90R Splicer Error Code and Troubleshooting Quick Guide

L/R Too Long Fiber usually means the cleave length is too long or there may be dirt or debris on the lens.

- Make sure the end of the fiber is set between the edge of the V-grooves and the center line of the electrodes.
- Run the "Dust Check" function to make sure the lenses are clean.

ZL/ZR Motor Overrun means the motor ran to its full extent, but the fiber position is not correct (***Figure 1***).

- Either the cleave length is too short or a loose buffer tube is preventing the splicer from pulling the fiber(s) into the center.
- Make sure the end of the fiber(s) is between the edge of the V-groove and the center between the electrodes. If there is a loose buffer tube present, use the FH-60-LT900 fiber holder to keep the fiber from sliding within the buffer tube.

X/Y Dark Background means the background brightness is inconsistent or darker than it should be.

- Execute a "Dust Check" and clean the camera lenses.
- If the error persists, contact the AFL Service Center.

Figure 1

L/R Too Dusty Fiber error could have several different causes:

- Start by re-preparing the fiber. Clean very well with either FCC2 fluid or 99% or greater Isopropyl Alcohol.
- Make sure you're using the correct splice mode for the fiber you have.
- Clean the camera lenses to make sure there's nothing obstructing the field of view.
- Make sure the cleaning arc is set appropriately – normally 120ms, for carbon-coated fibers, set to 200ms.

Strong/Weak Arc Power error means the arc is too strong or weak for an "…AUTO" splice mode to adjust the arc power.

- Perform Arc Calibration sequences using standard G.652 SMF until successful and try the splice again.
- If the above step does not resolve, replace the electrodes using the "Replace Electrodes" function in the maintenance menu.

Too Left/Right Arc means the arc field is not in the center between the electrodes. This could be caused by damaged electrodes or excessive silica buildup on the electrodes.

- Execute an "Arc Stabilization" procedure from the maintenance menu.
- If the above step does not solve the problem, replace the electrodes using the "Replace Electrodes" function in the Maintenance menu.

Fiber Separated error occurs when the fibers burn back rather than fusing together. (***Figure 2***).

- Often, this results from using the wrong type of fiber for performing an arc calibration. This can make the standard arc power too powerful, causing fiber separation.
- Perform an Arc Calibration only with standard G.652 SMF for arc calibration.
  - If the error persists or is limited to a particular splice mode, call the 24/7 support line at 1-800-235-3423, Opt. 3.
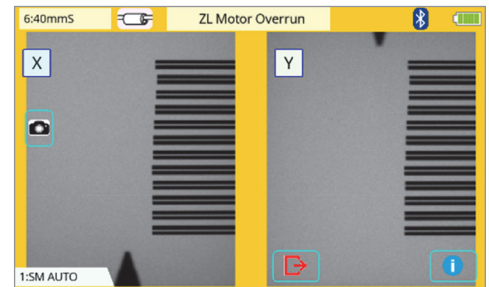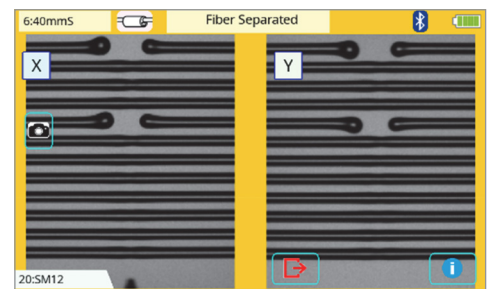

Figure 2

90R Splicer Error Code and Troubleshooting Quick Guide (cont.)

L/R Bad Fiber Position indicates the fiber is outside the field of view of the camera (*Figure 3*).

- Press [Reset] and then re-seat the fiber, ensuring it sits correctly in the bottom of the V-groove.

No Arc Discharge/Delayed Arc Discharge

- Make sure the electrodes are correctly and securely placed.
- Try restarting the splicer and/or updating the splicer's firmware. Call the 24/7 support line at 1-800-235-3423, Opt. 3.
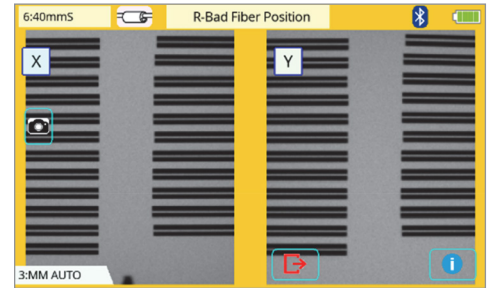

Figure 3

Large Cleave Angle indicates the angle of the fiber's end-face is larger than the threshold allowed by the current splice mode (*Figure 4*).

- Clean the cleaver pads and the cleaver blade, then try the cleave again – in most cases this will resolve the issue.
- Check the cleave count for that blade position. If it's at or close to 1250 cleaves, then the blade position is worn. Rotate the cleaver blade.
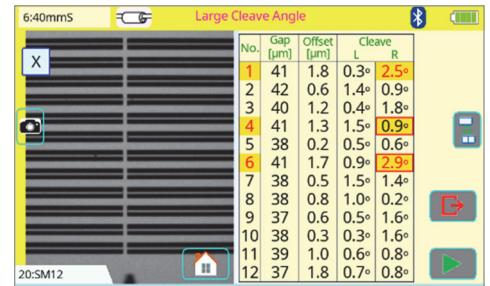- Clean the camera lenses.

Figure 4

Cleave Shape NG means the end-face of the fiber is not flat and smooth (*Figure 5*).

- Clean the cleaver and re-prepare the fiber – in most cases this will solve the problem.
- If the cleaver blade is worn, rotate to an unused blade position.
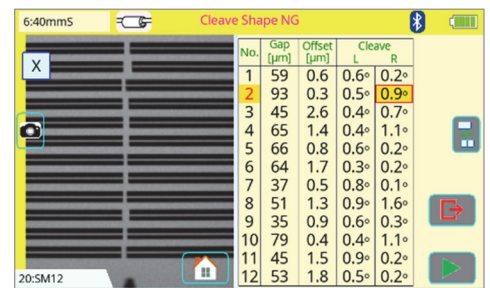- Clean the camera lenses.

Figure 5

Thin/Fat/Too Tapering Fiber errors indicate the fiber is too thin, or fat, compared the splicer's standard for a quality splice (*Figure 6*).

- **Thin:** Most likely, the arc is too powerful, causing excessive melting that is not enough to fully separate the fibers
  - Perform an arc calibration with standard G.652 SMF and try the splice again.
  - If the error persists or is limited to one splice mode, call the 24/7 support line at 1-800-235-3423, Opt. 3.
- **Fat:** Generally, this is related to arc power as well.
  - Perform an arc calibration with standard G.652 SMF and try the splice again.
  - If the error persists or is limited to one splice mode, call the 24/7 support line at 1-800-235-3423, Opt. 3.

Figure 6

90R Splicer Error Code and Troubleshooting Quick Guide (cont.)

Bubble errors indicate a deformity is detected at the splice point, usually arising from contamination on the fiber end-face or from a bad cleave shape.

- A true bubble will appear as a dark circle at the splice point. Verify it is a bubble by pressing the **Re-Arc** button after the splice. If the occlusion changes or the spot grows, then it is a bubble. Break and re-splice (**Figure 7**).
  - Be sure to follow the proper "Strip, Clean, Cleave" preparation procedure. If the cleave shape is an issue, refer to the "Cleave Shape NG" section above.
- A Bubble error can sometimes arise when splicing highly multimode fibers, especially. This is the result of air becoming trapped in the glass as the two fibers begin to melt together. In this event, break and re-splice (see **red arrow** in **Figure 8**). This line does not affect splice loss, and the Bubble error can be handled by adjusting the "Bubble Sensitivity" setting in the splice mode.
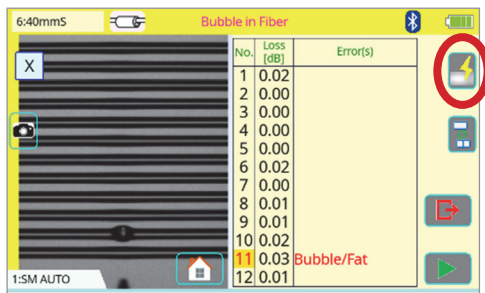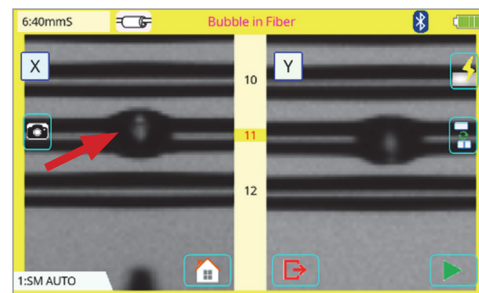

Figure 7

Figure 8

High Estimated Loss error could arise from many causes of this error, including the following (**Figure 9**):

- Improper fiber cleaning
- Bad fiber end face
- Bubble at the splice point
- Dust or dirt in the V-groove
- Dust or debris on the camera lens
- Bad electrode condition
- Uncalibrated arc power
- Incorrect splice mode
- Improper arc parameters
- Inadequate estimation parameters

NOTE: Consult the Instruction Manual for assistance with correcting these issues.
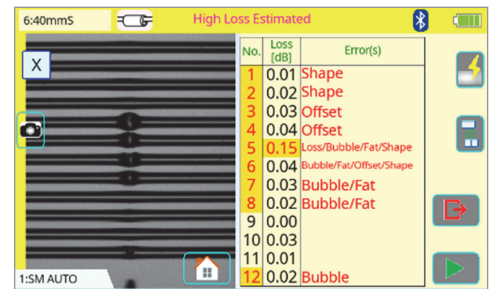

Figure 9

90R Splicer Error Code and Troubleshooting Quick Guide (cont.)

Dust After Dust Check (*Figures 10 and 11*)

- Clean the camera lenses with a lint-free cotton swab and 99% or greater Isopropyl Alcohol, starting from the center and swirling outward toward the edge of the lens. Flip the cotton swab to the opposite end and use the same motion to dry any excess solvent off the lens.

- Dirty lenses can cause false readings of both large cleave angle and bad cleave shape.

- If the error persists, call the 24/7 support line at 1-800-235-3423, Opt. 3.

"Not Adequate" message after Fusing Power Calibration

- This means the arc could not be fully calibrated with one calibration cycle.

- Perform arc calibration again and continue running subsequent arc calibrations until you see "Good" message after calibration is finished.

Figure 10 – False readings caused by dirty lens

Figure 11 – Same set of fibers after cleaning lens

Additional Information

Check out this maintenance instructions video for the 90R and 90S+ Fusions Splicers. Visit learn.aflglobal.com for fusion splicing videos and content. For 24/7 assistance, call 1-800-235-3423, Opt. 3.

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