Vertical Mute Rail Installation

Before you start the installation we recommend that you take note of the present state of the piano in which the QuietTime system with be installed into.

1. Check the over all condition of the piano for excessive wear. Recommend any reconditioning or rebuilding that may be necessary for proper performance.
2. Check the regulation of the action as this is very important.
3. Check to see if the piano is up to pitch.

Check the contents of the QuietTime Kit to confirm all parts are in the kit. Check the hardware list within the kit. See the parts list below.

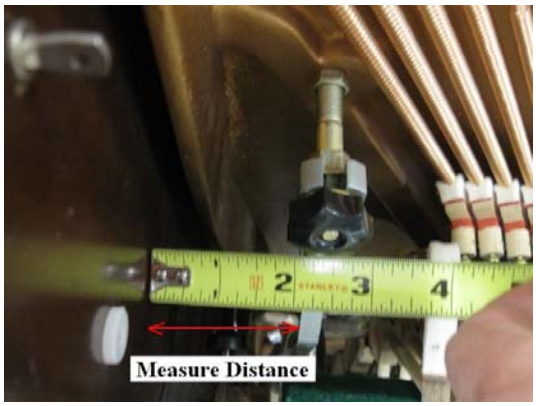
Necessary tools:

1. Cordless Drill
2. Phillip screwdriver
3. Straight screwdriver
4. Hack saw
5. Center punch
6. Pencil
7. 1/8" (3mm) drill bit
8. Needle nose pliers
9. Combination file
10. 1/8" (3mm) drill bit
11. 6" 15cm) straight edge or ruler

Getting Started

Disassemble the Piano

1. Remove the panels to gain access to the action.
2. Measure the distance from the edge of the bass action bracket to the inside panel. (See Ill. 1) This will be helpful when mounting mute rail.
3. Remove the action from the piano and place on the work bench.



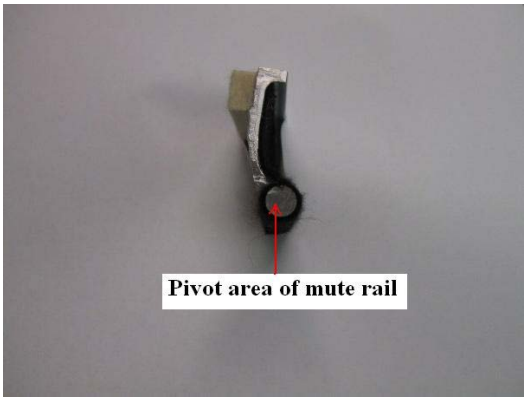
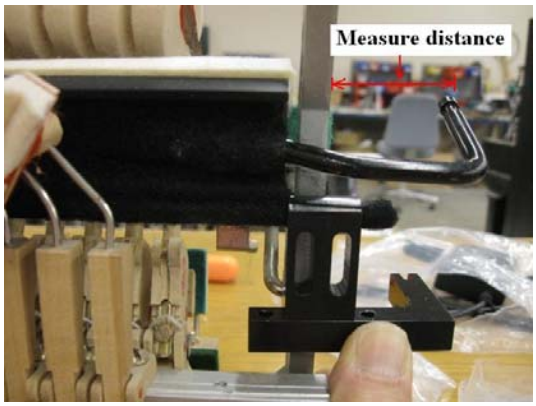


Illustration 1 – Measuring distance Illustration 2 – End view of mute rail

Prepare the mute rail

1. Locate the mute rail in the kit.
2. Place the mute rail up to the action with the "L" end at the bass side. (See Ill. 3)



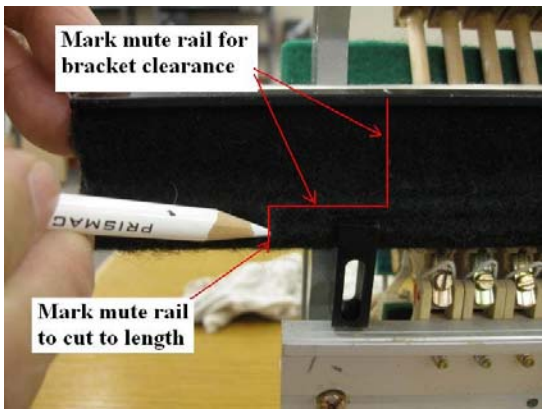
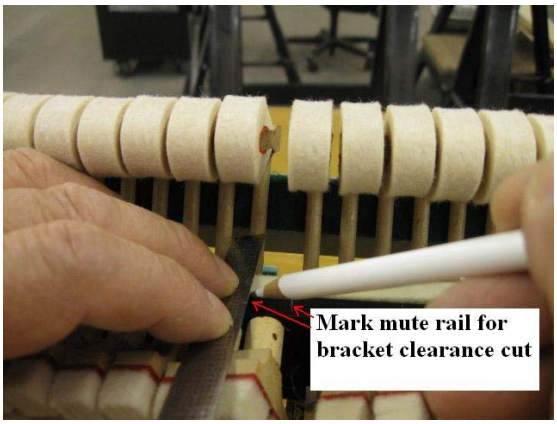


Illustration 3 – Choosing bracket position Illustration 4 – Marking treble end cut

NOTE: The mute rail is one long aluminum extrusion that will be cut to the length necessary for this action. At the breaks the mute rail portion will be removed to create a round pivot area. (See Ill. 2)

3. Using the distance measured is Ill. 1, choose which mounting position to use for the available room inside the piano. (See Ill. 3)
4. At the treble end, allow 3/4" (19mm) for the pivot bracket and mark the rail to be cut. (See Ill. 4)
5. Now mark the mute rail at the two break areas for the mounting brackets. There must be ½" (13mm) for most bracket clearance. This may vary depending on the piano. (See Ill. 5 & 6)



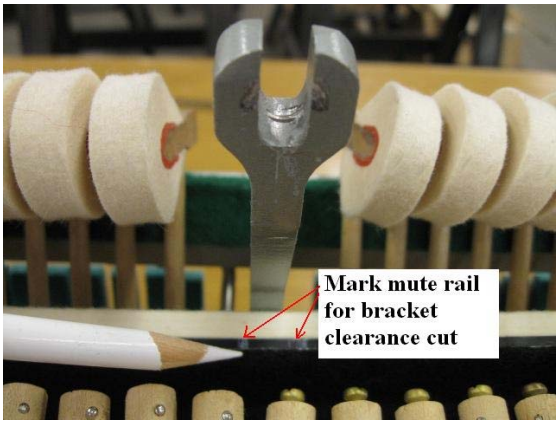


Illustration 5 & 6 – Marking mute rail at the breaks

Cutting the mute rail

NOTE: Only cut the mute rail to the "round" part of the rail and NOT all the way thru. The mute rail must remain one long piece and pivot on the round area.

1. Place the mute rail in the vise and cut the mute rail at each marked location down to the round portion of the rail.
2. On the treble end it is best to use a hacksaw for the horizontal cut for the bracket clearance. There is too much material to break off with pliers. (See Ill. 8)
3. Also on the treble side a grinder can be used to quickly remove material.

Illustration 7 – Cutting mute rail breaks

Illustration 8 – Horizontal cut

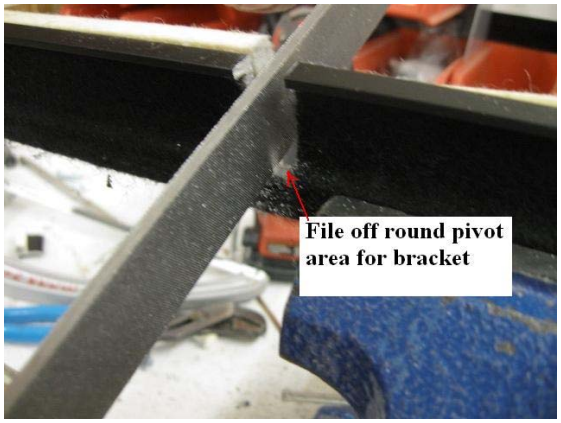


Illustration 9 – Removing break area

Illustration 10 – Filing break area

NOTE: Never use a stone grinder on aluminum only sandpaper.

4. Use a file to smooth the cut areas and round off the area for a pivot point. (See Ill. 10)
5. A power tool with sanding disc can be used to quickly remove metal. (See Ill. 11 & 12) This Angle Die Grinder tool (Item # 52848) can be purchased at Harbor Freight Tools. It is a very handy tool for many jobs.

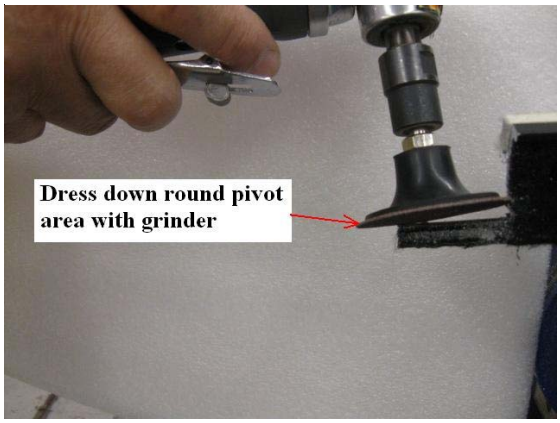


Illustration 11 & 12 – Angle Die Grinder

Preparing the mute rail pivot area

NOTE: There are four pivot mounting brackets. Three brackets are the same and the bass bracket has the actuator attached to the pivot bracket.

Illustration 13 – Self Adhesive felt

Illustration 14 – Cutting felt

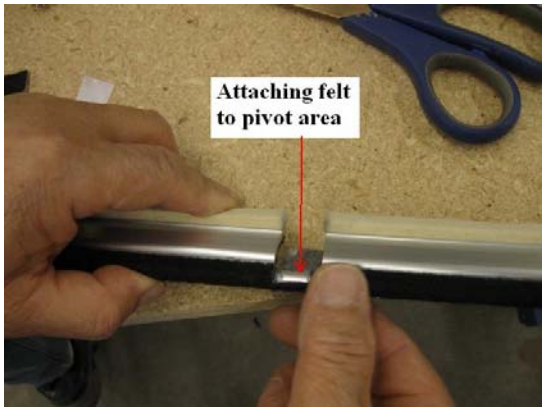


Illustration 15 – Attaching felt

1. Slide the plastic pivot into the pivot area and verify that enough aluminum was removed for pivot bracket movement. Remember that felt will also be placed on this pivot area.
2. Slide the plastic pivot of the pivot area.
3. Locate the self adhesive felt in the kit. (See Ill. 13)
4. Cut the self adhesive felt to fit over the pivot area.
5. Remove the protective backing and place the felt on the pivot area.
6. Slide the bracket back to the pivot areas and check for pivoting freedom.
7. Do this same procedure for the other pivot brackets.

Mute Rail Location

1. Place the mute rail on the action and place the mute rail 1/8” (3mm) away from the hammers. (See Ill. 16)

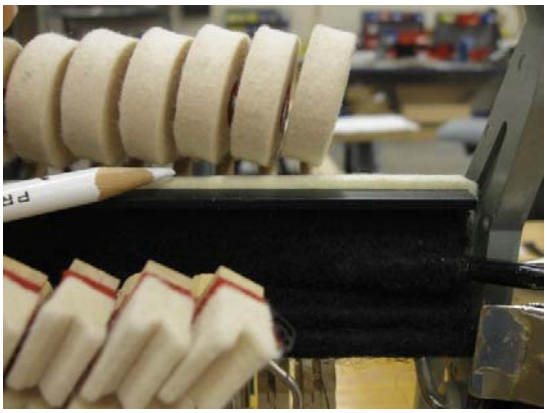
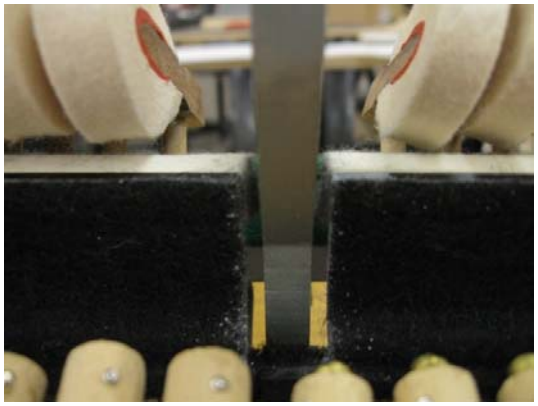



Illustration 16 & 17 – locating mute rail

2. Clamp the end pivots to the action.
3. Mark the action bracket in the center of the pivot bracket with a center punch. (See Ill. 18)

NOTE: There are two diameter mounting screws in the kit, use the larger diameter if possible

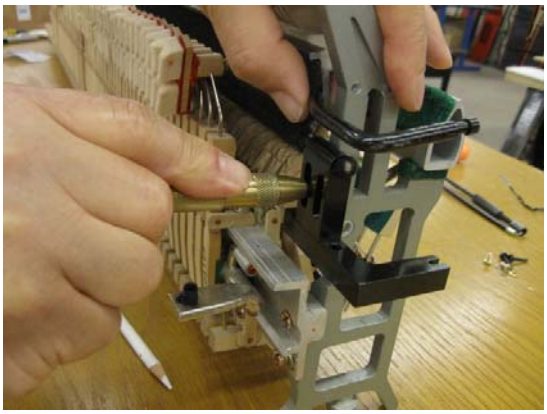



Illustration 18 – Marking location

Illustration 19 – Drilling Action bracket

Install the mute rail on the action

Allot of pianos today have only 3 action brackets but some have 4. If there are 3 action brackets, an "L" bracket, supplied in the kit, should be used at the treble/high treble break for support.

NOTE: It may be necessary to space the mute rail away from the hammer shanks it the hammers shank contacts the mute rail in the "off" position. There are a variety of sizes in the kit to choose from if shimming is necessary. (See Ill. 20)

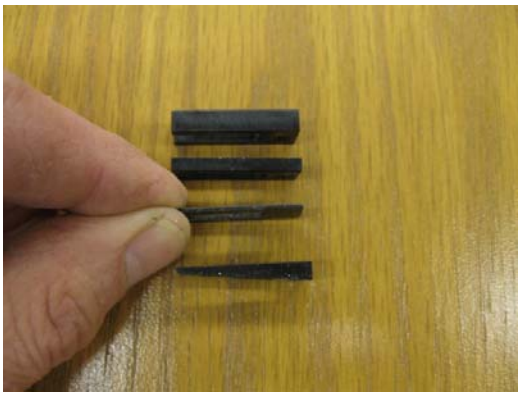



Illustration 20 & 21 – Assorted mute rail spacing shims

1. Place the mute rail back in the action and mount with the M3x40 mm screws.
2. If there is no action bracket at the treble/high treble break then use the “L” bracket (supplied in the kit) and attach to the action rail to support the mute rail. (See Ill. 23)


Illustration 22 – Treble side bracket

Illustration 23 – “L” bracket

4. Adjust the height of the mute rail so there is about 1/8” (3mm) between the mute rail and the hammers. (See Ill. 25)

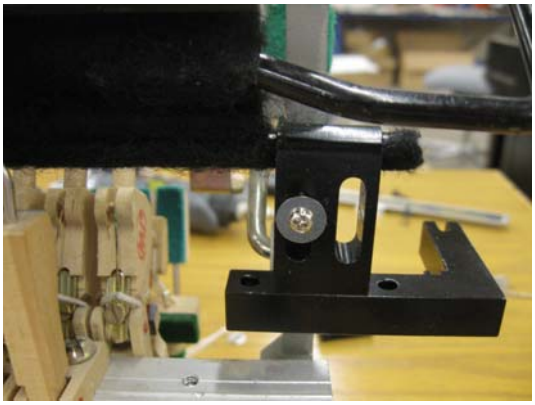
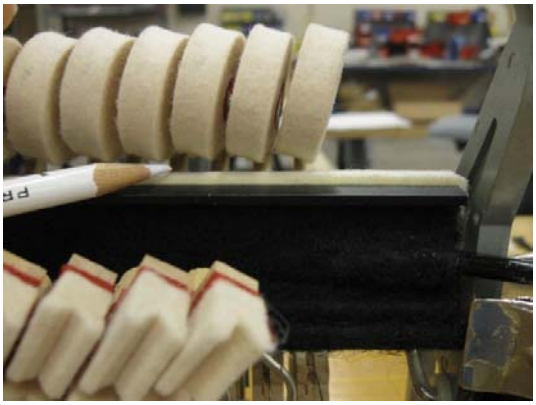



Illustration 24 – Bass side bracket Illustration 25 – Mute rail clearance

Actuator Lever Clearance in the Piano

On some pianos there may be a clearance problem between the actuator lever and the side panel. If this is a problem then the actuator lever can be moved in.

1. Peel back the self adhesive felt from the back of the mute rail. (See Ill. 26)
2. Remove the actuator screws and nuts.
3. Move the actuator to the new locations and secure screws.
4. Place the self adhesive felt back in place.

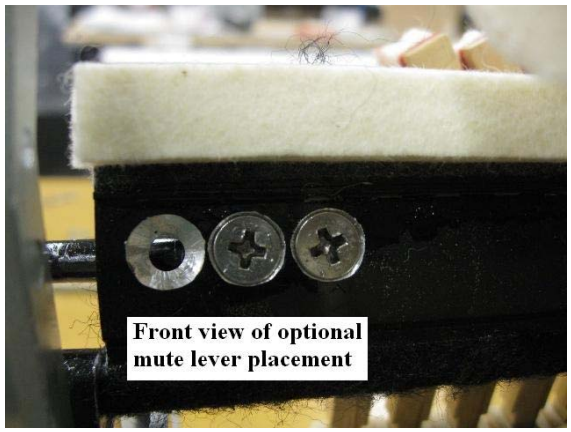


Illustration 26 & 27 – Actuation Lever adjustment (Rear and Front view)

Installing the Mute Rail Spring

1. Place the return spring on the actuator lever.
   A. Follow the pictures (illustrations 28-31) for installing the actuator spring.

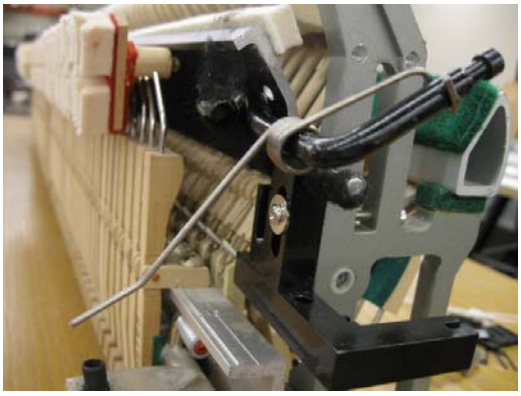


Illustration 28 & 29 – Installing Actuator Return Spring

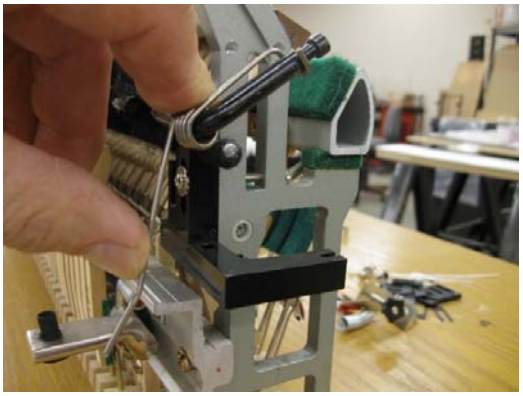
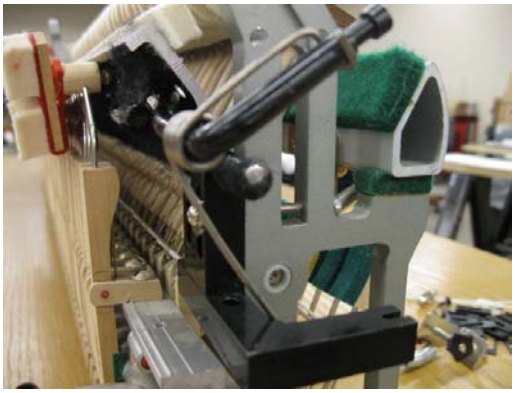



Illustration 30 & 31 – Installing Actuator Return Spring

Installing the Mute Rail Lever and Cable

1. Locate the mute rail lever assembly in the kit.
2. Mount the mute rail lever on the bass end of the piano under the keybed. (See Ill. 32)
3. Route the cable between the kick board and keybed and place cable housing into the bracket. (See Ill. 33)
4. Then connect the cable on the "L" actuator. (See Ill. 34, 35 & 36)
    A. There are two locations that can be used on attaching the cable connection.
        - The top location can be used with or without an E-clip. (See Ill. 34 & 35)
        - The bottom "hook" location is best to use the e-clip. (See Ill. 36) This is a convenient way to remove and install the cable.


Illustration 32 – Mount Mute Lever

Illustration 33 – Cable housing

Illustration 34 & 35 – Connection Cable with or without E-clip

Illustration 36 – Hook connection

Illustration 37 – Cable Adjustment

Adjusting the Mute Rail position

1. Place the mute rail in the “on” position.
2. Play notes in the tenor and treble and see if the hammers contact the strings.
3. Adjust the mute rail in or out by the cable adjustment. (See Ill. 37)
4. It is important to stop the hammers as close to the strings as possible.
5. Adjust the let-off so the hammer shanks do not block against the strings.