Leg Problems

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Why Take an Unusual Job?

What do we do when we are asked to take on an unusual job? There are certain approaches to take. Considerations that determine whether or not to take the job:

- Challenge (puzzles and variety make our lob interesting and memorable)
- Efficiency (Possibly simply ordering a new part or hiring a subcontractor is more efficient and less expensive than taking on the complete repair alone)
- Learning (Accepting an unusual task and figuring it out is one of the best ways to learn, to hone our skills, to develop new techniques, and to add experience)

Inquiries

When someone mentions a problem, what questions should we ask?

- Narrow down the issue
    - How long?
    - What happened? Do you know how it happened?
- Schedule a time to take a look
- In the meantime, have them do something to protect the piano from falling or from being moved or touched.
- Ask for time to do some research.
    - Call the manufacturer
    - Check out the suppliers
    - Find a woodworker to subcontract
    - Look for custom replications (expensive)
    - Ask around the PTG members who might have spare parts

Many people try to move a piano by holding the lid, without lifting the caster out of the hole in the carpet padding.

Leg anatomy

Usually the attachment system is broken. What style of fastener is used?

- Key lock plates
- Lag bolts (hex heads for socket set/Allen wrench holes/crescent wrench)
- Large wood screws
- Pivot cam lock
- Wedges and dowels

Measurements

- Height without caster
- Hole positions
- Width & length of upper & lower sections
- Type of caster
- Bolt & receptacle thread size
- Mark front & back

Resources

Ordering parts

- New parts sometimes come unfinished or unassembled
- Confirm the part is available
- Follow up on the order, get the tracking number for the shipper

Estimate

- Hours
    - Write down a list of the hours from the G-Guide
    - Ask around how long this type of job takes other technicians to do
    - Research *Journal* articles on this type of repair
    - Hours times rate = estimate
- Record on a ledger the following:
    - Work hours on a time sheet
    - Dates and parts ordered
    - Notate the idealized version of the repair vs. the actual job
- Visualize a walk-through
    - List materials and tools needed
    - List any supplies to order or to find
    - List what information that needs to be reviewed
    - Practice in the shop any pertinent maneuvers that will be required
- Write proposal

Unique Tools

- Flameless torch (Stanley bought Jensen Tools)
- Thermal hygrometer (Pianotek)
- Tools (Hardwick's)
- Screw (Tacoma Screw)

Navigating the Unknown: Leg Repairs and More

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"One of our pianos has a broken leg, can you fix it?"
Do you take or side-step unusual jobs?
Income loss vs. investing in learning.
Hesitance vs. adventure.
Translate a yes-or-no question into needed facts, then translate your answer back to terms you can offer.

Find out:
What happened? Most often people try to move the piano by shoving on the lid and not removing strain when a caster may hang up in carpet padding.
When can you look at it? (Will you charge or will you be in the area already?)
Will they place a sign to protect the piano and people who might try to move the piano?
Indicate when you will get back to them (after research).

Think ahead so you know part of what to expect.
Leg anatomy and key measurements:
The usual culprit is the attachment system. Will you be able to diagnose all the elements needing repair without jacking up the piano corner and removing the leg?
Attachment systems: leg plates "key lock" pairs (replace both, replacement will not fit exactly!)
Various wedges and pivot cams to brace the plate in the locked position
Lag bolts (hex heads for some brands, crescent wrench) or large screws
Key dimensions you will need to know:

- height (with and w/o caster)
- type of caster
- which leg it is
- hole positions.
- width of upper section where it contacts the key bed (check for potential dimension "overhang")
- bolt size (thread and length)
- type of receiver and access to bolt receivers (they may be damaged too!)

Resources:

- Contact the manufacturer when possible, especially when it is a recent model.
- Parts may be readily available (with or w/o caster?); also the head service tech may have tips
- Supply catalogues (case parts are likely unfinished or not assembled)
- Woodworker or cabinet shop who can replicate? (costs more)
- PTG members have any spare parts?
- If you cannot get the part is it safe and possible to salvage the existing one?
- Repair information: PTJ (printed index through 1997; search CDs and pianotech list postings)
- Suppliers of useful materials: Crosscut Hardwoods, Laird Plastic (bulk bins: epoxy moulds)
- Time estimates:
    - G Piano Works,
    - Your own experience (keep a shop ledger and notes re expected vs. actual time),
    - Experience of your colleagues

Run an estimate.

Your hourly rate times hours anticipated, adjusted for learning curve

Indicate a range when there are variables you cannot foresee until you have full access

Talk to the decision maker about uncertainties in time and materials (in advance)

A piano truck would prevent future leg repairs if this instrument is moved frequently.

Pre-repair process:

Track your shipment and check the contents when you receive it.

Visualize a walk-through of the repair with pencil and notepad in hand, and list:

- materials and tools to bring (don't forget rubber mallet, drill, scrap hardwood)
- supplies to find (order?)
- are previously assembled specific "kits" replete?
- information and procedures you may need to review
- remember to place back-up support under pianos for safety to buy you time if...
- don't forget to bring the leg!

Practice procedures and tools you are less familiar with in advance (locate jack instructions).

Accurate definitions of tools you might include (credit unnamed tech contact of Jeff Hickey's):

Straight screwdriver: A tool for opening paint cans. Sometimes used to convert common slotted screws into non-removable screws and butchering your palms.

Phillips Screwdriver: Normally used to stab the vacuum seals under lids or for opening old-style paper-and-tin oil cans and splashing oil on your shirt; but can also be used, as the name implies, to strip out Phillips screw heads.

Hacksaw: One of a family of cutting tools built on the Ouija board principle... It transforms human energy into a crooked, unpredictable motion, and the more you attempt to influence its course, the more dismal your future becomes.

Hammer: Originally employed as a weapon of war, the hammer nowadays is used as a kind of divining rod to locate the most expensive parts adjacent the object we are trying to hit.

Pliers: Used to round off bolt heads. Sometimes used in the creation of blood blisters.

Vise-Grips: Generally used after pliers to completely round off bolt heads. If nothing else is available, they can also be used to transfer intense welding heat to the palm of your hand.

Pry Bar: A tool used to crumple the metal surrounding that clip or bracket you needed to remove in order to replace a 50 cent part.