SWIFT KR12

USER MANUAL

Read this user manual carefully
before running KR12

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Device Type

A Class Device
(Broadcasting and communication device, Commercial use)

Notification

Users need to understand that this device (A Class) has obtained EMI(Electromagnetic compatibility) and been designed to be used in places other than home.

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KEEP THIS USER MANUAL WITH THE DEVICE AT ALL TIMES

The Swift KR12 is designed to satisfy the user's convenience for both outdoor and indoor use, allowing the operation easy and simple.

Still, we strongly recommend our customers to read this user manual carefully prior to running the Swift KR12 in order to prevent any accident and breakdown because improper handling may cause danger.

This user manual provides all the necessary information to ensure splicing safely.

UCLSWIFT Co., Ltd is not liable for any personal injury, any physical loss and damage todevice caused by inappropriate use or unauthorized modification of the equipment.

! WARNING

Please, turn off the Swift KR12 and disconnect the AC power cord from the AC adapter inlet or the wall socket immediately and contact UCLSWIFT Co., Ltd. If any of following incidents occurs while operating.

- Fumes, odor, noise or over-heating.
- Liquid or foreign substances fall into the device.
- The splicer is dropped or damaged.

Use the supplied power cord with the Swift KR12 only. Using an improper AC power cord may cause fire, electric shock or personal injury.

DO NOT touch the electrode when the Swift KR12 is on. The high voltage and temperature generated by electrode may cause electric shock or burn.

Connect the supplied AC power cord to the battery. Check to ensure no dust or foreign sub-stance on the AC plugs before connecting it. Unsafe connection may cause the fumes, fire or damage to the Swift KR12 and result in serious personal injury or death.

DO NOT touch the AC plugs, AC power cable or the Swift KR12 with wet hands. It may cause an electric shock.

Apply correct voltage. The correct input AC power to the adapter is AC 100-240V and 50-60Hz. Abnormally high AC output voltage or irregular frequencies are often genera-ted by AC generator. Please measure the AC output voltage with a circuit tester. Sinceabnor-mal high voltage and frequencies may result in serious electric shock, injury, death or damage to the equipment, it is important thatregularly check the generator before use. DO NOT excessively pull, amend, misuse or apply heat to the AC power cable. Using a damaged power cable may result in fire or personal injury. Connect 3-core AC power-cord. DO NOT use 2-core, able and plug.

DO NOT disassemble the AC adapter, battery or the Swift KR12. Anymodification may cause fire, electric shock or personal injury. When using the battery, follow instructions below.

- Using battery other than in the package or provided by UCL SWIFTCo., Ltd may cause fumes, damage to the device, burn, serious injury or even death.
- DO NOT throw the battery into fire or an incinerator.
- DO NOT charge the battery near a flame.
- DO NOT apply excessive shock to the battery.
- If the battery isn't fully charged or the green LED is not turned on in about two hours, stop charging immediately and contact UCLSWIFT Co.,Ltd.
- DO NOT put anything on the AC adapter while charging.

Use the supplied AC adapter (F1-1) at all times. DO NOT use other type of AC power cord and the battery. Excessive electric current may cause damage to the machine and personal injury.

DO NOT run the Swift KR12 near flammable liquid or explosive gas storage. The electric arc of the Swift KR12 may cause fire or explosion.

DO NOT clean the Swift KR12 using compressed air or gas.

Please check the shoulder

belt before transporting. Transporting the case with a damaged shoulder belt, it may cause the damage of the Swift KR12 and the personal injury.

Make sure to wear protective glasses while performing splicing works. If the fiber fragments come into contact with the eye or skin, it can be extremely dangerous.

DO NOT operate the Swift KR12 at a high temperature or near heat, otherwise personal injury or damage to the device may occur.

! CAUTIONS

DO NOT touch the sleeve heater or the sleeve during or immediately after heating them. The hot surface may cause skin burn.

DO NOT place the Swift KR12 in an unstable or unbalanced position. The machine may fall, causing injury or damage to the Swift KR12.

The Swift KR12A is precisely adjusted and aligned. DO NOT allow the unit to receive a strong impact. Use supplied carrying case for its transportation and storage. The carrying case protects the Swift KR12 from damage, moisture, shake and shock during storage and transportation.
Replace the electrodes in a timely manner and maintain them as instructed below.

- Use only a specified electrode.
- Place a new electrode in the correct position.
- Replace the electrodes as a pair.

Incompliance with above instructions may cause abnormal arc discharge, resulting in damage to the machine or degradation in splicing performance.

Use no chemicals other than ethyl-alcohol (96% or greater) to clean the objective lenses, V-groove, V-block, LCD monitor and body of the Swift KR12. Otherwise, blurring, discoloration, damage or performance deterioration may occur. The Swift KR12 requires no lubrication. Oil or grease may degrade its performance and damage the equipment.

DO NOT store the Swift KR12 in a place where temperature or humidity is high. Damage to the machine may occur.

Technical aspects of Swift KR12 should be inspected by a qualified expert. When ignoring this, it may incur fire or electric shock. Discuss with UCLSWIFT Co., Ltd to use the service.

GENERAL SPECIFICATION

Subject	Description
Fiber Alignment	Ribbon
Applicable Fibers	SM(G.652), MM(G.651), DS(G.653), NZDS(G.655), SM(G.657)
Fiber Count	Single Fiber, 2-12 Ribbon Fiber
Applicable Fiber Dimensions	Single: Cladding diameter 125μm, Coating diameter 250μm & 900μm Ribbon: Cladding diameter 125μm, Fber thickness 0.25 to 0.40mm
Fiber Cleave Length	10mm
Splicing Modes	Splice mode: 300 Heat mode: 100
Average Splice Loss	SM: 0.05dB, MM: 0.02dB, DS: 0.08dB, NZDS: 0.08dB
Return Loss	> 60dB
Splicing Time	Typical 16sec with standard SM(ITU-T G.652)
Storage of Splice Result	The last 10,000 results to be stored in the internal memory. (Image 10,000 results)
Tension Test	2N / 4.4N (Option)
Applicable Protection Sleeve	40mm, 60mm (Fiber), Micro
Splice Loss Estimate	Available
Sleeve Heating Time	1-2 core : 20 sec 4-12 core : 50 sec

Storage Conditions	Temperature: -40°C~80°C, Humidity: 0~95%
Operating Condition	Altitude: 0~3,660m above sea level, Temperature: -10°C~50°C Humidity: 0~95%, Wind: 15m/s, Non-condensing, Dust proof, Water proof, Shock proof
Weight	2.1kg (Including battery)
Dimensions	130(W) x 158(L) x 126(H)mm (Including bumper)
Fiber view and Magnification	20X, Max 60X
Viewing method and Display	Two CMOS cameras and 5.0-inch color LCD monitor with Electrostatic touch screen
Power Supply	100 ~ 240V AC
Battery life with Heat-shrink	125 cycles with 4,700mAh & 160 cycles with 6,000mAh
Electrode Life	More than 1,500 splices
Terminals	USB, External Power (DC 12V available for car cigar jack), DC Output 13.2~16.8V

COMPONENTS

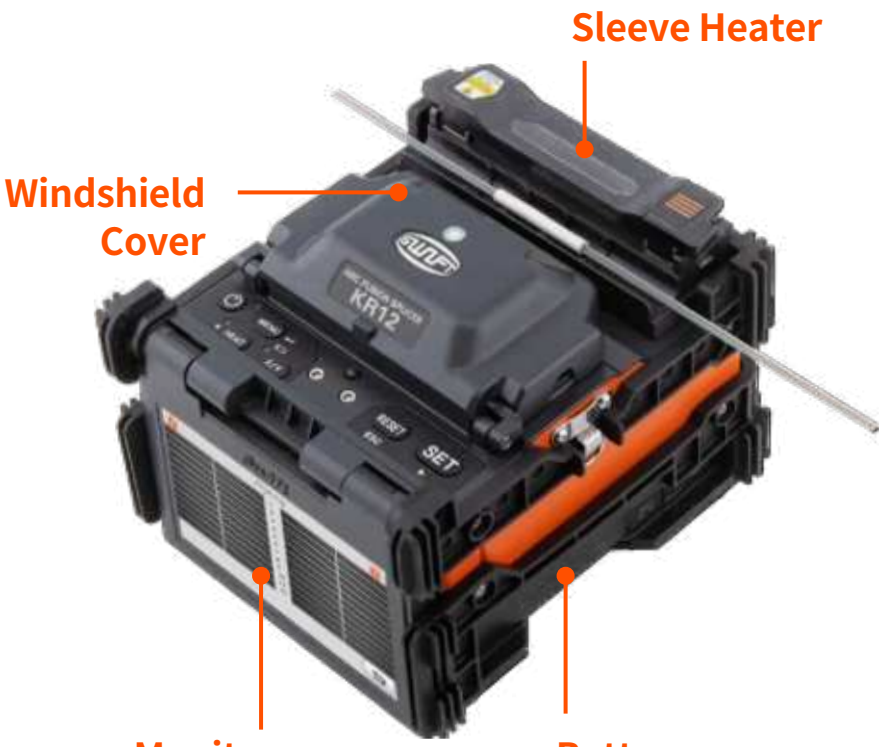
Standard Items

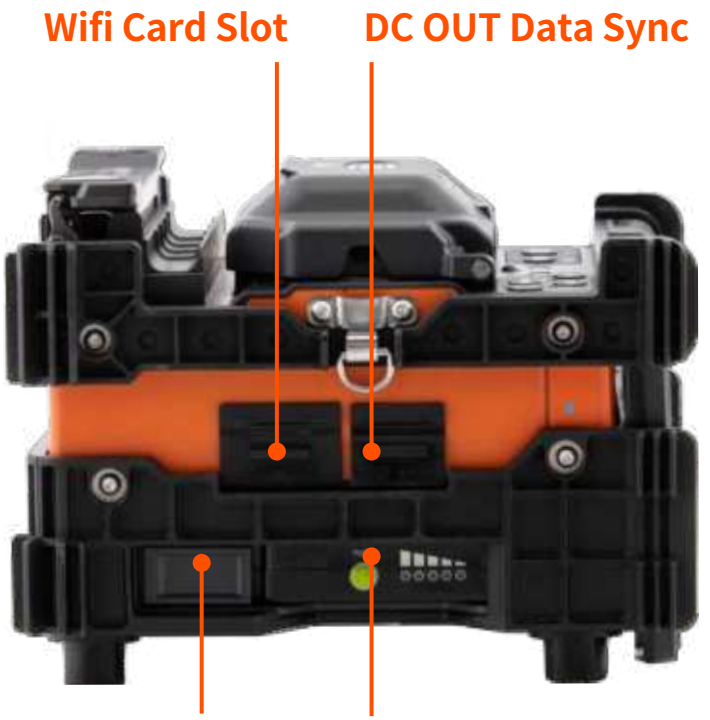
Description	Model No.	Quantity
Arc Fusion Splicer	SWIFT KR12	1
User Guide	Download from UCL Swift Website (uclswift.com)	
Battery	K3347(4,700mAh)	1
Transporting Case	Hard Case	1
Tool box	-	1
AC Adapter	100-240V	1
Sleeve Loader	-	2
Spare Electrode	EI-28	1 pair
Fiber Holder	H7-Series	1 pair
USB Cable	1	-
Cleaver	CI-03RT	1
Manual Stripper	IHS-12 (DC)	1
Alcohol Dispenser	-	1
DC Output Cable	-	1

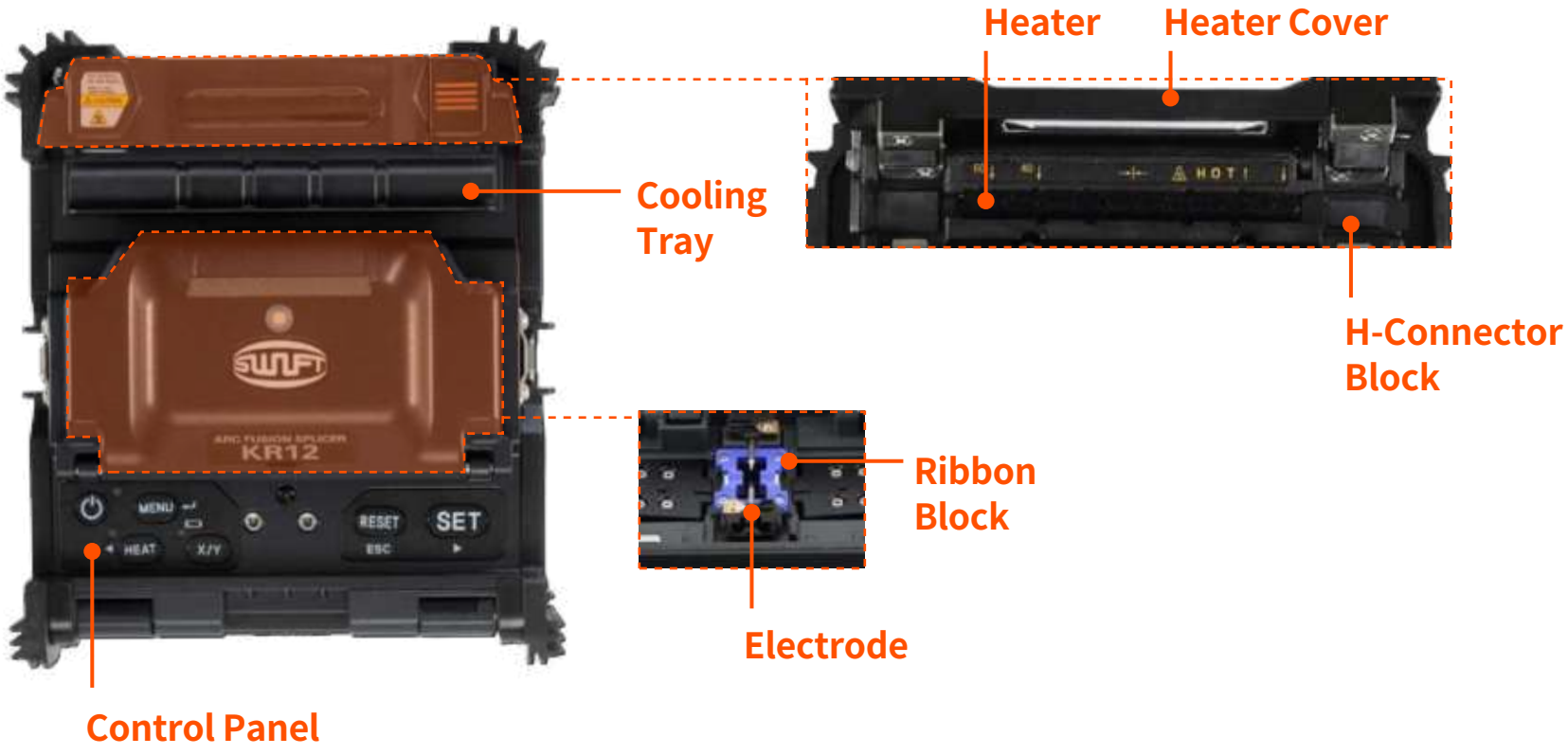
Optional Items

Description	Model No.
Battery	K3360(6000mAh)
Cleaver Blade	BI-07
Electrode	EI-28
External Power	DC 12V available for car cigar jack
Sleeve	R-F40 (40mm)
Sleeve Clamp	-
Optical Fiber Holder	H7-4-10, H7-8-10, H7-12-10, H7-250-10, H7-900-10, H7-2.5-10, H7- IN-10, H7-2-10, H7-6-10, H7-10-10, MPO-10, KR7-12
Ribbonizing Holder Kit	-
Ribbon Separator	-
Wifi Card	-

PART NAME OF SWIFT KR12







To turn the power on/off-press button for about 1.0 second. Press for about 1 second in POWER ON status, the LCD monitor turns off. Turn off the power after 2~3 seconds

HEAT To activate the sleeve heater

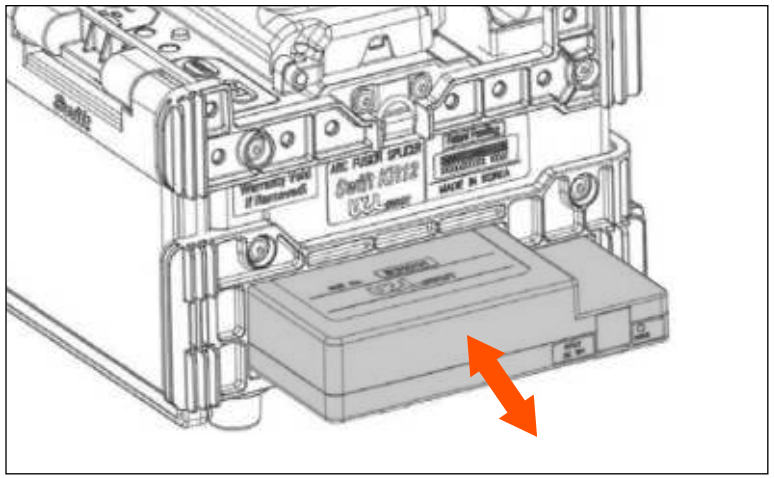
MENU To call the main menu screen

X/Y To X/Y screen change

SET To execute splicing command

RESET To return to the initial screen, To initialize the splicing function

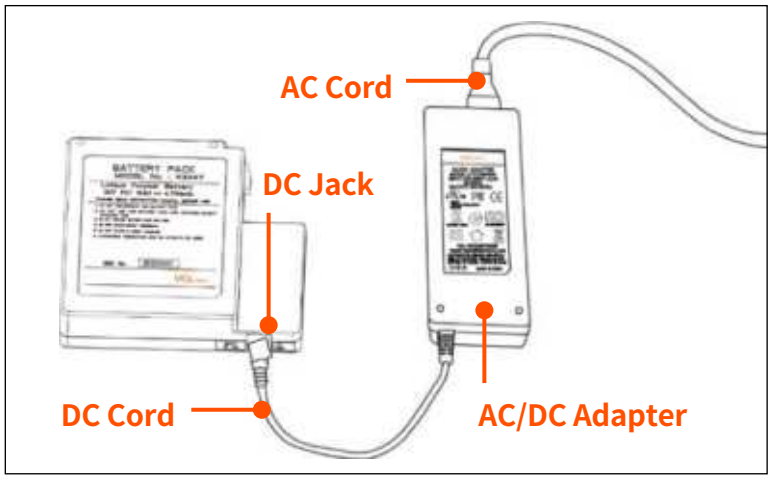
SUPPLYING POWER TO THE SWIFT KR12



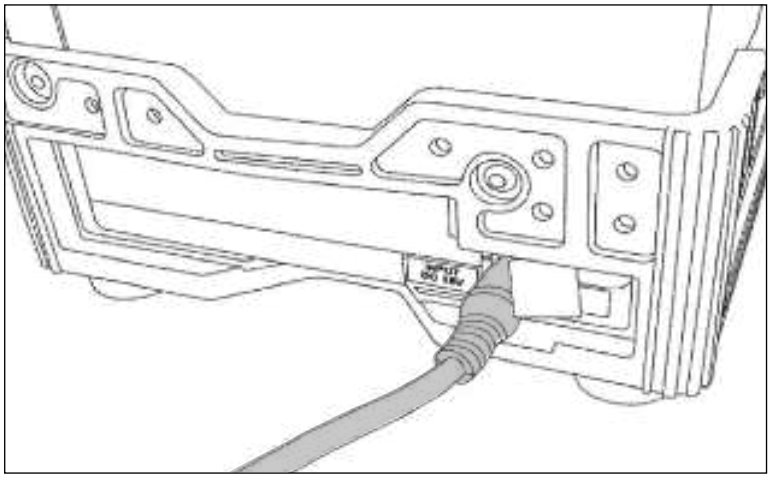
Inserting the Battery
Insert the battery into the battery groove until it clicks.

Detaching the Battery
Please make sure the power is off before removing the battery. Remove the battery by releasing lock lever.

! It is strongly recommended to use the AC adapter (F1-1) and battery provided with package. Using a battery other than provided may cause fumes, fire, and damage to the device, personal injury and death.



Make sure the voltage and frequency and connect the DC cord of the AC/DC adapter to the DC jack of the battery. The LED turns to green when the charging is completed. The battery includes the protection circuit that prevents full discharge and full charge. The supply of power stops once the protection circuit is activated.
In order to deactivate the protection circuit and resume feeding power, wait about 10 seconds and connect again the DC cord to the DC jack.



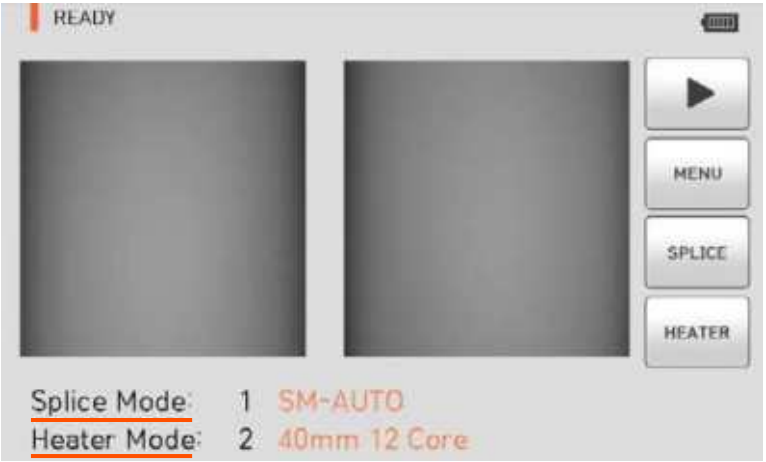
Swift KR12 can be charged during operation because the floating charging method is applied. The battery can be also charged with 12V Cigar jack charger.

HOW TO CHECK REMAINING BATTERY CAPACITY

! It is strongly recommended that the battery must be charged as remaining capacity reaches to 10% (1 bar). If not, there occurs the splice loss.

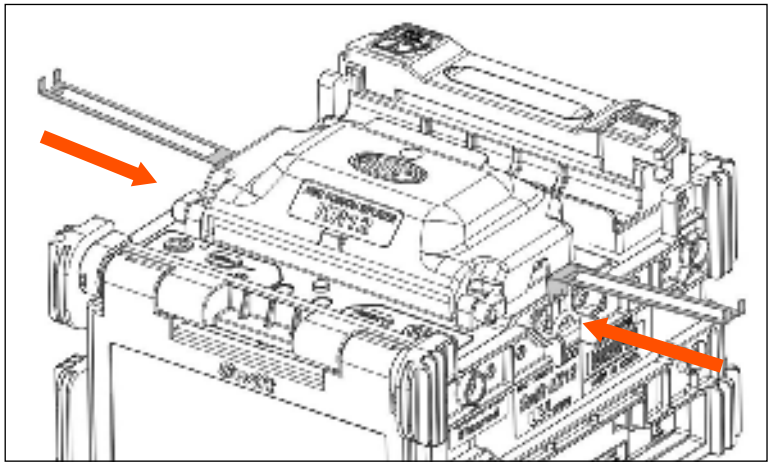
Percentage Remains	Remaining Battery Amount (Monitor)	Remaining Battery Capacity Display (LED)
80 - 100 %	 5 BARS	 5 LED
60 - 80 %	 4 BARS	 4 LED
40 - 60 %	 3 BARS	 3 LED
20 - 40 %	 2 BARS	 2 LED
10 %	 1 BAR	 1 LED
5 or less %	 NO BAR	 Nothing Displayed

TURN ON THE SWIFT KR12



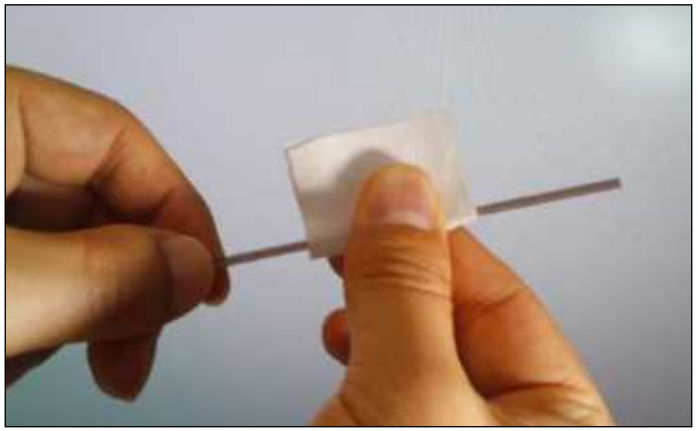
Press and hold for about 1.0 second without opening the windshield cover. The initial screen is displayed as above after resetting all their initial functions. It is important to choose a right splice and heat mode to ensure an accurate splicing result. The current splice, heater and stripper mode are displayed at the bottom of the initial page.

INSTALLING THE SLEEVE LOADER



Get the sleeve loader installed as follows.

CLEANING THE FIBER



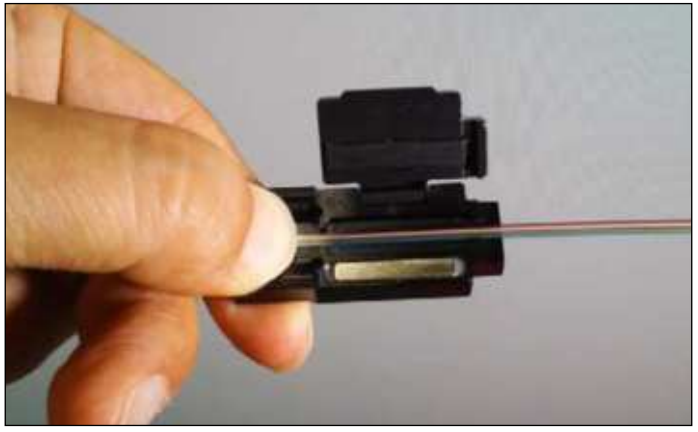
Clean carefully the fiber with a piece of soft cloth or gauze soaked in alcohol. Dust on the fiber coating surface may increase attenuation and cause the fiber break after the heating of sleeve.

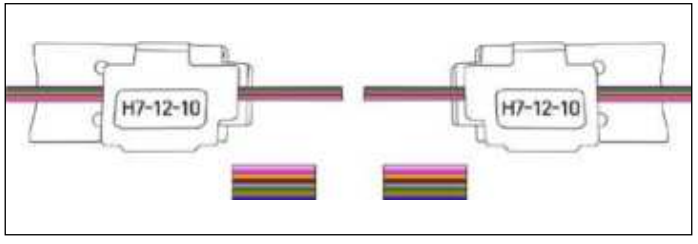
! Use high quality ethyl-alcohol with higher than 96% purity.

INSERTING THE FIBER IN TO THE SLLEVE

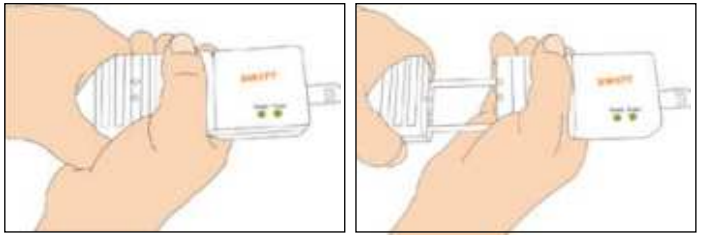
Insert the fiber into the sleeve.

PLACING THE FIBER INTO THE HOLDER AND STRIPPING



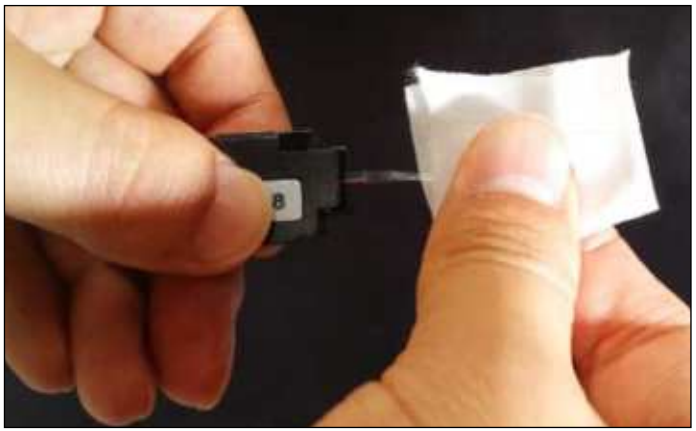


Place the fiber on the fiber holder as shown below.
In the case of ribbon fiber, the color of each fiber should be matched each other left and right.



Strip the fiber using by the manual stripper as shown above.

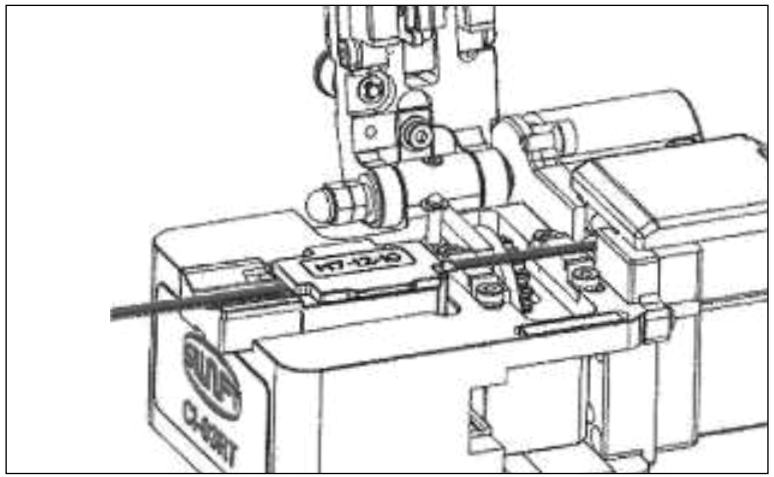
! The tip of the fiber should be removed after [arc calibration]. Otherwise, it may cause serious damage to the stripper blade.



Clean carefully the fiber with a piece of soft cloth or gauze soaked in alcohol.

! Use high quality ethyl-alcohol with higher than 96% purity.

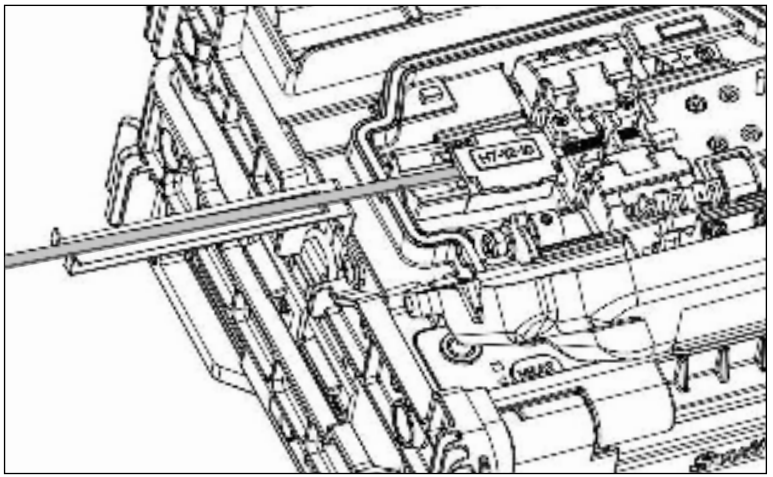
CLEAVING THE FIBER



1 Place the stripped fiber on the V-groove of the cleaver and check the length to cleave the fiber. Separate the each fiber when using the ribbon fiber. If the each fiber is not separated, it can make the problem on the cleaving.
2 Pull down and press the cover to cleave the fiber.
3 Lift the cutting lever and take the optical fiber out.
4 Remove the fiber fragments and dispose it in a proper container.

! Please read user manual of the cleaver for more detailed information about the operation of the cleaver.

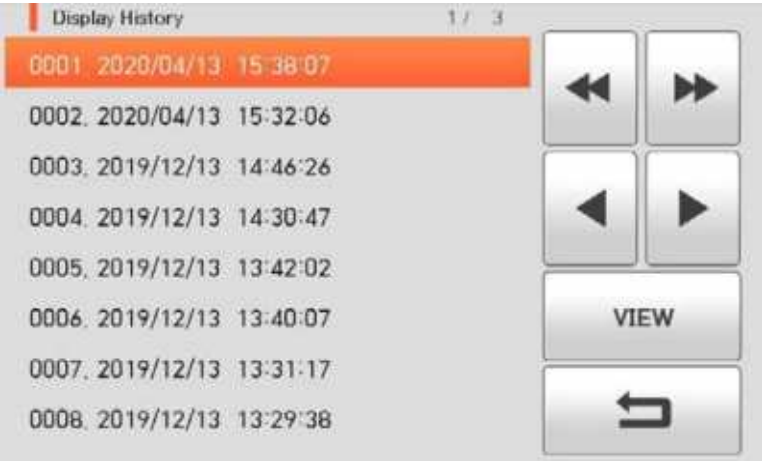
LOAD THE FIBER TO SWIFT KR12



1 Open the windshield cover and optical fiber. Insert the fiber holder on the Swift KR12.
2 Make sure that the tip of the prepared fiber does not contact other object.
3 Place the other fiber in the same way as directed above.
4 Close the windshield cover carefully.

! To reduce align time : place the fiber properly. Place the each fiber on the V-Groove property when using the ribbon fiber.

SPLICE



The condition of the fiber can be observed via the image processing system in the Swift KR12. However, the visual inspection is necessary to ensure better splice result. The splicing process starts as soon as the windshields cover is closed in Auto mode.

1 The fibers loaded in the splicer move toward each other. The movement stops at the positions after the fiber cleaning arc. Then the splicer checks cleaved angle, end-face quality and dust. If the measured cleaved angle is bigger than the preset limit value or any damage of the fiber is discovered, an error message appears on the screen and the splice process stops. Though no error message appears on the screen, visual inspection on cross section is recommended as the process stops.

2 After inspection, the both fibers are aligned clad to clad. The measured values of cleaved angle and off-set can be displayed on the screen.

3 After completion of the fiber alignment, arc discharge is performed to splice the fibers.

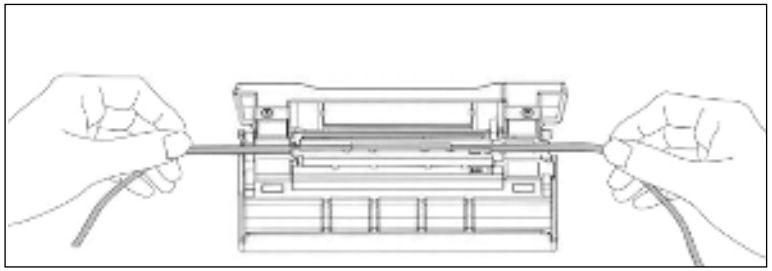
4 The estimated loss value is measured after splicing and displayed on the screen. The estimated loss value is affected by various error related elements. And, these elements also influence the estimation and computation of the value. The computation of the loss value is based on measurement factor. If the estimated loss value is greater than the preset limit, an error message appears on the screen. Also, an alarm can be triggered by the discovery of an abnormal condition of the spliced part including too thick or thin area or bubbles. Even if an error message does not occur, it is recommended to perform the arc fusion process again if the result on the screen does not look good enough.

5 Splice result is saved as follows. When splice completes, splice result is automatically saved.

REMOVING THE SPLICED FIBER

1 Open the sleeve heater cover.
2 Open the windshield cover.
3 Hold the left-fiber holder and open the cover of the right-fiber holder.
4 Open the cover of the left-fiber holder.
5 Hold the both sides of the spliced fiber and remove the fiber from the Swift KR12 carefully not to break.

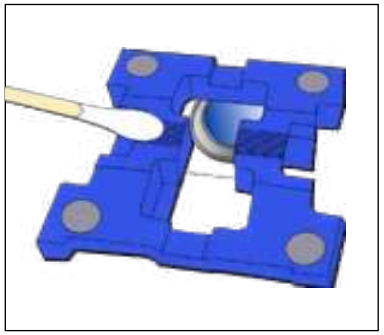
HEATING THE SLLEVE

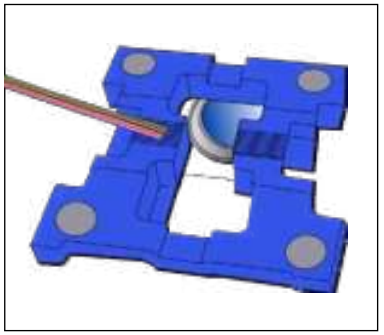


1 Move the center of sleeve to the splice point. Make sure the strength member in the sleeve is downward.
2 Put the sleeve to the center of the sleeve heater.
3 Apply tension to the fiber downward so that the sleeve heater cover is closed automatically.
4 Press HEAT to start sleeve heating.
5 The LED is turned off when sleeve heating is completed.
6 Open the heater cover and remove the fiber. Do not touch the sleeve and heater part immediately after heating.
7 Check to ensure there is no bubble, fragments or dust in the sleeve at all times.

CLEANING AND INSPECTION BEFORE SPLICE

CLEANING V-GROOVE





Any contaminants inside the V-groove will affect the splicing condition of the fiber, resulting in higher splice loss. Hence, it is important to inspect the V-groove often and clean it periodically in accordance with following ways.

1 Open the windshield cover.

2 Clean the bottom of the V-Groove with a cotton swab soaked in alcohol. Remove the remaining alcohol inside the V-groove with a clean and dry cotton swab.

3 If the foreign substances contaminants inside the V-groove are not removed by the cotton swab soaked in alcohol, use the tip of the cleaved optical fiber. And then, repeat step 2 again

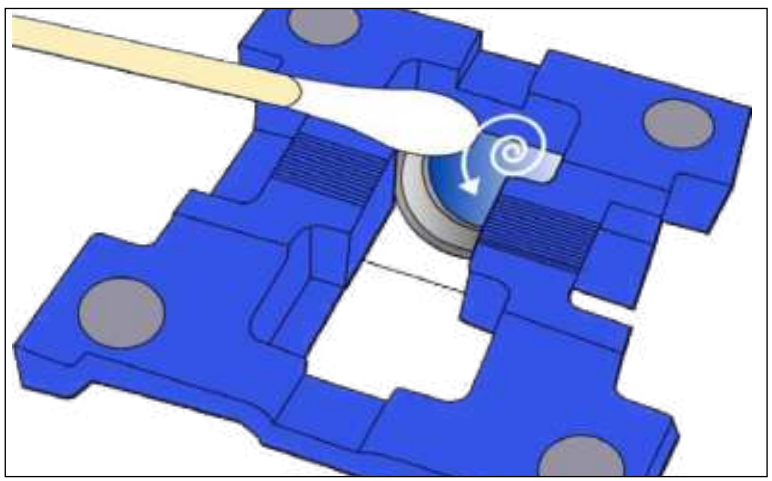
Cleaning the Cleaver

The performance of the fiber cleaver can be deteriorated if the blade or clamp pads of the cleaver are contaminated. In addition, the contamination of the fiber surface or tip can cause higher splice loss. For this reason, it is important to clean both the blade and clamp pads of the cleaver with a cotton swab soaked in alcohol.

REGULAR MAINTENANCE AND CLEANING

It is crucial to perform inspection and cleaning on a regular basis to maintain the splice quality of the Swift KR12.

Object Lens Cleaning



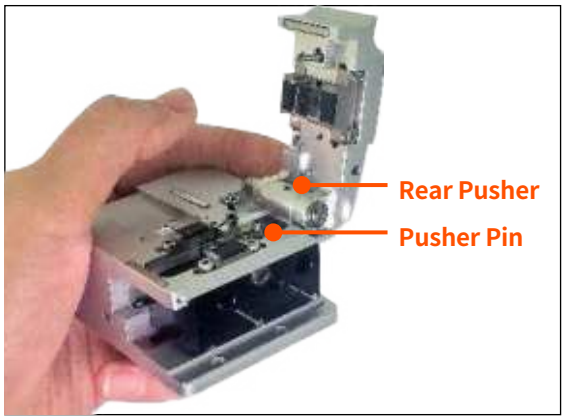
The contamination of the objective lenses surface may cause inaccurate observation of the fiber position, resulting in higher splice loss and poor performance of the Swift KR12. Therefore, the two objective lenses have to be cleaned on a regular basis. Otherwise, the dust sticks on the surface and it may become irremovable eventually.

1. Turn the power off before cleaning the object lens.
2. Remove electrodes
3. The lens in a circular motion from the center with an alcohol-soaked soft cotton swab as below picture. Remove remaining alcohol on the surface of the lenses with dry and clean cotton swab.
4. Check to ensure there is no line, scratch or stain.
5. Re-assemble electrodes correctly.
6. Turn on the power and perform a diagnostic test.

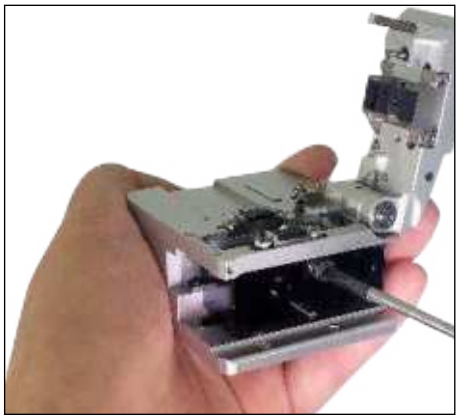
Blade Replacement / Blade Mode (Rotating / Locking) Change

If the cleaver does not properly cleave the fiber, rotate the blade as follow the instructions.
On the blade gear, the channel (cleaving position) from 1 to 24 is marked. When it does not cleave the fiber properly, clean the surface of rubber pad with the alcohol-soaked cotton swab.
But when clean the rubber pad, do not use acetone or solvent. And if cleaver still does not cleave properly, it means the blade is fully used, operators are required to change the cleaving position by the following order.

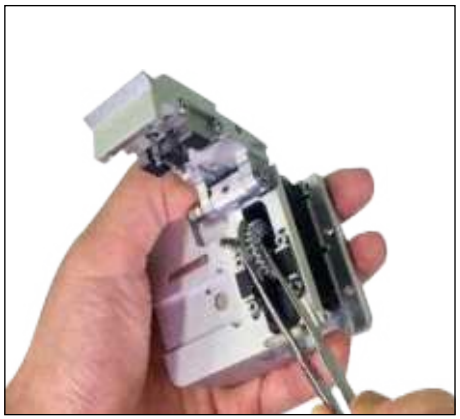
Blade Replacement



1 In order to replace blade, disassemble chip collector assembly and rear pusher. Open the cover as shown picture and press the pusher pin to move slider to forward.



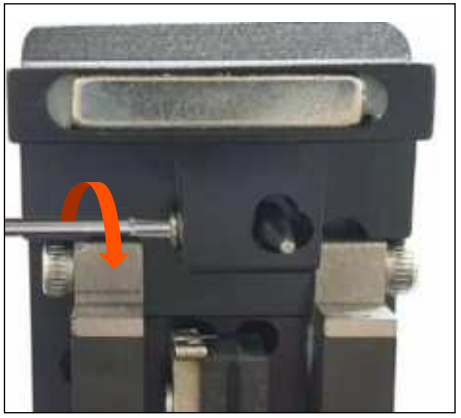
2 Remove blade pin completely using (-) driver.



3 Remove old blade with blade gear from body and replace new blade with blade gear. In here reassembling should be done in a reverse order of disassembling. At this time, especially be careful not to damage the blade. Check the blade operating condition with cleaver cover.

Blade Mode (Rotating / Locking) Change

Blade rotating mode.
Initial setting mode will be set as shown picture.

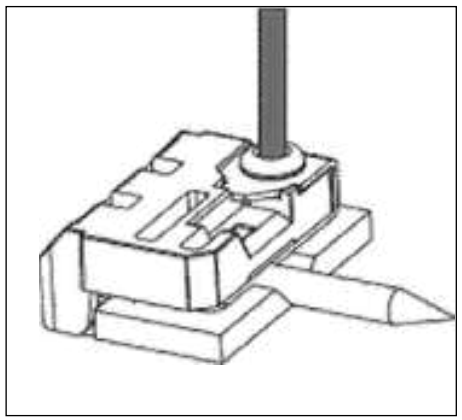


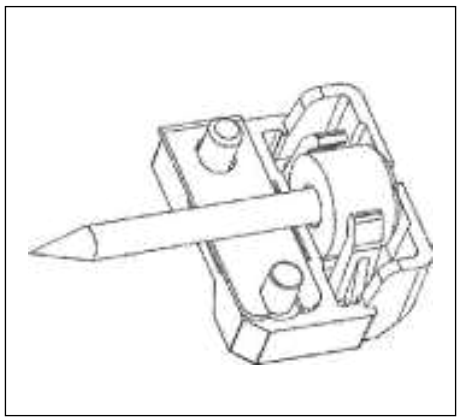
Mode change
Adjust gear pusher position after loosen Set-screw as shown picture.

Blade locking mode.
When the blade is used without rotating.

Electrode Replacement

The recommended replacement cycle of an electrode is 3,000 times. If the real arc count exceeds the replacement cycle, a message for electrodes replacement appears. Without replacing the worn electrode, the splice loss increases and the spliced point becomes weaker.

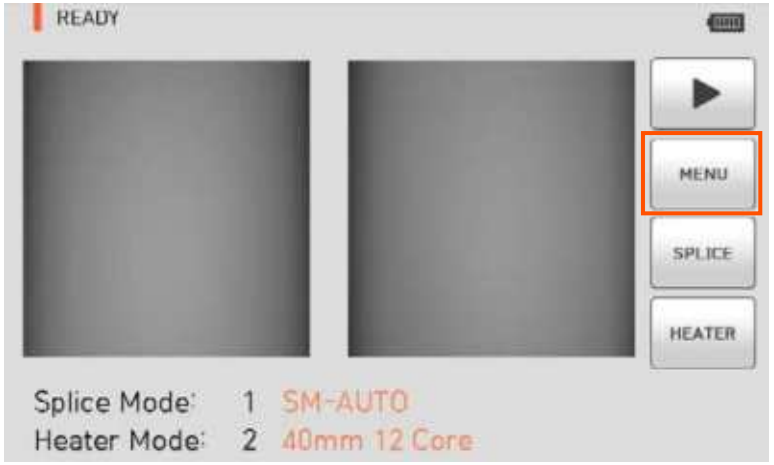




1 Turn off the splicer power.
2 Open the electrode block and unscrew the bolt.
3 Remove the electrode block and take out the used electrode.
4 Carefully clean the new electrodes with a cotton swab soaked in alcohol and install them.
5 Turn on the power. Perform the stabilization of the electrode by running the [Stabilize] menu.

MENU

Ready State



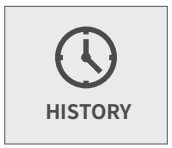
Main menu has 8 submenus. Press **MENU** or touch the MENU icon on the screen to load main menu. The main menu screen is as above. You can select right and left by pressing **HEAT** and **SET** buttons.

READY — Ready State

SPLICE

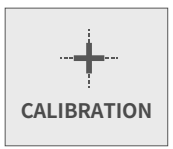
DELETE : delete splice mode.
REPLACE : select a splice mode from data-base, replace it.
ADD :add a new mode from database
EDIT : edit a splice parameters.
SELECT : select a splice mode for operation.
CANCEL : close menu window.

DELETE : delete heater mode.
REPLACE : select a heat mode from database, replace it.
ADD : add a new mode from database.
EDIT : edit a heater parameters.
SELECT : select a heat mode for operation.
CANCEL : close menu window.

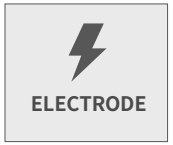


DISPLAY HISTORY :display a splicing data and image.
CLEAR HISTORY : erase the whole data.

DEFAULT : Auto, Pause, Auto Heater
MENU LOCK : Splice Lock, Heat Lock, Clear memory Lock, Password Query.
PASSWORD : change a password.



ARC CALIBRATION : calibrate an arc power.
DIAGNOSTIC TEST : test an state of the Swift KR12.
MOTOR DRIVE : drive a motor manually.



STABILIZE : stabilize an arc discharge current.
REPLACE : display an warning message.
ELECTRODE CAUTION : set a caution message for replacement.
ELECTRODE USED : display an arc count number.

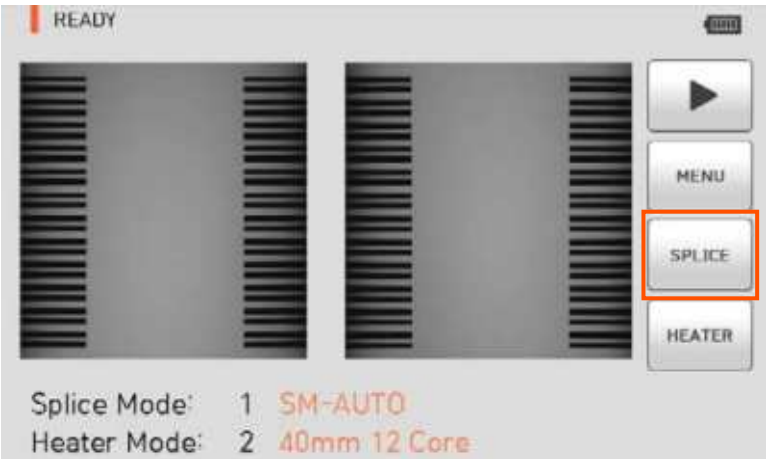
LANGUAGE : : select a language.
DATE : set a current date & time.
POWER SAVE : set a sleep function of the Swift KR12.
VOLUME : change a buzzer volume
LCD BRIGHTNESS : change a monitor brightness.

MAINTENANCE :display a date for maintenance.
SENSOR : display a temperature, pressure and humidity.
VERSION : display the version.
HELP : display the help contents as below.
· Name of each part · Cleaning and Inspection
· Warnings · A/S Contact List

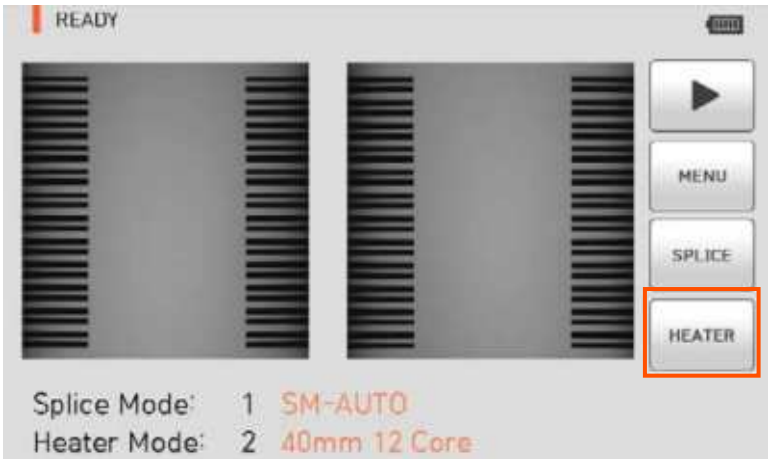
POP-UP MENU

The pop-up menu is new feature of the Swift K33A. The purpose of the pop-up menu is to allow quick access to frequently used modes like splice mode and heat mode. The user can access the pop-up menu in various ways.

How to call a Pop-Up Menu



Splice Pop-Up Menu
Splice popup menu can import the current splice mode by pressing SPLICE icon on screen of Ready state.



Heater Pop-Up Menu
Heater popup menu can import the current heater mode by pressing HEATER icon on screen of Ready state.

Splice Pop-Up Menu

Adding Splice Menu

1 Import splice popup menu by pressing SPLICE icon on screen of Ready state.

2 Select an empty slot.

3 Select a splice mode to be put in the empty slot.

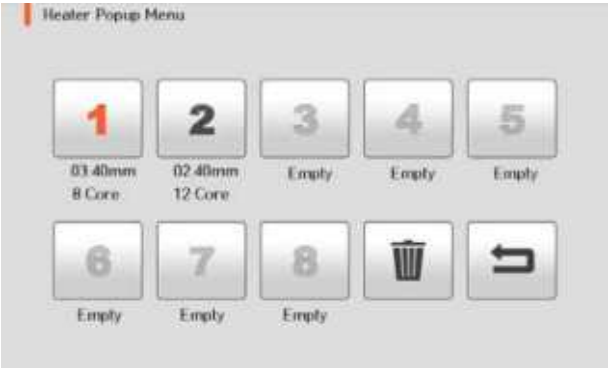
4 Press SELECT icon.

Deleting Splice Mode

1 Click icon.

2 Select a mode to be deleted.

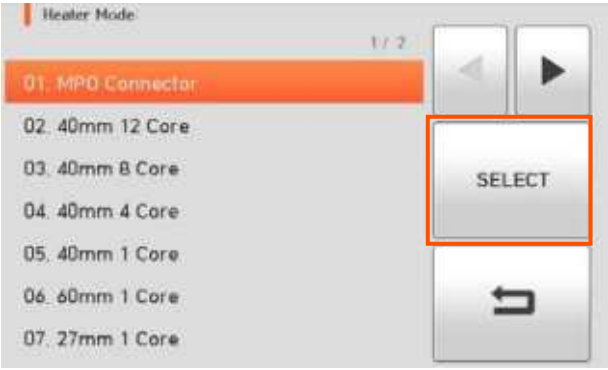
Heater Pop-Up Menu



Adding Heater Menu

1 Import heater popup menu by pressing HEATER icon on screen of Ready state.

2 Select an empty slot by pressing touching the touch screen.



3 Select a heater mode to be put in the empty slot.

4 Press SELECT icon.

Deleting Heater Mode

1 Delete a heater mode by touching icon.

2 Select a mode to be deleted.

SPLICE

To import splice mode, press and select SPLICE icon by touch. It displays a screen to select splice mode as above. The selecting screen is equipped with various splice modes to facilitate a user's easy selection and use of splice mode. In addition, splice mode can be expanded and saved up to 300 units. These splice modes are classified into general mode and user mode.

General splice mode : No. 1 ~ 42
User splice mode : No. 43 ~ 100

! The splice mode from No.1 to No.42 can't be added, replaced or deleted.

Outline of Splice Mode

Splice Mode	Description
AUTO	The Swift KR12A identifies the number of fibers automatically. Users are not allowed adjusting arc discharge amount. AUTO mode consists of SM AUTO, MM AUTO, NZ AUTO, DS AUTO, G657 AUTO.
SM-1 ~ SM-12	For splicing basic single mode fibers. MFD is 9~10um at the wavelength of 1310nm.
NZ-1 ~ NZ-12	For splicing NZDS fibers. MFD is 9~10um at the wavelength of 1550nm. WDM fibers can be spliced in this mode as well.
DS-1 ~ DS-12	For splicing DS fibers. MFD is 7~9um at near 1550nm.
MM-1 ~ MM-12	Other splice modes are saved on database of Swift K33A. New splice modes are currently being updated. Therefore, we recommend that users keep upgrading the equipment regularly by contacting UCLSWIFT.
G657-1 ~ G657-12	For splicing G.657A1 fibers G.657A1 is improved bending loss than basic SMF(G.652D) MFD is 9~10um at near 1550nm.
Other	Other splice modes are saved in the Swift KR12A database. New splice modes will be continuously added to the database. Please contact UCLSWIFT Co., Ltd for the latest available splice modes.

New

1 Click NEW, then the splice modes stored in memory is displayed on the screen.

2 Select the splice mode, click SELECT. The selected splice mode is added the last blank mode.

3 The selected splice mode is added the last blank mode.

! The splice mode from No.1 to No.42 can’t be added.

Replace

1 Click REPLACE , then the splice modes stored in memory is displayed on the screen.

2 Select the splice mode to be replace, click SELECT.

3 The selected splice mode is added the last blank mode.

! The splice mode from No.1 to No.42 can't be replaced.

Deleted

1 Firstly select the splice mode.
2 Click DEL, the selected splice mode is deleted.

Edit

1 Click EDIT, then the splice parameters is displayed on the screen.
2 Select parameters, Click EDIT, adjust it for proper operation.
3 Click ✓.

! The splice mode from No.1 to No.42 can't be deleted.

Editable Parameters In Mode

Set Value	Description	General Mode	User Mode
Fiber Type	The splice modes saved in the database are displayed. The mode selected by the user is copied to the splice mode in the user side program.	Non Editable	Editable
Mode Title 1	The title can be composed of 1 to 11 characters.	Non Editable	Editable
Mode Title 2	It consists of up to 11 characters and is used to provide more detailed information. It can be found in the [Splice Mode] menu.	Non Editable	Editable
Align	· It is used to set the fiber arrangement methods. · “Auto”: Fibers are aligned to the center position automatically. · “Manual”: Fibers are aligned directly with motor control.	Non Editable	Editable
Offset Limit (Align)	It sets the offset range of each fiber when aligning the fibers.	Non Editable	Editable

Cleave Limit	It sets the tolerance range of cleave angle. An error message appears when a measured right, left or both angles exceed the range.	Non Editable	Editable
Gap Difference Limit	· It estimates the gaps of the corresponding fibers. · An error message appears when the deviation of the gap is greater than the maximum range.	Non Editable	Editable
Loss Limit	· It sets the error range of estimated loss. · An error message appears when the estimated loss is greater than the maximum range.	Non Editable	
Proof Test	If [Proof Test] is set to “ON”, a test is carried out during the opening the windshield after splicing or pressing RESET.	Non Editable	Editable
Cleaning Power	A short period of arc discharge is performed to remove the fine dust on the fiber surface as setting the distance between the cross sections of the fibers.	Non Editable	Editable
Cleaning Time	The duration of arc discharge is set.	Non Editable	Editable

Gap	It sets the distance between the left fiber and right fiber.	Non Editable	Editable
Gap set Pos.	It sets the position of the fibers to the center of arc discharge.	Non Editable	Editable
Prefuse Power	It is set by the prefuse power from the beginning of arc to the moment before the fibers start moving forward. At this moment, if the initial value is too low, the axis' offset can occur due to bad cross section angle of the fiber. On the other hand, if the initial value is too high, the fiber can be burned out or shaped round, resulting in aggravating the splice loss.	Non Editable	Editable
Prefuse Time	It is set by the prefuse time beginning of arc to the moment before the fibers start moving forward. The meaning of [long Prefuse time] indicates greater [Prefuse power].	Non Editable	Editable
Overlap	It sets the duplication amount of the fiber from the forward amount. If [prefuse power] is weak or [prefuse time] is not long enough, the [overlap] needs to be smaller. On the other hand, it should be set to bigger if the arc is strong or the time is longer.	Non Editable	Editable

Arc1 Power	The arc can be adjusted by two steps. The first step is [arc1] and second is [arc2]. [arc1] is set here.	Non Editable	Editable
Arc1 Time	t sets the time of [arc1].	Non Editable	Editable
Arc2 Power	It is the second step of arc. [arc2] is set here.	Non Editable	Editable
Arc2 Time	It sets the time of [arc2]. In general, [arc2 time] is set to “OFF”. It is possible to set a very long arc time; however, if the [arc1 time] and [arc2 time] is longer than 30 seconds, the electrode can be damaged.	Non Editable	Editable
Arc2 On-Time	It sets arc to ON and OFF alternatively while the [arc2] is performing arc discharge. The duration of [arc2] operating time is set here. Arc discharge time ON has to be set always in order to conduct re-arc.	Non Editable	Editable
Arc2 Off-Time	· It sets the re-arc time. · It automatically sets the re-arc to discharge the same amount as [Arc 2] in [Splice Mode Edit]. If arc 2 is set to ON and OFF, the re-arc is automati cally set to ON and OFF as well.	Editable	Editable

Re-Arc Time	· It sets the re-arc time. · It automatically sets the re-arc to discharge the same amount as [Arc 2] in[Splice Mode Edit]. If arc 2 is set to ON and OFF, the re-arc is automatically set to ON and OFF as well.	Editable	Editable
Taper Splice	The splice loss rate increases sometimes when the fiber becomes thinner. The taper splice is set to “OFF”. The attraction is decided by following three parameters.	Non Editable	Editable
Taper Wait	It sets the time between the last moment of fiber’s moving forward and the initiation of attraction.	Non Editable	Editable
Taper speed	It sets the speed of the fiber attraction.	Non Editable	Editable
Taper Length	It sets the time of attraction.	Non Editable	Editable
Offset	It refers to the sum of the initially measured splice loss value and increased loss value. When splicing special types of the fiber or different kinds of the fiber, a higher splice loss can occur even under an optimized arc discharge condition. The minimum value of the actual splice loss has to be set in order to accord the actual splice loss value with estimated splice loss value.	Non Editable	Editable

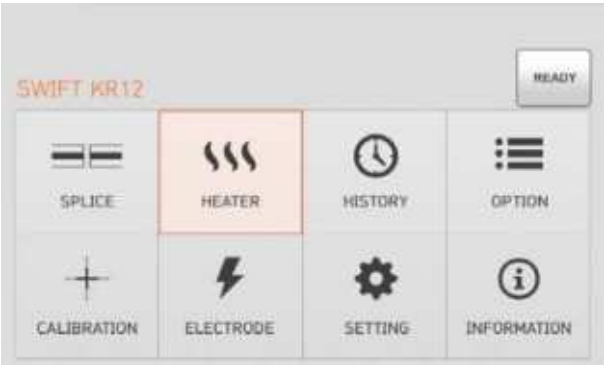
Select

Click SELECT, then the selected splice mode is stored in the memory for operation.

Cancel

Touch CANCEL icon or press RESET and it goes back to the previous stage

SLEEVE HEATER



In normal operation mode, to call the heater menu, press MENU. Then you can see the heater menu as above.

There're already various heater mode and the user can select for proper operation.
Also the heater mode will be stored up to 100.

! Please note that the user can't use the Del and Replace keys and use Edit key partially from mode No 1 to No 8.

Choose the right mode for each sleeve tube type and SOC. Otherwise sleeve tubes do NOT shrink properly.

! For the SOC, operators must use UCLSWIFT standard products. Other company's sleeve tubes may not shrink properly

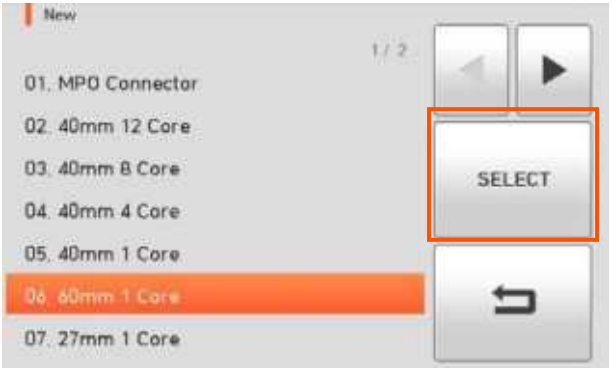
! Each heater mode heats up at different section of the heater.

Summary of Heater Mode

Set Value	Description	Others
R-F40	2 core~12core 40mm Ribbon fiber Sleeve	Non editable for SleeveType, Mode title1,2
60mm IS-60	Standard 60mm Sleeve for 0.9mm fiber	
40mm	Standard 40mm Sleeve for 0.9mm fiber	
Micro	Micro Sleeve for 0.25mm fiber	

New

1 Click NEW , then heater modes stored in memory is displayed on the screen.



2 Select the heater mode, click SELECT . The selected splice mode is added the last blank mode.

3 The selected heater mode is added the last blank mode.

! The mode from No 1 to 8 can’t be added.

Replace

1 Click REPLACE, then heater modes stored in memory are displayed on the screen.

2 Select a heater mode, click SELECT.

3 The selected heater mode replaces the last blank mode.

! The mode from No 1 to 8 can’ t be replaced.

Deleted

1 Firstly select a heater mode.
2 Click DEL, the selected heater mode is deleted.

! The mode from No 1 to 8 can't be deleted

Edit

1 Click EDIT, then heater conditions stored in memory are displayed on the screen.
2 Select parameters, Click EDIT, adjust it for proper operation.
3 Click ✓.

Select

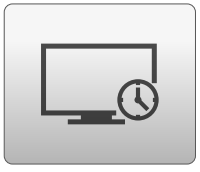
Click SELECT , then the selected heater mode is stored in the memory for operation.

Cancel

Touch CANCEL icon to go to the previous menu.

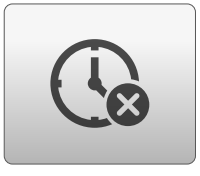
HISTORY

In normal operation mode, to call the history menu, press . Then you can see the history menu as above. There're already various functions to display data and image also copy such data to USB memory.



DISPLAY HISTORY

The 10,000 both splice loss data and image can be stored and the user can see them.
Each page has 500 loss data and splice image,
click ◀ ▶ to move the page.
After choosing a data with scroll bar, click VIEW to see.



CLEAR HISTORY

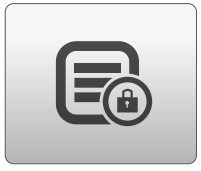
Clear memory erases the whole data.

OPTION

In normal operation mode, to call the option menu, press MENU .Then you can see the option menu as above. There're already various functions and whatever the user can select for proper operation.

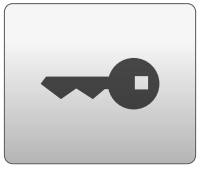
DEFAULT
Default is composed of 5 sub check boxes.
To activate a Default menu, check a check box.

Parameters	Description
Auto Splice	Do splice process automatically.
Pause 1	Stop the process after the preset position, press SET for next.
Auto Heat	Power on sleeve heater automatically after splicing process.
Night Work Light	Lighting for Fiber Preparation



MENU LOCK
Default is composed of 4 sub check boxes.
To activate a Default menu, check a check box.
Also it is possible to limit the modifications with respect to the total splice mode, heat mode, and internal memory data by setting up a password.
You have to remember the password. If you forget the password, the device has to be brought to the UCLSWIFT Co., Ltd to fix it.

Parameters	Description
Splice Lock	Lock the modification of the splice mode.
Heat Lock	Lock the modification of the heat mode.
Clear Memory Lock	Lock the modification of the memory.
Password Query	To call a password window. The initial password is “1234”



PASSWORD
Set up a new password as follow.

1 Enter a current password.
The initial password is “1234”
2 Enter a new password. The new password can be entered within 4 - 12 digits.
3 Confirm a new password.

! If an incorrect password is entered or you press a wrong button, the screen moves to upper level.

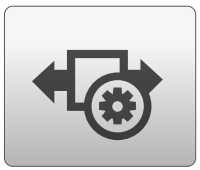
! You have to remember the password.
If you forget the password, the device has to be brought to UCLSWIFT Co., Ltd to fix it

CALIBRATION

In normal operation mode, to call the calibration menu, press MENU .
Then you can see the calibration menu as above. There're already various functions to arc test, diagnostic test and motor drive test.

DIAGNOSTIC TEST
Self test is a function to facilitate dust test, LED test and motor test and calibration at a time.

Test Item	Description
Dual Test	Refer on Dust Test, without fiber.
LED Test	Refer on LED Check, without fiber.



MOTOR DRIVE

It checks the operating status of the motor manually.

1 Place the fiber in the splice.

2 Click “Motor Drive”.

3 To select a motor. The name of the selected motor is displayed at the top left on the screen.

4 Use ◀ ▶ to move the selected motor to a desired direction.

Motor	◀	▶
ZL/ZR	ZL/ZR Move forward	ZL/ZR Move backward
S	Move step by step press a button.	
M	Move while pressing a button.	

ARC CALIBRATION

The arc calibration is the variation of temperature, humidity and air pressure has been detected by internal sensors continuously. Based on such a variation, supply a feedback data into the monitoring system to adjust an arc power a constant level. Additionally the changes in arc power due to the abrasion of the electrode and glass adhesion are not automatically calibrated. Also, the center axis of arc discharge may be moved to left or right. Thus the fiber splicing position is not matched to arc discharge center. For this reason, Arc calibration is required.

Arc calibration is a function to change the value of arc discharge voltage. It is used for the computation program for splicing. In addition, the calibration value of arc discharge cannot be changed in the splice mode. For the purpose of Arc calibration, 12 core or 8 core single mode fibers are used.

1 Place the SM fiber to splicer.

2 Click ✓.

3 Result similar to the picture above is displayed on the screen when measuring is completed.

4 The calibration can be stopped by pressing **RESET** even if it has not completed.

! The tip of the fiber should be removed after [arc calibration]. Otherwise, it may cause serious damage to the stripper blade.

ELECTRODE

In normal operation mode, to call the Electrode menu, press MENU. Then you can see the Electrode menu as above. It is necessary to regularly check and clean the electrodes because they are worn out. The silica oxidized substances is deposited as the electrodes go through numerous times of splices. There're already various functions to arc count, replace time and other.

STABILIZE

Sometimes, surrounding environment may cause the occurrence of irregular arc discharge or splice loss increase. In particular, since it takes a while until discharge is stabilized when the splicer is in lower or higher location, you have to keep adjusting the discharge until the electrodes are stabilized. Especially after installing new set of electrodes, he user must do Electrode Stabilize as follows.

1 Place the fiber in the arc fusion splicer.
2 Click "Stabilize"
3 Click ✓.
4 Perform 30 cycle continuous arc discharge to stabilize the electrodes.

5 Result similar to the picture above is displayed on the screen when measuring is completed.
6 After completing the Electrode Stabilize, ARC Calibration should be performed separately.

REPLACE
The recommended replacement cycle of an electrode is 3,000 times use.
When the set cycle completes, a message to replacethe electrode appears.

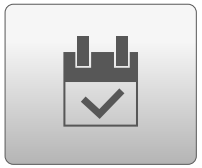
ELECTRODE USED
It displays the used arc count.

ELECTRODE CAUTION
It determines the arc count for alert message.
The recommended replacement cycle of an electrode is 3,000 times use.

SETTING

In normal operation mode, to call the setting menu, press **MENU**. Then you can see the Setting menu as above.

LANGUAGE
It sets a language to be displayed on the screen.



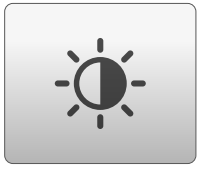
DATE
It sets the date and time in the calendar.

POWER SAVE
It is an important function in terms of energy efficiency. When the Swift KR12A operates with a battery, we recommend activate this function to increase your working time.

- **MONITOR**
  The LCD will be automatically turned off, if you don't operate the Swift KR12A for a setting time. The monitor is turned on again when you press any button.

- **SPLICER**
  The Swift KR12A will be automatically turned off, if you don't operate it for a time set. The Swift KR12 is turned on again only when you press ⏻.

VOLUME
To adjust the buzzer volume.



LCD BRIGHTNESS
To adjust a monitor brightness.

INFORMATION

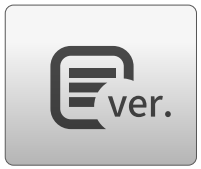
In normal operation mode, to call the Electrode menu, press MENU. Then you can see the Electrode menu as above. It is necessary to regularly check and clean the electrodes because they are worn out. The silica oxidized substances is deposited as the electrodes go through numerous times of splices. There're already various functions to arc count, replace time and other.

MAINTENANCE

Click "Maintenance", following information is displayed.

Item	Description
Produce Date	The date when equipment was manufactured. (year, month and date).
Electric Number	Arc discharge count since the replacement of the electrode.
Total Electric Number	Total arc discharge count since its first operation.
Last Maintenance	The date when the device was maintained most recently.
Next Maintenance	The date when the device will be maintained next time.
Serial Number	The unique serial number given to the device.

SENSOR
The splicer consists of various sensors including temperature, pressure and humidity.



VERSION
The version can be easily upgraded by connecting to PC and using Data Syn program (PC Program).

HELP
Click “HELP”, following help is displayed.

- **THE NAMES OF PARTS**
  The main part of the Swift KR12.

- **CLEAN AND INSPECT**
  How to clean and inspect.

- **WARNINGS**
  Warnings.

- **A/S CONTACT LIST**
  Service contact point.

ERROR MESSAGE

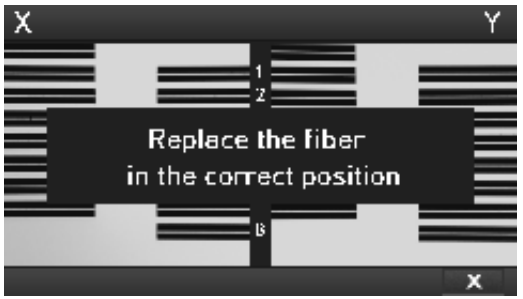
Too Dirty Fiber

It is displayed when the fiber prepared for splice is contaminated more than normal status.

HOW TO

· Reset the fiber after cleaning.

Replace The Fiber In The Correct Position



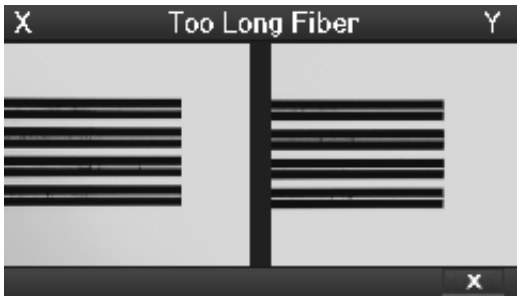
It is displayed when the fiber is not placed in the middle of the electrodes and V☒groove or the objective lenses or reflection mirror is contaminated.

HOW TO

· Press RESET and place the fiber in the middle of the electrodes and V☒groove.

· Check the condition of the lenses and reflectionmirror and remove any dirt.

Too Long Fiber



It is displayed when the fiber is placed too close to the electrode, the lenses or reflection mirror is dirty or LED light is not bright enough.

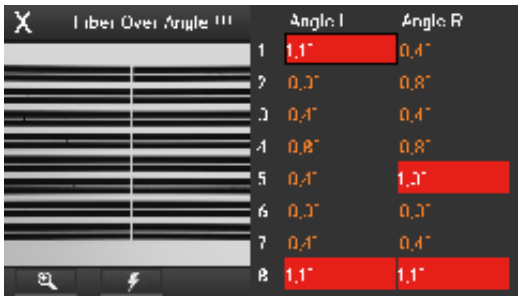
HOW TO

· Press RESET and place the fiber again.

· Remove dust and dirt from the lenses and reflection mirror.

· Conduct an LED test. If an error occurs, contact UCLSWIFT Co., Ltd

Fiber Over Angle

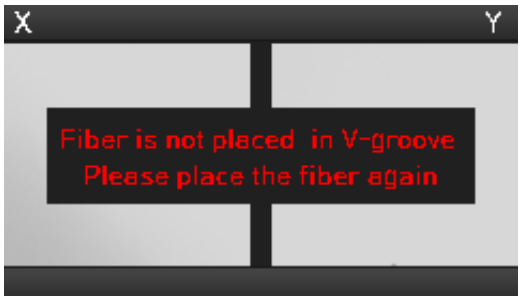


It is displayed when the measured cleaving angle of the fiber is greater than the limit.

HOW TO

- Reset the fiber after checking the condition of the cleaver.
- Check the value of the cleaving angle.

Fiber Is Not Placed In V-Groove. Please Place The Fiber Again.

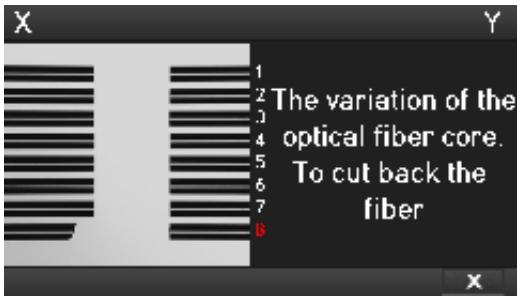


It is displayed when the fiber is not placed on the V-Groove.

HOW TO

- Place the fiber again.

The Variation Of The Optical Fiber Core. To Cut Back The Fiber.



It is displayed when the measured variation of the fiber length is greater than the limit.

HOW TO

- Reset the fiber after checking the condition of the cleaver.
- Check the value of the variation.

Mismatch Fiber Number

It is displayed when the number of fibers is not consistent with opposite side.

HOW TO

- Check all the fibers are placed on the V-Groove.
- Make sure broken fibers.
- Check the splice mode is being used properly.

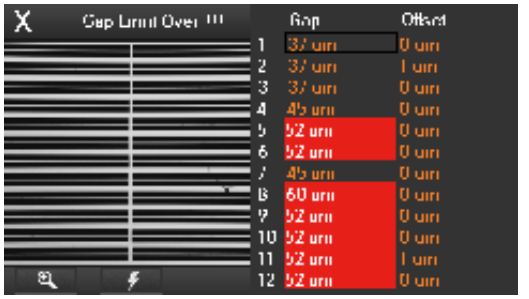
Core Bubble Error

It is displayed when bubbles or dots exist in the spliced part after completing the splice.

HOW TO

- Check the condition of the cleaver.
- Clean the V-groove.
- Check the condition of the electrode.

Gap Limit Over



It is displayed when the measured gap of the fiber is greater than the limit.

HOW TO

- Reset the fiber after checking the condition of the cleaver.

WHEN THE SPLICE LOSS IS TOO HIGH

It may have been caused by dirt or dust on the surface of fibers.

HOW TO

- Carefully clean the surface of the fibers.
- DO NOT clean the optical fiber after cutting to prevent dust rom being gathered on optical fiber's cross section.
- DO NOT push in the optical fiber when putting is on V-Groove. Optical fiber should be placed from top to bottom V-Groove.

The arrangement of the fibers can be interrupted by the dirtin the V☒groove.

HOW TO

- Keep the V-groove clean at all times.

Bad electrodes

HOW TO

- Replace the electrodes.
  The tips are bent or contaminated if they are worn out.

Improper arc discharge or arc discharge time.

HOW TO

- Check the set values of arc discharge amount and arc discharge time and reset them, if necessary.
- The machine is delivered after being set to the most optimized values from the factory.

Inappropriate splice mode

HOW TO

- Check if the proper splice mode for the fiber has been selected.

ABNORMAL OPERATION OF ARC FUSION SPLICER

The alignment motion is repeated.

HOW TO

- Open and close the windshield cover again
- Rest the system by pressing RESET when an error occurs by opening the windshield cover. Turn off the power and contact UCLSWIFT Co., Ltd.

The error message of “Too Long Fiber” appears repeatedly.

HOW TO

- Reset and turn off the power. Contact UCLSWIFT Co., Ltd.

POWER

Unable to turn off the power by pressing .

HOW TO

・Press the switch and hold it for about 1 second and release the button when the monitor is turned off.

Unable to splice as number of times as the splicer normally does with the battery that has been fully charged.

HOW TO

・If the power saving mode is not activated, the battery runs out quickly. Please refer to [Setting Menu] for more information. If the battery has not been used for a while, charge it again until it is charged fully.

・ Use a new battery if the current battery was used for a long period of times and its suggested lifetime is passed. Since the battery works based on chemical reactions, power generated decreases at a low temperature and, in particular, it runs out very quickly when the temperature is below zero. Also, the battery runs out fast when it is used at a high temperature because the power consumption increases. If you cannot charge the battery fully, do as instructed below.

LED is not turned on while charging the battery.

HOW TO

・Disconnect the AC power cord from the charger and connect the DC cord to the charging jack. Connect the AC power cord in 10 to 15 seconds. The LED of the battery is turned on red and charging begins

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Remaining battery is not indicated.

HOW TO

・Charge the battery.

When the battery indicator provides wrong information.

HOW TO

・Use the indicator information only for your information.

SPLICE

When an error message appears on the screen.

HOW TO

・Refer to the [Error message list] for detailed information.

Irregular or higher splice loss.

HOW TO

・Clean V-Groove, V-Block, reflector and object lens by referring to [Maintenance of splice quality]. Replace electrode by referring to [Electrode replacement]. Refer to the “High estimated loss” from [Error message list].

・ If optical fiber warps or is bent, place the optical fiber’s bent direction to face the bottom. Splice loss varies depending on cutting angle, discharge condition and cleanliness level of optical fiber. Splice loss is still high or irregular even after implementin the above recovery measures, contact to UCLSWIFT. Annual maintenance is required to keep splice quality.

Monitor is turned off suddenly.

HOW TO

・Press any key and check [Monitor Power Save].

The power of the splicer is turned off suddenly.

HOW TO

・Turn on the splicer again and check [Splicer Power Save].

Unable to change arc discharge amount and time.

HOW TO

・You cannot change arc amount and time in SM, NZ, MM or Auto mode. A proper arc discharge amount can be maintained in these modes by performing [Arc Calibration]. The Arc amount and time will set automatically to prevent from being changed in other mode.

How to set pause.

HOW TO

・Refer to [Option Menu].

Difference between estimated splice loss and measured splice loss.

HOW TO

・The estimated splice loss is just a result from computation so it has to be used for reference only.

SLEEVE HEATER

The sleeve heater does not give sufficient shrinkage.

HOW TO

・Increase the duration of heating time.
Refer to [Heat Menu] for more information.

The sleeve heater is overheated.

HOW TO

・Stop the operation of the heater by pressing HEAT.
Turn off the power and contact UCLSWIFT Co., Ltd.
・When the sleeve is not separated from the heating plate, use a cotton swab or a similar object to this to push or remove the sleeve.

How to initialize the heating condition in the heat mode?

HOW TO

・Refer to [Heat Menu] for more information.

How to cancel the heating process?

HOW TO

・You cannot cancel the heating process by pressing RESET.
Press HEAT one more time to cancel it

THE OTHERS

How to lock “Splice”, “Edit” or heat mode?

HOW TO

・Refer to [Lock Menu] for more.

Arc amount is not changed after performing [Arc Calibration].

HOW TO

・The internal standard discharge amount is calibrated.
Therefore discharge amount of each splice mod
does not change.

If you forget the password.

HOW TO

・Contact UCLSWIFT Co., Ltd.

WARRANTY

Limited Liability
UCLSWIFT warrants its products against defects in material and workmanship. Under normal use and service, every hardware portion of the products will be free from physical defects in material and workmanship during the warranty period, or the product will be repaired or replaced as determined solely by UCLSWIFT.
Customers will be charged for the repair of the machine even if in-warranty period, if such defect or damage occurred as a result of.

1. Natural disaster(s)
2. Applying over-voltage
3. Customer's mishandling
4. Customer's misuse without following instructions or operation procedures provided by this user manual
5. Expendables (including electrode)

Information Required For Repair

Before sending the splicer to us,
t is necessary to contact UCLSWIFT Co., Ltd first.

1. Give us following information by attaching paper on the product. (Name, Department, Company, Address, Contact information, FAX, E-MAIL)
2. Product's serial number
3. Product's state and problem incurred, information on error message
4. Product handling with disregard on working procedure or directions written on instructions for use

Transport

The Swift KR12 is high precision equipment,
so it is required to transport after keeping it in a safe case to protect it from humidity, vibration and physical shock.
In case of request for repair, it must be in the case along with its parts before its transport.

Repair

Any data saved in the memory including splice results and splice modes may be deleted as a result of repair.

PRODUCT WARRANTY

NAME OF PRODUCT SWIFT KR12

PRODUCTION NUMBER

DATE OF PURCHASE

CUSTOMER NAME **TEL.**

ADDRESS

Limited Warranty

1. This product is manufactured under strict quality management and inspection processes 2. UCLSWIFT Co., Ltd. warrants this product against defective materials and workmanship for a period of one year from the date of purchase. However, this warranty does not cover a damage or failure caused by or attributable to a reason for Exclusion and Limitations even if the equipment is still under warranty
3. This warranty card has to be presented when the product is repaired
4. The arc fusion splicer is high precision equipment, so it is required to transport after keeping it in an exclusive carrier case to protect it from humidity, vibration and physical shock

Exclusion and Limitations

This warranty will not cover a damage or failure and charges (repairing charge + part + travel expenses) will apply even if the equipment is still under warranty, if such damage or failure has occurred due to or when 1. Natural disaster
2. Applying over-voltage 3. Customer's mishandling 4. Customer's misuse without following instructions or operation procedures provided by this user manual
5. The stamped seal is broken or damaged

When you require maintenance or repair service,
please contact the service center or the dealer you purchased the machine.