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# FIBERTOOL™

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## FIBER ALIGNMENT

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FiberTool™ is a patent pending device that aids in the alignment of standard multimode fibers used with Nd:YAG, Fiber and Disk lasers. Unlike thermal-based systems that have a delayed response between measurements, FiberTool produces a real-time output signal to the user that is a gauge of the alignment quality of the laser energy into the fiber optic's core.

For a laser system to launch all of its laser energy efficiently through the fiber optic cable and maintain its beam quality, the laser energy must be focused onto only the core of the fiber optic. This focus spot must be smaller than the fiber core's diameter and not strike the cladding layer around the core. Adjustments of the fiber launch optics in X-Y and Z are made by the laser user to get the laser beam centered on the core and at the correct focus so the optical spot is smaller than the core diameter.

Proper alignment is accomplished by having a real-time measure of the laser energy that is outside the core diameter. Laser manufacture's feedback signals do not have the resolution necessary for proper alignment and can result in several hundred watts of wasted energy that can heat the external focus head – potentially causing damage to these optics.

FiberTool provides the only true, real-time measure of the laser energy outside the fiber core and allows the laser operator to adjust the fiber launch system while monitoring this signal until a minimum reading is attained. Any time a fiber is removed and replaced, or



*Laser Mechanisms' FiberTOOL™ shown mounted to the optional PRiMES Compact Power Monitor, CPM F-10.*

a new fiber is connected to the laser source, FiberTool should be used to ensure proper fiber alignment and the condition of the laser launch system.

FiberTool can be used with all standard fiber connectors such as QBH, QD, HLC-8, LCA, LLK-D, LLK-B and others. A standard FiberTool is mounted to the PRiMES Compact Power Monitor, CPM F-10, or the PRiMES Power Monitor, PM 48. Fiber Tool can also be mounted or directed into a beam dump or any other power monitoring device rated for the laser's output power.



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