

# Get to Know Your Instrument – A Little Better

AGO 2014 National Convention Workshop  
Thursday 26 June 2014, Boylston room 160  
David E. Wallace, Presenter

Workshop Outline:

## I. The Pipe Organ (Briefly)

- a. History
- b. Structure

## II. Key actions (Brief overview)

- a. Mechanical/Tracker
- b. Electric
- c. Other
- d. Problems/What can go wrong/How to deal

## III. Pipes

- a. Flues
- b. Reeds
- c. Tuning/What's involved

## IV. Environment and General Care

- a. Keep it clean/tips and hints
- b. Watch the weather – inside that is

## V. Call the Technician

- a. Routine Seasonal care
- b. Special Events (Let the tuner know well in advance!)
- c. Vocabulary – How to describe a problem and be specific

## VI. Conclusion/Wrap-up/Discussion

Demonstration assist from Wallace & Company Continuo organ

# Know Your Instrument for Organists

2014 AGO National Convention Workshop

Presented by David E. Wallace

## Some Very Basic Trouble Shooting for Pipe Organs Handout:

Here are a few very basic trouble-shooting points for common problems to help lend some understanding when something goes wrong with the pipe organ.

### Problems That Might be Common to All Pipe Organs:

°The organ won't turn on

Check the circuit breaker that controls the organ blower/systems. If the circuit breaker is on and the organ still won't turn on, call the church's electrician. Consult with the organ technician but a licensed electrician must deal with the building electrical matters.

°There is a significant sound of air rushing

A blower line, a bung cover or a corner gusset of a regulator may be loose and leaking air. There are many other reasons for such a problem so call the organ technician right away.

°The swell is badly out of tune with the great

This problem is prevalent in northern climates during the winter. If the heat is turned up close to service time, the parts in the various sections of the organ that are enclosed or in a chamber will warm up much more slowly than the unenclosed sections. This will cause a tuning difference. (Every 5 degrees F will make a 1 cycle per second difference in pitch.) If even tuning is a must, the heat must be turned up well enough in advance that all the physical parts of the organ (not just the air) are warmed to the same temperature.

°There are dead notes in the reed(s)

Most commonly, reed resonators are shaped like ice cream cones. Most commonly flies, ladybugs, moths and bats seem to fall into, fly into or die just above these pipes and end up in the bottom of the cone shaped resonator. When this happens, the note will play poorly or not at all. Cleaning bugs out is fairly easy for the organ tech

but bat remains are messy. Dirt and dust can also be a factor if it gets into the reed pipes. Excessive moisture can cause corrosion of the brass components of the pipe.

°Only the reeds seem to go out of tune

Reed pipes are made up of at least two or three kinds of metal, lead or common metal, zinc and brass. Each reacts differently to temperature change cause tuning to change. Most reeds have a tuning wire that holds the brass reed tongue against the brass shallot much the same way a player's fingers hold the strings of a violin against the neck. If that wire moves in the slightest, the tuning will change.

°Two adjacent keys alternately stick down

There is probably a paper clip or a broken pencil lead between the two offending keys. It could be other things too, but it will likely be something foreign between the keys.

°A pedal note is stuck down

Check to see if a pencil has fallen between the keys or is wedged between the back of the key covering and the back block of the pedal board.

°Something smells really awful when the organ is on

Refer to the bat issue mentioned above. Occasionally mice, maybe a rat or some other creature will get into the organ and pass quietly on only to leave a decaying carcass behind. Check for the same or maybe the garbage from last month's bean supper having been accidently left in the blower room.

°Is it okay to store stuff inside the organ or in the blower room?

Never. NEVER. Never. Don't even think of storing stuff inside the organ or organ chamber. NEVER. Not even one small box of music.

Some additional trouble shooting particular to differing types of key action: (Most all will require the services of the organ technician.)

Electric action pipe organs:

°The organ blower comes on but nothing plays

Possibly the circuit breaker for the rectifier provides power for the key action is off. It is also possible the fuse in the rectifier has blown. Check with the electrician and the organ technician.

°There are notes that won't play

In an electric key action pipe organ there are several points where an interruption of the electrical circuit could take place. The contact in the console, a relay in the system, the magnet in the windchest or a pneumatic malfunction could result in a dead note.

°There are notes that won't stop playing

As in the circuit above, a closed contact, or a stuck valve may be the cause of a note ciphering (playing non-stop).

°More cipher trouble-shooting:

If the ciphering note happens on every stop in a given division, the problem is most likely in the console key contact. If it occurs on only one stop and all the others are working for that note, the problem is most likely with the valve under that pipe.

°There is a key stuck down

Look for things between the adjacent keys.

°Only every other note plays

Some organs have divided windchests with a "C" side and a "C#" side. If the electricity circuit is interrupted for the windchest on one side, one chest – or half the notes – will play, the alternating notes in the scale will not.

°There are stops that won't come on / shut off

Like the key action, if something interrupts the electrical circuit between the stop control and the mechanism in the organ that brings the stop on, it will fail to engage. Conversely, if something keeps the electrical circuit "on" or a relay or pneumatic sticks in the on position, the stop will stay in the on position.

°Combination action won't set or hold combinations

If the combination action is electro mechanical or digital, when the method of setting the combinations has its electrical circuit interrupted, the combinations will not set or change. The problem can be with the piston button contacts in the console or within the mechanism itself.

°Things play even when no stops are on

Make sure the crescendo pedal is all the way off!

## Mechanical (Tracker) pipe organs:

°The blower comes on but nothing plays

(Older trackers) The linkage for the wind regulation valve has come unhooked and the wind is not getting from the blower into the reservoir.

°There is a key in the down position

The note does not sound when a stop is pulled. This might be the result of a break in the mechanical action such as a slipped key action nut or a broken tracker.

The note does sound when a stop is pulled. There is something keeping the key action in the “on” position for that note. There could be something in the pallet in the windchest or something wedged between the keys as mentioned above.

°There are notes that won't play through when a coupler is on

(NOTE: Do not draw couplers while holding notes, especially pedal keys on older tracker organs!) It is possible that the adjustments for individual notes are out of adjustment. This can also be a source of ciphers. Older tracker organs frequently need seasonal adjustment of the key action, which would resolve the coupler issues as well.

°The stops are hard to pull out

On older tracker organs, the wooden sliders that bring the stops on and off might expand a bit during more humid weather. This will make the stops harder to draw. Usually a return to drier weather clears the problem.

°Nothing happens when a stop is pulled out

Most likely the mechanical stop action has become disconnected. If the organ has electric or pneumatic stop action, the details mentioned in the electric action section above will apply here.

°There are slight sounds and ciphers when a stop is pulled on

If the location of the organ becomes too dry, especially during the winter months, older tracker organs may develop cracks in the windchest that will allow air to leak through to the pipes whether or not a note is played. Check the relative humidity and with the aid of a humidifier, keep the R.H. at 35% or better. Start the humidification in the fall at the time the heat is turned on and keep the humidifier full and operating until spring.