Application Note
90S+ 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.

L/R Too Dusty Fiber 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 – if you don't know, use "AUTO" mode.
- Clean the camera lenses to make sure there's nothing in the field of view.
- Make sure the cleaning arc is not "OFF."

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 into the center.
- Make sure the end of the fiber is between the edge of the V-groove and the center line of the electrodes, and if there is a loose buffer tube present, use the sheath clamp switch or a loose buffer fiber holder to keep the fiber from pistoning within the buffer tube.

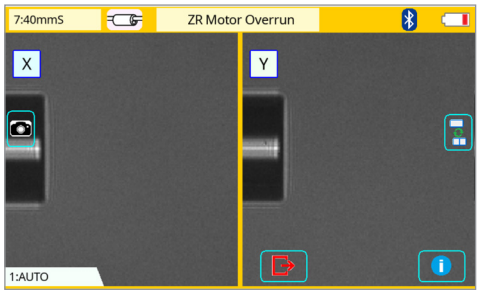

Figure 1

X/Y Motor Overrun means the fiber is outside of the camera's field of view and exceeds the X/Y motor range.

- Clean the V-grooves to make sure the fiber is fully seated in the bottom of the V-groove and there is no dirt/dust causing it to not lay flat.

Focus X/Y Motor Overrun means either the fiber is outside of the camera's field of focus or there is dust/dirt on the camera lens.

- Clean the V-grooves, camera lenses, and clamp chips to ensure the fiber can sit properly in the V-groove and the cameras can view an unobstructed image of the fiber.

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

- Perform an Arc Calibration with standard G.652 SMF 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 line of the electrodes. This could be caused by damaged electrodes or excessive glass 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 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 one splice mode, call the 24/7 support line at 1-800-235-3423, Opt. 3.

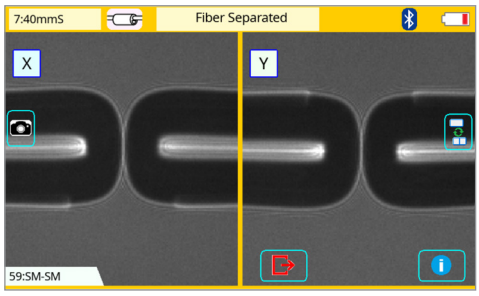

Figure 2

Application Note
90S+ 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.
- Clean the clamp chips.

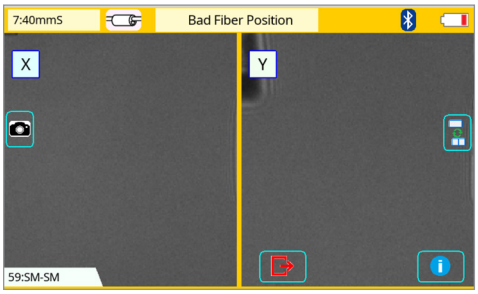

Figure 3

No Arc Discharge/Delayed Arc Discharge

- Try restarting the splicer and/or updating the splicer's firmware.
  - If the error persists or is limited to one splice mode, call the 24/7 support line at 1-800-235-3423, Opt. 3.

Large Cleave Angle indicates the angle of the fiber's end-face is larger than the threshold allowed by the 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.

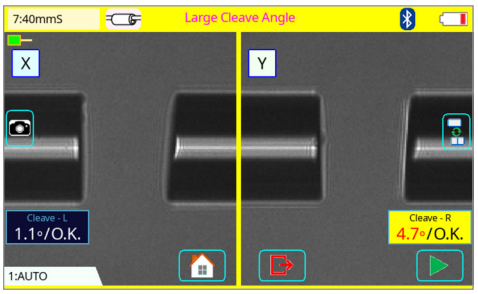

Figure 4

Large Fiber Angle means the fibers are approaching each other at an angle (***Figure 5***).

- Clean the V-grooves and make sure the fibers lay properly in the V-grooves. If using fiber holders, make sure the fiber holders are seated fully on the guide pins.
- Clean the clamp chips.

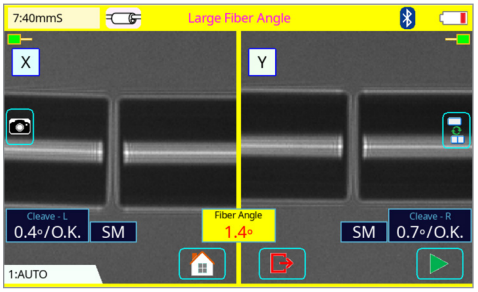

Figure 5

Cleave Shape NG means the end-face of the fiber is not flat and smooth (***Figure 6***).

- 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.

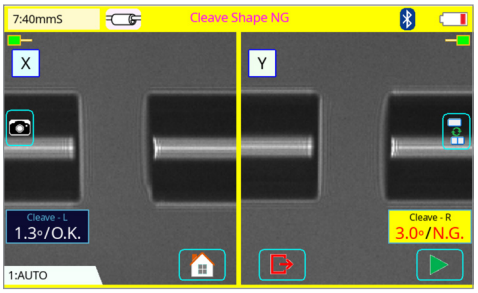

Figure 6

Application Note
90S+ Splicer Error Code and Troubleshooting Quick Guide (cont.)

Thin/Fat/Too Tapering Fiber indicates the fiber is too thin, or fat, compared the splicer's standard for a quality splice (***Figure 7***).

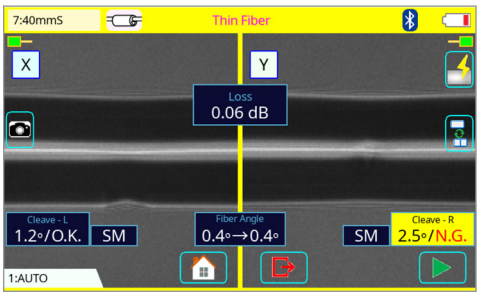

Figure 7

- **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.

Bubble in Fiber indicates 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 8***).
  - 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.

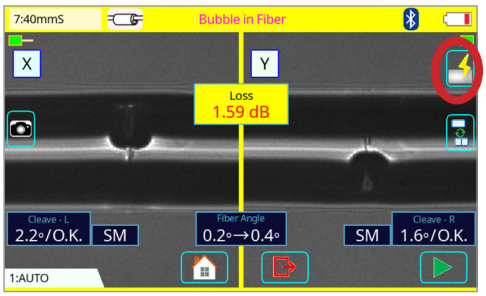

Figure 8

- A Bubble can sometimes arise when splicing dissimilar fibers, or highly multimode fibers. This is the result of a line appearing at the splice point (see **red arrows** in ***Figure 9***). This line does not affect splice loss, and the Bubble error can be handled by adjusting the "Bubble Sensitivity" setting in the splice mode.

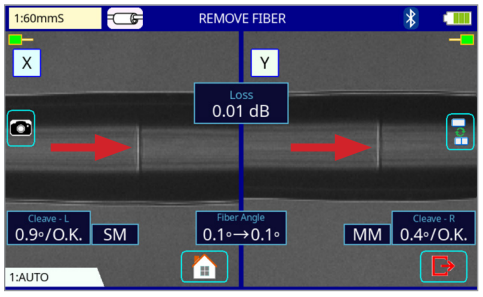

Figure 9

Application Note
90S+ Splicer Error Code and Troubleshooting Quick Guide (cont.)

High Estimated Loss could arise from many causes of this error, including the following (***Figure 10***):

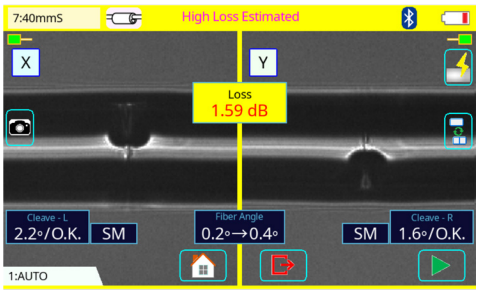

Figure 10

- 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.

Dust After Dust Check (*Figure 11*)

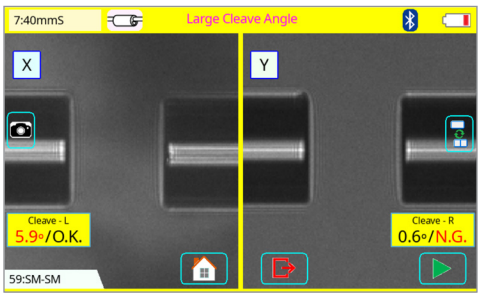

Figure 11

- 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. Discard and use a fresh cotton swab to clean the other 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 run subsequent arc calibrations until you see "Good" for both Power and Position.

Additional Information

Check out this maintenance instructions video for the AFL Fusions Splicers. For 24/7 assistance, call 1-800-235-3423, Opt. 3.