

RADIO RECEIVER BC-652-A

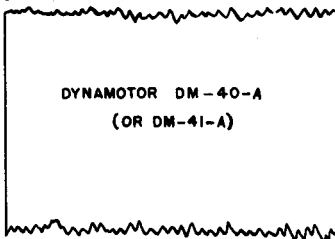
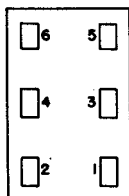
Part of: SCR-506-A

VOLTAGE MEASUREMENTS

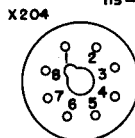
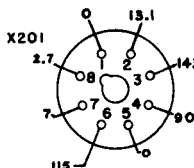
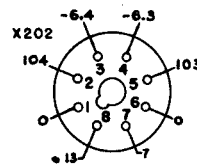
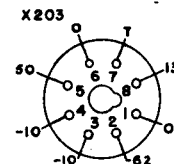
Reference:
TM 11-630

Remove receiver chassis from case.
Remove crystal-frequency-calibrate chassis
(loosen connection to antenna post). Leave
units connected electrically.
Remove bottom cover of each chassis.

J250



CFC CHASSIS
BOTTOM VIEW



Connect proper battery (12 or 24 volts) to binding posts rear of dynamotor. Receiver is turned off by unscrewing fuse, FU-42, on the front panel.

Ground pin 8 on Plug P302 to chassis.

Turn CW-MVC-AVC switch to MVC.

Turn CFC ON-OFF switch ON.

Turn INTERVAL switch to 20 KC.

Set INCREASE OUTPUT control to minimum.

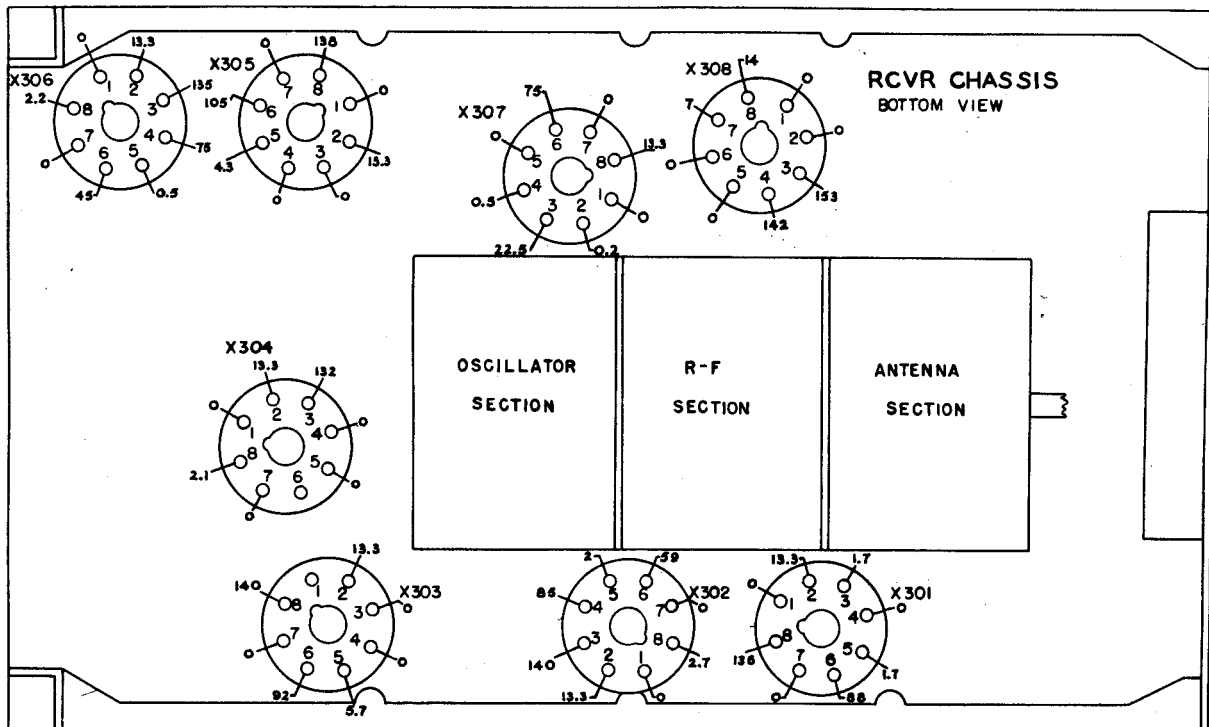
Tune receiver to 2.0 mc.

Measurements made from socket terminals to chassis.

Values indicated are for supply voltage of 14 volts.

All values are measured in positive volts.

Measurements made with 1000 ohm-per-volt voltmeter.

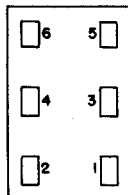


PANEL EDGE

PANEL EDGE

RESISTANCE MEASUREMENTS

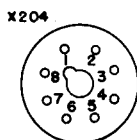
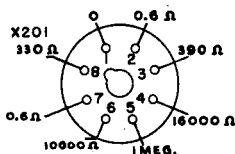
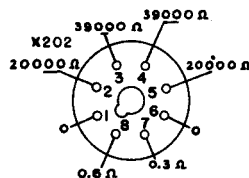
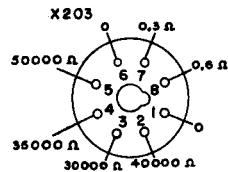
J250



DYNAMOTOR DM-40-A
(OR DM-41-A)

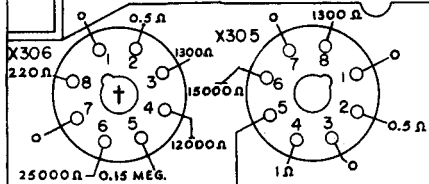
Disconnect battery.
Remove receiver chassis from case.
Remove crystal-frequency-calibrate chassis (loosen connection to antenna post). Leave units connected electrically.
Remove bottom cover of each chassis.
Leave tubes in sockets.
ON-OFF switch ON.
† Turn CW-MVC-AVC switch to MVC (at CW for X306)
Turn CFC ON-OFF switch ON.
Turn INTERVAL switch to 20 KC.
Set INCREASE OUTPUT control to minimum.
All values measured in ohms.
Measurements made from chassis to socket terminals.

CFC CHASSIS
BOTTOM VIEW

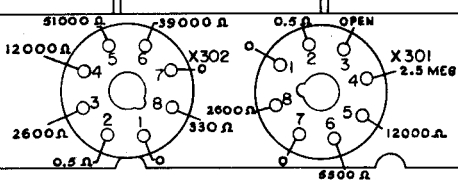
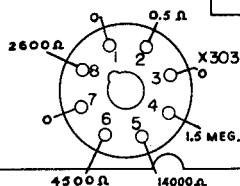
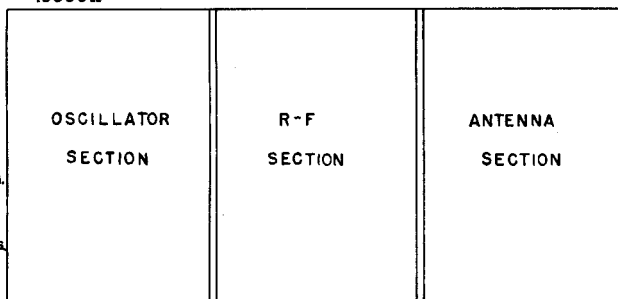
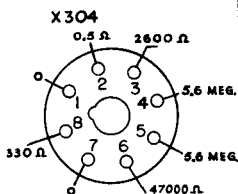
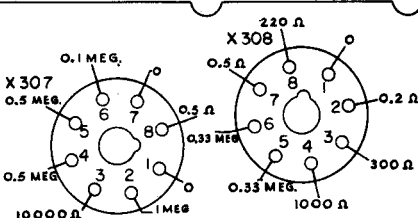


PANEL EDGE

RCVR CHASSIS
BOTTOM VIEW



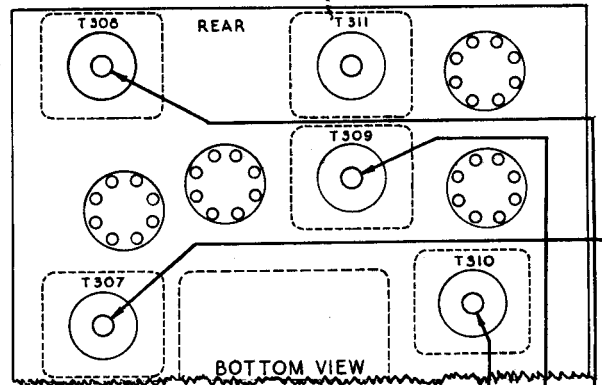
OPEN
(500 Ω MEASURED
TO PIN 8 OF P302)



PANEL EDGE

ALIGNMENT

Remove receiver chassis from case.
 Remove crystal-frequency-calibrate chassis (Loosen connection to antenna post). Leave units connected electrically.
 Remove bottom cover of receiver chassis.
 Connect proper battery (12 or 24 volts) to binding posts rear of dynamotor. Receiver is turned off by unscrewing fuse on front panel.
 Ground pin 8 on P302 to chassis.
 Turn INCREASE OUTPUT knob full on.
 Connect output meter to SPEAKER jack.
 Turn CW-MVC-AVC switch to MVC.
 Turn CFC ON-OFF switch OFF.
 Connect "low" side of sig gen to chassis.
 Check sig gen with frequency meter at each setting



I. WAVE TRAP TUNING

1. Sig gen modulated and set for 915 kc. Output of sig gen high.
2. Connect "high" side in series with 0.001 μ f capacitor to Antenna post.
3. Tune receiver to 2.2 mc.
4. Adjust L303 and L302 for minimum output.

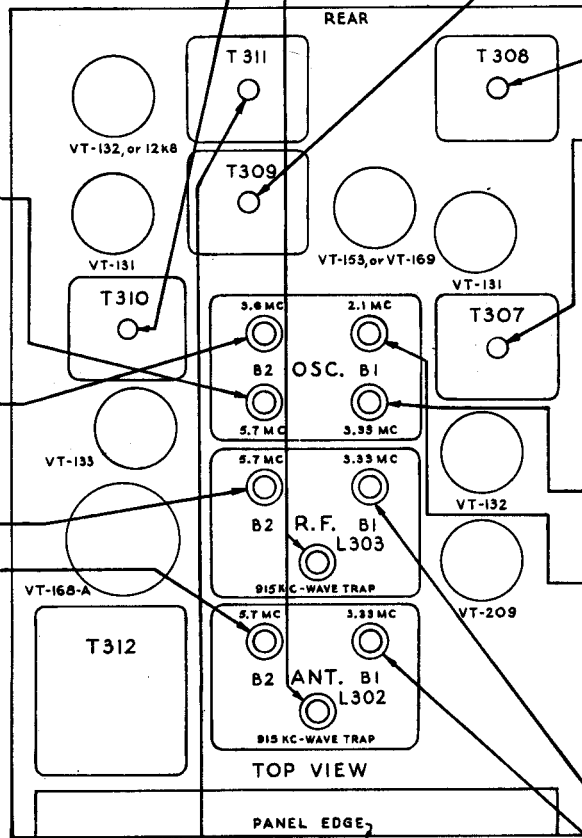
II. I-F ALIGNMENT

In the following keep output of sig gen so that output meter does not exceed 25 volts.

5. Connect sig gen in series with 0.001 μ f capacitor to grid cap of V302.
 6. Adjust sec T310 to maximum output.
 7. Adjust pri T310 to maximum output.
 8. Adjust sec T309 to maximum output.
 9. Adjust pri T309 to maximum output.
 10. Adjust sec T308 to maximum output.
 11. Adjust pri T308 to maximum output.
 12. Adjust sec T307 to maximum output.
 13. Adjust pri T307 to maximum output.
- I-F's now aligned.

IV. R-F ALIGNMENT BAND 2

23. Set sig gen to 5.7 mc, modulated.
24. Tune receiver to 5.7 mc on BAND 2.
25. Adjust C330 for maximum output.
26. Set sig gen to 3.6 mc.
27. Check receiver calibration at 3.6 mc. If it is appreciably off, adjust slug at B2 for maximum output. Repeat steps 23 to 27.
28. Set sig gen to 5.7 mc and tune set to 5.7 mc.
29. Adjust C315 for maximum output.
30. Adjust C303 for maximum output.



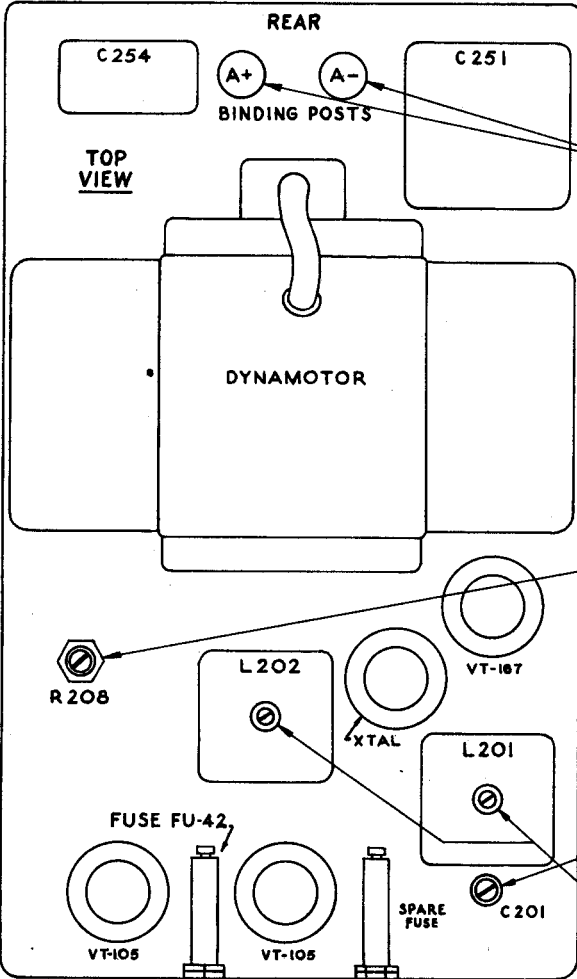
III. R-F ALIGNMENT BAND 1.

14. Connect sig gen in series with 0.001 μ f capacitor and antenna post.
15. Set sig gen to 3.33 mc, modulated.
16. Tune receiver to 3.33 mc on BAND 1.
17. Adjust C328 for maximum output.
18. Set sig gen to 2.1 mc.
19. Check receiver calibration at 2.1 mc. If it is appreciably off, adjust slug at B1 for maximum output. Repeat steps 15 to 19.
20. Set sig gen to 3.33 mc and tune set to 3.33 mc.
21. Adjust C314 for maximum output.
22. Adjust C302 for maximum output.

V. BFO ALIGNMENT

31. With set operating at maximum output as in 30, operate sig gen unmodulated.
32. Turn CW-MVC-AVC switch to CW.
33. Adjust C356 in T311 for desirable output tone. Either side of I-F frequency may be used.

ADJUSTMENTS OF CRYSTAL FREQUENCY CALIBRATOR



When a tube is changed in the Crystal-Frequency-Calibrator it will be necessary to make the following adjustment of R208

SETTING OF R208

1. Remove receiver from case.
2. Connect proper battery (12 or 24 volts) to binding posts in rear of dynamotor. Receiver is turned off by unscrewing fuse, FU-42, on front panel.
3. Turn CFC INTERVAL switch to 100 KC.
4. Turn CW-MVC-AVC switch to CW.
5. Ground pin 8 of P302.
6. Check receiver at 2 mc and 2.1 mc crystal harmonics.
7. Throw CFC INTERVAL switch to 20 KC.
8. Tune receiver from 2 mc to 2.1 mc and count the number of beats. There should be 4, one every 20 kc.
9. If more or less than 4 are obtained adjust R208 until 4 are obtained, one every 20 kc.
10. Next tune receiver to one of these 4 beats and adjust R208 each way until the beat falls out. Correct adjustment is midway between the fall out points. When operating region is less than 120 degrees a check for faulty tubes should be made.

SETTING OF C201

1. When Crystal Unit DC-15-A is used, adjust C201 until crystal frequency is exactly 200 kc. Connect frequency meter to antenna post for 200 kc pickup.
2. When Crystal Unit FT-241-A is used, adjust C201 to maximum capacity (red portion of adjusting screw toward rear of chassis).

ADJUSTMENT L201 AND L202

1. Turn adjustment screws on L201 and L202 out to stop (extended), then turn each in 6 complete turns.

SPECIAL NOTES

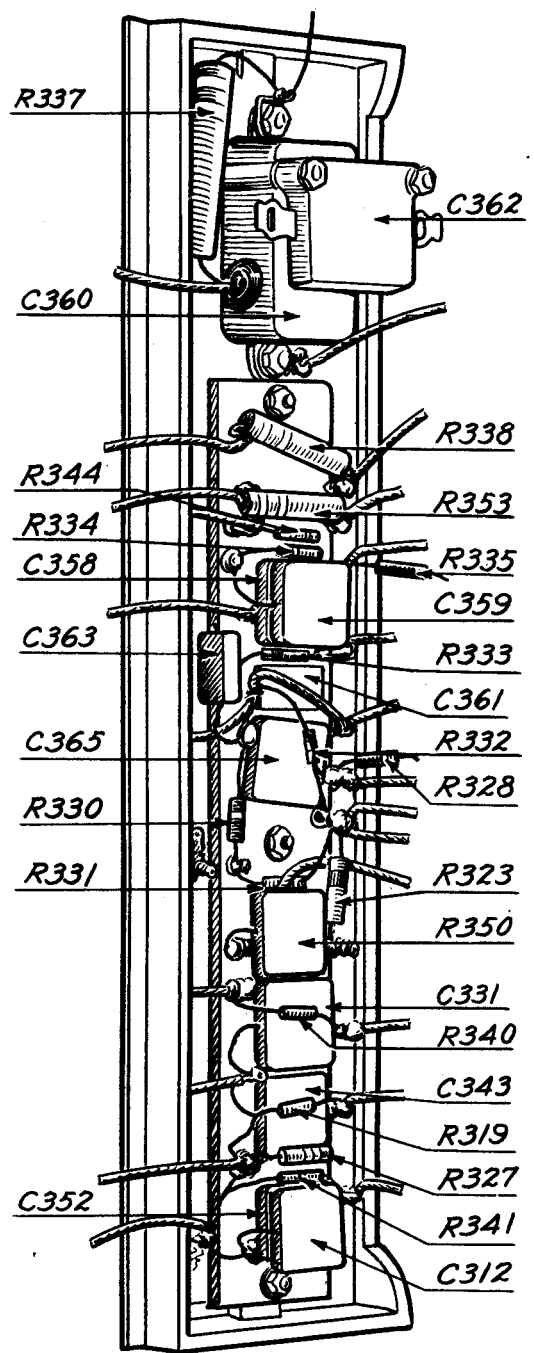
LUBRICATION and DYNAMOTOR SERVICING

Refer to TM 11-630 for detailed information.

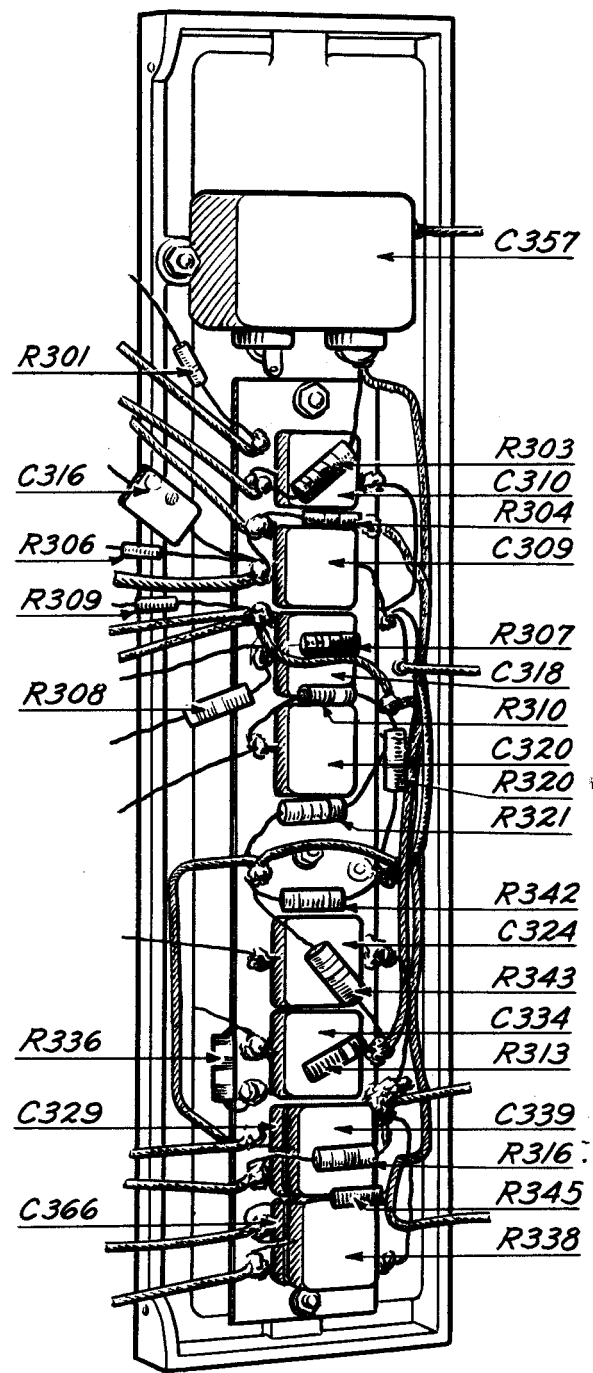
GROUNDING OF MOUNTING FT-253-A

It is very important that the feet of Mounting FT-253-A make good electrical contact with the vehicle in order to avoid noisy reception during motion. Thoroughly clean the surface of the vehicle upon which the mounting feet rest, using emery cloth or sandpaper; then draw the mounting bolts down securely.

PARTS LAYOUT



Left Side
(from rear)



Right Side
(from rear)

Lower side panels