

## Yamaha vertical flange cord replacement procedure

Decide if repinning is in order before removing hammers from rail.

Disconnect the bridle straps. Remove the hammer rest rail treble pivot arm (only) and remove the rail by sliding it towards the treble.

Number and remove the Let Off rails. With all of the rails out of the way disassembly and reassembly are much easier because the jacks rotate forwards unencumbered. If there is a jack stop rail, do not remove L/O rails.

Remove the hammers/flanges, place on holding tray, number each butt and flange and separate if there is a butt plate. If the action is out of the piano, be careful not to press down on the wippens causing the damper spoons to bend.

While the hammers are out, lube the damper spring bearing surface. Tighten all flange screws. Replace action and adjust damper spacing and pedal lift. It's also a good time to adjust damper and jack spring tension if you're so inclined.

File the hammers on an oscillating spindle or drum sander to resurface. Trying to mate old string cuts in the hammers to the strings during reassembly is not recommended.

Optional: taper hammers; right side bass, left side tenor, both sides treble.

44 mm cord length: wrap the cord around a 14 mm or 9/16" dowel or some other material of such a dimension to get 44 mm when the cord is sliced along the length of the wrappings. Place masking tape opposite the cut to hold cords.

Clean the slots on the flanges with a hacksaw blade. Mount a hacksaw blade between two wooden slats having the blade protrude the depth of the slot. Secure the blade in a vise and drag the flange slot across it, do the set.

Glue cord end 10 mm onto one side of the flange, entire set. The glue will be set to install the other side from the beginning. Use PVC-E or some other white glue. Repin if needed.

Before the flanges are reconnected it's a good time to apply Teflon powder to the butt leather in groupings. Reassemble butts and flanges if separated.

Install hammer rest rail, install and space hammers to the unisons, travel as needed; space strings as needed. Install Let Off rails and reconnect bridle straps.

Clean the key pins with a CLP and white Scotch Bright. Plus, apply Teflon powder to the bushings with a pipe cleaner held in a segment of player tuning and use a Key Bushing Iron. Ease balance holes as needed upon installation.

Spring tension: 40 grams measured at the spring is roughly equivalent to 20 grams measured at the flange. The angle between the arms is around 90 degrees.

Another procedure can be found here: (see photo at end):

<http://www.ptg.org/pipermail/pianotech/2006-December/198869.html>