire 2.05A from PUMP_HAND, and connect it to terminal 11 of relay R9. Connect terminal 14 of relay R9 to PUMP_HAND. Assign wire name 2.05C (Figure 9, page 9).
- Disconnect wire 2.05A from terminal A1 of relay R1, and connect it to terminal 11 of relay R6. Connect terminal 14 of relay R6 to terminal A1 of relay R1. Assign wire name 2.05B (Figure 9, page 9).

13. Disconnect wire 2.06A from terminal A1 of relay R2, and connect it to terminal 11 of relay R7. Connect terminal 14 of relay R7 to terminal A1 of relay R2. Assign wire name 2.06B (Figure 9, page 9).
14. Disconnect wire 2.07A from terminal A1 of relay R3, and connect it to terminal 11 of relay R8. Connect terminal 14 of relay R8 to terminal A1 of relay R3. Assign wire name 2.07B (Figure 9, page 9).
15. Remove lockout and tagout, and reconnect power.

Test the Installation

Test the installation by repeating the scenario that causes the issue.

1. Start the motor from the wireless terminal or the control panel console (Figure 4).

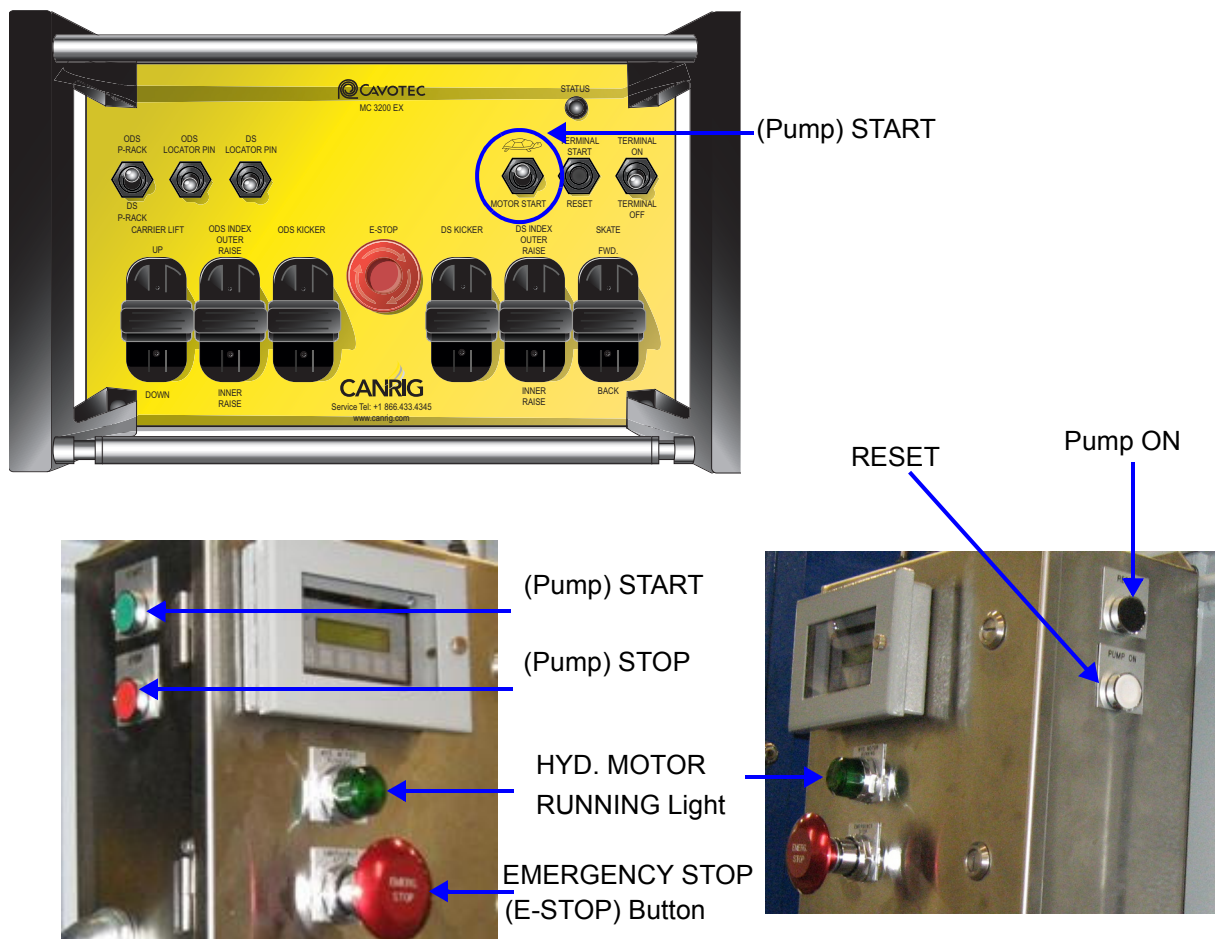


Figure 4: Wireless Terminal and Control Console



Product: PC2000, PC3000, PC4000 Serial #: See Models Impacted	September 3, 2013
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2. Switch the selector inside the control panel to the HAND position.
3. Press the E-STOP button on the control panel; verify the E-Stop alarm is triggered and the pump motor, cooling fan motor, and tank heater contactors are now de-energized.

Installation Drawings

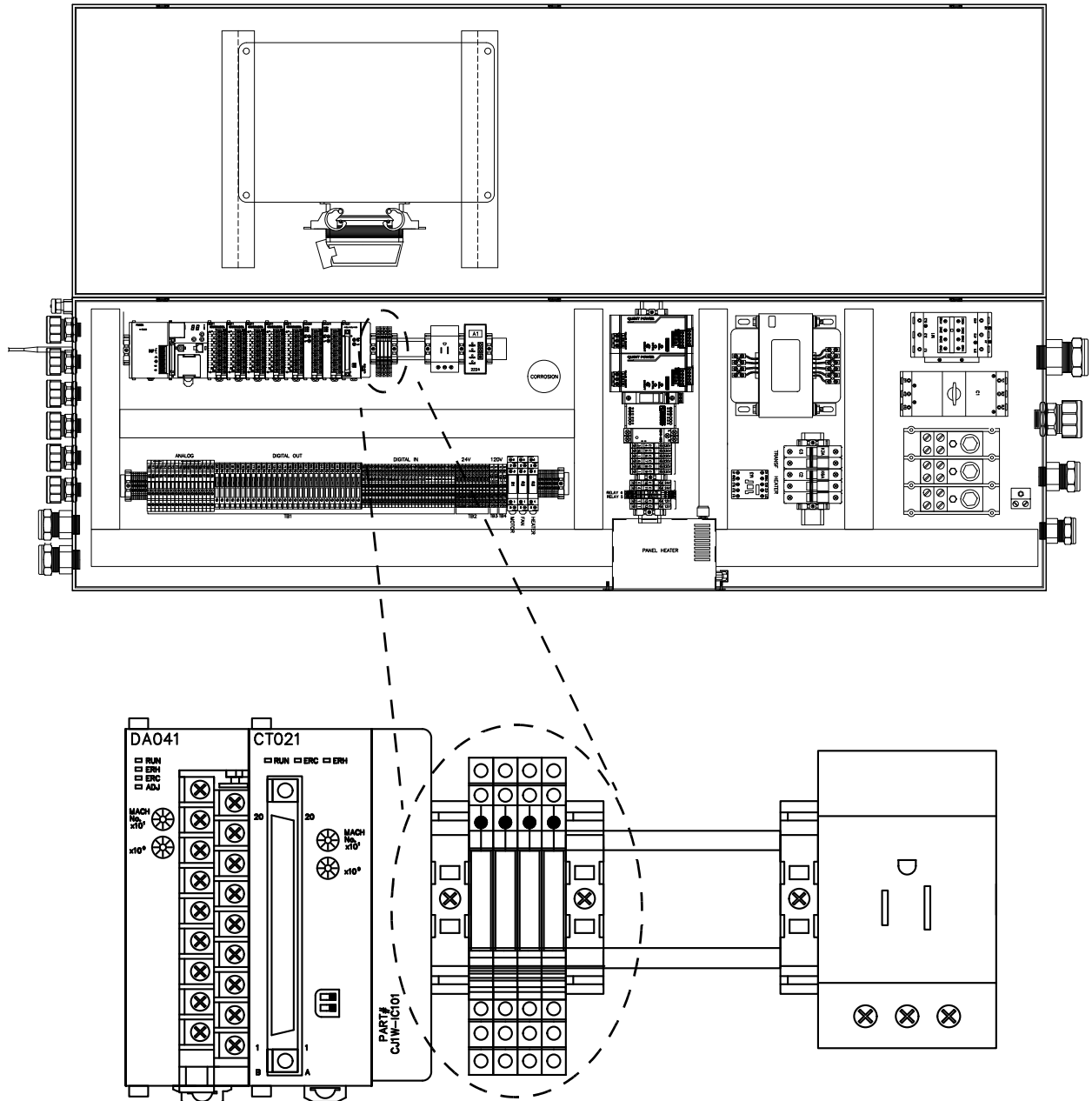


Figure 5: Relays and End Bracket on DIN Rail of 480V Main Panel Box

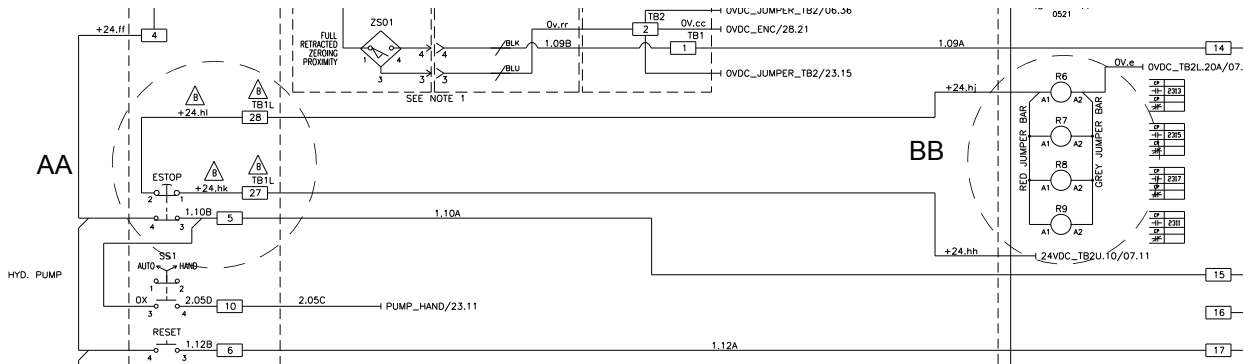


Figure 6: Inset of the PLC Slot 1, Digital Input 2 Showing Affected Areas

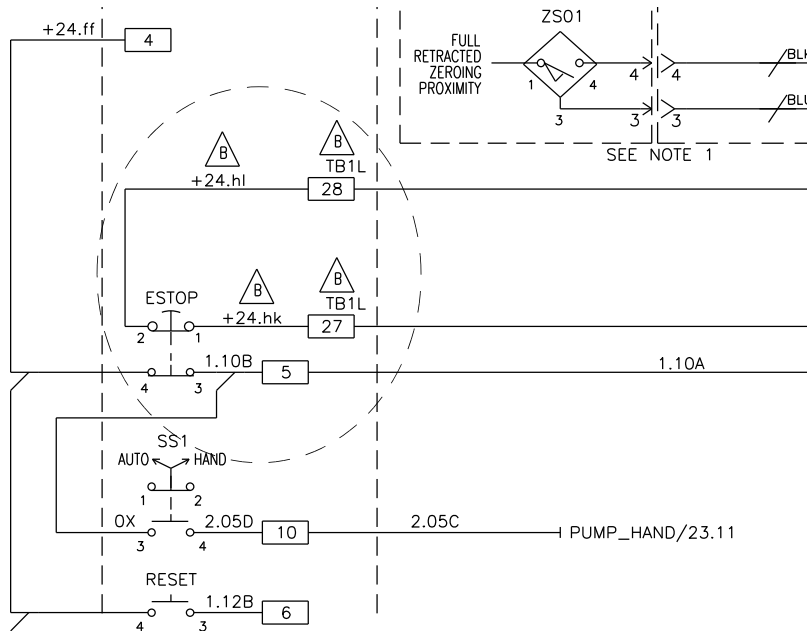


Figure 7: Detail AA: New E-STOP Button Configuration

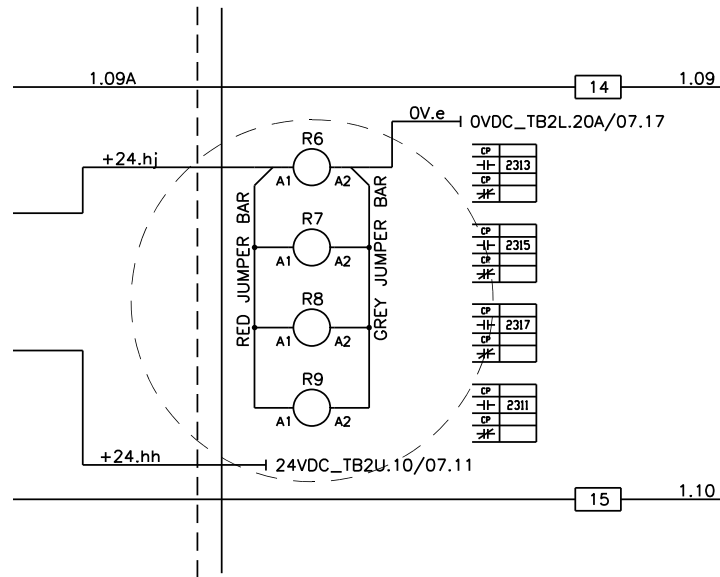


Figure 8: Detail BB: Coil Component of New Relays R6, R7, R8, R9

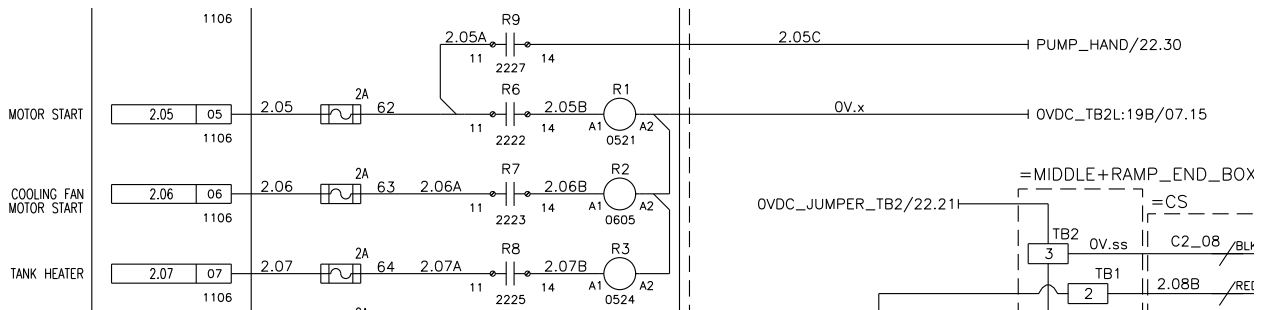


Figure 9: Inset of PLC Slot 1, Digital Output 1 Showing Switch Side of New Relays R6, R7, R8, R9