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1.0 Purpose

The purpose of this document is to explain the best case practice for maintaining the FJQCVR cleaver and how to determine if the ceramic blade or the base of the cleaver needs to be maintained or replaced.

2.0 Background

Questions have arisen about the performance of the cleaver over an extended amount of time or after an extensive amount of cleaves. Proper usage of the cleaver is detailed in Panduit documents.

[FS014*](#) LC OptiCam Installation Instructions
[FS015*](#) SC OptiCam Installation Instructions
[FS016*](#) ST OptiCam Installation Instructions

The cleaver's ceramic blade is designed to last approximately one thousand (1000) cleaves, after which it should be replaced with Panduit p/n FJQCVRB. The base plate that holds and contains the scale to measure the fiber may become misshaped (rounded) and may need to be replaced. In the event the base plate becomes rounded, the cleaver should be replaced.

3.0 Maintaining the Cleaver

Ceramic Blade

The ceramic blade provided with the FJQCVR cleaver will last approximately one thousand (1000) cleaves before it should be replaced. There are a couple of ways to check to ensure you are getting a good cleave besides checking the insertion loss of the connector that was terminated.

One way is to check the spherical glow of the un-terminated end of the fiber cable by utilizing the visual termination indicator (VTI) of the OptiCam tool (OCTT). By holding a non-connectorized end of the fiber approx. 1" from a surface one can see if they have a quality cleave on the field fiber. The images below show the difference between a bad and a good cleave. Figure 2 shows a good cleave and should result in good insertion loss for the OptiCam connector that has been terminated.



Figure 1 - Bad Cleave



Figure 2 - Good Cleave

Another way to check the cleave quality is to once again use the VFL, but this time lay the fiber on its side so you get a side view of the cleave. If there is any reflective light present (as seen in Figure 3) then the cleave is of poor quality. Figure 4 shows the side view of a good cleave where no reflective light can be seen.

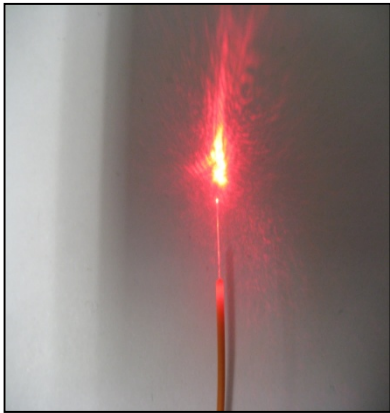


Figure 3 - Bad Cleave (side view)

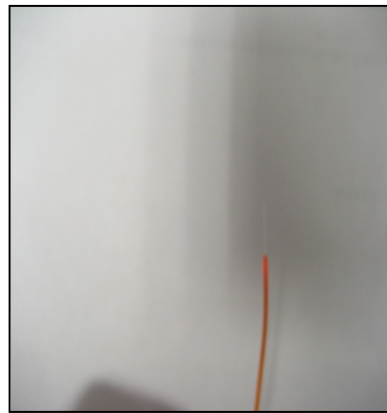


Figure 4 - Good Cleave (side view)

Another way to identify the difference between a bad and good cleave is shown in Figure 5 and 6. These figures show the cleaved edge of a fiber under a high powered microscope.



Figure 5 - Bad Cleave (microscope)

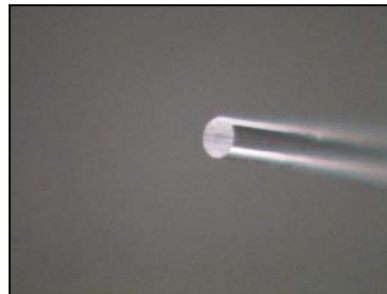


Figure 6 - Good Cleave (microscope)

If consistently bad cleaves occur, the ceramic blade (Panduit p/n FJQCVR) should be replaced. The following steps should be taken when replacing the blade.

Step 1 - A small phillips type screwdriver will be needed to loosen the screw on the front of the cleaver. (See Figure 7). Once the screw is loosened, the ceramic blade, which is spring loaded, will come into sight. (See Figure 8)

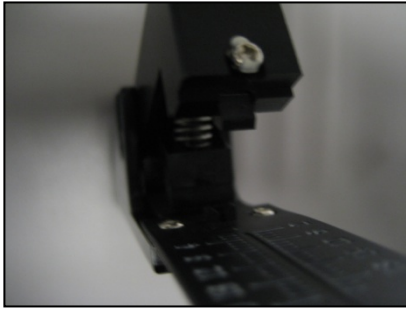


Figure 7

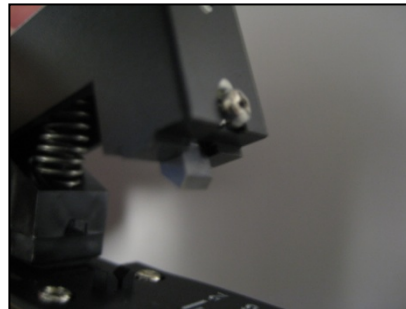


Figure 8

Step 2 - The old blade can be removed and the new blade inserted into the cleaver. Please note the orientation of the blade when installing. The stepped edge shown in Figure 9 should be inserted away from the screw.

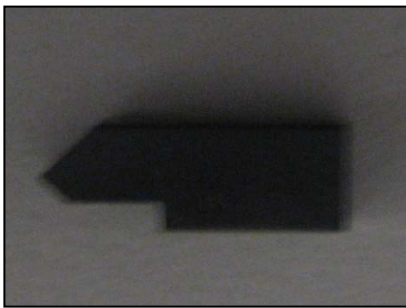


Figure 9

Step 3 - The new blade needs to be pushed into place due to the spring in the housing of the cleaver and the screw tightened to secure the blade.

4.0 Base Plate

The base plate that holds and contains the scale to measure the fiber may become misshaped (rounded) and may need to be replaced. In the case of this rounding, it is recommended to purchase a new cleaver. See Figures 10 and 11 for examples of these conditions.



Figure 10 - Normal Base Plate



Figure 11 - Damaged Base Plate

In the case of Figure 11, it is recommended that a new cleaver be purchased to achieve optimum cleaves.

5.0 Conclusion

Maintaining the fiber cleaver supplied with the OptiCam termination kit is one way to ensure quality results when terminating OptiCam connectors. Keeping the cleaver clean of debris and ensuring that the blade and base plate are not damaged are ways to ensure high performance and quality terminations. When the cleaver is properly maintained and utilized, cleaving with this tool is comparable to high precision type cleavers.