

CRT and TD Cold Weather Kit Wiring Issue

Issue

Some top drive systems may not be wired correctly to provide power to the casing running tool (CRT) and the top drive (TD) cold weather kit.

Rigs Affected

* Nabors Pace-X S/N 01 through 53

* Nabors Rigs 1201 through 1203



Warning!

The instructions in this bulletin require working around potentially hazardous levels of electricity and **should be performed by qualified personnel only.**

Recommendation

Verify that the correct voltage is available to the CRT and TD cold weather kit. If the correct voltage is available, no further checks are required. Contact RigLine 24/7™ Support to report the status. If the correct voltage is not available, conduct systematic troubleshooting to locate and correct the issue. If needed, contact RigLine 24/7™ Support for assistance.



SAFETY: Always complete a **JSA** before starting a job, and always perform necessary **Lock-out/Tag-out** (LO/TO) procedures before working with potentially dangerous equipment.

Verifying Correct Voltage

1. Place the TD Heater/CRT switch in the "Off" position.
2. Place the multimeter in "AC Volts," touch the negative and positive leads together, and verify the meter reads zero. If not, use a different meter.



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3. In the PLC J-box, place the negative lead on terminal block TB30:8 and the positive lead on terminal block TB30:7. The value should read near zero. If not, stop and verify the wiring according to the schematic or refer to Table 1 on page 3.
4. Place the TD Heater/CRT switch in the "Hand" position.
5. In the PLC J-box, place the negative lead on terminal block TB30:8 and the positive lead on terminal block TB30:7. The value should read near 120 volts AC. If the value reads near 120 volts AC, then the circuit is wired properly. Report the results to RigLine 24/7™ Support. If not, proceed to "Testing and Troubleshooting the PLC Cabinet" below.

Testing and Troubleshooting the PLC Cabinet

Nabors PACE-X rigs serial number 01-49 should verify that the wiring has been installed in accordance with Engineering Change Notice (ECN) 2693A. If the ECN has not been implemented, make the modifications in the ECN and repeat "Verifying Correct Voltage" on page 1.

Nabors PACE-X rigs 50-53, rigs 1201-1203, and others that have already performed ECN 2693A should proceed to step 1 of this section.

1. In the PLC Cabinet, set the TD Heater/CRT switch to "Hand." Verify that approximately 120Vac is measured between TB8:7 and TB8:8. If it does, proceed to step 2. If it does not, contact RigLine 24/7™ Support for assistance.
2. Shut down the top drive, open the TD PLC supply breaker in the lighting panel, and remove the TD PLC supply plug (PL58) from the driller's cabin plug panel.
3. Close the TD PLC Supply Breaker. Place the TD Heater/CRT switch in the "Hand" position. Place the Multimeter neutral probe on socket 8 and the positive probe on socket 7 of the TD PLC Supply receptacle (PL58), and verify that the meter reads near 120Vac. If it does, proceed to "Testing and Troubleshooting the PLC J-Box" on page 3. If it does not, contact RigLine 24/7™ Support for the replacement adapter kit (AY22621) per ECN 2926.



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Testing and Troubleshooting the PLC J-Box

Ensure the wiring in the PLC J-Box is terminated per the schematics, or by referring to Table 1 below.

Table 1: PLC J-Box Wire List

Wire Name	Termination 1	Termination 2	Description
CAB581_WHT/BLK	TB30:7	CAB581	120Vac (Line) Switched Feed
CAB581_RED/BLK	TB30:8	CAB581	120Vac (Neutral) Feed
CAB581_ORG/BLK	TB30:10 (GND)	CAB581	Ground
If Cold Weather Kit Installed			
CAB620_BLK	TB30:7	CAB620	Gearbox Heater Switched 120Vac Feed
CAB620_WHT	TB30:8	CAB620	Gearbox Heater Neutral
CAB620_GRN	TB30:10 (GND)	CAB620	Gearbox Heater Ground
707	TB30:7	Heat Tape	Heat Tape Switched Feed
708	TB30:8	Heat Tape	Heat Tape Neutral
If CRT Installed			
CAB/BLK	TB30:7	CAB	CRT Switched 120Vac Feed
CAB/WHT	TB30:8	CAB	CRT Neutral
CAB/GRN	TB30:10 (GND)	CAB	CRT Ground

1. If the wiring is not correct, correct the terminations in accordance with the schematic or Table 1. Then, repeat "Verifying Correct Voltage" on page 1.
2. If the wiring is correct, and there is still no power available between terminal blocks TB30:7 and TB30:8, the issue is likely to be in the plug (PL58), or the service loop cable itself. Verify that the plug (PL58) was properly assembled. If the plug was not properly assembled, correct it and repeat "Verifying Correct Voltage" on page 1. If the plug cannot be corrected, contact RigLine 24/7™ Support for the replacement adapter kit (AY22621) per ECN 2926.
3. If the plug was assembled properly, test the electrical continuity of CAB581_WHT/BLK, CAB581_RED/BLK, and CAB581_ORG/BLK. Contact Rigline 24/7™ Support for assistance.