

# Magnum 1 Tune Up

The adjustments below require technical knowledge and specific test equipment. Only qualified individuals should attempt to make any adjustments to the radio. Use the document titled "Magnum 1 – Variables" to locate the various controls mentioned in this document.

## AM Modulation

1. Turn microphone gain to 63 (100%).
2. Turn the RFP (RF power) control to full clockwise (100%).
3. Put radio in AM mode.
4. Locate RV12, AM MIC GAIN. While transmitting and saying a constant tone into the microphone (say the word "fouuurrrrrr" in a long, drawn out tone) slowly adjust RV12 counter-clockwise for maximum modulation. NOTE: The variable controls have 360 degree rotation so it is possible to turn the control too far and have no modulation. If this occurs, turn the control clockwise slightly and readjust for maximum modulation.
5. Locate RV15, AMC. While transmitting and saying a constant tone into the microphone (say the word "fouuurrrrrr" in a long, drawn out tone) slowly adjust RV15 clockwise for maximum modulation. NOTE: The variable controls have 360 degree rotation so it is possible to turn the control too far and have no modulation. If this occurs, turn the control clockwise slightly and readjust for maximum modulation.

## AM Carrier

1. Before adjusting the AM carrier, first test and confirm that the bias is correctly set. See document titled "Magnum 1 Bias Setting for Drive and Final Transistors".
2. Microphone gain should be set to OFF (or do not speak into the microphone while making this adjustment).
3. RF power control should be at maximum. Radio should be in AM mode.
4. Locate RV16, AM HIGH POWER. While transmitting, with no voice, adjust RV16 to obtain a 10 watt carrier on an accurate RF watt meter.

## FM Power

1. Before adjusting the FM carrier, first test and confirm that the bias is correctly set. See document titled "Magnum 1 Bias Setting for Drive and Final Transistors".
2. Microphone gain should be set to OFF (or do not speak into the microphone while making this adjustment).
3. RF power control should be at maximum. Radio should be in FM mode.
4. Locate RV21, FM HIGH POWER. While transmitting, with no voice, adjust RV21 to obtain a 15 watt carrier on an accurate RF watt meter.

## SSB Power

1. Before adjusting the SSB power, first test and confirm that the bias is correctly set. See document titled "Magnum 1 Bias Setting for Drive and Final Transistors".
2. Turn microphone gain to 63 (100%).
3. RF power control should be at maximum. Radio should be in LSB mode.
4. Locate RV20, SSB HIGH POWER. While transmitting and saying a constant tone into the microphone (say the word "fouuurrrrrr" in a long, drawn out tone) slowly adjust RV20 for maximum output power on an accurate RF watt meter.

## Receive Meter Adjustment

1. Connect radio to a signal generator and inject a 100uV signal into the radio.
2. Locate RV9, AM RX MTR. With radio in AM mode, adjust RV9 so that front panel S meter measures S-9.
3. Locate RV8, SSB RX MTR. With radio in LSB mode, adjust RV8 so that front panel S meter measures S-9.

## Squelch Adjustment

1. Set radio's front panel squelch control to 75% of maximum (approximately 2 o'clock).
2. Locate RV11, AM SQ ADJ. With radio in AM mode, adjust RV11 so that the radio's receiver is just muted.
3. Locate RV10, SSB SQ ADJ. With radio in LSB mode, adjust RV10 so that the radio's receiver is just muted.

## Other Information

1. Limiter transistor is T106. See image below for location.

