Zenith Robot Dial Restoration Instructions

As long as you added a couple drops of oil to the felt pads in the motor then it should be lubricated. The spring we are talking about is on the Tuning Capacitor. You have to remove the whole dial assembly from the chassis. Then look at the gears on the front of the tuner. Notice for reference that when the tuning cap is closed a small pin on the idler gear touches the stop. Stop will be removed with one 1/4" screw. At this point the tuner will close about 1 degree.. in other words the pin on the backside of the gear hits the stop just a hair before the tuner is closed. Now behind the gear that is on the tuner shaft you will find this spring. Remove the screw from the end of the tuner shaft. Then there is also a set screw in the side of that gear. Loosen it a bit. Gear will now unwind the spring. Go ahead and remove that gear so you can get the other gear off and clean and lube the gear shafts. When you reinstall the tuner gear load that spring just a hair with the tuner closed. Notice then that if you open the tuner the spring will slam it shut if you let go of the gear. Lube the tuning capacitor bearings and bushings while you are in there. Then reinstall the gears in the correct order. Be sure that the little stop pin hits the stop correctly.

While you have the dial assembly off the chassis you should also clean and adjust and lube the shutters as well.
I wrote this sometime ago and saved a copy of it.

Dial Assembly

Nice clean somewhat long workbench area so that as you take it apart each part goes in a line so that re-assembly is in reverse order. TAKE A COUPLE PICTURES of the backside of the whole works right now.

Some key parts to right now look at and make notes about… while they are still assembled correctly.

Springs

Note the direction they are installed. Hooked open ends are outward away from themselves so none can catch on each other during operation.

Brass Colored Dividers

Held in place by the middle screw (Note they are not flat). Some have one, some have two. Whatever is there is there for a reason. They are in a particular position relative to the shutters. They are either under or below that stationary third band dial. Don't flip them upside down and put them in the wrong way don't put them in at a different angle than they are right now. Take a picture and make notes NOW.

Shutters

You have two that move. AM band and Main Short Wave band you have to think a little backwards as the AM band really is the first one to put back in because it is the front dial.

Felt Pads

Note at the top where the shutters close that they should hit a felt pad. Usually these are all beat up or missing. They need to be replaced or your shutters will be over closing and damage themselves at the bottom edge. I use those felt pads you buy to put on table radios that stick on. I don't trust the stick on glue. I use 3M #77 spray adhesive and cut a section from these felt pads to replace those old worn out pads. Yes, they are grey you can't see them after install anyway or paint them if the color bothers you.

OK Lets take it apart.

Remove the hairpin clips.

Remove the 1/4" screw from the middle.

Lay off to the side your brass colored divider strips.

Remove the two springs. So you have one small pile... brass dividers, hairpin clips and a screw.

Move to the right or left, whichever direction you're going to go with this thing. Now work the shortwave shutter back and forth while lifting carefully both sides off the pivot pins. If there is some crud on the ends of the pivot pins maybe a little liquid wrench or something. Maybe work the shutter with a knife or small screwdriver under the brass bushing on each side back and forth… just do not bend or force the shutter itself. Eventually you can work them up off the pins.

Once the first one is off the pins. Then use a little 600 or 800 grit on the ends of the pivot pins to polish the ends up a bit.

Next do the same thing to remove the AM band shutter.

Now do a super job of polishing up those pivot pins with some 800 grit paper... when your all done add a little light machine oil to them.

Now it's time to look at the slots at the top of the frame where the shutters slide. There are two types of these things. Some are made from plastic and some are made from Steel.

The Steel ones first. They are covered with a Flocking material... yes it quiets the shutter operation... yes it keeps the shutter from being scratched near the top portion of the shutter… you can't see that top

portion of the shutter… maybe a little noise doesn't bother you and maybe it does. What does bother you is if you put this back together and someone changes bands on it... the tang at the bottom bends and your shutter is then stuck and bent forever more... screwed up... or just maybe in the last 70 years this Flocking stuff has GROWN and somewhat closed up this little slot? Personal Opinion injected here. I think that Zenith realized they had a problem along the way with this dial and went on the later ones to the plastic to replace this steel with Flocking. I take these metal ones apart. I carefully scrape the flocking off ... but ONLY in the slot area... NOT where the screws that hold it together are located... there I want the flocking for the additional spacing... I just want the flocking GONE where the shutters move back and forth.

Now for the Plastic version. Less trouble somewhat. Here you only have to hold them up and look to be sure you don't have one that is warped. Yes, unfortunately sometimes we find one that is warped. If this happens then you can usually take the affair apart and redo them into a different order so that the warped guy is on the outside and the warp makes a slot wider instead of closing up a slot. If you just plain don't have enough good parts then yell as I have scrapped out
enough of these radios for parts that I have spares.

Service of the Two Moveable Shutters

Note the rivet in the center and its slightly spring loaded piece of steel. I ever so lightly pinch that piece of U shaped piece of steel such that it no longer holds the two parts of the shutter tight together meaning that they will now slide much easier. Next add just a little bit of light machine oil to this slot so that it is all just slightly damp on both sides. Lastly take a look at the Tang... that's the lever part where your bandswitch makes contact and pulls the shutter open. Most important that this part is nice and flat. Hopefully it isn't all bent so badly from abuse that it won't ever work correctly.

Finally its Re-Install time.

Put in the AM band dial first. Into the bottom set of top slots and onto the pins it goes. Now for the real work on this thing. When this shutter is set correctly, if you hold the dial assembly vertically right side up the shutter will fall open on its own. If you hold the dial assembly vertically upside down then the shutter will fall closed.

Your job is now to see if it does and if it doesn't then what it is rubbing on or twisted or slightly bent... just why it doesn't quite get it. Hold it up to the light and see how each side looks in the top slot. Is it in the slot squarely or is it twisted?

Somewhat the same at the bottom as it sets on the pivot pins... it takes ever so slight amount of a little bend or twist in one arm or the other to put the thing into enough of a bind that it won't operate smoothly.

After you get the AM band to work smoothly then repeat same process with the shortwave shutter.

Lastly, put on the hairpin clips... install the brass dividers correctly and the springs and the dial assembly is done... finally... hold it upright... use your finger and pull the tangs downward... you should be able to pull the shutters open and let go they will go shut.

Then simply put it back on the radio in reverse of the remove process... be sure when you get to the part about making sure that the pointers come through the middle of the hole to get that adjustment correct and your shutter dial should work just fine for many years to come.

I hope I didn't forget anything.... It takes me about two hours normally to remove and service one of these dials... that’s after I have done probably 100 of them... sometimes they are easy... and sometimes they are a real PAIN... if they are bent… that's when they become a real pain...