

Maintenance of Optic fiber splicing machine

Equipment Maintenance	Descriptions
Arc correction	Perform discharge correction operation, automatic correction of discharge current
Clean electrodes	Repeats short arc several times to clean the electrodes
Replace electrodes	After replace electrodes, Repeats short arc several times to stabilize the electrodes and to measure the electrodes position
Detect System parameters	Measures the electrodes position,motor and other system parameters automatically
Light correction	Automatic correction red light source

1. Arc correction

Conditions	Operations
Fiber type changes	Perform 【Arc calibration】
Temperature, humidity or pressure changes	Perform 【Arc calibration】
Splice loss increases	Perform 【Arc calibration】
Electrodes have been used for long time or stained	Perform 【Arc calibration】
After cleaning or replacing electrodes	Perform 【Arc calibration】

Operation Procedure:

- (1) Select **【Arc calibration】** in the **【Function Setting】** Menu.
- (2) Place cleaved fibers into the splicer.
- (3) Press "**SET**" to start.
 - a) The system adjusts the center of fibers gap to arc center.

b) After arc, the system will measure the melt-back amounts of left and right fiber axis, and calibrate the arc current.

(4) After arc, the result will be displayed on the screen. If the screen displays “Arc current too weak”, “Arc current too powerful”, repeat step (2) (3) again until the screen displays “Arc calibration successful”.

(5) If the screen displays “Arc calibration failed”, repeat step (1).

(6) After Arc calibration and splice position calibration complete, press “**X/Y**” to exit Arc calibration mode.

Attention:

a) Cleave Angle Limit is solely set under the Arc calibration mode, which is irrelevant with the one under splice mode.

b) Arc calibration often needs to be operated a couple of times, user should follow the steps patiently.

2. Electrodes Maintenance

2.1 Clean Electrodes

The surface of the electrodes will attach impurities during daily use and affect the arc effect, hence users need to periodically clean the electrodes.

Cleaning Procedure:

(1) Press “**⏻**” to turn on the device and the power indication light will be on.

(2) Select **【Clean Electrodes】** in **【Maintain】** Menu .

(3) Press start up key “**SET**”, the device will arc five times automatically, using powerful arc current to vaporize the impurity on the electrodes surface to arc steadily and clean the electrodes.

Attention: Don't touch the electrode tips with hard object in the process of cleaning to avoid damage to the electrodes.

2.2 Replace Electrodes

Electrodes deplete during its usage. Replace electrodes timely after they have been arced 3500 times otherwise it will affect splice result of fiber which leads to more loss and decrease fiber strength. When the

number of arcs reaches 3500, a message reminding you to replace the electrodes is displayed when turn on the device. The arc times should be cleared after replace the electrodes. The electrode's tip is sharp, please take care during operation.

Replacement Procedure:

- (1) Press “” to turn off device before replacing.
- (2) Loosen the screw located on electrode cover, then take electrode out of electrode slot as shown in figure3-2.



Electrodes-replace

- (3) Put the new electrode into the electrode slot and install the electrode cover, then tighten the screw .
- (4) Check whether the two electrodes are in the same horizontal plane and the vertical plane, if not re-install.
- (5) Turn on the device, prepare and put fiber into the splicer,choose **【Replace Electrodes】** in the **【Maintain】** Menu.
- (6) Electrode change is completed, need to perform in **【history records】** **【Clear Arc count】** .
- (7) Replacement completed.

3. Self-checking system parameter test

System parameters of the welding machine provides self-check function can carry on the self diagnostic test to the system, to detect the performance of several key parameters of the welding machine.

Strongly recommend, welding machine in the following situations to discharge correction, otherwise it will affect the sealing effect

- ◇ For welding optical fiber type change;
- ◇ System upgrade;
- ◇ Using the environment temperature, humidity, air pressure have a big change;

- ✧ Continuous welding failure or loss on the high side;
- ✧ The captain of the welding time is not used, or electrode used too many times;
- ✧ Clean or replace the electrodes.

Discharge correction operation steps are as follows.

(1) In the feature 【Maintain】 【 Discharge correction 】 .

(2) Will cut fiber on the welding machine closed wind cover.

(3) Press the start key “” perform .

- a) The optical fiber clearance center system set to measured discharge center position。
- b) After discharge, the system will measure about optical fiber axial melting, correction of discharge current.

(4) If prompt on the screen "discharge current is too large," or "discharge current is too small, please continue to repeat the above mentioned in (2) (3) until success tip discharge correction operation.

(5) If prompt correction "discharge" failure, please start step (1)described until success tip discharge correction operation。

(6) Discharge intensity and welding position after the successful completion of calibration, press exit “”
Exit discharge correction mode。

Attention:

- a) Discharge correction mode of cutting Angle limit is set by itself, has nothing to do with the cutting Angle limit welding mode。
- b) Discharge correction generally need to be executed multiple times in a row, please patience to operate according to clew。

4. Cleaning of Fiber Fusion Splicer

4.1 Clean the V-groove

The presence of impurities in V-groove will make the fiber image deviate from the normal position, resulting in dis-alignment, causing more splice loss. So users should regularly check and clean V-groove, the specific

process is as follows:

- (1) Open the windproof cover of Fiber fusion splicer.
- (2) Please use the fine cotton swab dipped in alcohol to clean the bottom of the V-groove.

Attention: Do not touch the electrode tip. When cleaning, do not overexert or using hard object (such as blades) to clean the V-groove in order to avoid damaging the V-groove, which can cause breakdown.

4.2 Clean the Microscope

Fiber Fusion Splicer use image processing system to observe the optical fiber. If the microscope lens get dirty, it will affect observations, leading to poor fusion splicer results. So the microscope lens should be cleaned regularly, to maintain the cleanliness of the lens. The specific process is as follows:

- (1) Turn off the splicer power, and open windproof cover.
- (2) Use cotton swab dipped in alcohol to gently wipe the lens, as shown in Figure 3-4.
- (3) Then wipe the residual alcohol with clean, dry cotton swab, after that, check the microscope lens whether it is tidy.
- (4) Turn on the power to observe whether there is dust on the image, if there is, re-clean the lens.

Attention: When cleaning, don't touch the electrodes, don't use hard objects to touch the lens.

4.3 Clean the Fiber Presser Foot

Dirt on optical fiber presser foot may cause fiber clamp problem and affect splice results. The presser foot should be checked and cleaned regularly. The steps are as follows:

- (1) Open windproof cover.
- (2) Use cotton swab dipped in alcohol to wipe the surface of the presser foot. Then use dry cotton swab to dry the presser foot.

4.4 Clean the Heater

The heater is easy to deposit dust and dirt, please clean the heating plate with a dry cotton swab regularly.