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Online Technical Resource

Reuter console problems

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Old Console Actions:

Old Reuters were designed without the knowledge of inductive flyback spikes. The resulting arcs burn the console and relay contacts. The "hot" contact is supposed to "make" first in the older wooden roller switches, and the newer all metal cranks are always "hot". This helps on the attack, but the flyback arc really burns the strip on the wooden roller, or the metal crank when the circuit breaks. The oxides these arcs produce on phosphor bronze do not conduct electricity, which leads to more arcing. Soon there are little notches on the surface. Scraping the surface helps, and fine sandpaper can be effective. One can remove the strips from the wooden rollers and turn them around so the other edge becomes the contact. The round cranks seem to fare better, but they will also corrode and burn. The choppers and contacts on the "in chest" relays do even worse, because there isn't much wiping action, and because they don't get much thought until they fail completely.

Phosphor bronze corrodes fairly readily. One of the worst substances for it is mouse urine. Mice enjoy living in consoles, and the fumes can devastate the entire interior of the console. Short of getting a snake to eat the mice, I don't know a sure cure.

There is a product on the market to replace burned off contact wires. It's a very fine silver tube, which can be cut to length, slipped over the contact stub and crimped at the bottom to hold it in place. This is quite expensive, but it does the job. Silver oxide conducts electricity, so silver is a much better contact material. All current Reuter consoles have silver contacts. Present day switching systems operate at very low currents and are well protected by flyback units that there isn't much chance of a problem with arcing.

The systems used for playing unit stops in older Reuters are very interesting. The very oldest Reuters are very straight- the only unit stop is usually a pedal Gedeckt, which was a stock unit and played only on the Pedal. Any switch, manual or pedal, which plays unit stops will have a slide for each stop at each pitch, unless it's a very large organ or has many units. In that case there will be a relay or relays somewhere in the organ. In the console, there has to be some method of operating these slides, so that the unit stop will appear to couple as if it was a straight stop. There were two methods employed before the change to solid state relays.

The first method is the "trick" relay. Relays of this age resemble remotely operated key switches but without any slides. They are in a small box sometimes near the bottom of the console. The relay has a roller for every stop and every coupler which operate against stationary contacts. It is wired so that turning on a stop sets up electrical circuit paths based on which couplers are

on. If there is a unit pitch which won't couple, look at the key switch which is trying to be coupled and make sure that there is a stop slide for that pitch of that stop, then check out the relay to make sure that the rollers are working and the contacts are clean. In many cases, it can't be coupled because there isn't a slide for that particular coupled pitch. 2' flutes won't couple at 4' to the Great, which would produce a 1', and may not couple to the Pedal at all, for example. Trick relays work very well; usually the first time anyone knows there is one is 35 years later when a pneumatic fails.

The other option is post-1930. There are long contacts which reach up through the stop tab mechanism and are moved by wooden strips on the stop tab traces. There are long crank contacts, which work like extended keyboard cranks, running transverse across the console. These consoles are affectionately called "wobble-wire-consoles". These cranks contact the long wires which set up the circuit paths for the unit slides. When they work, they work well. When they don't work, they can be very difficult. The main problem is bent contacts. They have to be kept as straight as they were when they left the factory, but still get them to contact the cranks, which also have to be kept straight. They are phosphor bronze, and they can get very dirty. Handle them with great care.

Floor settling can jinx console mechanisms of all types. The oldest console frames are very rigid, and the console mechanisms are overpowered. In the late '20s and early '30s they were redesigned, becoming much less heavily built. The floor can cause everything to go out of adjustment, especially since most consoles are screwed to the floor. The electro-mechanical combination actions are very susceptible to uneven floors, too. They aren't overpowered, so it doesn't take much to put them in a bind. Lubrication can help this kind of problem. It often helps to disconnect the anti-slam mechanism, which is a sort of pneumatic brake. Later consoles can also be helped this way.

Since all of the switches in a typical console have slides for most all pitches of unit stops, it is possible to add stop controls to turn on these slides directly, rather than through couplers. This can greatly increase flexibility in a small organ. It probably still won't be possible to get a 1' Gedeckt on the Great, though.

Console Disassembly

All Reuter consoles have removeable lids; many lids just sit by gravity, while others are screwed down. If the music rack is on the lid and has a light, they light must be unplugged when the lid is about 1/3 off, and the cord must be snaked out. Console backs sit on dowels at the bottom. They often have wooden hooks that fit over dowels on the sides. Lift and pull backwards at the same time. Some backs are also screwed to the frame of the console.

The nameboard and stop/combination action attached to it are hinged at the back. They must be disconnected from pneumatic combination actions before being raised. A "leg" is often provided to hold up this mechanism. If there isn't one, one should be provided.

New consoles have key boards that are hinged at the back, with many props provided. The older consoles aren't hinged. They slide under two large screws, one on each side. Before attempting to remove one of these, install a stick, which may be there, across the back of the keys. Loosen the two screws at the

back, and lift the front end slightly to get it off its dowels, then slide it forward. If the stick isn't there, springs and keys will be flying all over the church. There is always some method provided for disconnecting the combination action buttons on the key slip.

Reuter console ends come off. They are screwed in place from the inside, and they usually sit down over dowels. Finding all of the screws can be a challenge. Lift up the end and remove it. The newer Reuter console ends will need to be pushed forward, away from the back, to clear the alignment dowels in front of the inside frame. Many drawknob consoles have removeable panels in the end structure. These are usually secured with turnbuttons on the inside. Electro-mechanical combination actions especially need this access for service.

Chris Nagorka adds: The silver tubing referred to early on was available from Klann for many years, and I believe still is.

Dennis Milnar adds: The silver tubing is available from Swest, Inc. 11090 North Stemmons Freeway, Dallas TX 57229, 1-800-527-5057.