V160-V315 Electrical Fault Trouble Shooting Manual

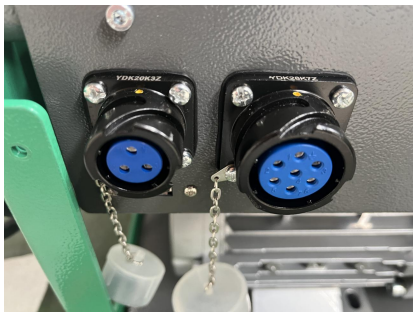
一. Trimmer Fault

Symptoms	Common Issues
Trimmer not running or rotating slowly	1. Aviation plug or internal wire disconnected
	2. Fault in the safety switch (if equipped)
	3. Power supply issue
	4. Trimmer motor button damaged
	5. Trimmer motor carbon brush worn out
	6. Motor coil damaged

Inspection Steps

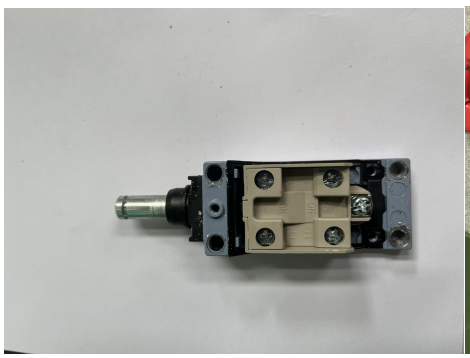
Step 1

Under power, use a multimeter to measure whether pins 2 and 3 of the aviation plug (YDK20K3Z) have a normal 220V output. (If there is no voltage, check the generator or main power supply for issues.)



Step 2

If equipped with a safety switch, check its normally open contacts 11 and 13 in the power-off state. Use a multimeter in the resistance mode (or continuity mode) to check if it is functioning correctly, as shown in the diagram. (If the two points do not conduct, it indicates that the limit switch contacts are damaged.)



Step 3

Trimmer button inspection, as shown in below images, disassemble the button and use the resistance mode to measure the continuity of the contacts. (If "OL" appears, it indicates an internal disconnection and a faulty button.)



Step 4

Measure the motor coil and carbon brushes as shown in below images. With the power off, use a multimeter in resistance mode to check the continuity of the coil. Remove the carbon brush cover, observe the condition of the carbon brushes, and replace them if necessary.



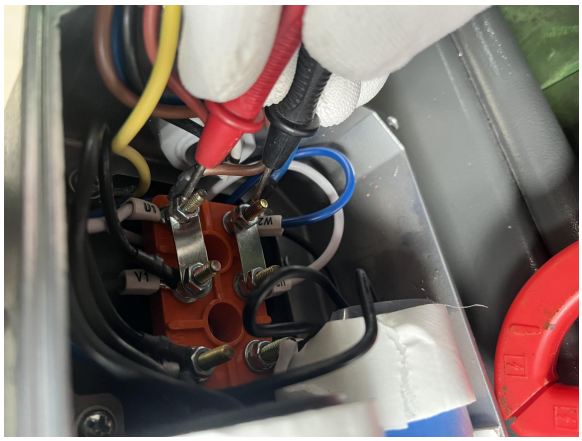
二. Power Station Fault

Symptoms	Common Issues
Power Station Not Running and Excessive Noise	1. Check if the solid relay is damaged
	2. Motor coil inspection
	3. Capacitor fault
	4. Directional valve micro switch open circuit
	5. Trimmer motor carbon brush worn out
	6. Insufficient hydraulic oil and motor vibration

Inspection Steps

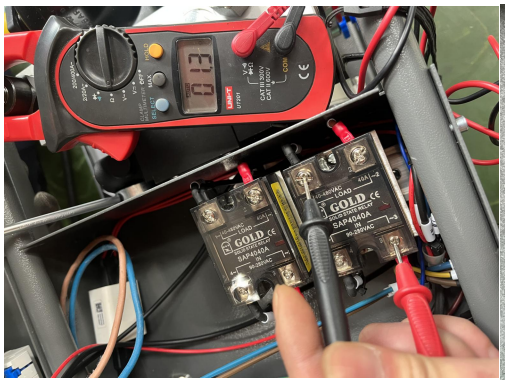
Step 1

Check the motor coil, start and running capacitors if they are functioning correctly while the power is off. (Capacitors must be fully discharged before testing. Non-professionals should not perform this operation.)



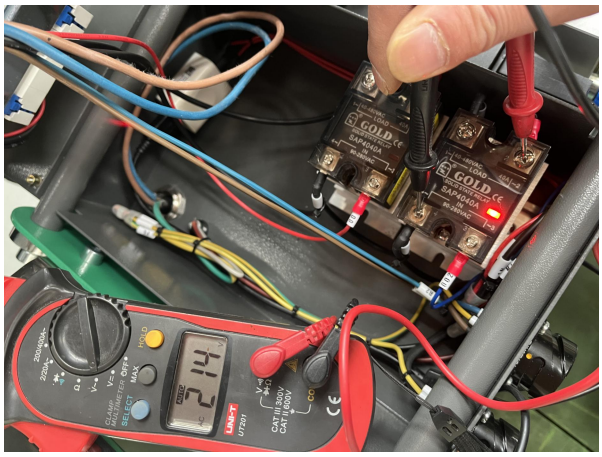
Step 2

Directional valve micro switch inspection: With the power off, set the directional valve to the forward or reverse position. Use the resistance mode on the multimeter to measure if pins 1 and 3 of the motor's solid-relay are in a connected state (if not connected, the switch is faulty). As shown in below images.



Step 3

With the power on, operate the directional valve and check if the solid-relay indicator light (red light) is functioning correctly. Then, set the multimeter to AC voltage mode and measure pins 2 and 4 of the solid-relay. If the voltage output is within the normal range, it is functioning correctly, as shown in the diagram. If there is no voltage output, keep the directional valve activated and measure pins 3 and 4 of the solid-relay. If there is no voltage within the normal range, it indicates that the solid-relay is faulty.



三. Heating Plate Fault

Symptoms	Common Issues
Heating Plate Not Working	1. PT100 open circuit
	2. Solid-relay damaged
	3. Temperature controller failure
	4. Heating element open circuit
	5. Temperature control button malfunction
	6. Internal wire of aviation plug disconnected

Inspection Steps

Step 1

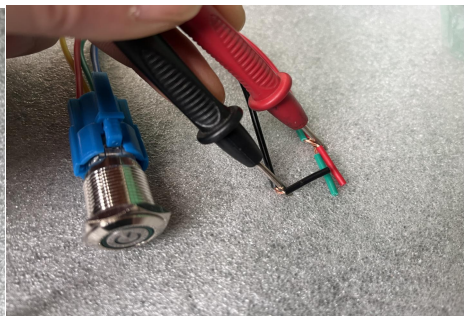
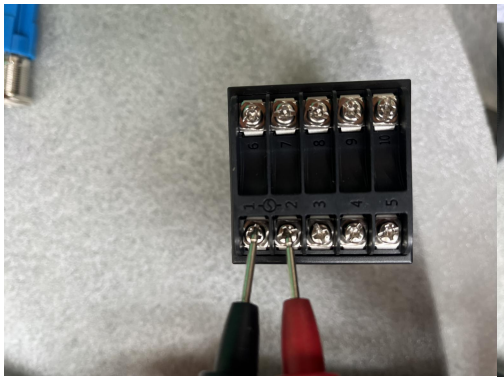
First, observe the operating status of the temperature controller. The left image shows the normal operating state with the green output indicator "OUT1." (This status is not the only criterion for judgment.) The right image shows the alarm state with the red output indicator "AL1."

Alarm Status:

- ER1, ER3, ER9 — Invalid calibration parameters/system error (instrument fault, contact the manufacturer for repair)
- ER2, ER4, ER5 — PT100 open circuit or exceeds upper range limit and lower range limit

Step 2

If the temperature control button's built-in light does not illuminate or the temperature controller does not display, turn off the power and press the button to check whether the normally open contact of the button is connected. (The button light cannot be used to determine its condition.) If the button starts normally, turn the power back on and measure whether there is normal voltage between terminals 1 and 2 of the temperature controller. (If there is normal voltage but the temperature controller does not display, then it is faulty.) With the temperature controller functioning properly, check if there is voltage output between terminals 1 and 4. If all the above items are normal, inspect the solid-relay. (The method is the same as for hydraulic solid-relay inspection.)


Step 3

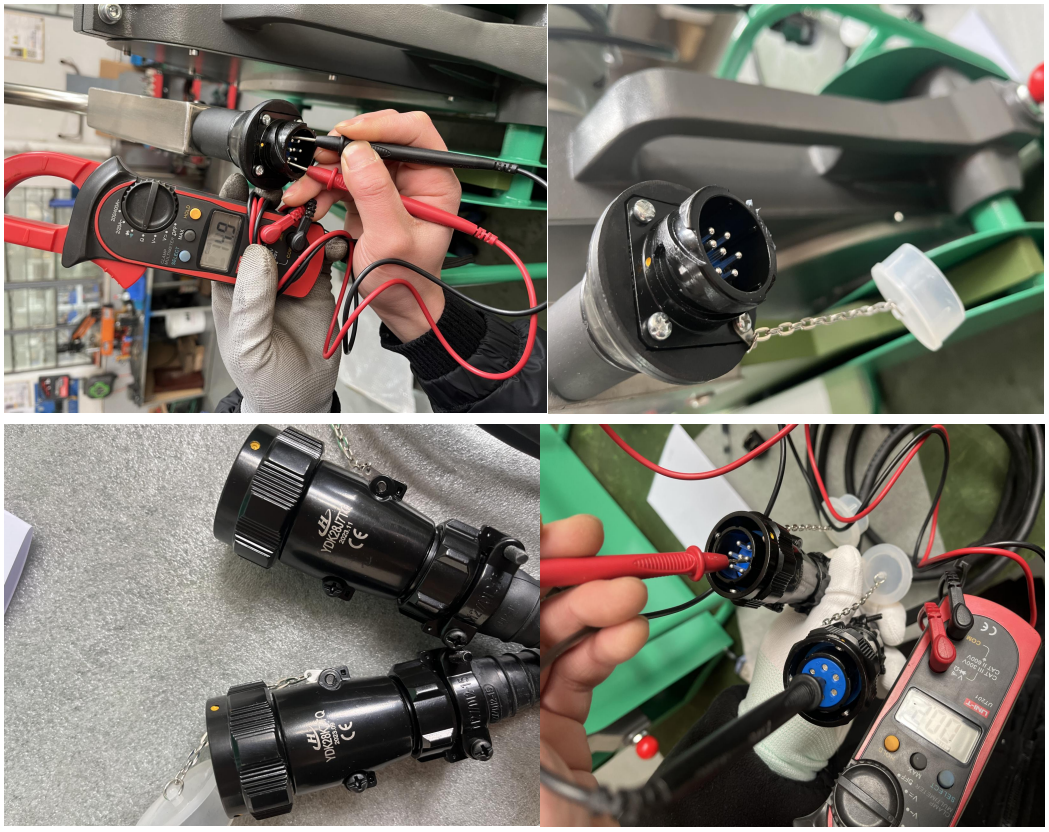
If the solid-relay for temperature controller and internal wiring are functioning properly, but the heating plate still not heat or an alarm appears (e.g., ER4 alarm), refer to below images for the

heating plate inspection.

With the power off, first check if there is resistance between pins 2 and 3 of the aviation plug (YDK28J7Z) (approximately 15 ohms for 315, which indicates the heating element). If there is no resistance, disassemble the aviation plug to check if the internal wire is disconnected. (If the wire is not disconnected, it indicates the heating element is burned out, and the hot plate needs to be replaced.)

Pins 4 and 5 are PT100 connections, with a resistance of about 105 ohms; the testing method is the same as above. If there is no resistance, it means the PT100 is open and needs to be replaced. (Pins 6 and 7 are spare PT100 connections that can be used as replacements or for a recorder.)

If both of these items are normal, check if the hot plate extension cord, shown in the diagram below, is internally open. Use the same method, in resistance mode, to check if each pin is properly connected.



Before troubleshooting, ensure that the power supply voltage and all connections are correct, and that there is no surface damage. Repairs must be performed by professionals only!