All About Pedals
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Principles:
1. Process of elimination
2. Tighten, clean, then lubricate

Vertical pianos

Grand Pianos
All grand pianos make a thump when the pedal is released quickly. Most good pianists release the pedal gently. Often the pianos with most perfectly evenly adjusted dampers make the loudest thump because they are all hitting at the same time.

Squeaks and groans

- The most common sources are pitman/trapp leather interface. The pitman often wears a deep divot into the leather and even into the wood under the leather. The way to deal with this is to remove the leather and to replace it with new leather. In a pinch, you can turn the leather end-to-end.
- The new way is to drill into the bottom of the lift tray and the top of the trapp leather with a Forsman bit, and to enlarge the pitman hole. Another way is to take your needle-nose pliers, grab the bushing, tear it out, n because it's better to remove the bushing and to restrain the ends of the pitman. Usually this bushing is all soaked in lubricants and graphite. take the wooden pitman out, cut a center pin in half and work the center pin into each end of the pitman. Give a good drive into each end so it holds.
- Trap lever springs.. The old leaf springs had b ig springs that would wear a dimple. Take the trap lever off, plane out the dimple, and possibly replace the spring. The end of the spring should be radiused. When it flattens out it makes noise. In this case, replace the spring.
- The pivots of the damper lift tray can squeak and make noise. Make sure the pivot blocks are immobilized. They cannot be moving at all. Shim any gaps at the top or the bottom, because there is a lot of force on these blocks. If the noise is actually coming from the pivot pins, you can't just squirt something in there. If it's the treble block, take it off, clean the pin and put it back together. If it's the left block, remove the treble block, move the rail over to the right to reveal the inside of the left block, use Ballistol or VJ lube, or naptha to clean is, and then put it back together.
- Pedal rod guide rail just needs a little lubrication. Clean and lube.
- Trapp lever pivots under the key bed sometimes make noise on old pianos. Take an umbrella stave and scrape the inside of the hole as well as the bush holes and clean out any gunk. Thoroughly clean the pin and put it back together. In Extreme cases you might have to remove a little wood.

Oinks and plucks

- Damper oinks happen when you let the key up slowly. These are particularly noticeable with the unicorda soft pedal. The main cause is corrosion and hardness of the damper felt. The other reason for oinks would be string leveling. If the strings aren't vibrating in phase, they will oink more. Glue some sandpaper on the back of a 6" ruler and sand the sides of the tri-chord wedges. This is more noticeable in the newer pianos becaused of the firmness of the felt they are now using.
- Plucks are when you step on the damper pedal andf the dampers kind of strum the string as they go through. What happens is that the wedge felts elongate because people don't fully step on the pedal. Over time, the tips of the wedges will swell up down below the strings, so that they actually pluck the strings when they go up. Keep the wedges trimmed so they do not go down much below the bottom of the string. This will reduce the noise a lot. Another thing to do is to put some Protek on the strings at the point where the dampers go through. Steve spent $50 on barber sheers for precise cuts. They are so sharp and they cut so straight that he uses these only for trimming damper felts. He keeps two pairs of scissors in his kit: one for everything else and one for this. Deepening the cuts can increase the dampening on the outer strings.

Una corda

There should be no noise. A noisy shift pedal can be most annoying
The key source of noises are:

- Glides
- Keytfram end pins
- Shift lever where it goes into the notckh
- The return spring

Universal treatment:
Take the action out. Wipe it down.. Take the keyframe out and sand under the front rail and under the back rail, since the bulk of the friction comes from these two locations. Sand the key bed on those spots. Sand the round dowels.The glides in the middle should be polished; examine that they are not scored and pitted. Put VJ lube on the glides. Put powedered teflon on the key bed. Spray proLube on the glides themselves. Sand the slot, which is usually graphited. This procedure will solve 90% of the sounds.

- The treble unicorda stop screw
- Dags are not designed to be in contact with the back of the action except when the piano is being moved. Occassionally humidity wil change things and the dags can contact the keyframe. If this happens, sand the dags.
- Loose key frame screws can cause noises. Tighten all the screws.
- Cracks in the wood slot. Chisel it out and shim a piece of maple.
- Ruts :L sand and shim
- Shift lever comes up and binds in the bottom of the key frame. Press the pedal down and it creaks when you release it.
- Clunk from the pin going into the end block because the slot was too big. The shift lever lifts the action off-center and wears the bass key block bigger. Without removing it, take a hammer and brass rod and tap it.
- If the glides are loose in the key frame they can make noise. They will also be noisy if they are not properly regulated.

Sostenuto

There is the New York Steinway system and then there is everything else. On the NY Steinway the rod is mounted on the action. On others it is mounted on the belly rail and stays in the piano when the action is removed. The Steinway system is easier to adjust. This also makes it easier to adjust the dampers.

- Start by looking in the piano.
    1. Look down with a flashlight from above and see the sostenuto rod and tabs, which are usually red. At the back of the piano you should just see the lip of the sustenuto rod sticking out at about 5:00.
    2. With the action out, there needs to be separation between the lip and the tab about 32mm both vertically and horizaontally. This is about 1/16". The tab is slightly lower than the lip. From looking down, you can pretty well judge the horizontal separation, but you can't see the vertical. Look from the front and you should see just barely a nice line of red at the bottom of the lip. In a Steinway, take the action out and put it on a table. Set the jig to one of the tabs to get both height and in-and-out with the notch on the spring. Even without the jig you can get a sense of where it should be.
    3. Here are some tests.
        - Step on the damper pedal and see if any stay up. Take the action back out, take a ¼" metal rod and tap at each action bracket. Slightly loosen the screws so they are still tight and they will hold it where you tap it.
        - Another test is to step on the sostenut pedal and to play chords. There should be nothing singing through. If there is, chances are that the rod need to be moved back a little, or there needs to be more rotation.

Pedal Box

Steinway
Unscrew the plate, take the pin out and clean it, install a new felt bushing, pack it with VJ Lube, and put it all back together in about 10 minutes.
Tubular teflon bushings are good, but sometimes it is a chore to remove the rod.

Baldwin
If there is any end-play you will get noise.
The pivot pin often breaks
\The hole will enlarge.
Once these things start wearing, everything starts wearing, gets enlarged and breaks. Even the brass pedal iteself can become enlarged.
As soon as you notice any play, stay on top of the repairs or the problems will snowball.

Put the pedal in before putting the pviot pin in. Then assemble the blocks around it.
To repair a broken pedal, you can get them bwelded, or brass can be brazed.

Shop

- Leather
  - Box of leather (hide, buckskin, shoe leather)
    - Uses: Stop screw on shift, buttons and cushions, etc.
  - Arch punches
  - Block for shaping leather
    - Lay a leather over the holes on the block
    - Insert a front rail bushing in each hole
    - Glue around the punching on the leather
    - Lay another leather on top
    - Lay a board on top of the top leather and clamp it.
    - Cut out the finished products and they will be like new ones.
- Chickering dampers
  - Rotate the damper block on end
  - Since the camper wires are threaded, unscrew the entire damper wire, protecting the damper felt with your finger.