

## **G3YRO 101 Alignment Instructions**

**There is very rarely any need to ever touch ANY of the I.F. tuned circuits.**

**However, the RF Tuned circuits are worth re-peaking every 5 years, or whenever replacing the Driver or PA Valves.**

**But DON'T don't follow all the procedure in the Handbook, as that makes it much too complicated ! (that would be the way to do it if the rig had just been assembled . . . or you had replaced almost everything in that part of the rig!) Just use the Handbook to identify which Trimmers to adjust on each band.**

**The main thing is to NEVER touch any of the transformer cores, or you will mess up the tracking. Just use the Trimmers on the boards on the underside of the rig.**

**You don't need any test equipment - just connect a Dummy Load, and use the Calibrator as the Receiver test signal.**

**Stand the rig on it's side, and just remove the bottom plate (NOT the lower screening plate). You may need to prise the RH side of the case (now at the top) away slightly to gain access to some of the trimmers - if you remove the retaining screw, this can be done easily. (you certainly DON'T need to remove the case!)**

### **PROCEDURE**

**It's best to do one band at a time, starting at 80m and working up, then do 160m last.. Go to the middle of each band (in your country), and set the mode switch to Tune.**

**When I say to Transmit, always monitor Ic (PA Current), and keep re-adjusting the Carrier control to keep the current around 100mA (= 0.1 on the meter)**

- 1) Tune in the calibrator signal on Receive, and peak the Preselector for max S Meter reading (to give you a starting point).**
- 2) Transmit, and peak the Band Crystal Osc Trimmer for that band for max current.**
- 3) Transmit, and peak the Mixer Trimmer for max current.**
- 4) Transmit, and adjust the Grid Trimmer for that band for max current (be careful not to short the trimmer to the screening plate, as there is high voltage on it!).**
- 5) On receive, peak the RF Stage Trimmer for maximum S Meter.**
- 6) Go to the next band and do it all again.**

**Notes regarding 10m : Adjust the Band Crystal trimmer for max on EACH of the 4 segments. But just carry out the alignment in the middle of the 10B segment.**

**Also note - On 10m there is NO Grid Trimmer... so ignore Step 4. Do Step 3, but then try re-adjusting the Preselector knob to see if you get more PA Current. If it increased, you will then have to re-peak the Mixer Trimmer again, and repeat these two steps until there is no improvement in the power level. This 'juggling' will only be necessary if the Valves you are using have very different internal capacitance to the original ones. (when you're happy, peak the 10m Rx RF stage trimmer)**

**With good PA and Driver valves, maximum carrier Power Output should be 130 watts on all bands except 160m & 10m, where it will be about 120 watts.**

## **S METER**

**Having done this, you need to adjust the S Meter calibration. (make sure your Dummy Load is still connected)**

**On all early FT101 models (with a very tall Calibrator crystal) go to 14.200 and having peaked the Calibrator signal using the Preselector, set the S Meter to read S9 + 20dB. This should equate to a 50uV signal reading S9 on all bands. (the Calibrator signal should read higher on the lower bands, and lower on the higher bands, as the harmonics get weaker).**

**On later FT101E models (which are really an FT101F) that have a small Calibrator crystal, set the Meter to read S9 on 14.200 (and it should read similar on all bands)**

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