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*Colin Hinson*

*In the village of Blunham, Bedfordshire, UK.*

T.O. 12P5-3SCR718-23
(Formerly AN 16-40SCR718-23)
NAVY AN 16-40SCR718-23

# HANDBOOK
# OVERHAUL INSTRUCTIONS

# RADIO SETS
# SCR-718-D
# SCR-718-E

(STEWART-WARNER ELECTRIC)

THIS PUBLICATION REPLACES T.O. 12P5—3SCR718-23
(FORMERLY AN 16—40SCR718-23) DATED 1 FEBRUARY 1954

PUBLISHED UNDER THE AUTHORITY OF THE SECRETARY OF THE AIR FORCE
AND THE CHIEF OF THE BUREAU OF AERONAUTICS

AIR FORCE-OC-1900-2-24-55

15 JANUARY 1955

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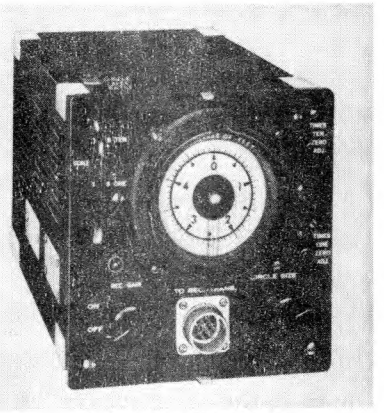
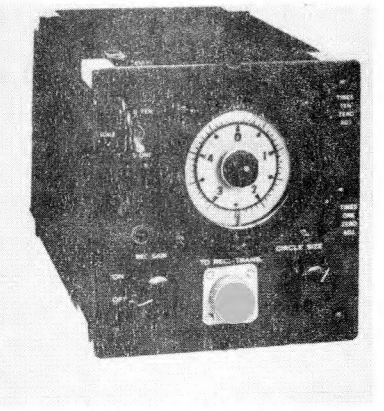


Indicator I-152-D

**Radio Receiver and Transmitter BC-788-E**



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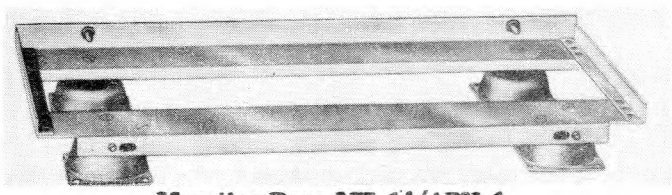

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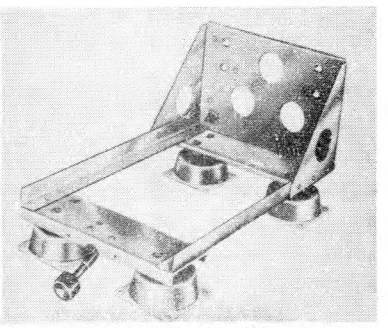

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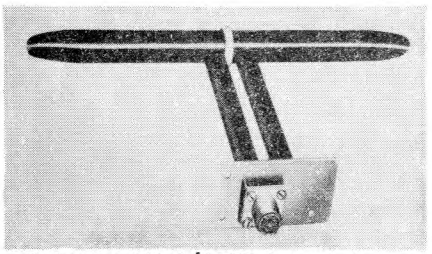
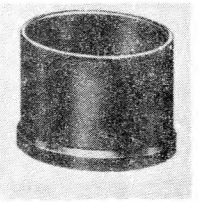
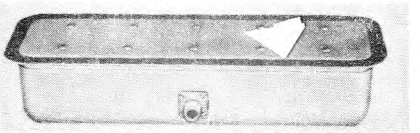


**Antenna AT-4/ARN-1 or Antenna** AT-4A/ARN-1 (2 Required)*



**Visor M-387**



**Antenna Assembly AS-333/AP or** Antenna AT-505/AP (4 Required)*

* Either Antenna AT-4/ARN-1, Antenna AT-4A/ARN-1, Antenna Assembly AS-333/AP, or Antenna AT-505/AP (not a combination) may be used, depending upon local installation.

Figure 1-1. Radio Set SCR-718-D or -E, Major Components

## SECTION I

## DESCRIPTION AND LEADING PARTICULARS

**WARNING**

Operation of this equipment involves the use of high voltages which are dangerous to life. Extreme caution should be exercised at all times.

1-1. PURPOSE OF HANDBOOK.

1-2. This publication comprises overhaul instructions for Radio Set SCR-718-D and Radio Set SCR-718-E, manufactured under contract numbers AF 33(600)-16687 and AF 33(600)-25024, respectively. (See Figure 1-1.)

1-3. SCOPE OF HANDBOOK.

1-4. This handbook is intended for use with the Handbook of Service Instructions T.O. 12P5-3SCR718-22, for Radio Set SCR-718-D and Radio Set SCR-718-E. Information contained in the Handbook of Service Instructions is not repeated in this publication, except where required for clarity.

1-5. Antenna AT-4/ARN-1, Antenna AT-4A/ARN-1, Antenna AT-505/AP, Antenna Assembly AS-333/AP, Mounting Base MT-14/ARN-1, Mounting FT-445-A, and Visor M-387 are of such a nature that any procedures for overhaul are either obvious or not required, and therefore, are not treated in this publication.

## SECTION II

## SPECIAL OVERHAUL TOOLS AND TEST EQUIPMENT

2-1. No special tools or test equipment are required for overhaul, other than those given in Handbook of Service Instructions T.O. 12P5-3SCR718-22

## SECTION III

## SPECIALIZED MAINTENANCE AND REPAIR

3-1. No specialized maintenance or repair is required beyond that described in the Handbook of Service Instructions T.O. 12P5-3SCR718-22

## SECTION IV

## DISMANTLING AND DISASSEMBLY

4-1. GENERAL. (See figures 4-1 through 4-4.)

4-2. Unpacking and chassis removal procedures are contained in the Handbook of Service Instructions T.O. 12P5-3SCR718-22

4-3. REMOVAL AND DISASSEMBLY OF TRANSMITTER UHF OUTPUT (OSCILLATOR) SECTION. (See figures 4-1 and 4-3.)

4-4. For removal of the transmitter UHF output (oscillator) section, the following steps apply:

a. Remove the cover from the tuning unit by pulling straight up and off.

b. Unsolder the two external leads from the outside of the tuner case.

c. Remove the tube shield and tube from the top side of the tuner.

d. Remove the four screws holding the tuner in place.

e. Remove the two handles from the front panel.

f. Remove the six screws holding the front panel in place.

g. Lift the front panel enough to allow the tuner to be removed.

h. Remove the tuner.

4-5. Dissassembly of the transmitter UHF output (oscillator) section is of such a nature that it does not warrant discussion in this handbook.

4-6. REMOVAL AND DISASSEMBLY OF THE RECEIVER CONVERTER-OSCILLATOR SECTION. (See figures 4-1 and 4-3.)

4-7. For removal of the receiver converter-oscillator section, the following steps apply:

a. Remove the cover from the tuning unit by pulling the cover straight up and off.

b. Unsolder the three external leads on the outside of the tuner case.

c. Remove the clamp holding the wire to the side of the tuner case.

d. Remove the tube shields and tubes (V101, V102) from the top of the tuner case.

e. Remove the three screws holding the tuner case in place.

f. Remove the six screws holding the front panel in place.

g. Remove the two handles from the front panel.

h. Lift the front panel enough for the tuner to be removed.

i. Remove the tuner.

4-8. Disassembly of the receiver converter-oscillator section is of such a nature that it does not warrant discussion in this handbook.

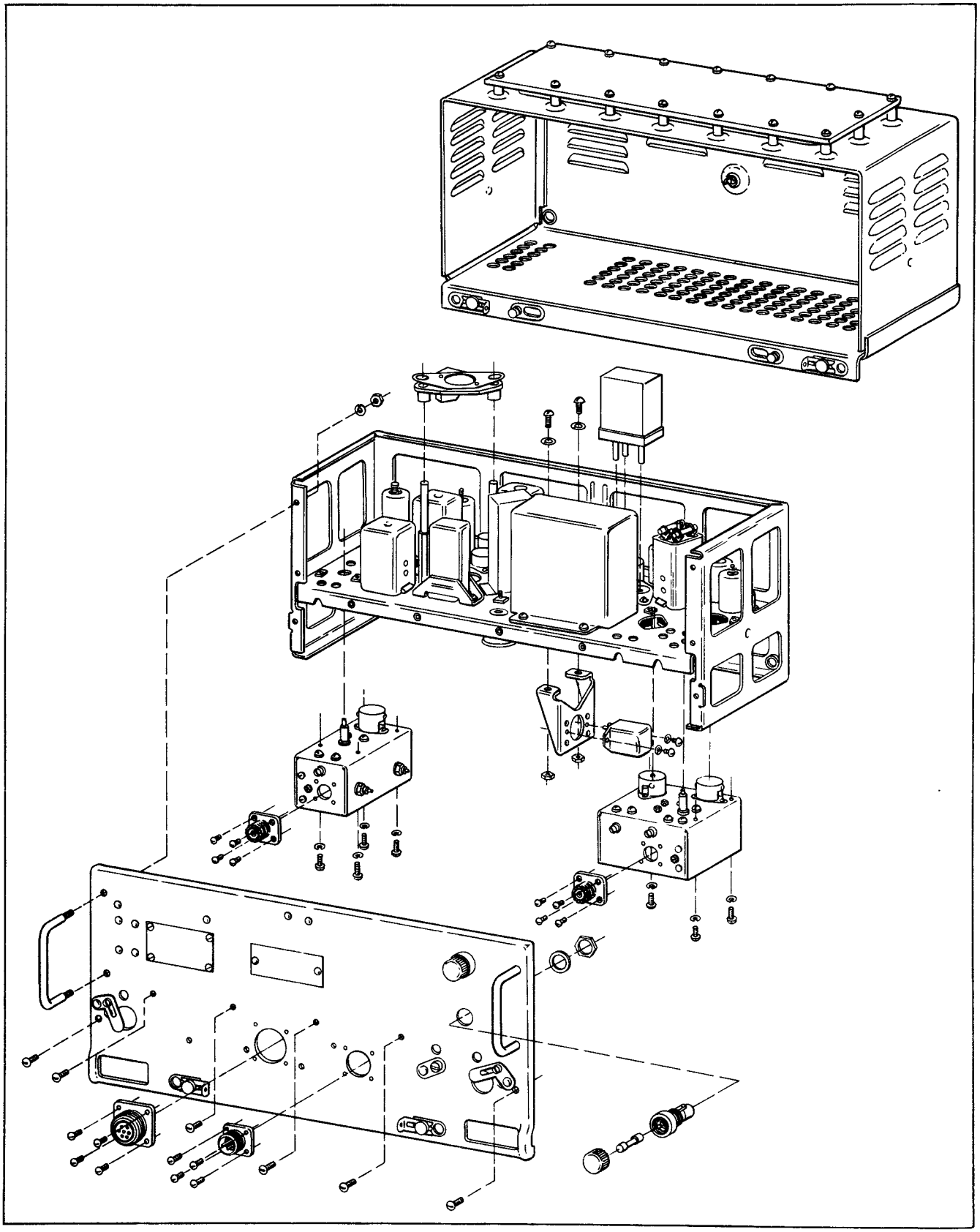


Figure 4-1. Radio Receiver and Transmitter BC-788-D, Exploded View

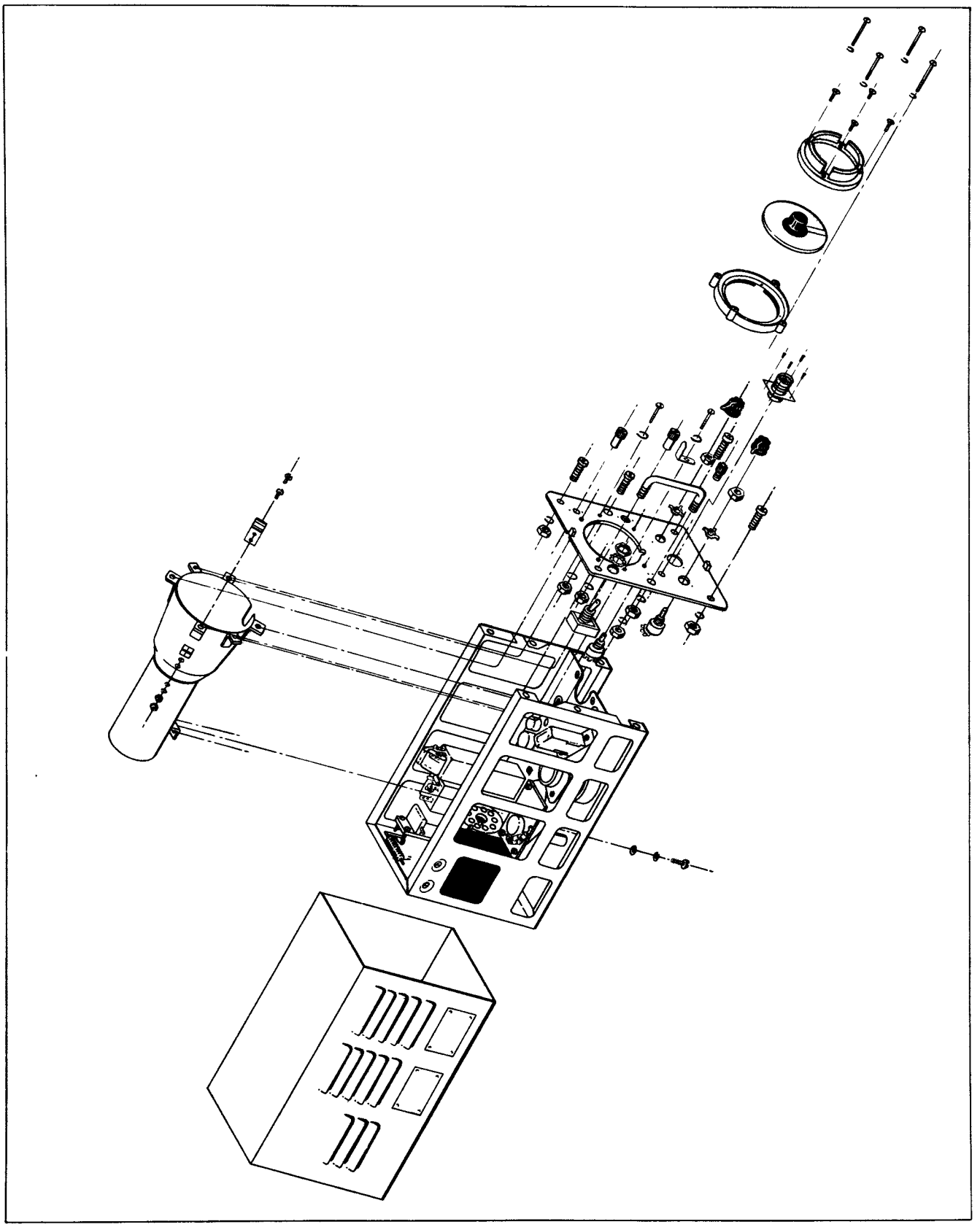


Figure 4-2. Indicator I-152-D, Exploded View

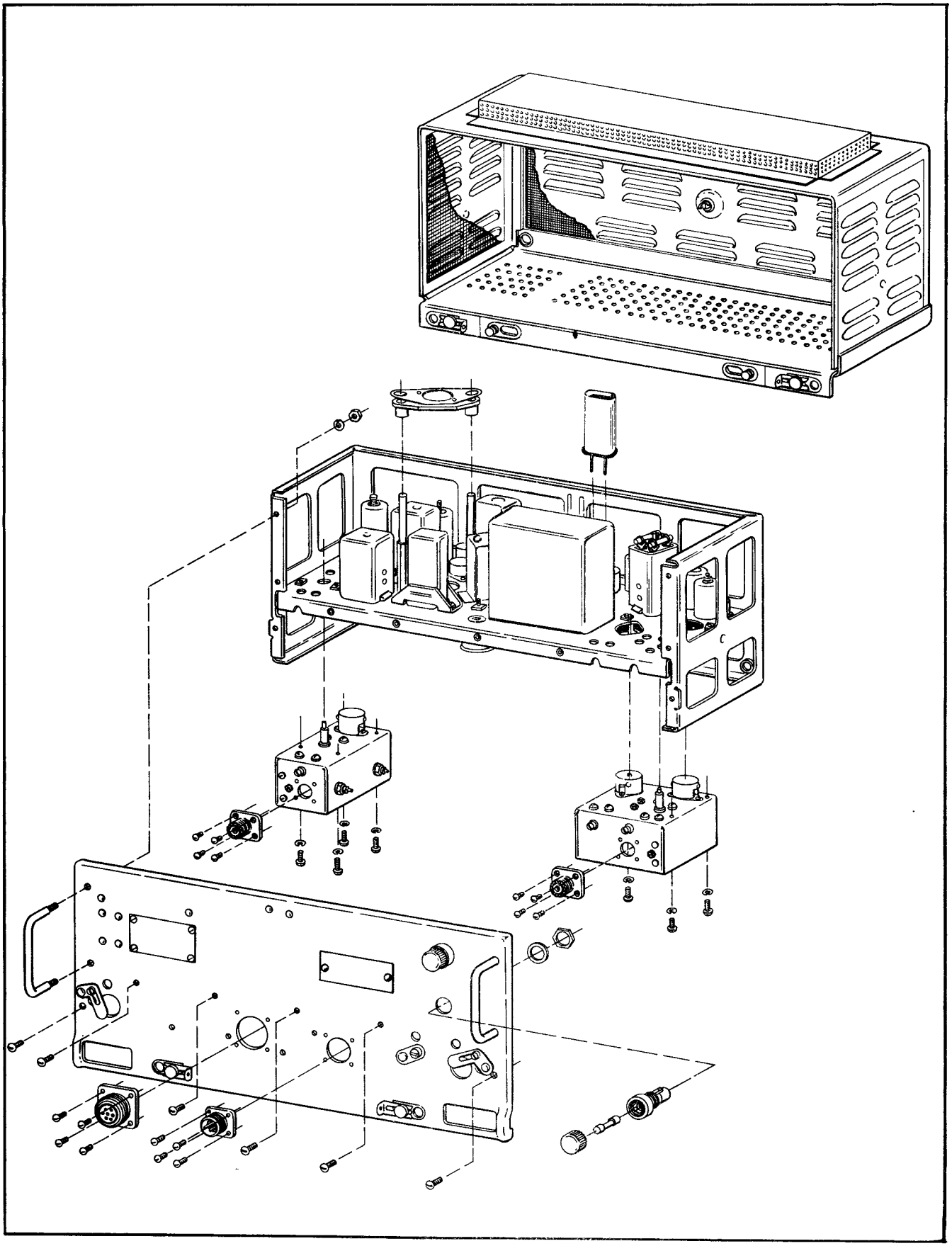


Figure 4-3. Radio Receiver and Transmitter BC-788-E, Exploded View

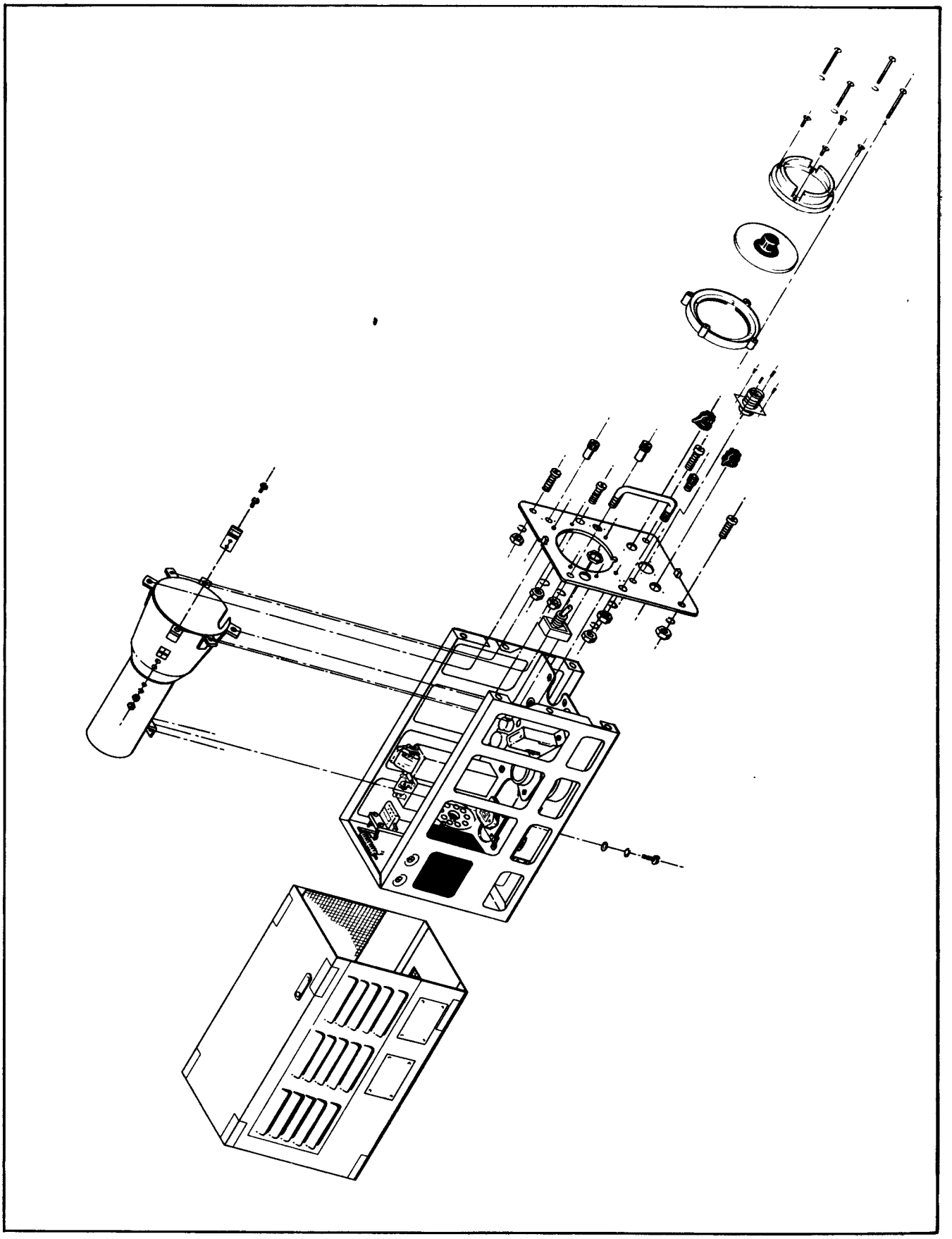


Figure 4-4. Indicator I-152-E, Exploded View

## SECTION V

## CLEANING

5-1. GENERAL.

5-2. Clean the entire equipment after disassembly. The equipment may be cleaned by blowing out dust and dirt with compressed air, or by brushing out with a soft brush or lint-free cloth. All potentiometers may be cleaned with carbon tetrachloride, Federal Specification O-C-141. On any other parts of the equipment use carbon tetrachloride sparingly, if at all.

5-3. RADIO RECEIVER AND TRANSMITTER BC-788-D or -E.

5-4. There are no parts requiring special cleaning; whenever necessary, perform general cleaning.

5-5. INDICATOR I-152-D or -E.

5-6. In addition to the performance of general cleaning, it will be necessary to clean the cathode-ray tube and the transparent window. These may be satisfactorily cleaned by using a soft, lint-free cloth, moistened with water. Care should be exercised not to disturb the decalcomania scale marking in cleaning the cathode-ray tube.

## SECTION VI

## INSPECTION

6-1. GENERAL.

6-2. Inspect all parts in the equipment for corrosion and rust. Remove all corrosion with carbon tetrachloride, Federal Specifications O-C-141, or, if necessary, crocus cloth, Federal Specification P-C-458. However, crocus cloth must never be used on the tuning coils or the relay contacts.

6-3. Check all wires for breaks, excessive wear or strain, and replace as necessary. Inspect each resistor for signs of being charred and replace as necessary. Also inspect the cathode-ray tube for signs of burns, and electrolytic capacitors for signs of leakage. Check connectors for presence of foreign matter, and check crystals, tubes and tube shields to see if they are secure. Inspect the relay contacts ("open-type" only), and burnish if necessary with a standard burnishing tool. Tighten all nuts, bolts and screws, except tuning adjustment screws.

# SECTION VII

## REPAIR AND REPLACEMENT

### 7-1. ELECTRICAL COMPONENTS.

7-2. After locating defective tubes, resistors, coils, capacitors, etc. by means of visual inspection and/or instruments, replace with identical types (always follow parts catalog in replacement of parts, Illustrated Parts Breakdown T.O. 12P5-3SCR718-24), being careful to make good soldering connections and place components in same position.

7-3. In replacing wiring, use the specified type of wire and route as shown in the wiring diagrams in Handbook of Service Instructions T.O. 12P5-3SCR718-22.

7-4. Transformers (including IF transformers), relay and some capacitors are bolted directly to the chassis. If any of these are found to be defective, replace the entire canned unit. Follow T.O. 12P5-3SCR718-24 to make sure replacement units are the proper type.

### 7-5. MECHANICAL COMPONENTS.

7-6. Only a few of the mechanical parts are available as replaceable parts (again consult T.O. 12P5-3SCR718-24). All other mechanical parts which are required to be replaced will have to be fabricated by the agency concerned. A No. 8 Allen wrench is provided with the SCR-718-D or -E for removal and replacement of control knobs. When the knobs are replaced, take care to exert enough tension on the springs behind the knobs so that the knobs are not free to rotate easily.

7-7. When individual wires or cables are repaired or replaced, it may be necessary to cut the lacing cord which holds the cable together. The following procedure outlines one method of lacing cable, using a standard type of lacing cord.

a. Cut a piece of lacing cord to about five times the length of the cable to be laced.

b. If possible, tie one end of the lacing cord to some solid point directly in front of the point where the lacing is to start. (For example, the framework for the chassis.) This will anchor the lacing cord so that any force exerted on the lacing cord, during the lacing operation, will not exert any force on the individual wires of the cable.

NOTE

In the following steps, all references are made to figure 7-1.

c. With the lacing cord anchored at "x" as shown in A, loop the lacing cord as shown. The distance between the two bends should be approximately four inches.

d. Extend loop "a" under the lacing cord as shown in B. (These last two steps are easily accomplished by using only one hand. After the loops in A are formed, B is accomplished by twisting the wrist and passing loop "a" under the straight piece of lacing cord, while holding loop "b" open with the third, fourth, and fifth fingers of the right hand.)

e. Slip loop "a" under the cable to be laced, as shown in C. (Performing the above two steps with the right hand allows the left hand to be used to lift the cable enough for loop "a" to pass underneath.)

f. Pass loop "a" over the top of the cable and through loop "b" as shown in D. (Loop "b" has been held open with the right hand up to this point, but may now be released and loop "a" grasped with the right hand. Loop "c" is now held open with the left hand.)

g. Eliminate loop "a" by pulling the loose end of the lacing cord completely through loop "b" as shown in E.

h. Pull loop "c" as shown in E in the direction indicated by arrows 5 and 6. Pull up on loop "c" until the stitch appears as shown in F. (Loop "c" may now be held in place by the index finger of the left hand pressing the lacing cord against the cable.)

i. Pull the lacing cord in the direction of arrow 4 (as shown in F) with a hard sharp pull. (This motion causes the stitch to lock against the cable. Properly made, this type of stitch will not loosen, without excessive force.)

j. Place a second stitch immediately following the first stitch.

k. From this point on, a single stitch should be placed every half-inch along the straight cable run.

l. At any point where a wire (or wires) break out of the cable, place a stitch on each side of the wire (or (wires) breaking out, and place one stitch around the wire (or wires) breaking out.

m. To follow a short, or sharp bend in the cable, use one stitch at the start of the bend, one stitch in the middle of the bend, and one stitch at the end of the bend.

n. At the end of the cable, place two stitches together, place a knot against the last stitch and cut off the excess cord, leaving approximately 3/8 of an inch of cord extending beyond the knot.

o. Cut off the lacing cord at the point where it is anchored, at the start of the cable. Place a knot against the first stitch and cut off the excessive cord, leaving approximately 3/8 of an inch of cord extending beyond the knot.

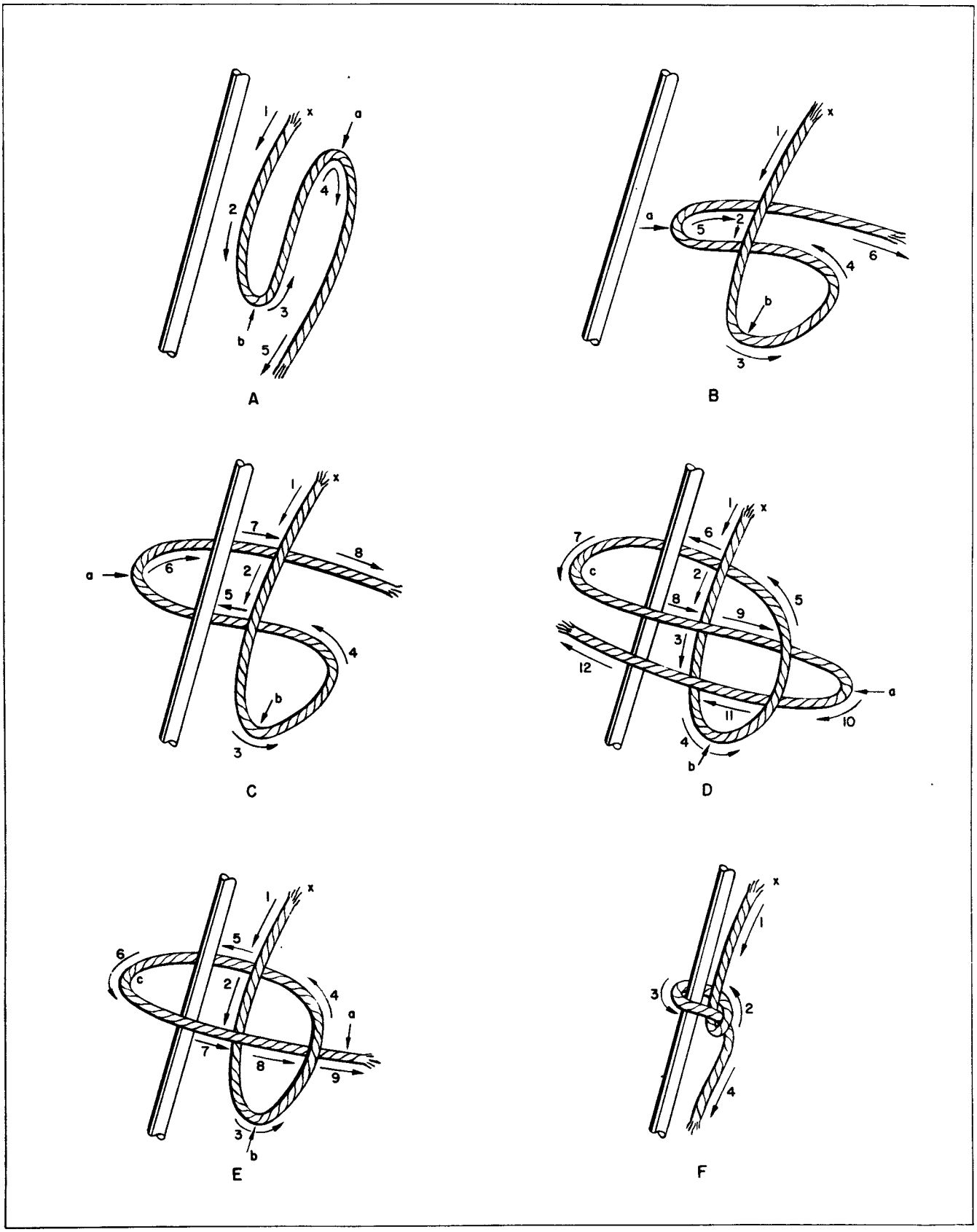



Figure 7-1. Cable Lacing

## SECTION VIII

## REASSEMBLY AND TESTING OF SUBASSEMBLIES AND ASSEMBLIES

8-1. REASSEMBLY.

8-2. Parts shall be reassembled into their units in the reverse of procedures for disassembly described in Section IV.

8-3. TESTING.

8-4. There are no subassemblies or assemblies which need be tested independently after repair or when drawn from new stock.

## SECTION IX

## REASSEMBLY AND TESTING OF COMPONENTS

9-1. No individual testing of components is required after reassembly.

## SECTION X

## FINAL REASSEMBLY

10-1. No further reassembly is required other than that described in Section VIII.

## SECTION XI

## FINAL INSPECTION AND TESTING

11-1. FINAL INSPECTION.

11-2. Check to make sure that the complete equipment is in good condition as regards finish and that knobs are secure. Also, check to make sure the chassis are fastened properly in their cabinets (covers).

11-3. FINAL TESTING.

11-4. Test Radio Receiver and Transmitter BC-788-D or -E and Indicator I-152-D or -E in accordance with the performance tests in Section V of Handbook of Service Instructions T.O. 12P5-3SCR718-22

11-5. MARKING OF EQUIPMENT.

11-6. Marking of equipments required by Government Technical Orders or other instructions to indicate overhaul or the incorporation of changes, shall be applied during inspection and test (if not previously applied to subassemblies, assemblies, or components during overhaul and assembly).

# INDEX

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T. O. NO. 16-55-15

# *RADIO, RADAR AND ELECTRONICS SPARE PARTS LIST*

*FOR*

# SCR-718-A, -AM, -B, -C

(INCLUDING APPENDICES "A" AND "ARMY")

**NOTE: This publication replaces T. O. No. 08-55-15 dated 22 July 1944.**

**Radio, Radar and Electronics ANB Spare Parts List No. 33-A was used as a guide in the preparation of this list.**

**In this list the first numeral appearing in the page number indicates the section and the second numeral indicates the page number of that section.**

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*3 MARCH 1945*

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# COMPONENTS PARTS LIST
## For
# RADIO SET SCR-718-A, -AM, -B, -C

| | Assembly | Sig C Stock Numbers |
|---|---|---|
| 1. | Radio Receiver and Transmitter BC-788-A (p/o SCR-718-A) | 2C5395-788A |
| | or | |
| | Radio Receiver and Transmitter BC-788-AM (p/o SCR-718-AM) | 2C5395-788 |
| | or | |
| | Radio Receiver and Transmitter BC-788-B (p/o SCR-718-B) | 2C5395-788B |
| | or | |
| | Radio Receiver and Transmitter BC-788-C (p/o SCR-718-C) | 2C5395-788C |
| 2. | Indicator I-152-A (p/o SCR-718-A) | 2C5390-152A |
| | or | |
| | Indicator I-152-AM (p/o SCR-718-AM) | 2C5390-152 |
| | or | |
| | Indicator I-152-B (p/o SCR-718-B) | 2C5390-152B |
| | or | |
| | Indicator I-152-C (p/o SCR-718-C) | 2C5390-152C |
| 3. | *Antenna AT-4/ARN-1 | 2AK203-4 |
| 4. | *Mounting Base MT-14/ARN-1 | 2Z6763-14 |
| 5. | *Mounting FT-445 | 2Z6721-445 |
| 6. | Clamp, cable, AN3057-4 | 2Z2636-4 |
| 7. | Clamp, cable, AN3057-8 | 2Z2636-1 |
| 8. | Connector AN3106-16S-1P | 2Z7117.4 |
| 9. | Connector AN3108-16S-1S | 2Z8677.9 |
| 10. | Connector, Signal Corps Plug PL-175 | 2Z7226-175 |
| 11. | Connector, Signal Corps Plug PL-259-A | 2Z7226-259A |
| 12. | *Marker, cable (Receiver) | 4ZK7288 |
| 13. | *Marker, cable (Transmitter) | 4ZK7288.1 |
| 14. | Visor M-387 | 2ZA950-387 |
| 15. | Alignment Set | 6Q326 |

* Spare Parts for these items are not supplied or listed herein.

# RADIO, RADAR AND ELECTRONICS SPARE PARTS LIST FOR RADIO SET SCR-718-A, -AM, -B, and -C

NOTES: 1. Quantities shown are based on requirements for operation and maintenance of 20 equipments for a period of one year's operation, except as explained in Note 2. Unit of quantity is "each" unless indicated otherwise.

2. Items marked with an asterick (*) in the quantity column are supplied as equipment spares with each equipment in the quantity shown preceding the asterisk.

3. For listing of items and quantities which lower echelons are authorized to requisition, consult the applicable Technical Order 00-30A Series.

| *Item No.* | *Reference Symbols* | *Quantity (See Notes)* | *Name of Part, Description, and Equipment Contractor's Part Number, If Available* |
|---|---|---|---|
| 1 | E-110, E-111 | 1 | BOARD, terminal: 1 solder lug riveted on; laminated phenolic; strip 1" lg x 3/8" wd x 1/16" thk; RCA No. K-252542-501. |
| 2 | E-109 (Used in SCR-718-A, AM, and B only) | 1 | BOARD, terminal: 1 solder lug terminal; cloth base bakelite; strip 3/4" lg x 3/4" wd x 1/16" thk; single No. 4-40 mounting; RCA No. K-252637-1. |
| 3 | E-112, E-113 (Used in SCR-718-A, AM, and B only) | 1 | BOARD, terminal: 2 solder lug terminals; cloth base bakelite; strip 3/4" lg x 3/8" wd x 1/16" thk; single No. 4-40 mounting; RCA No. K-252637-2. |
| 3.1 | E-212 (Used in SCR-718-C only) | 1 | BOARD, terminal: 2 solder terminals; laminated phenolic board; 1-1/8" x 3/8" x 3/32"; RCA No. K-253168-4. |
| 3.2 | E-113 thru E-118 (Used in SCR-718-C only) | 1 | BOARD, terminal: 2 solder terminals; laminated phenolic; 7/8" x 5/8" x 1/16"; complete with spacer, stud, and L-116; RCA No. K-258962-501. |
| 3.3 | E-211 (Used in SCR-718-C only) | 1 | BOARD, terminal: 2 solder terminals; laminated phenolic board; 1-7/8" x 1-7/32" x 3/32"; complete with brackets, eyelets and C-214; RCA No. K-258973-501. |
| 4 | E-211, E-212 (Used in SCR-718-A, AM, and B only) | 1 | BOARD, terminal: 2 terminals; one solder lug, one screw type terminal; cloth base bakelite; 1-1/16" lg x 3/8" wd x 1/16" thk; RCA No. K-252637-4. |
| 5 | E-210 (Used in SCR-718-A, AM, and B only) | 1 | BOARD, terminal: 3 solder lugs; cloth base bakelite; 1-1/2" lg x 3/8" wd x 1/16" thk; RCA No. K-252637-3. |
| 6 | E-104, E-105, E-106, E-107 Used in SCR-718-A, AM, and B only) | 1 | BOARD, terminal: 4 solder lugs; cloth base bakelite; strip 1-3/4" lg x 1" wd x 1/16" thk; two No. 4-40 spade bolt mountings; RCA No. P-253473-503, P-253473-504, P-253473-505, and P-253473-506. |
| 6.1 | E-112 (used in SCR-718-C only) | 1 | BOARD, terminal: 4 solder terminals; laminated phenolic; 1-3/4" x 1-1/2" x 3/32"; mounted complete with C-163 and C-164; RCA No. K-258346-501. |
| 7 | E-102, E-103, E-108 (Used in SCR-718-A, -B, -AM only) | 1 | BOARD, terminal: 5 solder lug terminals; cloth base bakelite; strip 1-3/4" lg x 1" wd x 1/16" thk; two No. 4-40 spade bolts; RCA No. P-253473-501, P-253473-502 and P-253473-507. |
| 8 | E-207 (Used in SCR-718-A, AM, and B only) | 1 | BOARD, terminal: 5 solder lugs; cloth base bakelite; 3-1/16" lg x 2-1/16" wd x 3/32" thk; RCA No. K-25113-1. |
| 8.1 | E-207 (Used in SCR-718-C only) | 1 | BOARD, terminal: 5 solder lug terminals; laminated phenolic board; complete with R-205 thru R-209, R-231, R-233; RCA No. M-253041-501. |
| 9 | E-209 (Used in SCR-718-A, AM, and B only) | 1 | BOARD, terminal: 6 solder lugs; cloth base bakelite; 2" lg x 2-1/2" wd x 3/32" thk; RCA No. K-251966-1. |

| *Item No.* | *Reference Symbols* | *Quantity (See Notes)* | *Name of Part, Description, and Equipment Contractor's Part Number, If Available* |
|---|---|---|---|
| 9.1 | E-209 (Used in SCR-718-C only) | 1 | BOARD, terminal: 6 solder terminals; laminated phenolic board; complete with C-208, L-204, R-217, R-218, R-219, R-228, R-229, R-230; RCA No. M-253499-501. |
| 9.2 | E-104 (Used in SCR-718-C only) | 1 | BOARD, terminal: 8 solder terminals; laminated phenolic board; strip 1-7/8" x 1-9/16" x 3/32"; RCA No. T-256387-503. |
| 9.3 | E-210 (Used in SCR-718-C only) | 1 | BOARD, terminal: 9 solder terminals; laminated phenolic board; 2-5/8" x 1-9/16" x 3/32"; complete with C-205, C-207, C-216, R-234, R-235, R-236; RCA No. K-258977-501. |
| 9.4 | E-102, E-103 (Used in SCR-718-C only) | 1 | BOARD, terminal: 10 solder terminals; laminated phenolic; strip 1-7/8" x 1-9/16" x 3/32"; RCA No. T-256387-501. |
| 9.5 | E-105, E-106, E-107 (Used in SCR-718-C only) | 1 | BOARD, terminal: 10 solder lugs; laminated phenolic board; strip 1-7/8" x 1-9/16" x 3/32"; RCA No. T-256387-504; T-256387-505; T-256387-506. |
| 9.6 | E-208 Used in SCR-718-C only) | 1 | BOARD, terminal: 10 solder terminals; laminated phenolic board; complete with C-209, C-210, C-212, R-220, R-221, R-223 and R-226; RCA No. K-252776-501. |
| 10 | E-208 (Used in SCR-718-A, AM, and B only) | 1 | BOARD, terminal: 11 solder lugs; cloth base bakelite; 2" lg x 2-3/8" wd x 1/16" thk; RCA No. K-251871-1. |
| 10.1 | E-108 (Used in SCR-718-C only) | 1 | BOARD, terminal: 11 solder terminals; laminated phenolic board; 2-3/8" x 1-9/16" x 3/32"; RCA No. T-256387-507. |
| 11 | C-102-A thru C-108-A | 8 | (11-A) CAPACITOR, fixed: ceramic; 3.1 mmf ±0.2 mmf; 500 vdcw;<br>OR<br>(11-B) CAPACITOR, fixed: ceramic; 3.44 mmf ±0.2 mmf; 500 vdcw; RCA No. K-98047-6.<br>OR<br>(11-C) CAPACITOR, fixed: ceramic; 3.5 mmf ±.1 mmf; 500 vdcw; RCA No. K-98047.2. |
| 12 | C-203-C, C-203-D (Used in SCR-718-A, AM, and B only) | 1 | CAPACITOR, fixed: ceramic; 15 mmf ±5%; 500 vdcw; inegative temperature coefficient; RCA No. K-90581-213. |
| 13 | C-117, C-118 | 2 | CAPACITOR, fixed: ceramic; 15 mmf ±5%; 500 vdcw; zero temperature coefficient; RCA No. K-90575-213. |
| 13.1 | C-203-C, C-203-D (Used in SCR-718-C only) | 1 | CAPACITOR, fixed: ceramic; 33 mmf ±5%; 500 vdcw; temperature coefficient 0.00033 mmf/°C; RCA No. K-90579-221. |
| 14 | C-112, C-113, C-157, C-160 | 4 | CAPACITOR, fixed: ceramic; 55 mmf ±10%; 500 vdcw; RCA No. K-251125-501. |
| 15 | C-114, C-115, C-158 | 2 | CAPACITOR, fixed: ceramic; 82 mmf ±10%; 500 vdcw; RCA No. K-90581-331. |
| 15.1 | C-162 (Used in SCR-718-C only) | | CAPACITOR, fixed: mica; 100 mmf ±10%; 500 vdcw; RCA No. P-22001-573. |
| 16 | C-203-A | 1 | CAPACITOR, fixed: silver mica; 180 mmf ±5%; 500 vdcw; positive temperature coefficient of .005%; RCA No. K-97656-2. |
| 17 | C-203-B | 1 | CAPACITOR, fixed: silver mica; 180 mmf ±5%; 500 vdcw; positive temperature coefficient of .0025%; RCA No. K-97656-1. |
| 18 | C-145, C-146 | 1 | CAPACITOR, fixed: mica; 270 mmf ±10%; 500 vdcw; RCA No. P-722001-583. |
| 18.1 | C-205-A, C-205-B (Used in SCR-718-C only) | 2 | CAPACITOR, fixed: ceramic; 270 mmf ±10%; 500 vdcw; temperature coefficient 0.00075 mmf/°C; RCA No. K-90581-343. |
| 18.2 | C-112-C, C-112-D, C-112-E (Used in SCR-718-C only) | 3 | CAPACITOR, fixed; ceramic; 360 mmf ±5%; 500 vdcw; RCA No. K-90581-246. |
| 19 | C-109-A, C-109-B, C-110-A, C-208 thru C-210, C-212 | 1 | CAPACITOR, fixed: mica; 470 mmf ±10%; 500 vdcw; RCA No. P-722001-589. |
| 20 | C-166 (Used in SCR-718-B only) C-169, C-170 Used in SCR-718-C only) | 1 | CAPACITOR, fixed: mica; 1000 mmf ±10%; 500 vdcw; RCA No. P-722017-559. |
| 21 | C-120 thru C-144, C-147, C-148 | 30<br>30 | CAPACITOR, fixed: ceramic; 1000 mmf ±20%; 300 vdcw; RCA No. K-97653-1. |
| 22 | C-152 | 1 | CAPACITOR, fixed: mica; 1500 mmf ±10%; 500 vdcw; RCA No. P-722021-563. |

| *Item No.* | *Reference Symbols* | *Quantity (See Notes)* | *Name of Part, Description, and Equipment Contractor's Part Number, If Available* |
|---|---|---|---|
| 23 | C-217, C-218 (Used in SCR-718-B only) | 1 | CAPACITOR, fixed: mica; 2000 mmf ±5%; 500 vdcw; American Aircraft Mfg. No. 718-17. |
| 24 | C-205 | 1 | CAPACITOR, fixed: mica; 2200 mmf ±5%; 500 vdcw; RCA No. 722022-517. |
| 24.1 | C-112-A, C-112-B | 2 | CAPACITOR, fixed: mica; 2700 mmf ±5%; 500 vdcw; RCA No. P-722022-519. |
| 25 | C-111-A | 1 | CAPACITOR, fixed: mica; 2700 mmf ±10%; 500 vdcw; RCA No. P-722017-569. |
| 25.1 | | | To be furnished later. |
| 25.2 | C-110-A (Used in SCR-718-C only) | 1 | CAPACITOR, fixed: mica; 3300 mmf ±10%; 500 vdcw; RCA No. P-722021-571. |
| 25.3 | C-109-B (Used in SCR-718-C only) | 1 | CAPACITOR, fixed: mica; 3900 mmf ±5%; 500 vdcw; RCA No. P-720538-46. |
| 26 | C-109-C (Used in SCR-718-B only) | 1 | CAPACITOR, fixed: mica; 4700 mmf ±5%; 500 vdcw; American Aircraft Mfg. No. 718-13. |
| 27 | C-165 (Used in SCR-718-B only) | 1 | CAPACITOR, fixed; mica; 10,000 mmf ±5%; 300 vdcw; American Aircraft Mfg. No. 718-12. |
| 28 | C-153, C-155, C-156 (all models) C-162 (Used in SCR-718-A, B and AM only) C-163, C-164, C-206, C-207, C-211, C-214 (Used in all models) | 6 | CAPACITOR, fixed: oil impregnated paper; 10,000 mmf +60% —20%; 400 vdcw; moulded bakelite case; RCA No. K-97670-5. |
| 29 | C-216 (Used in SCR-718-B only) | 1 | CAPACITOR, fixed: paper; 30,000 mmf ±10%; 400 vdcw; American Aircraft Mfg. No. 718-15. |
| 29.1 | C-217 (Used in SCR-718-C only) | 4 | CAPACITOR, fixed: mica; 30,000 mmf ±10%; 600 vdcw; RCA No. K-36331-16. |
| 30 | C-167, C-168 (Used in SCR-718-B only) C-215 (Used in all models) | 2 | CAPACITOR, fixed: paper; 100,000 mmf ±10%; 400 vdcw; American Aircraft Mfg. No. 718-14. |
| 30.1 | C-166, C-168, C-216 (Used in SCR-718-C only) | 2 | CAPACITOR, fixed: paper; 100,000 mmf ±20%; 300 vdcw; RCA No. K-99985-1. |
| 31 | | | To be furnished later. |
| 32 | C-204, C-213 | 2 | CAPACITOR, fixed: paper; oil filled; 1.75 mf ±10%; 400 vdcw; RCA No. P-72076-504. |
| 33 | C-201-A, C-201-B | 4 | CAPACITOR, fixed: paper; oil filled; 2 section; 50,000 mmf ±10% per section; 2,000 vdcw; RCA No. P-720555-69. |
| 34 | C-202-A, C-202-B | 2 | CAPACITOR, fixed: paper; oil filled; 2 section; 500,000 mmf ±10% ea sect; 400 vdcw; RCA No. P-92275-509. |
| 35 | C-149-A, C-149-B | 2 | CAPACITOR, fixed: paper; 2 section; 875,000 mmf ±10%; 400 vdcw per section; metal case 3–1/8" lg x 1–3/8" wd x 3/4" thk; RCA No. P-72076-503. |
| 35.1 | C-119, C-161 | | CAPACITOR, variable: air dielectric; 7 maximum to 1.2 minimum; consists of Item 83 and Item 84. |
| 36 | A-401, A-404 | 2 | CLAMP, cable: AN-3057-4; 23/32" diam, 1" lg; fits 5/16" cable; threaded 5/8"-24 for 1/2" for coupling; aluminum alloy. |
| 37 | A-402, A-403 | 1 | CLAMP, cable: AN-3057-8; aluminum split in half; 1-1/16" diam x 1-1/8" lg x 9/32" ID; rubber gasket and fibre friction washer furnished; RCA No. M-253375-4. |
| 38 | E-203 | 2 | (38-A) CLIP, tube contact: moulded phenolic with beryllium copper clip to fit 23/64" diam cap inside; 5-3/4" lg No. 18 lead attached; 25/32" lg x 19/32" diam; RCA No. K-866336-5.<br>OR<br>(38-B) CLIP, tube contact: black molded insulation beryllium copper contact; fits 23/64" diam cap; complete with lead 5-3/8" lg; RCA No. K-258886-2. |
| 39 | L-131 | 1 | COIL, radio, RF: formed loop of .0641" diam copper wire; two almost right angle bends and one curved bend; RCA No. K-252407-1. |
| 40 | L-130 | 1 | COIL, radio, RF: formed loop of 1/16" diam brass rod; 1-1/2" between loop centers; RCA No. K-252622-1. |

| Item No. | Reference Symbols | Quantity (See Notes) | Name of Part, Description, and Equipment Contractor's Part Number, If Available |
|---|---|---|---|
| 41 | L-129 | 1 | COIL, radio, RF: formed loop of 1/16" diam brass rod; "S" type; 1-13/16" lg overall x 3/16" ID; RCA No. M-252699-1. |
| 42 | | | |
| 43 | L-112 | 1 | COIL, radio, RF: choke; 6 turns; air core; No. 12 wire; center tapped; cased; shielded; Approx 8/16" lg x 3/16" ID x 1/4" OD; RCA No. K-252173-2. |
| 44 | L-116 thru L-121 | 2 | COIL, radio, RF: choke; heater; 16 turns No. 18 AWG single formex enamel wire on bakelite grid form 5/8" lg x 3/8" diam; self-supporting; RCA No. K-252409-501. |
| 45 | L-122 | | (45-A) COIL, radio, RF: choke; filter; 29 turns of .010 barewire; 60 turns per inch; wound on a bakelite tube; cased and aluminum shielded; 1-7/8" high overall, max width 1-1/16" diam; 2 spade bolt mounting lugs; 4 solder lugs on bottom, only 2 used; RCA No. P-255257-508. |
| | | 1 | OR |
| | | | (45-B) COIL, radio, RF: choke filter; 29 turns .010" enameled copper magnet wire-wound 60 turns per inch; four terminals; inclosed in aluminum can; overall dimen of can 1.510" h x 0.875 OD; RCA No. P-255634-508. |
| 46 | L-123 | 1 | COIL, radio, RF: crystal oscillator; 150-1/4 turns of .005" diam bare wire first sect; 400-1/4 turns in second sect; powdered iron core; bakelite form; aluminum case 1-15/16" lg x 1-1/16" diam; external adjustments top and bottom; 4 solder terminals on bottom; RCA No. P-255257-509. |
| 47 | L-204 | 1 | COIL, radio, video: 3 sections; 112-1/2 turns per section; enclosed in fibre shell 1.015" x 15/16" ID x 1/32" thk; RCA No. P-255257-515. |
| 48 | L-132 | 1 | COIL ASSEMBLY, radio, AF: choke; 2 coils wound in series; 1240 turns each; metal case; laminated core; 3 solder post terminals; dimensions 3-3/8" lg x 1-13/32" wd x 1-13/32"; low voltage filter; RCA No. K-901619-501. |
| 49 | T-109 (Used in SCR-718-A, AM) | 1 | COIL ASSEMBLY, radio, RF: crystal oscillator plate coil; primary 4 sections; 190 turns per section; bakelite form; powdered iron core; aluminum case 1-7/8" lg x 1-1/16" diam; 4 solder lugs on bottom; RCA No. P-255257-511. |
| 49.1 | T-109 (Used in SCR-718-C only) | 1 | COIL ASSEMBLY, radio, RF: crystal oscillator plate coil; bakelite form; adjustable core; stud assemblies at top and bottom; 10 terminals; aluminum case 0.020" thk x 2.148" x 1.375" sq; RCA No. P-255634-510. |
| 50 | T-109-A (Used in SCR-718-B only) | 1 | COIL ASSEMBLY, radio, RF: 3 coils and 1 capacitor in aluminum can shield 1-3/8" x 1-3/8" x 2-3/16" h; double tuned by two adjustable iron plugs; American Aircraft Mfg. No. 718-19E. |
| 51 | T-110 (Used in SCR-718-A, AM only) | 1 | COIL ASSEMBLY, radio, RF: plate coil; clipper; primary 4 sections; 190 turns per section; bakelite form; powdered iron core; aluminum case 1-7/8" lg x 1-1/16" diam; 4 terminals on bottom; RCA No. P-255257-510. |
| 51.1 | T-110 (Used in SCR-718-C only) | 1 | COIL ASSEMBLY, radio, RF: plate coil; clipper; bakelite form; adjustable powdered iron core; aluminum case 0.020" thk x 2.148" x 1.375" sq; RCA No. P-255634-509. |
| 52 | T-111 | 1 | COIL ASSEMBLY, radio, RF: driver output; primary 3 section; 47 turns per section; bakelite form; powdered iron core; aluminum case 1-7/8" lg x 1-1/16" diam; 4 solder terminals on bottom; RCA No. P-255257-512. |
| 53 | T-132-A (Used in SCR-718-B only) | 1 | COIL ASSEMBLY, radio, RF: 1 coil, resistor and capacitor; no plug in; no shielding; 1-5/16" x 1-11/16" x 2-5/8" lg; single tuned by adjustable iron plug; American Aircraft Mfg. No. 718-18. |
| 54 | T-202 | 2 | COIL ASSEMBLY, radio, RF: primary 70 turns; secondary 2 sections; 152 turns section; bakelite form; powdered iron core; aluminum case 1-7/8" lg x 1-1/16" diam; 4 solder terminals on bottom; RCA No. P-255257-513. |
| 55 | T-203 (Used in SCR-718-A, AM) | 2 | COIL ASSEMBLY, radio, RF: 2 primaries 4 sections each in series; 285 turns per section; same information applies to secondary; bakelite form; powdered iron core; aluminum case 1-7/8" lg x 1-1/16" diam; 4 terminals on bottom; RCA No. P-255257-514. |
| 55.1 | T-203 (Used in SCR-718-C only) | 1 | COIL ASSEMBLY, radio, RF: H-F circle transf; comprised of C-203A, C-203B, C-203C, C-203D, L-203A, L-203B, L-203C, L-203D and R-203A; enclosed in metal can; 10 terminals; overall dimen 0.020" thk x 2.542" x 1.375" sq; RCA No. P-255634-512. |
| 56 | T-204 (Used in SCR-718-B only) | 1 | COIL ASSEMBLY, radio, RF: 2 coils assembled in aluminum can 1-1/8" diam x 1-5/8" h; low frequency zero adjustment; single tuned by adjustable iron plug; American Aircraft Mfg. No. 718-20F. |
| 56.1 | T-204 (Used in SCR-718-C only) | 1 | COIL ASSEMBLY, radio, RF: L-F zero adj transf; comprised of L-204A, L-204B; enclosed in metal can; 4 terminals; can 0.020 thk x 1-9/16" x 1.125" diam; RCA No. P-255634-513. |
| 57 | T-205 (Used in SCR-718-B only) | 1 | COIL ASSEMBLY, radio, RF: 2 coils in aluminum shield can; low frequency forming; double tuned by two adjustable iron cores; American Aircraft Mfg. No. 718-21. |
| 57.1 | T-205 (Used in SCR-718-C only) | 1 | COIL ASSEMBLY, radio, RF: L-F circle transf; comprised of C-205A, C-205B, C-218, C-219, L-205A, L-205B; metal can; 10 terminals; can 0.020" thk aluminum x 3-1/2" h x 1-3/8" sq; RCA No. M-254201-501. |

| *Item No.* | *Reference Symbols* | *Quantity (See Notes)* | *Name of Part, Description, and Equipment Contractor's Part Number, If Available* |
|---|---|---|---|
| 57.2 | T-112 (Used in SCR-718-C only) | 1 | COIL ASSEMBLY, radio, RF: timing oscillator; bakelite form; adjustable core; stud assemblies at top and bottom; 10 terminals; aluminum case 0.020" thk x 2.690" x 1.375" sq: RCA No. P-255634-511. |
| 58 | J-103, J-104 | 2 | CONNECTOR, female contact: SO-239; single contact; mica filled phenolic insulation aluminum shell .620" diam x 37/64" wd x .078" thk; aluminum flange 1" sq x .078" thk with 4 mounting holes in corners; overall lg 1-1/16"; RCA No. K-252490-1. |
| 59 | J-101 | 2 | CONNECTOR, female contact: AN-3102-16S-1S; 7 contact; 7 No. 20 socket contacts; mica filled bakelite insulation; aluminum shell 1" diam x 9/16" wd x 1/16" thk; flange 1-9/32" sq x 1/16" thk with four mounting holes in corners; overall lg 1-5/32"; RCA No. M-253475-5. |
| 60 | P-403 | 2 | CONNECTOR, female contact: AN-3108-16S-1S; 7 contact elbow cable connector; 7 No. 20 socket type contacts; 2-1/8" lg overall x 1-3/16" diam; RCA No. M-253474-7. |
| 61 | P-404, P-406, P-408, P-410 | 8 | CONNECTOR, male contact: single pin; 5/8"-24 threads inside on large end; mica filled bakelite insulation; 1-9/16" x 11/16" x 0.512" diam overall Amphenol C49195; RCA No. P-255223-9. |
| 62 | P-405, P-407, P-409, P-411 | 4 | CONNECTOR, male contact: single pin elbow cable connector; adapter; 5/8"-24 thread on each end; outside thread on longer portion, inside thread on shorter portion; RCA No. K-252666-1. |
| 63 | J-102 | 1 | CONNECTOR, male contact: AN-3102-12S-3P; 2 No. 20 pin contacts; mica filled phenolic insulation; aluminum shell 3/4" diam x 9/16" wd x 1/16" thk with 4 mounting holes in corners; overall lg 1-5/32"; RCA No. M-253475-3. |
| 64 | P-402 | 2 | CONNECTOR, male contact: PL-175; AN-3106-12S-3S; 2 pin straight cable connector; 1-5/16" lg x 7/8" diam; RCA No. M-253476-4. |
| 65 | J-201 | 1 | CONNECTOR, male contact: AN-3102-16S-1P; 7 No. 20 pin contacts; aluminum shell 9/32" sq x 1/16" thk; overall lg 1-5/32"; 4 mounting holes; RCA No. M-253475-4. |
| 66 | P-401 | 2 | CONNECTOR, male contact: AN-3106-16S-1P; 7 pin straight cable connector; 1-7/16" lg x 1-1/8" diam; RCA No. M-253476-3. |
| 67 | N-201 | 2 | COVER, dial: indicator dial; lucite; transparent; riveted to mounting brass hub shield with 4 .062" diam x 7/64" lg tubular brass rivets; RCA No. M-253731-501. |
| 68 | Y-101 | 1 | CRYSTAL UNIT, quartz: DC-22-A; "V" cut; includes phenolic crystal holder; case 2-1/16" lg x L 19/32" wd x 1-3/16" thk; 3 pin triangular shaped plug in mounting; RCA No. K-252531-501. |
| 69 | N-202 | 2 | DECALCOMANIA: dial marking; on paper; Di-Noc type; RCA No. X-29880-1. |
| 70 | F-101 | 1* 80 | FUSE, cartridge: 1.5 amps; 250 v; glass enclosed; 1-1/4" lg x 1/4" diam; RCA No. K-850339-20. |
| 71 | F-102 | 1* 80 | FUSE, cartridge: FU-27; 2 amps; 250 v; glass enclosed; 1-1/4" lg x 1/4" diam; RCA No. K-850339-5. |
| 72 | H-207 | 1 | GASKET, rubber: 3-1/8" OD x 2-11/16" ID x 1/16" thk; RCA No. K-99801-1. |
| 73 | H-208 | 1 | GASKET, synthetic rubber: 3/16" OD x 1/16" ID x 8-9/16" lg; RCA No. K-866789-1. |
| 74 | H-102, H-206 | 2 | HOLDER, electron tube shield: .015" cold rolled steel; base flange .915" diam x .800" OD above flange with slight outward curvature 11/32" above base on each side to lock shield; two mounting holes; RCA No. K-252607-2. |
| 75 | E-101 | 4 | HOLDER, fuse: knob extractor type; bakelite; "fuse" engraved on face and counter-clockwise arrow under lettering; 1/2" lg; hex nut and leather washer furnished; for fuse F-101; RCA No. K-99088-2. |
| 76 | E-202 | 1 | INSULATOR, cap: bakelite; cup shaped with 7/16" wd x 7/16" d slot on one side with 1/2" diam hole reamed in top 1/16" d; mica filled; overall dimen 11/16" wd x 1-11/16" OD x 1-1/4" ID; RCA No. K-252631-1. |
| 77 | E-201 | 1 | INSULATOR, feed through: glazed ceramic; 1/2" diam x 1-3/16" lg overall; terminal; RCA No. K-251967-1. |
| 78 | E-206 | 1 | KNOB, round: brass; course straight knurl 24 teeth per inch at 90° included angle; 7/16" diam for 1/4" then turned down to .359" diam for 5/8" lg; No. 6-32 thread tapped 3/16" deep; RCA No. K-252612-1. |
| 79 | E-204, E-205 | 1 | KNOB, round: molded phenolic; 1/4" shaft; 2 steel set screws; 8 equally spaced indentations; small rounded pointer; 1" diam x 5/8" thk, with gradual undercut to 5/8" OD x 1/4" ID; RCA No. K-252649-501. |
| 80 | I-206 | 30 | LAMP, incandescent: LM-27; 6 to 8 v; 0.25 amps; 1-1/4" lg x 9/16" diam; bayonet base; blue bead; RCA No. K-61114-15. |
| 80.1 | I-201 | 30 | LAMP, incandescent: Mazda No. 319-R; 3 v; screw type base; 3/4" x 0.380" diam over knurl; RCA No. K-259040-1. |
| 81 | X-206 | 2 | LIGHT, indicator: ruby jewel; panel bushing with 2 slots inside for tightening; black nickel finish; 11/16" diam panel hole opening; 1-23/32" lg overall x 3/16" diam; RCA No. K-866127-3. |

| *Item No.* | *Reference Symbols* | *Quantity (See Notes)* | *Name of Part, Description, and Equipment Contractor's Part Number, If Available* |
|---|---|---|---|
| 82 | H-201 | 1 | NUT, 4 way slotted: stainless steel; 1/4" head x 7/16" lg; then tapered to end on 20°; No. 6-32 threads; slots .045" wd x .075" d; long slot .032" wd cut through center from bottom of nut; RCA No. K-252611-1. |
| 83 | C-119-B, C-161-B | 3 | PLATE, capacitor: adjustable plate 1/2" diam x .038" thk; 6-32 thread 7/16" long screw attached with screw driver slot in end; RCA No. K-252477-1. |
| 84 | C-119-A, C-161-A | 2 | PLATE, capacitor: stationary plate 1/2" diam x .038" thk; 1/4" projection for soldering loop; screw attached; RCA No. K-252629-501. |
| 85 | K-101 (Used in SCR-718-B only) | 2 | RELAY, B+ switching: BK-35; closing current 0.4 ma DC ±10%; release current 0.2 ma DC ±10%; 11,300 ohms ±10% DC resistance; American Aircraft Mfg. No. 718-1. |
| 85.1 | K-101 (Used in SCR-718-C only) | 2 | RELAY, range switch: SPST; overall dimen 1-11/16" x 1-15/32" x 1-31/32"; coil resistance 6000 ohms; normal operating current 7 ma; RCA No. M-254192-1. |
| 86 | R-152 | 1 | RESISTOR, fixed: composition; 39 ohms ±10%; 1/2 watt; JAN type RC20AE390K. |
| 86.1 | R-241(Used in SCR-718-C only) | 1 | RESISTOR, fixed: composition; 47 ohms ±10%; 1 watt JAN type RC20AE470K. |
| 87 | R-210 | 1 | RESISTOR, fixed: composition; 82 ohms ±5%; 1/2 watt; JAN type RC20AE820J. (The value of R-210 was formerly 75 ohms. It should be replaced by this 82 ohm resistor.) |
| 88 | R-211 | 1 | RESISTOR, fixed: composition; 120 ohms ±10%; 1/2 watt; JAN type RC20AE121K. |
| 88.1 | R-238 (Used in SCR-718-C only) | 3 | RESISTOR, fixed: composition; 150 ohms ±5%; 1 watt mineral wax impregnated; JAN type RC20AE151J. |
| 89 | R-121, R-125, R-129, R-133, R-137, R-140 | 40 | (89A) RESISTOR, fixed: composition; 150 ohms ±20%; 1/2 watt; JAN type RC20AE151M.<br>OR<br>(89-B) RESISTOR, fixed: same as above except JAN type RC21AE151M. |
| 90 | R-151 | 1 | RESISTOR, fixed: composition; 180 ohms ±10%; 1/2 watt; JAN type RC20AE181K. |
| 91 | R-117, R-120, R-124, R-128, R-132, R-136 | 4 | (91-A) RESISTOR, fixed: composition; 220 ohms ±10%; 1/2 watt; JAN type RC20BE221K.<br>OR<br>(91-B) RESISTOR, fixed: same as above except JAN type RC20AE221K. |
| 92 | R-214 (Used in SCR-718-C only) R-215 (Used in all models) | 1 | RESISTOR, fixed: composition; 270 ohms ±10%; 1/2 watt; JAN type RC20AE271K. |
| 93 | R-203-A | 4 | RESISTOR, fixed: composition; 390 ohms ±5%; 1/2 watt; JAN type RC20BE391J. |
| 94 | R-214 (Used in SCR-718-A, AM, and B only) | 1 | RESISTOR, fixed: composition; 390 ohms ±10%; 1/2 watt; JAN type RC21BE391K. |
| 95 | R-148 (Used in all models) R-155 (Used in SCR-718-C only) | 2 | RESISTOR, fixed: composition; 470 ohms ±10%; 1 watt; JAN type RC30BE471J. |
| 96 | | | To be furnished later. |
| 97 | R-114 | 1 | RESISTOR, fixed: composition; 560 ohms ±10%; 1/2 watt; JAN type RC20BE561K. |
| 98 | R-158 (Used in SCR-718-B only) | 2 | RESISTOR, fixed: composition; 1000 ohms ±10%; 1 watt; JAN type RC31BE102K. |
| 99 | R-118, R-119, R-122, R-123, R-127, R-131, R-135, R-139, R-142 | 7 | RESISTOR, fixed: composition; 1000 ohms ±20%; 1/2 watt; JAN type RC20AE102M. |
| 100 | R-102-A thru R-108-A | 6 | RESISTOR, fixed: composition; 1500 ohms ±5%; 1/4 watt; JAN type RC10AE152J. |
| 100.1 | R-110-A (Used in SCR-718-C only) | 1 | RESISTOR, fixed: composition; 1500 ohms ±10%; 1/2 watt; JAN type RC20AE152K. |
| 101 | R-159 (Used in SCR-718-B and C only) R-234 (Used in all models) | 1 | RESISTOR, fixed: composition; 2200 ohms ±10%; 1/2 watt; JAN type RC20AE222K. |
| 102 | | | To be furnished later. |
| 102.1 | R-112, R-113 | 2 | RESISTOR, fixed: composition; 6800 ohms ±10%; 1 watt; JAN type RC20AE682K. (The value of R-112 and R-113 was formerly 12,000 ohms. It should be replaced with the 6800 ohm resistor.) |

| *Item No.* | *Reference Symbols* | *Quantity (See Notes)* | *Name of Part, Description, and Equipment Contractor's Part Number, If Available* |
|---|---|---|---|
| 103 | R-110-A (Used in SCR-718-A, AM, and B only) R-146 (Used in all models) | 2 | (103-A) RESISTOR, fixed: composition; 10,000 ohms ±10%; 1/2 watt; JAN type RC20AE103K. OR (103-B) RESISTOR, fixed: composition; 10,000 ohms ±10%; 1/4 watt; JAN type RC10BE103K. |
| 104 | R-150 | 1 | RESISTOR, fixed: composition; 12,000 ohms ±10%; 2 watts; JAN type RC40AE123K. |
| 105 | R-160, R-161, R-217, R-218 | 1 | RESISTOR, fixed: composition; 18,000 ohms ±10%; 1 watt; JAN type RC30AE183K. (The value of R-217 and R-218 was formerly 15,000 ohms. It should be replaced by the 18,000 ohm resistor.) |
| 106 | R-149 | 1 | RESISTOR, fixed: composition; 22,000 ohms ±10%; 1/2 watt; JAN type RC21AE223K. |
| 107 | R-115 | 1 | RESISTOR, fixed: composition; 27,000 ohms ±10%; 1/2 watt; JAN type RC20BE273K. |
| 108 | R-156, R-157, R-235, R-236 (Used in SCR-718-B only) | 2 | RESISTOR, fixed: composition; 40,000 ohms ±10%; 1 watt; JAN type RC20AE403K. |
| 109 | | | To be furnished later. |
| 110 | R-155 (Used in SCR-718-B only) | 1 | RESISTOR, fixed: composition; 47,000 ohms ±10%; 1/2 watt; JAN type RC20BE473K. |
| 111 | R-228, R-232 | 2 | RESISTOR, fixed: composition; 47,000 ohms ±10%; 1 watt; JAN type RC31BE473K. |
| 111.1 | R-158 (Used in SCR-718-C only) | 1 | RESISTOR, fixed: composition; 56,000 ohms ±10%; 1/2 watt; JAN type RC20AE563K. |
| 112 | R-229, R-230 (Used in all models) R-235, R-236 (Used in SCR-718-C only) | 2 | RESISTOR, fixed: composition; 56,000 ohms ±10%; 1 watt; JAN type RC30BE563K. |
| 113 | R-116, R-153 | 1 | RESISTOR, fixed: composition; 68,000 ohms ±10%; 1 watt; JAN type RC30BE683K. |
| 114 | R-126, R-130, R-134, R-138, R-154, R-216, R-231 (Used in all models) | 5 | (114-A) RESISTOR, fixed: composition; 82,000 ohms ±10%, 1/2 watt; JAN type RC20AE823K. OR (114-B) RESISTOR, fixed: same as above except JAN type RC21AE823K. |
| 115 | R-145 (Used in SCR-718-B and C only) | 1 | RESISTOR, fixed: RS-150; composition; 100,000 ohms ±10%; 1/2 watt; JAN type RC21AE104K. |
| 116 | R-141 | 1 | RESISTOR, fixed: composition; 120,000 ohms ±10%; 1 watt; JAN type RC30AE124K. |
| 117 | R-204, R-206 | 2 | RESISTOR, fixed: composition; 150,000 ohms ±10%; 1 watt (R-204 was 100,000 ohms. It should be replaced by the 150,000 ohm resistor or two 300,000 ohm ±10%; 1/2 watt; composition resistor in parallel; stock number 3Z6730-6; JAN type RC31AE154K. |
| 118 | R-109-A, R-110-B, (Used in SCR-718-C only) R-145 (Used in SCR-718-A and AM only) R-220, R-221, R-223, R-226 (Used in all models) | 3 | RESISTOR, fixed: composition; 220,000 ohms ±10%; 1/2 watt; JAN type RC20AE224K. |
| 119 | R-208, R-209 | 2 | (119-A) RESISTOR fixed: composition; 220,000 ohms ±20%; 1 watt; JAN type RC30BE224M. OR (119-B) RESISTOR, fixed: composition; 220,000 ohms ±10%; 1 watt; JAN type RC31AE224K. |
| 119.1 | R-163 (Used in SCR-718-C only) | 1 | RESISTOR, fixed: composition; 270,000 ohms ±10%; 1/2 watt; JAN type RC20AE274K. |
| 119.2 | R-156 (Used in SCR-718-C only) | 1 | RESISTOR, fixed: composition; 390,000 ohms ±10%; 1/2 watt; JAN type RC20AE394K. |
| 120 | R-233 | 1 | RESISTOR, fixed: composition; 470,000 ohms ±10%; 1/2 watt; JAN type RC20BE474K. |

| *Item No.* | *Reference Symbols* | *Quantity (See Notes)* | *Name of Part, Description, and Equipment Contractor's Part Number, If Available* |
|---|---|---|---|
| 121 | R-110-B (Used in SCR-718-A, AM and B only) R-144 (Used in all models) | 1 | (121-A) RESISTOR, fixed: composition; 470,000 ohms ±10%; 1/2 watt; JAN type RC20BE474K. OR (121-B) RESISTOR, fixed: composition; 470,000 ohms ±10%; 1/4 watt; JAN type RC10BE474K. |
| 122 | R-219 | 1 | RESISTOR, fixed: composition; 470,000 ohms ±10%; 1/2 watt; JAN type RC21AE474K. |
| 123 | R-109-A (Used in SCR-718-A, AM and B only) | 1 | (123-A) RESISTOR, fixed: composition; 1 meg ±10%; 1/2 watt; JAN type RC20AE105K. OR (123-B) RESISTOR, fixed: composition; 1 meg ±10%; 1/4 watt; JAN type RC10BE105K. |
| 123.1 | R-237 (Used in SCR-718-B only) | 1 | RESISTOR, variable: wirewound; 500 ohms ±5%; 2 watts; American Aircraft Mfg. No. 718-3. |
| 124 | R-227 | 2 | RESISTOR, variable: wire wound; 500 ohms ±10%; 2 watts; linear taper; bakelite case; bushing with hex nut for mounting; 1/16" mounting shoulder; case 1-1/2" diam x 9/16" d; 1/4" dial metal shaft 1/8" long from end of bushing; bushing threaded 3/8-32 for 3/32"; wirewound; RCA No. M-253398-32. |
| 124.1 | R-213 (Used in SCR-718-C only) | 2 | RESISTOR, variable; composition; 5000 ohms ±10%; 2 watts; special curve; 0.250" diam x 3/4" shaft; metal case 1/2" x 15/16" diam; RCA No. M-422506-10. |
| 125 | R-213 (Used in SCR-718-A, AM, and B) | 3 | RESISTOR, variable: composition; 2000 ohms ±10%; 1/3 watt; curve 4 taper; 3 solder terminals on top back of case; metal case 15/16" diam x 1/2" d grounded to bushing; 1/4" diam shaft 11/32" lg; bushing 3/8"-32 threads 3/8" lg; RCA No. M-422506-8. |
| 125.1 | R-240 (Used in SCR-718-C only) | 2 | RESISTOR, variable: composition; 25,000 ohms ±20%; 2 watts; linear curve; 0.250 diam x 11/16" shaft; RCA No. M-422506-9. |
| 126 | R-201 | 3 | RESISTOR, variable: composition; 100,000 ohms ±10%; 1/3 watt; 3 solder lug terminals on top back of case; rotary SPST switch; metal case; bushing with hex nut for mounting; case 15/16" diam x 3/4" d; 1/4" shaft 15/16" lg from end of bushing; 3/8"-32 threaded bushing, 1/16" mounting shoulder; RCA No. M-422506-7. |
| 127 | R-222, R-225 | 4 | RESISTOR, variable: composition; 250,000 ohms ±20%; 1/3 watt; metal case; 1/4" shaft 3/8" lg from end of bushing with screw driver slot; bushing threaded 3/8" for 3/8"-32 with nut for mounting; case 15/16" diam x 1/2" d; RCA No. M-422506-6. |
| 128 | R-205, R-207 | 4 | RESISTOR, variable: 250,000 ohms ±20%; 1/3 watt; linear taper; 3 solder terminals on top back of case; metal case; 1/4" diam steel shaft 7/16" lg, then bakelite shaft 29/32" lg, then stainless steel shaft attached 1/2" lg to bakelite rod, with screw driver slot in end of steel shaft; case 15/16" diam x 1/2" d; bushing 3/8"-32 threads 3/8" lg; 1/16" shoulder; RCA No. M-422506-4. |
| 129 | H-202 | 4 | SCREW, machine: round slotted head; No. 8-32 thread, 27/64" lg; head .298" diam x .113" thk x .044" wd; .067" d slot; RCA No. K-99791-2. |
| 130 | R-101, R-205 | 2 | SHIELD, electron tube: metal; .810" diam x 1-3/4" lg with 1/2" diam hole in top; 4 turn copper tapered spring 9/16" lg fastened in top of shield; pressed out groove on opposite sides to fit over projections on base; RCA No. K-252607-1. |
| 130.1 | | 1 | SHIELD ASSEMBLY, tube: fabricated 0.032" thk nickel-iron alloy shield complete with mounting brackets; overall dimen 8-1/8" x 3-1/2" diam; RCA No. M-253467-502. |
| 130.2 | X-206 (Used in SCR-718-C only) | 1 | SOCKET, tube: 1 contact; lamp socket; bracket; ruby jewel, Number 40 ruby; RCA No. K-866127-5. |
| 131 | X-115 | 1 | SOCKET, crystal: 3 triangular shaped contacts; laminated phenolic; beryllium copper, hot tinned; 2-7/32" lg x 1-3/8" wd x 1/8" thk; two .128" diam holes for mounting; RCA No. K-871261-1. |
| 132 | X-201 | 1 | SOCKET, tube: Amphenol 77A-4T; 4 pin; molded mica filled bakelite; 1-3/4" diam x 1-1/2" d; 2 mounting holes; 2-3/4" lg overall; RCA No. M-252406-1. |
| 133 | X-103 thru X-109, X-111, X-112, X-202 thru X-204 (Used in SCR-718-A, AM and B only) | 20 | SOCKET, tube: 7 contacts; octal; miniature; molded mica filled phenolic; 1-3/32" lg x .735" wd; mounting holes; RCA No. K-252618-1. |
| 133.1 | X-103 thru X-109, X-111 and X-112, X-202 thru X-204 (Used in SCR-718-C only) | 20 | SOCKET, tube: 7 contacts; miniature; mica filled phenolic base; 1-9/32" diam including contacts; mounting holes; RCA No. K-99118-1. |

| *Item No.* | *Reference Symbols* | *Quantity (See Notes)* | *Name of Part, Description, and Equipment Contractor's Part Number, If Available* |
|---|---|---|---|
| 134 | X-101, X-102, X-114 | 3 | SOCKET, tube: 7 contacts; octal; phosphor bronze silver plated steel mounting plate molded into socket; 1-13/16" lg x 7/8" wd overall; mounting holes; RCA No. K-875440-2. |
| 135 | X-113 | 1 | SOCKET, tube: octal; ceramic steatite; phosphor bronze silver plated; 1-1/4" diam x 27/64" thk; single mounting hole; RCA No. K-875415-5. |
| 136 | X-110 | 1 | SOCKET, tube: octal; phosphor bronze silver plated; steel mounting plate molded in; 1-25/32" lg x 1-1/4" diam; mounting holes; RCA No. K-871415-1. |
| 137 | X-205 | 1 | SOCKET, tube: 14 contacts; molded bakelite; socket mounting with two No. 4-40 screws 1/2" lg; overall thickness 1-1/8"; RCA No. M-426865-501. |
| 138 | H-203 | 1 | SPRING, knob: phosphor bronze; tempered; .010" thk; three prongs bent at 80° angle and curved slightly at end spaced around hole; RCA No. K-251887-1. |
| 138.1 | S-202 (Used in SCR-718-C only) | 4 | SWITCH, toggle: DPDT; overall dimen 1-1/4" x 11/16" x 11/16"; HH Mfg. type No. Cat. 81027; scale switch on indicator; RCA No. M-95559-4. |
| 138.2 | | 5 | TOOL, alignment: insulated handle; metal screw driver tip; SCR No. M-86183-503. |
| 139 | T-103 thru T-108 | | (139-A) TRANSFORMER, IF: second thru seventh IF; primary 12-1/4 turns; secondary 19-1/4 turns; bakelite form; powdered iron core; aluminum case 1-7/8" lg x 1-1/16" diam; 4 solder terminals on bottoom; RCA No. P-255257-502 thru P-255257-507. |
| | | 3 | OR |
| | | | (139-B) TRANSFORMER, IF: second thru seventh IF; primary 12-1/4 turns; secondary 19-1/4 turns; bakelite form; powdered iron core; aluminum case 0.016" thk x 1.510" x 0.875" OD; 4 solder terminals on bottom; RCA No. P-255634-502 thru P-255634-507. |
| 140 | T-102 | | (140-A) TRANSFORMER, IF: first IF; primary 13-1/4" turns; secondary 12-1/4" turns; bakelite form; powdered iron core; aluminum case 1-7/8" lg x 1-1/16" diam; 4 solder terminals on bottom; RCA No. P-255257-501. |
| | | 1 | OR |
| | | | (140-B) TRANSFORMER, IF: first IF; primary 13-1/4" turns; secondary 12-1/4 turns; bakelite form; powdered iron core; aluminum case 0.016" thk x 1.510" x 0.875" OD; 4 solder terminals on bottom; RCA No. P-255634-501. |
| 141 | T-201 | 2 | TRANSFORMER, power: primary 115 v; .2 amps; 400 cycle; plate voltage 1400 v; filament No. 1, 2.5 v, filament No. 2, 6.3 v, filament No. 3, 6.3 v; metal can; 7 terminals; laminated iron core; case 2-5/16" lg 2-5/8" wd 3" h; RCA No. P-901587-501. |
| 142 | T-101 | 2 | TRANSFORMER, power: primary 115-8 v, 1.10-1.6 amp, tapped 80 v; 400 cycle; secondary plate voltage 680-340 v, filament No. 1, 6.3 v, filament No. 2, 5 v; metal can; 9 terminals; laminated iron core; case 3-7/16" lg x 3-3/32" x 3-13/32" h; RCA No. K-901586-501. |
| 143 | V-201 | 30 | TUBE, electron: type JAN 2X2. (VT-119); (RCA No. 879). |
| 144 | V-205 | 20 | TUBE, electron: type JAN 3DP1. |
| 145 | V-110 | 40 | TUBE, electron: type JAN-5Y3GT. (VT-197-A). |
| 146 | V-103 thru V-109, V-111, V-112, V-202 thru V-204 | 360 | TUBE, electron: type JAN 6AG5. |
| 147 | V-101, V-102 V-114 | 120 | TUBE, electron: type JAN 6J6. |
| 148 | V-113 | 40 | TUBE, electron: type JAN 6L6. (VT-115). |
| 149 | L-127 | 1 | TUNING ASSEMBLY: two copper tubes, .183" OD x 1-3/8" lg x .562" apart; adjustable brass shorting bar; screw adjustment; UHF output plate tuning; RCA No. M-253487-502. |
| 150 | L-115 | 1 | TUNING ASSEMBLY, RF: oscillator; conductor assembly of two copper tubes silver plated and mounted parallel; .375" lg x 1/4" diam bakelite knob with metal insert cover with screw driver slot molded on 1/8" diam brass stud 1-3/8" lg which screws into spacer bar bushing and pushes spacer bar back and forth; overall lg 2" x 15/16" wd x 9/16" h; RCA No. M-253487-501. |
| 151 | L-114 | 1 | TUNING ASSEMBLY, RF: tank; conductor assembly of two copper tubes silver plated; mounted parallel; pin hole thru insert bushing and conductor with taper pin in place allows turning of both conductors; position may be changed by sliding shorting bar either way; overall lg 2-1/4" x 15/16" wd x 1-5/16" h; RCA No. M-253488-501. |
| 152 | H-204 | 1 | WASHER, flat: brass; .625" ID with 5/64" wd flange .625" diam; 1" OD; .0159" thk stock; RCA No. K-251886-1. |
| 153 | | 3 | VISOR: M-387; rubber; 2-2/3" lg; 3-11/32" diam; wall thickness 1/8"; attachable to front of indicator; RCA No. M-253040. |
| 154 | | 5 | WRENCH, Allen: for No. 8 set screw; RCA No. K-828505-12. |

# APPENDIX "A"
# CROSS REFERENCE OF LIST ITEM NUMBERS AGAINST REFERENCE SYMBOLS
## for
## RADIO, RADAR AND ELECTRONICS SPARE PARTS LIST
## for
## RADIO SET SCR-718-A, -AM, -B, AND -C

| *Reference Symbols* | *Item No.* |
|---|---|
| A-401 | 36 |
| A-402 | 37 |
| A-403 | 37 |
| A-404 | 36 |
| C-102-A thru C-108-A | 11 |
| C-109-A, -B (SCR-718-A, -AM, -B) | 19 |
| C-109-B (SCR-718-C) | 25.3 |
| C-109-C | 26 |
| C-110-A (SCR-718-A, -AM, -B) | 19 |
| C-110-A (SCR-718-C) | 25.2 |
| C-111-A | 25 |
| C-112 | 14 |
| C-112-A | 24.1 |
| C-112-B | 24.1 |
| C-112-C | 18.2 |
| C-112-D | 18.2 |
| C-112-E | 18.2 |
| C-113 | 14 |
| C-114 | 15 |
| C-115 | 15 |
| C-117 | 13 |
| C-118 | 13 |
| C-119 | 35.1 |
| C-119-A | 84 |
| C-119-B | 28 |
| C-120 thru C-144 | 21 |
| C-145 | 18 |
| C-146 | 18 |
| C-147 | 21 |
| C-148 | 21 |
| C-149-A | 35 |
| C-149-B | 35 |
| C-152 | 22 |
| C-153 | 28 |
| C-155 | 28 |
| C-156 | 28 |
| C-157 | 14 |
| C-158 | 15 |
| C-160 | 14 |
| C-161 | 35.1 |
| C-161-A | 84 |
| C-161-B | 83 |
| C-162 (SCR-718-A, -AM, -B) | 28 |
| C-163, C-164 | 28 |
| C-162 (SCR-718-C) | 15.1 |
| C-165 | 27 |
| C-166 (SCR-718-C) | 30.1 |
| C-166 (SCR-718-B) | 20 |
| C-167 | 30 |
| C-168 (SCR-718-B) | 30 |
| C-168 (SCR-718-C) | 30.1 |
| C-169 | 20 |
| C-170 | 20 |
| C-201-A | 33 |
| C-201-B | 33 |
| C-202-A | 34 |
| C-202-B | 34 |
| C-203-A | 16 |
| C-203-B | 17 |
| C-203-C, C-203-D (SCR-718-A, -AM, -B) | 12 |
| C-203-C, C-203-D (SCR-718-C) | 13.1 |
| C-204 | 32 |
| C-205 | 24 |
| C-205-A | 18.1 |
| C-205-B | 18.1 |
| C-206 | 28 |
| C-207 | 28 |
| C-208 thru C-210 | 19 |
| C-211 | 28 |
| C-212 | 19 |
| C-213 | 32 |
| C-214 | 28 |
| C-215 | 30 |
| C-216 (SCR-718-B) | 29 |
| C-216 (SCR-718-C) | 30.1 |
| C-217 (SCR-718-B) | 23 |
| C-217 (SCR-718-C) | 29.1 |
| C-218 | 23 |
| E-101 | 75 |
| E-102, E-103 (SCR-718-A, AM, -B) | 7 |
| E-102, E-103 (SCR-718-C) | 9.4 |
| E-104 (SCR-718-A, AM, -B) | 6 |
| E-104 (SCR-718-C) | 9.2 |
| E-105, E-106, E-107 (SCR-718-A, AM, -B) | 6 |
| E-105, E-106, E-107 (SCR-718-C) | 9.5 |
| E-108 (SCR-718-C) | 10.1 |
| E-108 (SCR-718-A, AM, -B) | 7 |
| E-109 | 2 |
| E-110 | 1 |
| E-111 | 1 |
| E-112 (SCR-718-C) | 6.1 |
| E-112, E-113 (SCR-718-A, AM, -B) | 3 |
| E-113 (SCR-718-C) thru E-118 | 3.2 |
| E-201 | 77 |
| E-202 | 76 |
| E-203 | 38 |
| E-204 | 79 |
| E-205 | 79 |
| E-206 | 78 |
| E-207 (SCR-718-A, AM, -B) | 8 |
| E-207 (SCR-718-C) | 8.1 |
| E-208 (SCR-718-A, AM, -B) | 10 |
| E-208 (SCR-718-C) | 9.6 |
| E-209 (SCR-718-A, AM, -B) | 9 |
| E-209 (SCR-718-C) | 9.1 |
| E-210 (SCR-718-A, AM, -B) | 5 |
| E-210 (SCR-718-C) | 9.3 |
| E-211 (SCR-718-A, AM, -B) | 4 |
| E-211 (SCR-718-C) | 3.3 |
| E-212 (SCR-718-A, AM, -B) | 4 |
| E-212 (SCR-718-C) | 3.1 |
| F-101 | 70 |
| F-102 | 71 |
| H-101 | 130 |
| H-102 | 74 |
| H-201 | 82 |
| H-202 | 129 |
| H-203 | 138 |
| H-204 | 152 |
| H-205 | 130 |
| H-206 | 74 |
| H-207 | 72 |
| H-208 | 73 |
| I-201 | 80.1 |
| I-206 | 80 |
| J-101 | 59 |
| J-102 | 63 |
| J-103 | 58 |
| J-104 | 58 |
| J-201 | 65 |
| K-101 (SCR-718-B) | 85 |
| K-101 (SCR-718-C) | 85.1 |
| L-112 | 43 |
| L-114 | 151 |
| L-115 | 150 |
| L-116 thru L-121 | 44 |
| L-122 | 45 |
| L-123 | 46 |
| L-127 | 149 |
| L-129 | 41 |

| *Reference Symbols* | *Item No.* |
|---|---|
| L-130 | 40 |
| L-131 | 39 |
| L-132 | 48 |
| L-204 | 47 |
| N-201 | 67 |
| N-202 | 69 |
| P-401 | 66 |
| P-402 | 64 |
| P-403 | 60 |
| P-404 | 61 |
| P-405 | 62 |
| P-406 | 61 |
| P-407 | 62 |
| P-408 | 61 |
| P-409 | 62 |
| P-410 | 61 |
| P-411 | 62 |
| R-102-A thru R-108-A | 100 |
| R-109-A (SCR-718-C) | 118 |
| R-109-A (SCR-718-A, AM, -B) | 123 |
| R-110-A (SCR-718-A, AM, -B) | 103 |
| R-110-A (SCR-718-C) | 100.1 |
| R-110-B (SCR-718-C) | 118 |
| R-110-B (SCR-718-A, AM, -B) | 121 |
| R-112 | 102.1 |
| R-113 | 102.1 |
| R-114 | 97 |
| R-115 | 107 |
| R-116 | 113 |
| R-117 | 91 |
| R-118 | 99 |
| R-119 | 99 |
| R-120 | 91 |
| R-121 | 89 |
| R-122 | 99 |
| R-123 | 99 |
| R-124 | 91 |
| R-125 | 89 |
| R-126 | 114 |
| R-127 | 99 |
| R-128 | 91 |
| R-129 | 89 |
| R-130 | 114 |
| R-131 | 99 |
| R-132 | 91 |
| R-133 | 89 |
| R-134 | 114 |
| R-135 | 99 |
| R-136 | 91 |
| R-137 | 89 |
| R-138 | 114 |
| R-139 | 99 |
| R-140 | 89 |
| R-141 | 116 |
| R-142 | 99 |
| R-144 | 121 |
| R-145 (SCR-718-B and C) | 115 |
| R-145 (SCR-718-C) | 118 |
| R-146 | 103 |
| R-148 | 95 |
| R-149 | 106 |
| R-150 | 104 |
| R-151 | 90 |
| R-152 | 86 |
| R-153 | 113 |
| R-154 | 114 |
| R-155 (SCR-718-B) | 110 |
| R-155 (SCR-718-C) | 95 |
| R-156 (SCR-718-B) | 108 |
| R-156 (SCR-718-C) | 119.2 |
| R-157 | 108 |
| R-158 (SCR-718-B) | 98 |
| R-158 (SCR-718-C) | 111.1 |
| R-159 | 101 |
| R-160 | 105 |
| R-161 | 105 |
| R-163 | 119.1 |
| R-164 | 119 |
| R-201 | 126 |
| R-203-A | 93 |
| R-204 | 117 |
| R-205 | 128 |
| R-206 | 117 |
| R-207 | 128 |
| R-208 | 119 |
| R-209 | 119 |
| R-210 | 87 |
| R-211 | 88 |
| R-213 (SCR-718-A, AM, -B) | 125 |
| R-213 (SCR-718-C) | 124.1 |
| R-214 (SCR-718-A, AM, -B) | 94 |
| R-214 (SCR-718-C) | 92 |
| R-215 | 92 |
| R-216 | 114 |
| R-217 | 105 |
| R-218 | 105 |
| R-219 | 122 |
| R-220 | 118 |
| R-221 | 118 |
| R-222 | 127 |
| R-223 | 118 |
| R-224 (SCR-718-A) | 114 |
| R-225 | 127 |
| R-226 | 118 |
| R-227 | 124 |
| R-228 | 111 |
| R-229 | 112 |
| R-230 | 112 |
| R-231 | 114 |
| R-232 | 111 |
| R-233 | 120 |
| R-234 | 101 |
| R-235 and R-236 (SCR-718-C) | 112 |
| R-235 and R-236 (SCR-718-B) | 108 |
| R-237 | 123.1 |
| R-238 | 88.1 |
| R-240 | 125.1 |
| R-241 | 86.1 |
| S-202 | 138.1 |
| T-101 | 142 |
| T-102 | 140 |
| T-103 thru T-108 | 139 |
| T-109 (SCR-718-A, -AM) | 49 |
| T-109 (SCR-718-C) | 49.1 |
| T-109-A | 50 |
| T-110 (SCR-718-A and AM) | 51 |
| T-110 (SCR-718-C) | 51.1 |
| T-111 | 52 |
| T-112 | 57.2 |
| T-132-A | 53 |
| T-201 | 141 |
| T-202 | 54 |
| T-203 (SCR-718-A and AM) | 55 |
| T-203 (SCR-718-C) | 55.1 |
| T-204 (SCR-718-B) | 56 |
| T-204 (SCR-718-C) | 56.1 |
| T-205 (SCR-718-B) | 57 |
| T-205 (SCR-718-C) | 57.1 |
| V-101 | 147 |
| V-102 | 147 |
| V-103 thru V-109 | 146 |
| V-110 | 145 |
| V-111 | 146 |
| V-112 | 146 |
| V-113 | 148 |
| V-114 | 147 |
| V-201 | 143 |
| V-202 thru V-204 | 146 |
| V-205 | 144 |
| X-101 | 134 |
| X-102 | 134 |
| X-103 thru X-109 (SCR-718-A, AM, -B) | 133 |
| X-103 thru X-109 | 133.1 |
| X-110 | 136 |
| X-111 | 133 |
| X-112 | 133 |
| X-113 | 135 |
| X-114 | 134 |
| X-115 | 131 |
| X-201 | 132 |
| X-202 thru X-204 | 133 |
| X-205 | 137 |
| X-206 | 130.2 |
| X-207 | 81 |
| Y-101 | 68 |

# APPENDIX "ARMY"
# SECTION 1

# CROSS REFERENCE OF SIGNAL CORPS STOCK NUMBERS AGAINST LIST ITEM NUMBERS
## for
## RADIO, RADAR AND ELECTRONICS SPARE PARTS LIST
## for
## RADIO SET SCR-718-A, -AM, -B, AND -C

| *Item No.* | *Signal Corps Stock Number* |
|---|---|
| 1 | 2ZK9461-2 |
| 2 | 2ZK9461-1 |
| 3 | 2ZK9462-30 |
| 3.1 | 2Z9402.37 |
| 3.2 | 2Z9402.251 |
| 3.3 | 2Z9402.252 |
| 4 | 2ZK9402.16 |
| 5 | 2ZK9403.15 |
| 6 | 2ZK9464-3 |
| 6.1 | 2Z9404.177 |
| 7 | 2ZK9465-1 |
| 8 | 2ZK9405.12 |
| 8.1 | 2Z9405-36 |
| 9 | 2ZK9406.9 |
| 9.1 | 2Z9406.47 |
| 9.2 | 3Z12531-3.47 |
| 9.3 | 3Z12531-3.52 |
| 9.4 | 3Z12531-3.45 (also shipped as 3Z12531-3.46) |
| 9.5 | 3Z12531-3.48 (also shipped as 3Z12531-3.49 and 3Z12531-3.50) |
| 9.6 | 3Z12531-3.44 |
| 10 | 2ZK9411.1 |
| 10.1 | 3Z12531-3.51 |
| 11 | See 11-A, 11-B and 11-C |
| 11-A | |
| 11-B | 3D9003E44 |
| 11-C | 3DK9003E5-1 |
| 12 | 3D9015-9 |
| 13 | 3DK9015-25.1 (also shipped as 3DK9015-25) |
| 13.1 | 3D9033-11 |
| 14 | 3DK9055-4 |
| 15 | 3DK9082-6 |
| 15.1 | 3K2010121 (also shipped as 3K2027121) |
| 16 | 3DK9180-3 |
| 17 | 3DK9180-4 |
| 18 | 3K2027121 (also shipped as 3D9270-2) |
| 18.1 | 3D9270-5 |
| 18.2 | 3D9360-3 |
| 19 | 3K2047121 (also shipped as 3D9470-1) |
| 20 | 3K3010221 (also shipped as 3DA1-55) |
| 21 | 3DKA1-108 |
| 22 | 3K3015211 (also shipped as 3K3015241) |
| 23 | 3K3020212 |
| 24 | 3K3022242 (also shipped as 3DKA2.200-2) |
| 24.1 | 3K3027242 |
| 25 | 3K3027221 (also shipped as 3DKA2.700-1) |
| 25.1 | To be furnished later |
| 25.2 | 3K3033241 |
| 25.3 | 3K3539232 |
| 26 | 3K3547212 |
| 27 | 3K4010322 |
| 28 | 3DKA10-179 |
| 29 | 3DA30-36 |
| 29.1 | 3DA30-34 |
| 30 | 3DA100-124 |
| 30.1 | 3DA100-294 |
| 31 | To be furnished later |
| 32 | 3DKB1A75 |
| 33 | 3DKA50-68 |
| 34 | 3DKA500-106 |
| 35 | 3DKA875 |
| 35.1 | 3DK9007V-4 |
| 36 | 2Z2636-4 (also shipped as 2ZK2636-4) |
| 37 | 2Z2636-1 |
| 38 | See 38-A and 38-B |
| 38-A | 2ZK1613-1 |
| 38-B | 2Z2736-14 |
| 39 | 3CK1084G-2 |
| 40 | 3CK1084G-1 |
| 41 | 3CK1084G |
| 42 | To be furnished later |
| 43 | 3CK370-7 |
| 44 | 3CK316-26 |
| 45 | See 45-A and 45-B |
| 45-A | 3CK316-27 |
| 45-B | 3C370-58 |
| 46 | 3CK4058 |
| 47 | 3C370-26 (also shipped as 2ZK10007-1) |
| 48 | 3CK560-7 |
| 49 | 3CK370-10 |
| 49.1 | 3C370-57 |
| 50 | 2Z9641.96 |
| 51 | 3CK370-8 |
| 51.1 | 3C370-55 |
| 52 | 3CK370-9 |
| 53 | 2C5395-788A/C1 |
| 54 | 2ZK10007-2 |
| 55 | 2ZK10007-3 |
| 55.1 | 3C370-60 |
| 56 | 2Z9641.97 |
| 56.1 | 3C370-60 |
| 57 | 2Z9641.95 |
| 57.1 | 3C370-59 |
| 57.2 | 3C370-56 |
| 58 | 2Z8799-239 (also shipped as 2ZK7409-26) |
| 59 | 2ZK3096-31 |
| 60 | 2Z8677.9 (also shipped as 2ZK3096-34) |
| 61 | 2ZK3010.13 (also shipped as 2Z7226-259) |
| 62 | 2Z299-359A |
| 63 | 2Z8799-155 |
| 64 | 2Z7226-175 |
| 65 | 2Z7117.11 (also shipped as 2ZK3096-35) |
| 66 | 2Z7117.4 (also shipped as 2Z3096-33) |
| 67 | 2ZK3351 |

| Item No. | Signal Corps Stock Number |
|---|---|
| 68 | 2X111-98.356 (also shipped as 2Z3501-22A98) |
| 69 | 2C5390-152A/D1 (also shipped as 2ZK5390-152A/D1) |
| 70 | 3Z2601.5 |
| 71 | 3Z1927 |
| 72 | 6ZK4049-1 |
| 73 | 6ZK4051-3 |
| 74 | 2ZK11102.5 |
| 75 | 3Z3285-2 |
| 76 | 3GK999-2 |
| 77 | 3GK1250-19.1 |
| 78 | 2ZK5733.2 |
| 79 | 2ZK5856.17 |
| 80 | 2Z5927 |
| 80.1 | |
| 81 | 2Z5991-3 |
| 82 | 6LK3106-246 |
| 83 | 3DK9007-4/C1 |
| 84 | 3DK9007V-4/C2 |
| 85 | 2Z7635 |
| 85.1 | 2Z7589-98 |
| 86 | 3RC20AE390K (also shipped as 3ZK6003J9) |
| 86.1 | 3RC20AE470K |
| 87 | 3RC20AE820J (also shipped as 3ZK6008B2-5) |
| 88 | 3RC20AE121K (also shipped as 3Z6012-14) |
| 88.1 | 3RC20AE151J |
| 89 | See 89-A and 89-B |
| 89-A | 3RC20AE151M (also shipped as 3ZK6015-24) |
| 89-B | 3RC21AE151M |
| 90 | 3RC20AE181K (also shipped as 3ZK6018-4) |
| 91 | See 91-A and 91-B |
| 91-A | 3RC20BE221K (also shipped as 3Z6022-9) |
| 91-B | 3RC20AE221K |
| 92 | 3RC20AE271K (also shipped as 3Z6027-1) |
| 93 | 3RC20BE391J (also shipped as 3ZK6039-8) |
| 94 | 3RC21BE391K (also shipped as 3Z6039-5) |
| 95 | 3RC30BE471J (also shipped as 3ZK6047-12) |
| 96 | To be furnished later |
| 97 | 3RC20BE561K (also shipped as 3Z6056-2) |
| 98 | 3RC31BE102K |
| 99 | 3RC20AE102M (also shipped as 3Z6100-75) |
| 100 | 3RC10AE152J (also shipped as 3ZK6150-43) |
| 100.1 | 3RC20AE152K |
| 101 | 3RC20AE222K (also shipped as 3ZK6220-20) |
| 102 | To be furnished later |
| 102.1 | 3RC20AE682K |
| 103 | See 103-A and 103-B |
| 103-A | 3RC20AE103K (also shipped as 3Z6610-57) |
| 103-B | 3RC10BE103K (also shipped as 3ZK6610-96) |
| 104 | 3RC40AE123K (also shipped as 3ZK6612-23) |
| 105 | 3RC30AE183K (also shipped as 3ZK6618-27) |
| 106 | 3RC21AE223K (also shipped as 3Z6622-2) |
| 107 | 3RC20BE273K (also shipped as 3Z6627-7) |
| 108 | 3RC20AE403K |
| 109 | Deleted. |
| 110 | 3RC20BE473K |
| 111 | 3RC31BE473K (also shipped as 3Z6647-19 and 3ZF4049) |
| 111.1 | 3RC20AE563K |
| 112 | 3RC30BE563K (also shipped as 3ZK6656-15) |
| 113 | 3RC30BE683K (also shipped as 3ZK6668-14) |
| 114 | See 114-A and 114-B |
| 114-A | 3RC20AE823K (also shipped as 3Z6682-4) |
| 114-B | 3RC21AE823K |
| 115 | 3RC21AE104K (also shipped as 3Z4550) |
| 116 | 3RC30AE124K (also shipped as 3Z6712-4) |
| 117 | 3RC31AE154K (also shipped as 3Z6715-29) |
| 118 | 3RC20AE224K (also shipped as 3Z6722-5) |
| 119 | See 119-A and 119-B |
| 119-A | 3RC30BE224M (also shipped as 3Z6722-14) |
| 119-B | 3RC31AE224K |
| 119.1 | 3RC20AE274K |
| 119.2 | 3RC20AE394K |
| 120 | 3RC20BE474K (also shipped as 3Z6747-6) |
| 121 | See 121-A and 121-B |
| 121-A | 3RC20BE474K (also shipped as 3Z6747-6) |
| 121-B | 3RC10BE474K |
| 122 | 3RC21AE474K (also shipped as 3Z6747-1) |
| 123 | See 123-A and 123-B |
| 123-A | 3RC20AE105K (also shipped as 3Z6801-36) |
| 123-B | 3RC10BE105K (also shipped as 3Z6801-42) |
| 123.1 | 3Z6050-81 |
| 124 | 2Z7278.6 (also shipped as 2Z7287.5) |
| 124.1 | 3Z7350-12 |
| 125 | 2ZK7296-2M.4 |
| 125.1 | 2Z7270-37 |
| 126 | 2ZK7296-100M.3 |
| 127 | 2ZK7296-250M.4 |
| 128 | 2ZK7296-250M.3 |
| 129 | 6LK6832-16.9 |
| 130 | 2ZK11102.4 |
| 130.1 | 2Z8304.63 |
| 130.2 | 2ZK5988-22 |
| 131 | 2ZK8761-15 |
| 132 | 2Z8674.15 (also shipped as 2ZK8659-8.1) |
| 133 | 2ZK8669-9 |
| 133.1 | 2Z8677.57 |
| 134 | 2ZK8663-2 |
| 135 | 2ZK8666-15 |
| 136 | 2ZK8666-14 |
| 137 | 2ZK8694 |
| 138 | 2ZK8876.6 |
| 138.1 | 3Z9858-8.47 |
| 138.2 | 6QK353 |
| 139 | See 139-A and 139-B |
| 139-A | 2ZK10007.1 |
| 139-B | 2Z9636.37 (also shipped as 2Z9636.38, 2Z9636.39, 2Z9636.40 and 2Z9636.41) |
| 140 | See 140-A and 140-B |
| 140-A | 2ZK10007 |
| 140-B | 2Z9636.42 |
| 141 | 2ZK9704-2 |
| 142 | 2ZK9704-1 |
| 143 | 2J2X2 |
| 144 | 2J3DP1 |
| 145 | 2J5Y3GT |
| 146 | 2J6AG5 |
| 147 | 2J6J6 |
| 148 | 2J6L6 |
| 149 | 2ZK2964 |
| 150 | 3CK4056-3 |
| 151 | 3CK2514 |
| 152 | 6LK50010N3 |
| 153 | 2ZA950-387 |
| 154 | 6R57400 |

# APPENDIX "ARMY"
# SECTION 2

## CROSS REFERENCE OF LIST ITEM NUMBERS AGAINST SIGNAL CORPS STOCK NUMBERS
## for
## RADIO, RADAR AND ELECTRONICS SPARE PARTS LIST
## for
## RADIO SET SCR-718-A, -AM, -B, AND -C

| *Signal Corps Stock Number* | *Item No.* |
|---|---|
| 2C5390-152A/D1 (also shipped as 2ZK5390-152A/D1) | 69 |
| 2C5395-788A/C1 | 53 |
| 2J2X2 | 143 |
| 2J3DP1 | 144 |
| 2J5Y3GT | 145 |
| 2J6AG5 | 146 |
| 2J6J6 | 147 |
| 2J6L6 | 148 |
| 2X111-98.356 (also shipped as 2Z3501-22A98) | 68 |
| 2Z299-359A | 62 |
| 2ZA950-387 | 153 |
| 2ZK1613-1 | 38-A |
| 2Z2636-4 | 37 |
| 2Z2636-4 (also shipped as 2ZK2636-4) | 36 |
| 2Z2736-14 | 38-B |
| 2ZK2964 | 149 |
| 2ZK3010.13 (also shipped as 2Z7226-259) | 61 |
| 2ZK3096-31 | 59 |
| 2ZK3351 | 67 |
| 2ZK5733.2 | 78 |
| 2ZK5856.17 | 79 |
| 2Z5927 | 80 |
| 2ZK5988-22 | 130.2 |
| 2Z5991-3 | 81 |
| 2Z7117.4 (also shipped as 2Z3096-33) | 66 |
| 2Z7117.11 (also shipped as 2ZK3096-35) | 65 |
| 2Z7226-175 | 64 |
| 2Z7270-37 | 125.1 |
| 2Z7278.6 (also shipped as 2Z7287.5) | 124 |
| 2ZK7296-2M.4 | 125 |
| 2ZK7296-100M.3 | 126 |
| 2ZK7296-250M.3 | 128 |
| 2ZK7296-250M.4 | 127 |
| 2Z7589-98 | 85.1 |
| 2Z7635 | 85 |
| 2Z8304.63 | 130.1 |
| 2ZK8663-2 | 134 |
| 2ZK8666-14 | 136 |
| 2ZK8666-15 | 135 |
| 2ZK8669-9 | 133 |
| 2Z8674.15 (also shipped as 2ZK8659-8.1) | 132 |
| 2Z8677.9 (also shipped as 2ZK3096-34) | 60 |
| 2Z8677.57 | 133.1 |
| 2ZK8694 | 137 |
| 2ZK8761-15 | 131 |
| 2Z8799-155 | 63 |
| 2Z8799-239 (also shipped as 2ZK7409-26) | 58 |
| 2ZK8876.6 | 138 |
| 2ZK9402.16 | 4 |
| 2Z9402.37 | 3.1 |
| 2Z9402.251 | 3.2 |
| 2Z9402.252 | 3.3 |
| 2ZK9403.15 | 5 |
| 2Z9404.177 | 6.1 |
| 2ZK9405.12 | 8 |
| 2Z9405-36 | 8.1 |
| 2ZK9406.9 | 9 |
| 2Z9406.47 | 9.1 |
| 2ZK9411.1 | 10 |
| 2ZK9461-1 | 2 |
| 2ZK9461-2 | 1 |
| 2ZK9462-30 | 3 |
| 2ZK9464-3 | 6 |
| 2ZK9465-1 | 7 |
| 2Z9636.37 (also shipped as 2Z9636.38, 2Z9636.39, 2Z9636.40 and 2Z9636.41) | 139-B |
| 2Z9636.42 | 140-B |
| 2Z9641.95 | 57 |
| 2Z9641.96 | 50 |
| 2Z9641.97 | 56 |
| 2ZK9704-1 | 142 |
| 2ZK9704-2 | 141 |
| 2ZK10007 | 140-A |
| 2ZK10007.1 | 139-A |
| 2ZK10007-2 | 54 |
| 2ZK10007-3 | 55 |
| 2ZK11102.4 | 130 |
| 2ZK11102.5 | 74 |
| 3CK316-26 | 44 |
| 3CK316-27 | 45-A |
| 3CK370-7 | 43 |
| 3CK370-8 | 51 |
| 3CK370-9 | 52 |
| 3CK370-10 | 49 |
| 3C370-26 (also shipped as 2ZK10007-1) | 47 |
| 3C370-55 | 51.1 |
| 3C370-56 | 57.2 |
| 3C370-57 | 49.1 |
| 3C370-58 | 45-B |
| 3C370-59 | 57.1 |
| 3C370-9 | 55.1 |
| 3C370-60 | 56.1 |
| 3CK560-7 | 48 |
| 3CK1084G | 41 |
| 3CK1084G-1 | 40 |
| 3CK1084G-2 | 39 |
| 3CK2514 | 151 |
| 3CK4056-3 | 150 |
| 3CK4058 | 46 |
| 3DK9003E5-1 | 11-C |
| 3D9003E44 | 11-B |
| 3DK9007V-4 | 35.1 |
| 3DK9007-4/C1 | 83 |
| 3DK9007V-4/C2 | 84 |
| 3D9015-9 | 12 |
| 3DK9015-25.1 (also shipped as 3DK9015-25) | 13 |
| 3D9033-11 | 13.1 |
| 3DK9055-4 | 14 |
| 3DK9082-6 | 15 |
| 3DK9180-3 | 16 |
| 3DK9180-4 | 17 |
| 3D9270-5 | 18.1 |
| 3D9360-3 | 18.2 |
| 3DKA1-108 | 21 |
| 3DKA10-179 | 28 |
| 3DA30-34 | 29.1 |
| 3DA30-36 | 29 |
| 3DKA50-68 | 33 |
| 3DA100-124 | 30 |
| 3DA100-294 | 30.1 |
| 3DKA500-106 | 34 |
| 3DKA875 | 35 |

| *Signal Corps Stock Number* | *Item No.* |
|---|---|
| 3DKB1A75 | 32 |
| 3DK999-2 | 76 |
| 3GK1250-19.1 | 77 |
| 3K2010121 (also shipped as 3K2027121) | 15.1 |
| 3K2027121 (also shipped as 3D9270-2) | 18 |
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| 3K3010221 (also shipped as 3DA1-55) | 20 |
| 3K3015211 (also shipped as 3K3015241) | 22 |
| 3K3020212 | 23 |
| 3K3022242 (also shipped as 3DKA2.200-2) | 24 |
| 3K3027221 (also shipped as 3DKA2.700-1) | 25 |
| 3K3027242 | 24.1 |
| 3K3033241 | 25.2 |
| 3K3539232 | 25.3 |
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| 3K4010322 | 27 |
| 3RC10AE152J (also shipped as 3ZK6150-43) | 100 |
| 3RC10BE103K (also shipped as 3ZK6610-96) | 103-B |
| 3RC10BE105K (also shipped as 3Z6801-42) | 123-B |
| 3RC10BE474K | 121-B |
| 3RC20AE102M (also shipped as 3Z6100-75) | 99 |
| 3RC20AE103K (also shipped as 3Z6610-57) | 103-A |
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| 3RC20AE121K (also shipped as 3Z6012-14) | 88 |
| 3RC20AE151J | 88.1 |
| 3RC20AE151M (also shipped as 3ZK6015-24) | 89-A |
| 3RC20AE152K | 100.1 |
| 3RC20AE181K (also shipped as 3ZK6018-4) | 90 |
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| 3RC20AE224K (also shipped as 3Z6722-5) | 118 |
| 3RC20AE271K (also shipped as 3Z6027-1) | 92 |
| 3RC20AE274K | 119.1 |
| 3RC20AE390K (also shipped as 3ZK6003J9) | 86 |
| 3RC20AE394K | 119.2 |
| 3RC20AE403K | 108 |
| 3RC20AE470K | 86.1 |
| 3RC20AE563K | 111.1 |
| 3RC20AE682K | 102.1 |
| 3RC20AE820J (also shipped as 3ZK6008B2-5) | 87 |
| 3RC20AE823K (also shipped as 3Z6682-4) | 114 |
| 3RC20BE221K (also shipped as 3Z6022-9) | 91 |
| 3RC20BE273K (also shipped as 3Z6627-7) | 107 |
| 3RC20BE391J (also shipped as 3ZK6039-8) | 93 |
| 3RC20BE473K | 110 |
| 3RC20BE474K (also shipped as 3Z6747-6) | 121-A |
| 3RC20BE474K (also shipped as 3Z6747-6) | 120 |
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| 3RC21AE223K (also shipped as 3Z6622-2) | 106 |
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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS, UNITED STATES AIR FORCE
WASHINGTON

TECHNICAL ORDER
NO. 16-40SCR718-101

7 December 1953

# PROCEDURE FOR INCREASING THE MAXIMUM RANGE OF RADIO SET SCR-718-( )

This technical order replaces T.O. No. 16-40SCR718-101, dated 20 September 1953.

NOTE: This technical order is for information only and compliance is not mandatory.

## 1. INTRODUCTION.

a. Flight test data obtained by various military organizations during 1943 and 1944 showed the SCR-718 High Altitude Radar Altimeter, was capable of giving good results to 40,000 feet over water, cultivated land, and smooth desert, and to over 25,000 feet over sandy mountainous terrain.

b. It should be recalled that in 1943 it required a specially fitted airplane to climb above 35,000 feet. During World War II the majority of operations were under 30,000 feet. For a versatile installation in many type of aircraft there was a compromise of many factors, r-f transmission line length and altimeter sensitivity, for example, which reduced the maximum altitude capability of the altimeter.

c. However, at the present time, the requirements for operation at 40,000 feet are increasing. The altimeters on hand are World War II production models and this equipment is the only high altitude radar altimeter available. A thorough examination of the factors required for operation at 40,000 feet is necessary, and the need for imposing rigid limits on the installation and equipment performance should be recognized.

## 2. TECHNICAL DATA.

a. Antennas:

(1) The antennas should be mounted as far as possible from other equipment to reduce possible interference by, or to, the SCR-718. An "in-line" installation on the fuselage near the tail appears to be a good location. With antennas separated some 10 feet the total length of RG-9/U cable can be held to under 15 feet. The ideal spot appears to be on the horizontal stabilizer if the tail cone extends at least one foot below the underside of the stabilizer to act as a shield between transmitting and receiving antennas. Too little shielding causes a broadening of the reference pulse, increasing the width of the "blind spot". However, the lack of sufficient shielding, will not affect the shape of the reflected pulse nor reduce the maximum altitude to which the equipment will operate.

(2) The best antenna arrangement is two AS-333/AP (flush mounted slots) for transmitting and two for receiving. The antennas of a pair should be mounted parallel to each other, spaced 1/2 wavelength, with r-f connectors facing in the same direction, not toward or away from each other, and fed through an r-f "Tee" connector with 3/4 wavelength sections of RG-11/U for matching purposes (for details see USAF drawing no. S48D2864 - Installation Data - Antenna Assembly AS-333/AP). The beamwidth of this antenna system will be narrower than with single antennas. If the aircraft banks are held to 20 degrees or less, performance at 40,000 feet should be acceptable.

(3) The second choice would be a single AT-4/ARN-1 for transmitting and one for receiving (the standard installation in T.O. 16-40SCR718-3).

(4) Single AS-333/AP's are to be avoided. Single AS-333/AP's cause severe broadening of the reference pulse and a reduction of the maximum achievable altitude because of the broader beam of single slot antennas. Two slot antennas driven in phase, however, take on the characteristics of surface-mounted dipoles. Do not use AS-333B/AP antennas made by Mercury Electric.

b. R. F. Transmission Lines:

(1) While Technical Order No. 16-40SCR718-3 permits a maximum length of fifty (50) feet of RG-8/U cable, in the interest of maximum performance, the total length of the two lines should not exceed fifteen (15) feet and they should be made of RG-9/U cable. This will reduce r-f transmission line loss by about 2 decibels.

(2) The two r-f cables should not be laced together or run parallel, but should go to the left and to the right of the receiver-transmitter in the most direct route to their respective antennas without too much emphasis on making a neat installation. Neither is there any necessity for neatness in squaring off r-f cable bends; use the most direct route even if just one inch of cable is saved thereby.

(3) The RT unit need not be centered between the antennas. If convenient, the RT unit may be mounted one foot from one antenna, with the length of the other cable not exceeding fourteen (14) feet. Particularly avoid using right-angle adapters (M-359-A or UG-27/U type) at either the antenna or RT unit.

c. Interconnecting Cable:

Technical Order No. 16-40SCR718-3 restricts the interconnecting cable to a maximum length of fifty (50) feet. It is obvious that if the RT unit is to be installed in the rear of the aircraft as recommended above, the length of the interconnecting cable will frequently exceed fifty (50) feet. However, if RG-71/U cable is used to replace both the RG-59/U cable and the shielded wire, the interconnecting cable can exceed a length of fifty (50) feet. The shielded wire of a standard installation has a capacitance of about 75 micromicrofarads per foot and lengths in excess of fifty (50) feet causes detuning of the aero adjust transformers in the indicator. RG-71/U has a capacitance of about 11 micromicrofarads per foot and is particularly suited for replacing the shielded wire. A 200 foot length of RG-71/U cable for the video signal does cause a slight broadening of the pulse (an equal length of RG-59/U cable would cause

even further broadening). Therefore, every effort should be made to keep the interconnecting cable at minimum length. It should be pointed out that the wire of the AC leads in the cable may have to be increased in size to minimize the voltage drop where the cable length exceeds fifty (50) feet.

d. Power Supply:

(1) While the SCR-718 will operate over a line voltage range of 110-120 V, those who have measured transmitter power output with Test Set TS-23/APN realize how rapidly the power output decreases with only 1 or 2 volts reduction in line voltage. It is important that the voltage at the power transformer of the RT unit measure 115V or more.

(2) To prevent excessive input voltage on other equipments that may be connected closer to the power source than the altimeter, an autotransformer for voltage step-up is suggested. A transformer with a 5 volt filament winding may be used by connecting the primary across the line in normal fashion and wiring the 5V winding between the ungrounded side of the primary and the input to the altimeter; 120V may then be realized. If the voltage at the altimeter was previously only 110-112V, the autotransformer will improve the altimeter performance without getting too near the high limit of line voltage.

e. Loop Sensitivity Test:

While Technical Order No. 16-40SCR718-3 calls for a TS-10/APN attenuator setting of 63 for maximum sensitivity with the gain control at maximum and USAF Specification R-7038-A calls for 60 at the threshold of noise, these minimums should be increased by at least 5 decibelsto 68 and 65 respectively. This may mean replacing a number of tubes, particularly the 6J6 r-f tubes and 6AG5 i-f tubes, in order to increase the sensitivity.

f. Operation Above 40,000 feet:

(1) Operation above 40,000 feet is limited by the loop sensitivity of the system and the voltage breakdown of the equipment. If the indicator is installed in the pressurized compartment of the airplane as it normally would be, there is no danger of voltage breakdown in this unit. Voltages in the receiver-transmitter unit will not break down at altitudes up to 60,000 feet except for the 5Y3GT rectifier tube. Voltage will arc across the leads within the tube base at 50,000 to 55,000 feet. This can be corrected by injecting Dow Corning No. 4 ignition sealing compound into the holes at the bottom of the tube base, completely filling the tube base.

(2) The loop sensitivity (see Paragraph 2.e.) of the system will be sufficient to provide a readable indication of terrain clearance up to 55,000 feet, over all except the poorest types of terrain if the suggestions given in this technical order are followed.

g. The following is a summary of the changes recommended above:

(1) Hold the total RF line length to 15 feet maximum and use RG-9/U cable.

(2) Avoid use of right-angle adapters.

(3) Use a dual slot antenna installation (2 for transmitting and 2 for receiving) if possible.

(4) Keep antennas clear of obstructions.

(5) Use an "in-line" installation or provide shielding between antennas.

(6) Use only equipments which give a TS-10/APN attenuator reading of 68 or greater; change tubes if necessary.

(7) Hold the 400 cycle line in the airplane above 115 volts and preferably at 120 volts measured at the receiver-transmitter input.

(8) Replace the shielded wires and RG-59/U video cable with RG-71/U if distance between indicator and receiver-transmitter unit exceeds 50 feet; keep this cable as short as possible.

(9) If operation is required above 40,000 feet, place indicator in pressurized compartment and fill 5Y3GT tube socket (in RT unit) with ignition sealing compound.

BY ORDER OF THE SECRETARY OF THE AIR FORCE:

NATHAN F. TWINING
Chief of Staff
United States Air Force

EDWIN W. RAWLINGS
Lieutenant General, USAF
Commander
Air Materiel Command

Prepared by Gentile Air Force Depot
Technical Services Division (MDMT)