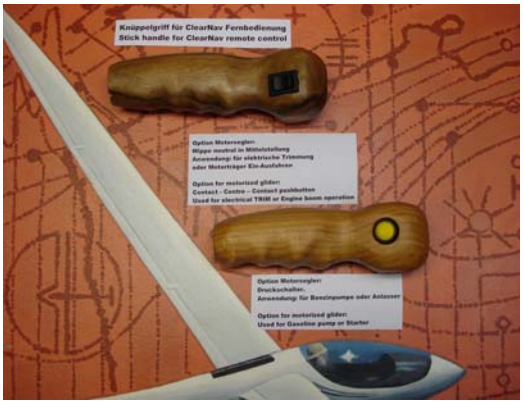
Assembly of the TEKK Remote Stick Handle for ClearNav Control

Handle Models:
This wooden handle is available in various types such as Mahogany, Walnut, Plum, Cherry, Elm, Apple, and comes in stick tube sizes of 16, 18, 19, 20, and 24mm.
The surface Finish is done in natural hard wax. Special grip shapes or other wood on request.

Parts:
The remote pad is inserted into the upper cavity. The integrated PTT pushbutton with 2 seperate cables connects to the radio harness. Fastening to the wooden grip is via 2 screws of BSW, OD 1,45mm fine thread x length 15 to 20 mm.

CAN – Cable assembly:
The 4 wire flat cable (data bus) directs the remote control pushbuttons, the 2 free wires have to be connected into the cable coming from the microphone (PTT). The cable channel from the pad cavity ends in the larger hole for the stick tube.
The hole for the cable exit in the stick tube must be big enough to allow the cable to pass easily (deburr!) Protect the cable in this area (shrink tube). The cable will only pass the metal tube without the crimp - connector. The best place to connect the cable coming from the stick handle on the way to the Radio is below the stick arrangement on the control bulkhead near the fuselage floor (max. 60cm from the pad down). The coupling 4p6c with RJ11 connectors, and the RJ10 (4p4c) connector for the cable ending into the NEXUS are attached in the delivery. See later! A Crimp tool is available on loan or to purchase.

Option for powered glider:
With the option Motor glider we add an extra flat high quality pushbutton with 2 wires. This button is inserted on the rear side of the stick. (Example: Operating the fuel pump or the starter). Please order this option before we deliver! We also insert a toggle switch as an option (Example: running the electric trim, or the engine spindle drive).



Preparation:
Before removing the existing stick grip, measure the total length from the trim/brake handle fastening to the top as reference length. It is advisable to carefully remove the remote pad from the handle to make the grip fit as wanted. The grip should slide onto the metal pipe without force. If it is not exactly fitted by TEKK already onto a known stick tube, it should end as far down the stick as possible, even sideways along the trim actuator (cut a slot). Measure the depth of the tube diameter hole inside the handle, and if necessary, shorten the metal tube by up to 3 cm. Best tool to do this work is a tube cutter. Deburr the tube, and remove excess paint on the tube.

Connecting the PTT wires:
Connect the red wire to the active inside core wire (mostly red) of the microphone of the radio harness. Green = ground, which will mostly be the outside copper mesh. If the radio is always transmitting, the wire connections have been done the wrong way (no harm done to the radio!). Connecting the RJ10 cable, see later.

Mounting the remote stick handle
The handle position should be approx. 20° off centre towards the right, since from this side the pilots hand holds the stick. Try!
The bore is done 0,5mm larger as the stick diameter to allow for oval or not perfectly straight tubes, and to avoid the wood to burst. If the tube seems too fit too tight, it is advisable to do some rework.

On the lower end it should end on the metal tube without lots of wood material left. The more the handle ends down the stick tube, the better the "control stick feeling" will be later, since when flying relaxed most pilots hold the handle further down.

The RJ10 4p4c Crimp connection to the NEXUS
The flat cable has one side flat, and the other side has a line in the centre. After feeding the cable through the tube and the hole on the side, the new connector nose pin must be located to the flat cable side. If done wrong, the remote control does not

work (No harm to the CN is done). Looking at the cable end, the connecting nose down, the yellow cable has to be on the right, black on the left.

Securing the handle to the pipe:
Version "M3"
With an M3 countersunk screw. The handle must be drilled on the right side with 2,4mm (a sharp drill!), and the mark done by the drill on the metal tube with the handle off must be marked with a punch, to avoid that the drill drifts off finding its way through the hard metal of the tube Enlarge the hole through the tube to 3,2mm, and cut a long M3 thread through the wood. Best position for this screw is 3-4 cm from below half right, where there is more wood material.

Version "Silicone"
When the wire is pulled through the pipe, lift up the handle 2 to 3 cm, and add Silicone (as used in sanitary) to the tube. Thereafter slide the handle onto its final position.
This way it is also possible to pull the handle off the stick later if required. You may also "mix" both versions. After all is in place, secure the cable tight to the control tube. Check free stick travel to the end stops. Fasten the cables to he control mechanism with tie wrap.
Option: add a metal ring* around the remote module top:
This ring is available, made of anodized aluminium. It can be glued with epoxy to the upper wooden ring around the remote pad, and later to be matched to the outside shape.