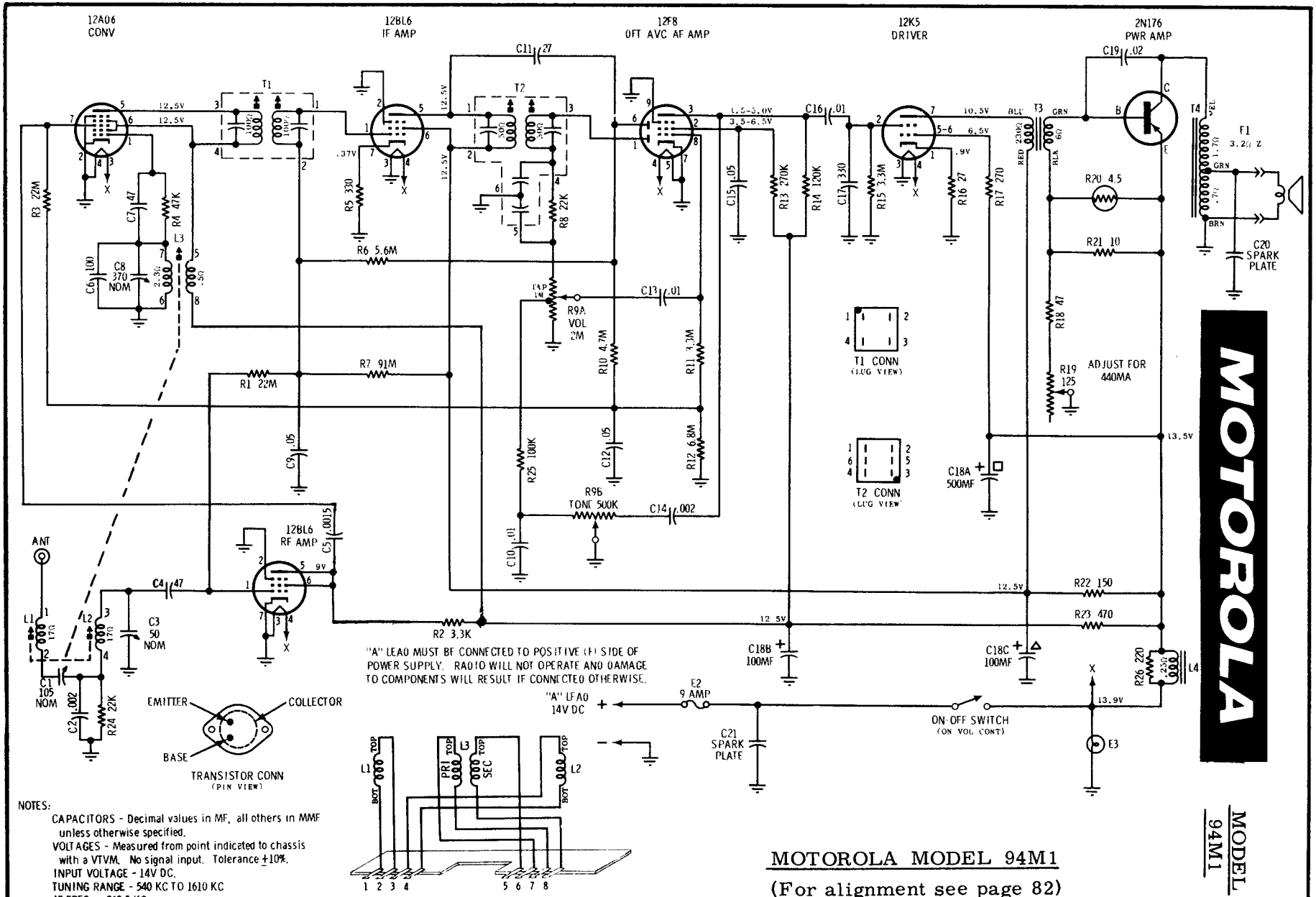


NOTES:

CAPACITORS - Decimal values in MF, all others in MMF unless otherwise specified.
VOLTAGES - Measured from point indicated to chassis with a VTVM. No signal input. Tolerance ±10%.
INPUT VOLTAGE - 14V DC.
TUNING RANGE - 540 KC TO 1610 KC
IF FREQ. - 262.5 KC.

MOTOROLA MODEL 94M1

(For alignment see page 82)

MODEL 94M1

MOTOROLA MODEL 94M1 (Continued from page 81)

SERVICING PRECAUTION - When servicing this receiver, probing with a screwdriver (checking for spark to ground from various points) must be avoided, because the plate power is obtained directly from the storage battery and high currents can flow through the components causing permanent damage. The transistor stage is especially susceptible to damage from this type of check. If the transistor BASE electrode is shorted to ground (either directly or through any other path) the BASE bias will be removed allowing excessive current to flow through the transistor causing permanent damage by melting the indium junctions in the transistor.

TUBE CHECK - Substituting a known good tube for a suspected one is the best and only check recommended at this time.

CIRCUIT SIGNAL TRACING - Defective stages can be located by injecting a signal from stage to stage. A signal generator with a 400 cycle output can be used for this purpose as it has a source of RF and audio signals for checking the respective stages. In the transistor stages, the signal is injected between the base electrode and chassis; in tube stages, the signal is injected between the input grid and chassis. The signal is injected from stage to stage until the defective stage is located, and then the defective component is located by resistance and voltage measurements. This system of servicing will locate defects in stages caused by faults in the signal paths where the defect does not show up as a voltage reading difference.

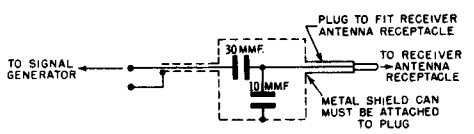
CAUTION: When using a signal generator as a signal source a .5 mf 100V capacitor must be used in series with the ground lead to prevent damage to transistors.

ALIGNMENT

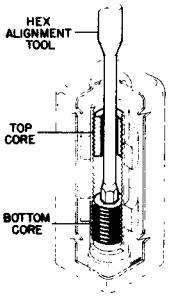
The following alignment procedure should be performed with receiver covers in place. Connect an output meter across the speaker voice coil, set volume to maximum. Attenuate signal generator output to maintain 1.79 volts on output meter at all times to prevent overloading the receiver. Refer to alignment detail for adjustment locations.

STEP	GENERATOR CONNECTION	GENERATOR FREQUENCY (400 cycle mod)	TUNER SET TO	ADJUST	REMARKS
IF ALIGNMENT					
1.	Ant recept thru .1 mf & chassis	262.5 Mc	Hi end stop	I, 2, 3 & 4	*Adjust for maximum.
RF ALIGNMENT					
2.	Ant recept thru dummy (see fig.)	1610 Kc	Hi end stop	5, 6 & 7	Adjust for maximum.
NOTE: Do not perform steps 3, 4, 5 & 6 unless the tuner has been tampered with or components have been replaced. Remove the escutcheon and dial background plate to expose the core screws. Before proceeding with step 3, back the tuning core screws 7/16" out of the coils to eliminate their effect on trimmer adjustments.					
3.	Ant recept thru dummy (see fig.)	1610 Kc	Hi end stop	5, 6 & 7	Adjust for maximum.
4.	"	1200 Kc	Tuner carriage 9/32" from hi end stop	8, 9 & 10	Adjust for maximum using alignment tool Motorola Part No. 66A76278.
5.	"	1610 Kc	Hi end stop	5, 6 & 7	Adjust for maximum.
6. Repeat steps 4 & 5 until no further increase, then cement tuning cores in place; step 5 should be last adjustment.					
ANTENNA TRIMMER					
7.	-	-	Weak station around 1400 Kc	7	With radio installed in car and antenna fully extended, adjust antenna trimmer for maximum.

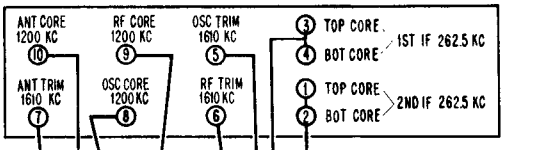
*NOTE: The cores of the IF transformers are adjusted from the top of the can by using a hex alignment tool such as shown in detail. This is accomplished by first adjusting the top core and then dropping the tool down until it makes contact with the bottom core.

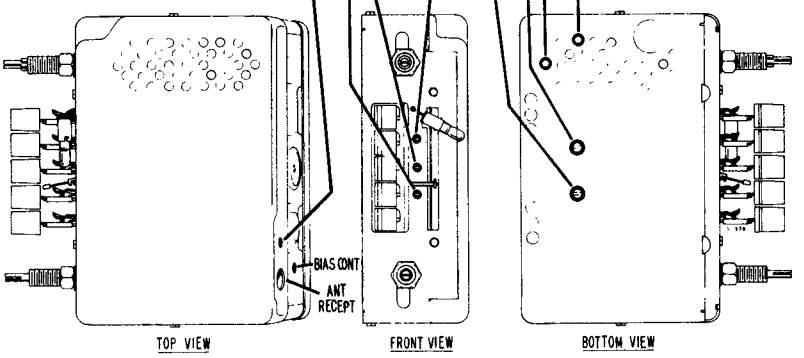


DUMMY ANTENNA DETAIL



IF ALIGNMENT DETAIL





ALIGNMENT POINT LOCATION DETAIL