

angle hammer - shank:  $\alpha = 91 - 92^\circ$   
 hammer length (from borehole)  $a = 53$  mm (base)  
 $a = 45$  mm (middle / treble) hammer length (whole hammer)  
 $b = 78$  mm (base)  $b = 68$  mm (middle / treble)  
 $142$  mm +  $a$  (middle / treble) =  $187$  mm  
 $77$  mm +  $108$  mm =  $185$  mm  
 --> overcentering:  $2$  mm

\* the  $108$  mm from center pin (support) to string level (blank strings) is the same scaling of models S/M/O/A/B today.

If the new hammer heads are too long to get a good overcentering (because old hammers were smaller) and the result in sound is bad, then try to take off one hammer put a dowel in the hole, make a new borehole and glue it again and check. If it is better, do so with all hammers. But I think it should be ok even without perfect overcentering. Don't forget: it is an old piano!!! Don't try to make a new one.

