

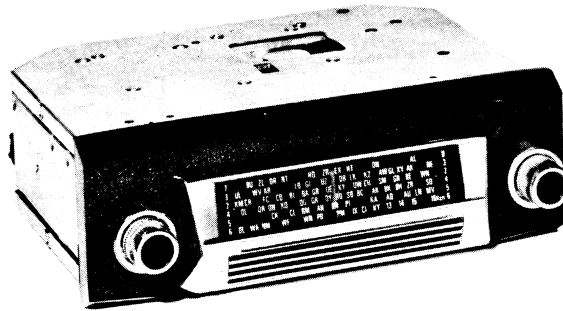
SERVICE DATA

MODEL MD-C21W

MANUALLY TUNED

8 TRANSISTOR 12 VOLT CAR RADIO

DESIGNED FOR DUAL POLARITY OPERATION



SUPPLY SOURCE : 13.0 VOLTS D.C.
CURRENT CONSUMPTION : 650 milli AMPS
POWER OUTPUT : 2 WATTS

NOTE: Tuner - First Production run - Part No. 4050-058-02
Tuner - Current Production run - Part No. 4050-057-02

This receiver consists of a MD-C21T chassis fitted with a Box Front type dial housing.

REPLACEMENT OF OUTPUT TRANSISTOR

NOTE: A Power Transistor Replacement Accessory Package, Part No. 7001-104-01 is available and contains sufficient hardware to service two transistors.

When refitting or replacing an output transistor, check that the mount position and faces are clean and free from dust, grit or metal particles.

After removing the mount screws or having drilled out the eye-lets, carefully wipe the heat sink clean.

Smear a thin film of silicone compound, Part No. 1036-001-09, on both sides of mica washer and the mount faces of chassis and transistor.

MEASUREMENT AND ADJUSTMENT OF OUTPUT TRANSISTOR COLLECTOR CURRENT.

EQUIPMENT: Current Meter: 0-1 Amp. D.C.
Supply Source: 13.0 Volts D.C.

CONDITIONS: Note receiver polarity changeover setting then connect supply leads accordingly. Disconnect lead from collector terminal solder lug. Connect positive meter lead to solder lug and negative meter lead to free lead. No signal applied to aerial socket. Set volume control to minimum position.

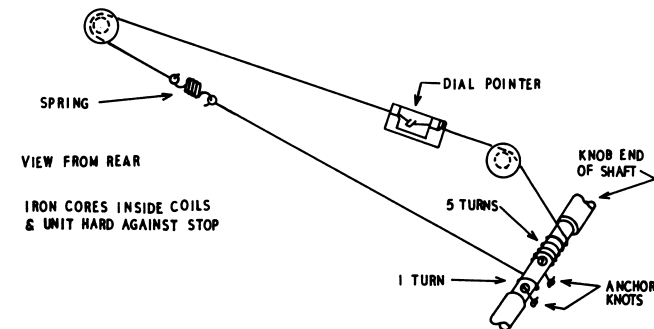
1. Switch receiver ON and allow to stabilize for at least two minutes.
2. Meter readings will vary with temperature. The following table shows permissible current ranges.

TEMPERATURE		<u>COLLECTOR CURRENT</u>	
		MIN. mA.	MAX. mA.
Less than 60°F	-	450	500
60° - 80°F	-	440	490
Greater than 80°F	-	430	480

NOTE 1. It is essential that the supply voltage be maintained at 13.0V when measuring output stage current.

NOTE 2. A 1.5Kohm resistor may be connected in parallel with circuit No. 65 when the collector current exceeds the maximum limits by up to 30 mA.

DIAL CORDING DIAGRAM



ALIGNMENT PROCEDUREEQUIPMENT

Signal Generator - modulated 400 cps.
 Output Meter - 15 Ohms Impedance
 Generator Series Capacitor - .1uF Part No. 4006-005-03 for I.F. alignment
 I.F. Attenuator - Part No. 4121-014-01
 Dummy Aerial - 65pF Part No. 4121-009-01
 Alignment Tools:-

- a Flat Metal Blade Type: Part No. 4121-001-01, for I.F.T. and Osc. shunt coil adjustment.
- b Chisel Point Type: Part No. 4121-005-01, for RF Trimmer capacitor adjustment.
- c Hexagonal Socket Type: Part No. 4121-028-02, for Osc. trimmer capacitor adjustment.
- d Tuning Unit Iron Core Adjustment: Part No. 4121-008-01.
- e Alignment Gauge: Part No. 4121-023-02, for tuner 1000 Kc/s position.

CONDITIONS

Remove screws and remove box dial assembly.
 Remove screws and hinge top lid upward.
 Refit box dial assembly.
 Volume control - maximum, clockwise
 Output Meter Connection - Socket, adjacent to speaker aperture on cans.
 Output Level - 25 Milliwatts, speaker connected.

Supply Voltage - 13.0V DC Connect appropriate supply lead to chassis and other lead to fuse holder lead. Check polarity change disc and set disc to suit supply source.

INTERMEDIATE FREQUENCY TRANSFORMER ALIGNMENT

Turn tuning control until cores of tuner unit are out of coil windings.
 Insert .1uF capacitor in series with generator "hot" lead.

Oper. No.	Generator Connection	Generator Frequency	Instructions
1	To test pin "A" (base of mixer stage) and return lead to test pin "B".	455Kc/s	Adjust iron core of 3rd IF trans. for max. output.
2	As oper. 1	455Kc/s	Adjust iron core of 2nd IF trans. for max. output.
3	As oper. 1	455Kc/s	Adjust iron core of 1st IF trans. for max. output.
4	Repeat operations 1, 2 and 3 until max. output is obtained.		

BROADCAST ALIGNMENT

If the receiver logging is satisfactory the signal circuits may be aligned as detailed.

- 1 Connect I.F. Attenuator to test pins "B" and "C" (resistor to pin "B")
- 2 Aerial Lead-in Socket-65pF. 1000Kc/s
 dummy aerial in series. Tune receiver to generator frequency. Adjust RF and aerial trimmer capacitors for max. output.

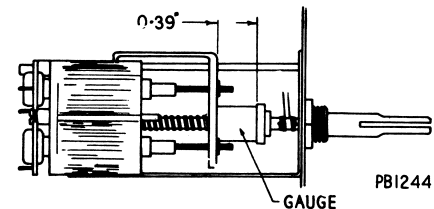
AERIAL TRIMMER ADJUSTMENTIMPORTANT

When the receiver has been installed in the vehicle and the aerial connected, the aerial trimmer must be readjusted. Raise aerial to half extended height. Adjust knob on passenger side of receiver for maximum output on a weak station near 1000 Kc/s (approx. centre of dial). **NOTE:** If a fully retractable aerial is fitted, pull the large outer rod upward against stop in aerial base.

BROADCAST ALIGNMENT

When iron cores or tuning unit coil assy. have been replaced or if station logging is outside limits.

Oper. No.	Generator Connection	Generator Frequency	Instructions
1	Connect IF attenuator to test pins "B" and "C" (resistor to pin "B").		
2	Turn perm. tuner against high frequency end of travel stop. Set all iron cores so that not less than 3/8" of adjusting shafts protrude forward of front face of core carriage.		
3	To aerial Lead-in Socket. 65pF dummy aerial in series	1625 Kc/s	Adjust Osc. RF and Aerial trimmer capacitors for maximum output.
4	Refer diagram. Place the 1000 Kc/s alignment gauge Part No. 4121-023-01 or alternatively a flat piece of metal 0.39" wide between the core carriage and loose collar. Gently turn tuning spindle until gauge is located squarely between collar and carriage.		
5	As oper. 3	1000 Kc/s	With tuner set in position detailed adjust Osc., R.F. and Aerial iron cores for maximum output.
6	As oper. 3	600 Kc/s	Rock tuning control through signal, adjust Osc., shunt coil iron core for maximum output.
7	Turn tuning control to low frequency end of travel (iron cores full in). Tune signal generator to receiver. The low frequency tuning limit should be between 510 and 528 Kc/s.		
8	Repeat operations 4 and 5.		
9	Align dial pointer.		

SETTING OF DIAL POINTER

Disconnect the IF attenuator.
 Disconnect the generator cable from dummy aerial then connect 20 ft. of aerial wire to the dummy aerial terminal.

Accurately tune the receiver to a station marked on the dial near 1000 Kc/s.

Slip dial pointer carriage assy. along guide rail until the centre of the pointer coincides with centre of the tuned station call sign.

Check dial logging, and if necessary, readjust pointer carriage.