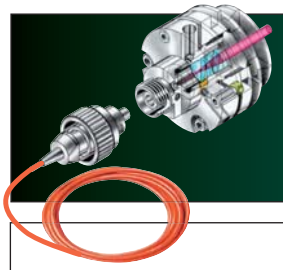
Schäfter + Kirchhoff



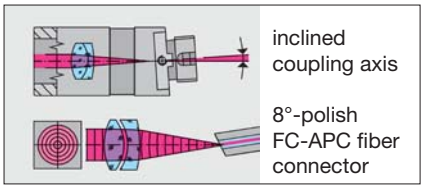
# The correct way to attach a fiber connector to a laser beam coupler or fiber collimator

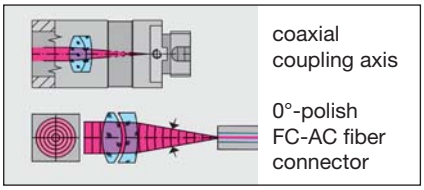
**WARNING!**

**The unattached components are fragile and easily damaged when assembled incorrectly**

The following instructions are valid for all connectors of the FC, Din AVIO and F-SMA types

## 1. Check components are matching



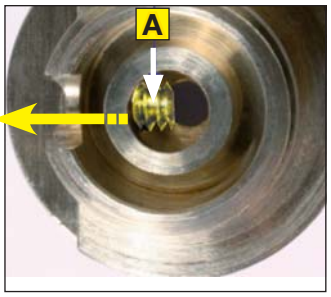

- Check the identity of the fiber connector written onto the fiber cable and that it matches the laser beam coupler or fiber collimator.
- To prevent back-reflection into the laser source, the fiber of an APC connector is polished at an angle of 8° and must only be attached to a beam coupler 60SMS-1-**4**-... or fiber collimator 60FC-x-**4**-... with an inclined coupling axis.
- A 0°-polish PC connector is only compatible with a laserbeam coupler 60SMS-1-**0**-... or fiber collimator 60FC-x-**0**... with a coaxial coupling axis.

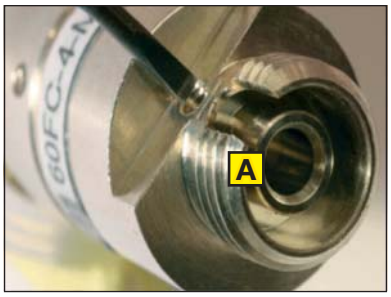
***Warning!*** *A mismatch of a coaxial coupling axis with an 8°-polish singlemode fiber or vice versa, an inclined coupling axis with a 0°-polish fiber, produces a displaced and asymmetrical beam profile for a collimator or a reduced coupling efficiency in case of beam couplers.*

## 2. Check grub screw is clear of the fiber cable aperture

- Unscrew, but do **not** remove, grub screw **A** so that the fiber cable aperture is clear and not obstructed, in order to avoid damage of the fiber end face.

***Warning!***
*Be careful not to remove the small grub screw completely - it is easily lost.*



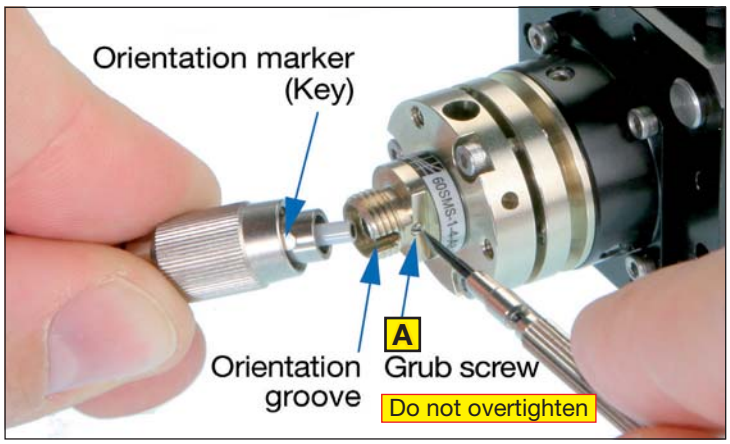




## 3. Insert the fiber connector ferrule into the fiber cable aperture

- Pull back the threaded collar on the fiber connector to locate the key for alignment with the orientation groove in the laser beam coupler.
- To prevent damage to the polished end of the optical fiber, carefully introduce the connector ferrule into the aperture of the laser beam coupler at an oblique angle.
- Gently screw the threaded collar of the connector onto the thread of the laser beam coupler, until finger tight.
- Gently retighten the grub screw **A** to lock the fiber into position. Additional to an improved pointing stability the grub screw also enhances the repeatability of the connection.

***Warning!*** *Overtightening of the grub screw can distort the state of the polarization.*

- For a totally reproducible connection, fully tighten the collar while locating the key positively against the (right-hand) side of the fiber connector.




The key and the orientation groove indicate the polarization axis of the polarization-maintaining single mode fiber.