Nexrad Transmitter Klystron Quick Tuning Procedure

1. Zero backlash on the six tuning adjustments and set each to factory specifications for frequency of operation at 2809 MHz these are:
    a. Position 1 = 49
    b. Position 2 = 48
    c. Position 3 = 51
    d. Position 4 = 42
    e. Position 5 = 28
    f. Position 6 = 41

    They can be found on the datasheet in the pocket mounted inside the rightmost transmitter cabinet
2. Adjust RF drive input to Klystron to 7.5 W – at 1 KHz PRF and 1 microsecond pulse (0.001 duty) should read 8.75 dBm on power meter at top of transmitter.
3. Adjust mod discharge timing to peak transmit power and “center” RF detected pulse in center of beam current pulse.
4. Klystron tuning positions 1 and 6 adjust the impedance matching of the tube to the input and output ports, respectively. Adjust these to maximize output power.
5. Adjust position 4 to “flatten” pulse
6. Use crystal detector output to adjust pulsewidth. Insert 3dB attenuator in line between detector and scope. Adjust waveform so that top lies on a vertical grid line on the scope screen. Remove the attenuator and use vertical cursors to measure width of transmit pulse, where the pulse crosses the vertical grid line which was used previously to mark the top of the pulse.