As part of any type of rebuilding, the piano will have new strings and tuning pins. To begin the process the old strings and pins must be removed.

Before the strings can be safely removed, the high tension must be let down. A vertical like this one may have around 15 tons (30,000 Lbs) of combine tension – that is a lot of potential energy.

We have heard of some technicians using chisel and hammer to simply cut strings while under tension. This is extremely dangerous – not only for the technician (and anyone within "firing" range) but to the instrument as well. Such sudden releases in tension can exert tremendous uneven strain across the iron plate – possibly resulting in a crack. A cracked plate usually results in the complete loss of the piano.

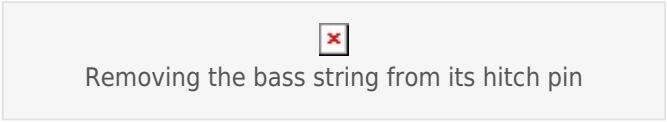
We prefer the slower (and safer) method of letting tension down evenly across the entire scale.

Letting string tension down – slowly and evenly.

Once this is safely completed, we lay the piano on its back (using a special cradle). This makes string removal much easier.

Pulling the becket from the tuning pin

Here the becket (the top segment of the string that fastens into the eye of the tuning pin) is removed from the tuning pin.



Removing the bass string from its hitch pin

At the other end of the piano, the bass string now can slip off its hitch pin. The bass strings must be kept in their specific order. As each bass string is removed we slip its eye onto a clip.

Keeping the bass strings in order

Once all the bass strings are off, they can be tagged and packaged up for shipping to one of our suppliers. The supplier will duplicate each string's length, core gauge, and gauge of windings (many of the bass strings will have two layers of copper winding). Piano wire is made to extremely strict standards which govern both the actual metal and gauge.

Side Note:

At the time the strings are sent off for duplication, we generally will also have packaged up the indexing hammers and send them in for duplication as well. Our suppliers provide us with some high quality choices for hammers.

For this particular piano we chose to make use of an imported German hammer. These hammers were designed to perform similar to those in use during the early 1900's. The hammers' top felt is made by Laoureux of France.

The duplicate hammers will be matched with the samples we sent in to provide the size and mass needed to perform well in this instrument.

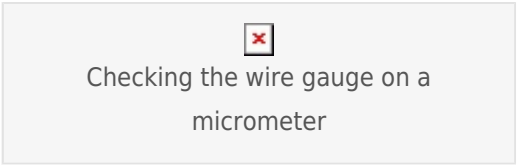
Once the bass strings are taken care of, we can turn our attention to the treble strings.

Since all string tension has been let down, it is safe to cut the treble wires.

Cutting the treble wires from the tuning pins

Gloves are a must – the cut wires are sharp and tend to want to coil just enough to hurt.

At each new unison the wire gauged is checked on a micrometer.

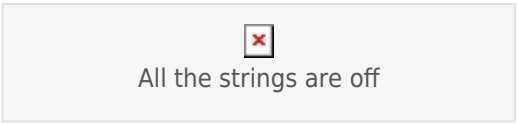


Checking the wire gauge on a micrometer

Any changes in gauge are logged along with its location on the scale. This information will be used when it is time to start putting the new strings on.

The new treble strings' wire is imported from Germany as well. It is manufactured to an extreme tolerance of 0.0003″, even its roundness and metal composition is carefully monitored – uniformity is extremely important for good tone.

It takes a while, but eventually all the strings are off the piano.

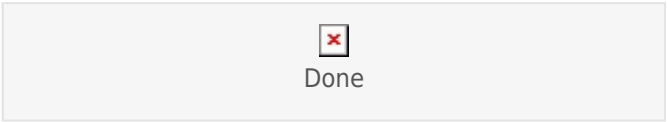


All the strings are off

The tuning pins themselves can now be removed. We make careful use of a drill to help speed this step along.


Removing the tuning pins

When using a drill it is important not to go too fast. High speed would generate enough heat to char the surface wood in each pin hole. This can lead to trouble in the future – so taking it easy now can actually speed the process up later.


Done

The job completed – done well and safely.

With the last tuning pin out we are ready to proceed with the next steps.