

Questions and Answers

Answers by Judd Walton

Q What causes one of the reservoirs in my Wurlitzer organ to "murmur", and how can it be overcome?

A It is presumed that the questioner refers to an audible sound as contrasted to a visible shimmy. This problem can result from a multitude of conditions existing singly or in combination. A few causes and cures are as follows:

1. A broken spring under the primary reservoir valve (this is the half round valve mounted on the 1/4" diameter threaded push rod). Replace the spring, which will require removing the cover and dismantling the valve assembly inside. Be careful in re-installing the wood dowel push rods on the 2nd and 3rd stage valves to get the longest rod on the smaller of the two flap valves. This may also cause the tremelo and reservoir to gallop.

2. A worn primary valve seat. Repair by dismantling as in No. 1 above, and re-felting the seat.

3. Uneven spring tension. 10" and higher pressure reservoirs should have 25 lb. springs. One spring with noticeably more or less tension can unbalance the equilibrium enough to allow air to escape through the valve with a murmur. To remedy, check springs, and re-install equally spaced on the sides of the reservoir. Moving one of the springs to one side or the other of its original location, such may be done to avoid interference with a wind line, and thus upsetting the balance can also be a cause. Its cure is obvious.

4. Improperly balanced weights screwed to the top of the reservoir. Check different locations and re-attach weights in new locations — usually a trial-and-error operation.

5. Excessive air leakage on the pressure side of the reservoir, causing the reservoir to admit more than the normal amount of make-up air. This can be caused by dirty armatures, air leaks in wind lines, cracks in the wooden chest members, etc. To cure, eliminate air leaks. This should be done irregardless, obviously.

6. An improperly seated primary valve. Rotate the 1/4" threaded push rod (and the valve with it) 180 degrees, more or less, until a position is found where the problem will cease. This can also be caused by a bent push rod which must be straightened to overcome the resulting improper seating.

7. A ratio of static to regulated air that in combination with one or more other problems causes the problems. A static regulator, an excellent device to have on a home installation, may overcome the problem and at the same time will result in a much quieter chamber.

Static air pressure, however, must be at least 10% higher than regulated air pressure for proper functioning of the reservoir and tremulants, under heavy demand.

8. Improper adjustment of the length of the primary valve push rod versus total spring pressure. Changing the length of the push rod will change the regulated pressure which must be compensated by readjusting spring tension.

9. A slight leak in one of the joints on the gusset. In certain instances, a separated wood-leather joint has been known to vibrate as the air escapes past due to the springiness of the leather (much as a reed tongue is caused to vibrate.) These vibrations seem to be pitched at almost any point in the scale from a low rumble to a fairly high tone or murmur. In one particular case, a partial cipher in one of the diaphones was blamed for the sound created by this problem, which was finally discovered only after diligent search (and then accidentally). A winker valve improperly adjusted can also be the cause of many queer noises, one of which is a dead ringer for a ciphered diaphone. Many times such a condition can be isolated by a sudden change in pressure. These are but a few of the more common causes of this problem, which can be a real stinker to cure.

Be sure you know where the sound is coming from before trying to effect a cure — the source can be very deceptive and difficult to locate. If all else fails, check your wife! — the sounds may be coming therefrom as a mild form of protest over the hours you spend grooming your pet. If so it is best to effect an immediate cure lest the condition become chronic.

Q I have been advised to increase the pressure on my theatre organ pipes from 10" to 15". I have been further advised to open up the toes of the pipes at the same time, so that it will make a greater change in the sound. Is this advisable in a home installation?

A Before answering this question it is imperative that one count slowly to ten! In considering this suggestion, one must first understand that the design and voicing of pipes is a very exact science! Let us consider for a moment the Tibia Clausa, as this seems to be the rank most frequently given the high pressure-ream job treatment. Specifically, let us consider two of the finest examples of the Tibia, the Wurlitzer Solo Scale and the Robert Morton Muted Horn. Most Wurlitzer Solo Scale (officially Large Scale) Tibias were voiced on 15" pressure. Examples of this rank where the toes were reamed with screwdrivers, beer can openers, etc., being almost blown off of their toe boards by increased pressures are sad examples of the amateur organ technician at work! One *must* understand that it is essential for perfect speech by a pipe that the toe hole be perfectly smooth and uniform throughout its circumference. Even a small obstruction or even surface roughness into the interior of the

foot can cause enough eddy currents to upset the speech of the pipe! In other words, the correct speech of a pipe is the result of an extremely close set of tolerances.

Likewise with the Robert Morton Muted Horn. Overblowing usually results in a coarse, windy tone, not to be confused with the breathiness so highly desirable in these two ranks. Also, it makes these ranks so coarse and loud as to be overbearing on almost all the rest of the organ. What folly it is, then, to simply ream out toes and increase the pressure when pipe voicing is such an exact science!

Now with care and experience it can be done! In several instances revoicing Tibias has been wonderfully successful. In the first, a separate reservoir and tremulant were installed on a Style E Wurlitzer standard scale leather lipped Tibia and the pressure raised from the normal 10" to 12". By carefully readjusting (closing) the toes, we found the results we were after; a full and lush sound with a delicate breathiness, not louder than the set was originally. The pipes just start to overblow on the pressure side of the Tremolo beat. In this case, 13" was just too much pressure — they screamed! In another instance (Joe Chadbourne's now-famous "Myrtle") the pressure was reduced from 15" to 12" on a Wurlitzer Solo Scale Tibia. The toes were opened to allow more air into the pipes, and the entire rank carefully re-regulated. Another example of this treatment, by someone in the know, is the Foundation Tibia in the former Fox Wurlitzer, San Francisco. Everyone seemed to feel that the sound emanating from this Tibia was just about the greatest. It was a 15" Solo Scale Tibia blowing on 11 1/2" Wind! While the toes were not too carefully reamed, the resulting sound was, nevertheless, perfectly lovely! In contrast to this, the 25" Tibia on this organ, while being very useful and having a sound all its own, was particularly suited only to the vastness of that theatre. In a small installation it would be impossible!

A Robert Morton Muted Horn installed on an 8" chest, which was originally voiced on 10", gave such a hauntingly beautiful sound that it is almost impossible to describe! On an increased pressure it would have been just another screamer such as is heard all too often!

After this rather long dissertation on the subject, it is respectfully, though urgently, suggested that you proceed with the greatest of care in raising pressure on your theatre organ pipes! The trail left across the country-side by the pressure boosters is all too discernable and you may find yourself in the same boat with the rest of the organ hobbyists who are now older but much wiser in this regard. It is easy to recall the many instances where these individuals knew something was wrong but at the time seemed oblivious to the fact that the high pressure was the cause! Unfortunately, one must allow them to find out the hard way ... the revelation

of the sound when the organ is restored to its proper pressure is the REAL proof of the pudding. Organ owners -- to arms! Protect your Tibia from the pressure boosters at all costs! Remember -- the designers of those wonderful Robert Mortons, Kimballs, Wurlitzers -- KNEW WHAT THEY WERE DOING!

Q I have a Style D Wurlitzer with two tremolos, a Main and a Vox, operating on a single six rank main chest. How do you install a separate tremolo for the Tibia Clausa which is now affected by the Main Tremolo?

A As indicated in your question, a Style D Wurlitzer usually has a Main tremolo that affects five of the six ranks, i.e., the Trumpet, Open Diapason, Flute, Salicional and Tibia Clausa. In later Style D organs (Style 185) the Tibia Clausa was equipped with its own tremolo as factory installed components, which eliminated the rather deadly sound that obtains when all five ranks operate from one tremolo. The Tibia cannot be made to sound as it should without adversely affecting the other four ranks when on the same tremolo. Thus the change to its own tremolo is highly desirable. To accomplish this it is necessary to isolate the wind supply to the Tibia from the main reservoir and the other four ranks, and to run a new 2½" tremolo airline to a newly installed tremolo, and a new 4" supply airline from a newly installed reservoir. Now as to the methods of making the change, there are two fairly simple ways.

1. Remove the cover from the air manifold on the C# end of the Main Chest. Make up a 2½" airline as per the sketch and install it inside the manifold. This will isolate the Tibia Clausa chest from the Main air reservoir air supply. A 2½" hole must be bored in the end of the manifold to which the end

of the new tremolo air line will be made up. The flange that attaches to the original air supply inlet of the Tibia chest will have to be large enough to completely cover the rectangular opening in the chest. Make up a 2½" air line from the hole in the end of the manifold to the newly installed tremolo. In the opposite end of the Tibia chest bore a 4" hole and make up a new 4" airline from this hole to the newly installed reservoir. Except for wiring in the tremolo control circuit, this completes the installation of the components.

2. Block off the wind supply to the Tibia Clausa with a rectangular sheet metal plate installed with a cork gasket. This may be installed either inside the wind manifold or inside the Tibia Chest itself. If in the chest, it may be necessary to relieve the end of the primary pneumatic rail on the bottom board so that it will clear the newly installed plate. Bore a 4" hole in the other end of the Tibia Clausa chest. Over this hole install a Wurlitzer Wind Junction box with a cork gasket to seal the two together (chest and junction box). If none is available, make up a box out of sugar pine or 5/8" plywood. Before installing, it is necessary to bore a 4" hole in one of the covers, a 4" hole in the bottom side, and a 2½" hole on one of the sides of the junction box. Install to the Tibia chest by removing the cover opposite cover with the 4" hole and attach with four wood screws run through from the inside of the box. These should be spaced equally around the 4" hole in the cover. Run a 2½" airline from the 2½" hole in the wind junction box to the newly installed tremolo. Run a 4" airline from the 4" hole in the bottom of the box to the newly installed reservoir. Except for wiring in the tremolo control circuit, this completes the installation of the components.

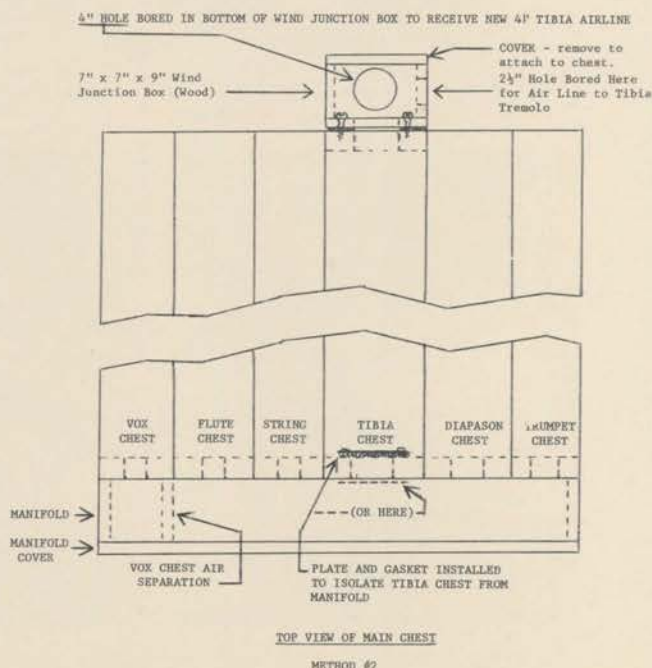
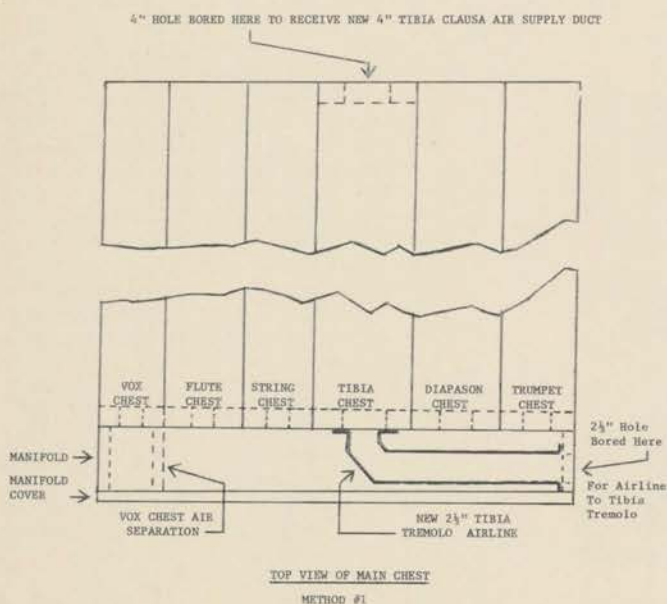
It will be necessary to connect the static air from the blower to the supply inlet of the new reservoir with a 6" airline, or larger. In using either Method 1 or 2, it must be remembered to rerun the airline to the 8' offset Tibia Chest from the new Tibia Clausa reservoir.

Most Style D Wurlitzer consoles have a provision for an extra tremolo stop just to the right of the existing Vox Humana tremolo stop. It is necessary to extend the slot in which these stops are mounted to accommodate the new Tibia Tremolo stop, and to acquire a stop properly engraved. It will also be necessary to install stop contacts and to run a wire to the tremolo. This can easily be done by picking up a spare in the console cable which terminates at the relay, and then running a new wire from that point to the tremolo. A return, or ground, can be picked up at the nearest chest-end, and a wire from there run to the other side of the tremolo control magnet. Or, the Tibia tremolo can be wired in parallel with the Vox tremolo, both to go on simultaneously when the Vox tremolo stop is on.

This should complete the installation except for regulating the pressure which can vary from 8" to 12" on a Tibia Clausa voice for 10", depending on the sound you want to achieve, and except for regulating the tremolo. Usually, approximately seven beats per second is about right for a Tibia. (This may take more time than all of the rest of the job combined). The number of man-hours spent by theatre organ enthusiasts adjusting Tibia tremolos would undoubtedly be sufficient to build a complete six rank theatre organ from the floor frames up! But it's all part of the game, brother, -- all part of the game!

Materials needed for either method

* Please turn to page 26



the first staff organist for Station WIL, having designed its Wicks studio organ. He traveled many states for the International Harvester Company in a touring road show using his concert Hammond, and played a stint for Walt Disney at famed Disneyland and for many other

touring shows too numerous to mention. More recently, being semi-retired, he limited his activities to substitute church work, teaching, and occasional banquet work. His infectious personality and hearty enthusiasm for organ music and the cause of the organization

were a never ending source of encouragement to those of us who knew him. We extend our sympathy to his wife, Mary, and his family.

Edgar 'Ned' Lustig

WESTERN RESERVE CHAPTER

Chairman - Duane D. Arey, 215

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Secretary - Clayton D. George,
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Ohio.



Western Reserve members at a recent meeting gather 'round the Wurlitzer 240 Special (ex Uptown Theatre, Cleveland, Ohio) now installed in the home of Don Wheeler, shown seated. Standing L to R are Franklin Shoop, Duane Arey, and Don Borden.



Bulletin board of Western Reserve Chapter.

QUESTIONS AND ANSWERS (Continued from Page 21)

include the following items:-

One Wurlitzer reservoir, 20" by 30" complete with 4 - 25# springs, hooks, etc.

One small Wurlitzer Tremolo.

10' to 15' of 2½" galvanized duct, and at least three 2½" adjustable elbows.

10' to 15' of 4" galvanized duct and at least three 4" adjustable elbows.

4 dozen pan head sheet metal screws 3/4" x 10 to screw on flanges.

3 square feet of 1/8" cork gasket.

Miscellaneous round head wood screws as needed, and wire to connect tremolo electrically.

(On method Number 2 only) One 7" x 7" x 9" Wurlitzer Wind Junction box, or equivalent.

THE SANTA FE'S MAESTRO OF THE MIGHTY WURLITZER

A neighborhood of Wilmette, Illinois, was badly shaken last year when several coffin crates were deposited on the lawn of the Russell Joseph residence. They didn't realize the contents were pipes for a theatre pipe organ, and that Russell Joseph was an enthusiastic booster of this type of music maker.

The delivery of the coffin crates to Mr. Joseph was the culmination of a dream, (or nightmare, depending on your point of view), for owning a theatre organ had been his idea of heaven on earth for more years than he cares to state.

It all started back in the glorious days before the arrival of talking pictures. As a child, Russell collected organ catalogs as others collected pictures of athletes of the day. He spent many hours investigating the organ manufacturers, such as Kilgen and Wicks, whose factories were near his boyhood home. After taking a few organ lessons he became organist for his church, and spent a summer with Milton Slosser learning the intricacies of the organ in the Missouri Theatre, St. Louis.

As the years passed, Mr. Joseph followed his career as an executive with the Santa Fe Railroad, while his dream of pipe organs lay dormant until one day in 1960 when his son, Fred, a student at the University of Wyoming, called and advised that the old pipe organ in the auditorium was being replaced. He wondered if Dad would like to enter a

theatre organ