

# Troubleshooting Guide for Fitel fusion splicers

- S179
- S178
- S153
- S123
- NJ001
- EZ-Terminator
- S124M12
- S123M12



# Contact

## Customer service: 866-452-9516

- Create an RMA
- Ordering
- General inquiry

## Repair and troubleshooting

- Toll Free: 1-866-452-9516
- After Hours: 1-877-416-9788
- [SplicerRepair@ofsoptics.com](mailto:SplicerRepair@ofsoptics.com)

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[www.ofsoptics.com/capabilities/fusion-splicers/](http://www.ofsoptics.com/capabilities/fusion-splicers/)

- Splicers, tools and accessories
- Data sheets, user instructions, operational guides
- Fusion Splicer applications and software
- Instructional Videos
- Technical support contact information
- RMA creation



# RMA process

1. Contact customer service (866-452-9516) or fill out a form on our webpage [here](#).
2. Send a copy of the "Repair Request Form" with all equipment that needs to be repaired. Please ship the equipment to:  
OFS  
Attn: Tom Stafford/Andrew Degidio Room G020  
2000 N.E. Expressway  
Norcross, GA 30071
3. A notification will be sent out once the equipment is received by the repair department.
4. Equipment will typically be evaluated within 7-10 business days
5. A "closed ready for payment" email will be sent out. Please fill out the payment authorization form and return to customer service.
6. The equipment will be repaired and shipped back via FedEx ground

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FIBER SETTING OR LOADING

# Maintenance Items



Arc calibration each day before splicing



Clean electrodes every 300 splices



Replace electrodes every 5,000 splices



Rotate blade every 2000 cleaves or 1000 arcs for single fusion splice and every 150 cleaves or 75 arcs for mass fusion splice



Inspect fusion splicer daily



Inspect cleaver daily

# Instructional Videos

<https://www.ofsoptics.com/capabilities/fusion-splicers/#maintenance>

- Ninja maintenance
- Splicing with Fitel ninja
- Fitel S179 operation
- Fitel S179 maintenance
- How to splice with Fitel S178
- Fitel S326 cleaver maintenance
- Ninja easy on-site cleaning

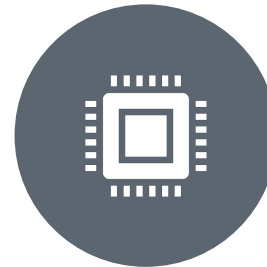
# Batteries not charging



PLEASE CHECK POWER SUPPLY IS CORRECT, PLUGGED IN AND FUNCTIONING. REPLACE IF FAULTY



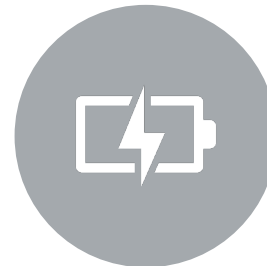
S178/S153/S123 **V1**  
MACHINES DO NOT INTERNALLY CHARGE THE BATTERIES. A S958 BATTERY CHARGER IS REQUIRED



S178/S153/S123 **V2**  
MACHINES THE MACHINE MUST BE PLUGGED IN AND TURNED ON TO CHARGE BATTERIES











S179/S124/NJ001/EZ-TERM ENSURE MACHINE IS PLUGGED IN











IF BATTERIES DO NOT CHARGE, THEY MUST BE REPLACED



# High loss- Estimated


-  Make sure fiber is completely clean before splicing
-  Clean v-grooves
-  Perform arc calibration
-  Clean camera lenses
-  Clean fiber clamps
-  Clean or replace electrodes
-  Check cleaver performance (high cleave angle)
-  Check arc base position- (If shifted send to repair center)


# High Loss- Measured


-  Make sure fiber is completely clean before splicing
-  Clean v-grooves
-  Perform arc calibration
-  Check cleaver performance
-  Clean camera lenses
-  Clean fiber clamps
-  Clean or replace electrodes
-  Check arc base position- (If shifted send to repair center)


# Splicing defects


 Make sure fiber is completely clean before splicing

 If using a fan out kit or loose tube fiber, the 900um coating may be slipping over the top of the 250um fiber. A loose tube holder may need to be used


 Clean v-grooves


 Perform arc calibration

 Clean camera lenses

 Clean fiber clamps

 Clean or replace electrodes

 Check cleaver performance

 Check Arc base position

# Overrun error



Check fiber position and that fiber is not broken



If using 900um coated fiber, make sure 250um coating is removed and is not hitting v-groove



If using a fan out kit or loose tube fiber, the 900um coating may be slipping over the top of the 250um fiber. A loose tube holder may need to be used

# Machine Shutting down



Check AC adapter cord. If broken, replace




Check battery levels. If the batteries will not charge (S17X series V1 machines do not charge), if broken, replace




In extreme temperatures, the machine may shut down for safety.


# Visual Error


 Make sure correct Splicing program is selected

 Make sure fiber is completely clean before splicing

 If using 900um coated fiber, make sure 250um coating is removed and is not hitting the v-groove

 Check/clean camera lenses

 Clean v-grooves

 Clean fiber clamps

 Perform arc check

## Align error



Check fiber position



Clean v-grooves



If using 900um coated fiber, make sure 250um coating is removed and is not hitting the v-groove



Clean camera lenses

# Core mismatch



Check fiber position



If using 900um coated fiber, make sure 250um coating is removed and is not hitting the v-groove



Clean v-grooves



Make sure correct program is used



Check fiber types being used



Clean camera lenses



# Excessive Arc Current



Make sure to use only SM fiber to perform arc checks



Make sure both electrodes are tightened down



If using 900um coated fiber, make sure 250um coating is removed and is not hitting the v-groove



If using a fan out kit or loose tube fiber, the 900um coating may be slipping over the top of the 250um fiber. A loose tube holder may need to be used



Clean or replace electrodes

# Protection sleeve sticking



Make sure correct program is selected



Clean heater element



Use heater adjustment tool under: Settings -> Tools and select the Shrink Sleeve Adjustment tool to optimize the heating conditions



**DO NOT SPRAY WITH OIL**

# Heater not working



Check program



Use heater adjustment tool under: Settings -> Tools and select the Shrink Sleeve Adjustment tool.



If following a backup battery failure/drop the unit may need service by service center.



Make sure the battery capacity is not too low (<20%).

# Backup battery died (S178/S153/S123/S123M12)



Select the correct heater/splice programs and test. If all is working re-charge the backup battery by plugging the machine into AC power and leaving the machine on for 8-10 hours



If heater does not work, call service center

# Fiber Setting or Loading Error

## Explanation:

Splicer is viewing fibers are too close or laying across the center of the screen.

Common error using fixed holders and laying fiber too far across the v-grooves



Make sure fiber is not placed too far across v-grooves



Verify broken fiber is not lying on splicer camera lenses.



Check cleaver is working properly

# NOTES



# Arc Calibration- When do I need to calibrate?



Each day before splicing begins



After cleaning electrodes



After replacing electrodes



After a change of location or a major temperature change during the day.



After cleaning the v-grooves

# How to do a proper arc calibration



Perform arc checks with Single mode fiber Until GOOD (for both single and mass fusion splicers)



Fiber must be prepared (stripped, cleaned cleaved) before arc check



Only use Single-mode fiber to perform arc checks



After each arc check fiber must be re-prepared



May need to be performed again later in the day if temperature/humidity changes



# How do I clean v-grooves?



light brush or toothbrush



Use a cotton swab with 99% ethanol alcohol



Use clean, prepared fiber and run it through the v-groove at a 45 degree angle



Soak v-grooves in ethanol alcohol bath overnight (S124/S179)



**DO NOT USE ANY SHARP METAL OBJECTS (KNIFE/ELECTRODES ETC) TO CLEAN, THIS WILL PERMANANTLY DAMAGE THE V-GROOVES**

# Cleaning Camera lenses



Clean only if needed



Remove fiber debris



Inspect weekly for signs of damage or buildup of dust/dirt



When cleaning, use only ethanol alcohol and a cotton swab or 50% Windex and water solution or lens cleaners



**DO NOT USE FIBER PREP FLUID OR UNAPPROVED CLEANERS**

# Common Part Numbers

- for S178/S153/S123:
  - Electrodes: S969
  - Batteries: S943D
  - Battery charger: S958
  - Heater cover v1: S178XA1165A
  - Heater cover v2: S178XA2035B
- For S179/S124/Nj001/EZ-Term
  - Electrodes: Elr-01
  - NJ001 battery: S946
  - S179 Battery: S947B

- [SPLICER ACCESSORIES](#)
- [SPLICER CONSUMABLES](#)
- [SPLICE ON CONNECTORS](#)

# Software

<https://www.ofsoptics.com/fitel-fusion-splicer-downloads/>

## **\*\*NOTE\*\* DOWNLOAD DRIVERS FILE FIRST**

- Splicer Data Explorer - NJ001/EZ-Term/S123/S153/S178
- Splicer Data Explorer 2- S124/S179
- SMARTFUSE X- NJ001/EZ-Term/S123/S153/S178/S179/S183/S184
- Ninja updater- NJ001
  
- Fitel Smart APP for IOS and Android- S124/S179

