# TM 11-5821-204-12

**DEPARTMENT OF THE ARMY TECHNICAL MANUAL**

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## OPERATOR'S AND ORGANIZATIONAL MAINTENANCE MANUAL

# RADIO SET AN/ARC-44

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***HEADQUARTERS, DEPARTMENT OF THE ARMY***

***30 NOVEMBER 1960***

**WARNING**

DANGEROUS VOLTAGES EXIST IN THIS EQUIPMENT

**DON'T TAKE CHANCES!**

DANGEROUS VOLTAGES **EXIST IN THE FOLLOWING UNITS:**

RECEIVER-TRANSMITTER, RADIO RT–294(*)/ARC-44 300-volt circuits, DYNAMOTOR DY–107(* ) /AR 300-volt circuits.

Do not make contact with exposed wires or connectors. Be safe. Turn all power supplies ***OFF*** before making any connections or disconnections.

**TM 11-5821-204-12**
**C 5**

CHANGE } *No.* 5

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 10 *.May 1.974*

# Operator's and Organizational Maintenance Manual
# RADIO SET AN/ARC-44

TM 11-5821-204-12, 30 November 1960, is changed as follows:

***Page 5.*** Delete paragraphs 2, 2.1, and **2.2** and substitute:

## 2. Indexes of Publications

**a.** ***DA Pam*** 310-4. Refer to the latest issue of DA Pam 3104 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

***b. DA Pam 310-7.*** Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

## 2.1. Forms and Records

a. ***Reports of Maintenance and Unsatisfactory Equipment.*** Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

***b. Report of Packaging and Handling Deficienties.*** Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58/NAVSUP PUB 378/AFR 71-4/MC0 P4030.29, and DSAR 4145.8.

***c. Discrepancy in Shipment Report (DISREP ) (SF*** 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33/AFM 75-18/MCO P461O.19A, and DSAR 4500.15.

## 2.2. Reporting of Equipment Publication Improvements

The Reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms), and forwarded direct to Commander, US Army Electronics Command, ATTN: AMSEL-MA-C Fort Monmouth, NJ 07703.

## 2.3 Handling, Storage, and Disposal of Radioactive Material

Follow the procedures for safe handling, storage, and disposal of radioactive material as directed by TB 750-249.

***Page*** 8. Delete paragraph 5 and substitute:

## 5. Items Comprising an Operable Equipment

| FSN | QTY | Nomenclature, part No., and mfr code | Fig No. | Dimensions (in.) | | | Unit Weight(lb) |
|---|---|---|---|---|---|---|---|
| | | | | Height | Depth | Width | |
| | | **NOTE**<br>The part number is followed by the applicable 5-digit Federal supply code for manufacturers (FSCM) identified in SB 708-42 and used to identify manufacturer, distributor, or Government agency, etc. | | | | | |
| 5821-543-0760 | | Radio Set AN/ARC-44<br>consisting of: | | | | | |
| 5821-543-0547 | 1 | Antenna AT-454A/ARC<br>consisting of: | 8 | | | | |
| | | Coupler, Antenna CU-361(*)/ARC | 8 | 1.61 | 3.06 | 2.04 | 0.63 |
| | | Antenna Element AT-455(*)/ARC | | 91.86 | | | 0.75 |
| | | Base, Antenna AB-340(*)/ARC | 8 | 4.36 | 3.18 | 5.80 | 1.50 |
| 5935-201-7935 | 1 | Connector, Receptacle, Electrical:<br>20 cont rd female, 5 amp;<br>SM-C-134605; 80063 | 1 | 0.359 | 1.562 | 0.438 | |
| 5935-642-5387 | 3 | Connector, Receptacle, Electrical:<br>34 cont, 1 connector mating end; 34 female, rd; 5 amp cont; GB2100; 29173 | 1 | 1.66 | 2.50 | 2.16 | |
| 5935-643-6904 | 1 | Connector, Receptacle, Electrical:<br>34 cont, 1 connector mating end; cont, female rd; 5 amp current rating;<br>GC2103; 29173 | 1 | 2.11 | 2.96 | 1.04 | |
| 6125-563-5821 | 1 | Dynamotor DY-107A/AR | 6 | 5.37 | 9.22 | 3.40 | 6 |
| 5821-699-0010 | 1 | Mounting MT-1267A/AR | 7 | 1.31 | 9.31 | 3.31 | 0.81 |
| 5821-092-1140 | 1 | Mounting MT-1268/AR | 3 | 1.73 | 11.80 | 6.00 | 0.87 |
| 5821-092-1047 | 1 | Panel, Control SB-327/ARC-44 | 4 | 3.00 | 6.06 | 5.75 | 2.19 |
| 5820-537-4524 | 2 | Panel, Signal Distribution Radio SB-329/AR | 5 | 2.625 | 5.30 | 5.75 | 1.63 |
| | 2 | Headset-Microphone H-101(*)/U | 1 | | | | |
| 5821-503-1519 | 1 | Receiver-Transmitter, Radio RT-294/ARC-44; RT-294A/ARC-44; RT-294B/ARC-44 | 3 | 7.24 | 13.90 | 5.13 | 14 |

Page 51. Delete appendix III.

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
*General, United States Army*
*Chief of Staff*

Official:
VERNE L. BOWERS
*Major General, United States Army*
*The Adjutant General*

Distribution:
To be distributed in accordance with DA Form 12-36 (qty rqr block no. 88), Organizational maintenance requirements for avionics literature, AN/ARC-44.

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**TM 11-5821-204.12**
**C 4**

Change No. 4

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D. C., 26 May 1971

## Operator's and Organizational Maintenance Manual
## RADIO SET AN/ARC-44

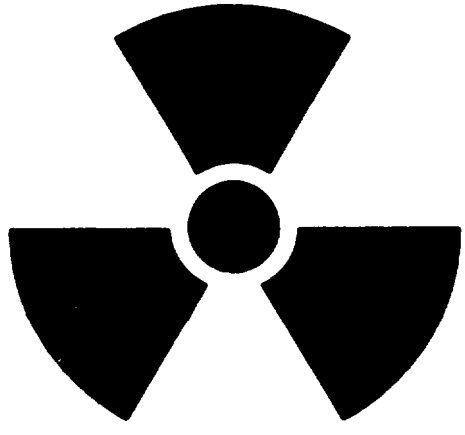
TM 11-5821-204-12,30 November 1960, is changed as follows:

Change "DA Pam 310-4" to "DA Pam 310-7" in the following places:

***Page 25,*** paragraph 30.4. Item No. 3 MODIFICATION WORK ORDERS. Item column and References column. Item No. 14 MODIFICATION WORK ORDERS, ***Item*** column and ***References*** column.

Add the following Warning Notice to the inside of the front cover.

RADIATION HAZARD



Co 60

**WARNING**

Tube types 5829/WA and 5787/WA used in this radio set contain radioactive material (See TB 750-249). The tubes present no radiation hazard to personnel unless broken. See qualified medical personnel and contact the Radiological Protection Officer if you are exposed to or cut by broken tubes. Follow the first aid instructions contained in TB 750-249. Use extreme care in replacing these tubes and follow safe procedures in their handling, storage, and disposal (See TB 750-249). A beta-gamma radiac meter AN/PDR-27 (*) or equivalent may be used to measure radiation levels.

Never place radioactive tubes in your pocket.

Use extreme care not to break radioactive tubes while handling them.

Never remove radioactive tubes from cartons until ready to use them.

Page 5. Delete paragraph 2 and substitute.

## 2. Forms and Records

**a.** ***Reports of*** Maintenance and Unsatisfactory ***Equipment.*** Use equipment forms and records in accordance with instructions in TM 38-750.

***b. Report of Packaging and Handling Deficienties.*** Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army). NAVSUP Pub 378 (Navy), AFR 71-4 (Air Force), and MCO P4030.29 (Marine Corps).

c. Discrepancy in Shipment Report ***(DISREP) (SF 361).*** Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38 (Army), NAVSUP Pub 459 (Navy), AFM 75-34 (Air Force), and MCO P4610.19 (Marine Corps).

d. ***Report of Equipment Publication Improvements.*** The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, N. J. 07703.

Delete paragraph 2.1 and substitute.

## 2.1 Indexes of Equipment Publications

a. *DA Pam* 310-4. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. *DA Pam 310-7.* Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

Add paragraph 2.2 after paragraph 2-1.

## 2.2 Handling, Storage, and Disposal of Radioactive Material

Follow the procedures for safe handling, storage, and disposal of radioactive material as directed by TB 750-249.

Page 37. Appendix. Change "TM 38-750 The Army Equipment Record Systems and Procedures" to "TM 38-750 The Army Maintenance Management System (TAMMS). "

Add the following to the appendix.

| | |
|---|---|
| TB 750-249 | Instructions for Safe Handling and Identification of U.S. Army Electronics Command Managed Radioactive Items in the Army Supply System. |

TECHNICAL MANUAL

# OPERATOR'S AND ORGANIZATIONAL MAINTENANCE MANUAL
# RADIO SET AN/ARC-44

TM 11-5821-204-12
CHANGES No. 3

HEADQUARTERS,
DEPARTMENT OF THE ARMY
Washington 25, D. C., 15 Febuary *1963*

TM 11-5821–204-12, 30 November 1960, is changed as follows:

Note. The parenthetical reference to previous Changes (example: "page 5 of C 2" ) indicate that pertinent material was published in that Changes.

Change "DD Form 781-2" to: "DA Form 2408-13" in the following places:

Page 23, paragraph *24b,* last line.

***Page** 25,* paragraph 27, lines 6 and 7. Paragraph 31a, line 12.

***Page 26',*** paragraph 3 la, line 6.

***Page 5.*** Delete paragraph 2 and substitute.

## 2. Forms and Records

a. ***Reports of Maintenance*** and *Unsatisfactory* ***Equipment.*** Use equipment forms and records in accordance with instructions in TM 38–750.

***b. Report of Damaged or Improper Shipment.*** Fill out and forward DD Form 6 (Report of Damaged or Improper Shipment) as prescribed in AR 700-58 (Army), NAVSANDA Publication 378 (Navy), and AFR 714 (Air Force).

c. ***Comments on Manual.*** Forward all comments on this publication direct to: Commanding Officer, U.S. Army Electronics Materiel Support Agency, ATTN: SELMS-MP, Fort Monmouth, N.J. (DA Form 1598 (Record of Comments on Publications), DA Form 2496 (Disposition Form), or letter may be used.)

Add paragraph 2.1 after paragraph 2.

## 2.1 Index of Publications

Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes or additional publications pertaining to your equipment. Department of the Army Pamphlet No. 310–4 is a current index of technical manuals, technical bulletins, supply bulletins, lubrication orders, and modification work orders that are available through publications supply channels. The index lists the individual parts (-10, -20, -35P, etc. ) and the latest changes and revisions of each equipment publication.

***Page** 6,* figure 2. Make the following changes:

Below "H-101 (*)/U," add: (NOTE 3).

Add the following to the notes:

3. H-101 (*)/U IS CONNECTED THROUGH THE AIRCRAFT JUNCTION BOX TO THE SB-329/AR.

Page 25, paragraph 28. Make the following changes:

Subparagraph ***b.*** Delete subparagraph b and substitute.

b. Tool Kit TK-115/U.

Add subparagraph ***d*** after subparagraph c.

d. Tool Kit TK-105/G.

Delete paragraph 30 and substitute.

### 30. Preventive Maintenance

***a.*** Preventive rnaintenance is the systematic care, inspection, and servicing of equipment to maintain it in a serviceable condition, prevent breakdowns, and assure maximum operational capability. Preventive maintenance is the responsibility of all echelons concerned with the equipment and includes the inspection, testing, and repair or replacement of parts, subassemblies, or units that inspection and tests indicate would probably fail before the next scheduled periodic service. Preventive maintenance service and inspection of Radio Set AN/ARC–44 at the second echelon level are made at daily (ch. 3), intermediate (par. 30. 1), and periodic (par. 30.4) intervals unless otherwise directed by the commanding officer. The maintenance services should be scheduled concurrently with the periodic service schedule of the aircraft for all aircraft installations.

b. Maintenance forms anti records to be used and maintained on this equipment are specified in TM 38–750. Paragraph 2 contains additional information concerning submission of specified forms.

Add paragraphs 30.1 through 30.4 after paragraph **30.**

## 30.1 Intermediate Maintenance

**Perform the maintenance functions indicated in the intermediate maintenance and inspection chart (par, 30.2) at the time intermediate inspections are scheduled for the aircraft. Equipment maintained in a standby (ready for immediate operation) condition must have intermediate maintenance performed on it. Equipment in limited storage (requires service before operation) does not require intermediate maintenance. The item numbers in the chart are not consecutive; they are taken from the complete periodic maintenance service and inspection chart (par. 30.4).**

## 30.2 Intermediate Maintenance Service and Inspection Chart

**Note.** Omit items 12, 15, 16, and 18 if the AN/ARC-44 does not have the auxiliary equiprnents AN/ARA-31 and SA-474/AR.

| Item No. | Item | Normal condition or result | References |
|---|---|---|---|
| 4 | FUSES: Check for proper fuses (F101 and FI02) in Dynamotor DY-107(*)/AR. | There should be two 1/2-ampere, MO-volt, 3AG type fuses. | Fig. 6. |
| 5 | BRUSHES: Inspect Dynamotor DY-107(*)/AR brushes and brush caps. | Brushes not chipped, broken, or worn to brush wear line. | Par 32. |
| 7 | CONNECTIONS: Check the connections of all cables interconnecting the components of the equipment, including the headset-microphone and antenna connections. | Connections not loose and connectors properly fitted into their respective receptacles and clean. Cables not frayed. | a. Fig. 2.<br>b. Configuration manual of applicable aircraft. |
| 9 | ANTENNA: Inspect Antenna AT-454(*)/ARC. | Antenna is complete with whip, base, and coupler. Whip is securely attached to base and tilted 15°, and base is secured to aircraft surface. No kinks in whip. | Par. 12. |
| 11 | SQUELCH ADJUSTMENT: Check SQUELCH control operation on the fm receiver-transmitter for proper operation. | Backgrounrl noise in headset is at a comfortable level. | Para. 34. |
| 12 | AUXILIARY EQUIPMENT: Inspect Antenna Group AN/ARA-31 and Switch Assembly SA–474/AR for— | | |
| | a. Completeness. . . . . | *a*. Equipment must be complete. | a. TM 11–5985–200-12 |
| | b. Cleanliness- - - - - - - - - - | *b*. Units must be clean and dry inside and out: free of grease, dirt, rust, corrosion, and fungus. | |
| | c. Preservntion . . . . . | c. Pointed surfaces must be free of bare spots, rust, and corrosion. | |
| 15 | MOUNTING: Inspect for seating, stability, and loose or missing hardware of AN/ARA–31 and SA–474/AR mountings. | All components securely mounted in place. No nuts, bolts, or other fasteners loose or broken on mountings. | a. TM 11–5985-200-12.<br>b. Configuration manual of applicable aircraft. |
| 16 | CONNECTIONS: Check the connections of all cables interconnecting the components of Antenna Group AN/ARA–3l, Switch Assembly SA-474/AR, and Radio Set AN/ARC-44. | Connections not loose and connectors properly fitted into their respective receptacles and clean. Cables not frayed. | Configuration manual of applicable aircraft. |
| 18 | ANTENNA: Inspect Antenna Element AT-624(") /AR on the aircraft. | The antenna elements are firmly attached to the antenna element connectors and the plastic coating of the antenna elements is unbroken. | a. TM 1l-5985-200-12.<br>b. Configuration manual of applicable aircraft. |

## 30.3 Periodic Maintenance

Periodic maintenance of Radio Set AN/ARC-44 will be scheduled in accordance with the requiremcnts of TM 38–750. The equipment will normally bc part of an aircraft installation. The periodic **maintenance inspection should be scheduled con**currently with the periodic maintenance service schedule of the aircraft in which the equipment is installed to reduce out-of-service time to a minimum. All deficiencies or shortcomings will be immediately

SECTION II MAINTENANCE ALLOCATION CHART (AN/ARC-44)

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| RADIO SET AN/ARC 44 | service | | X | | | | | |
| | adjust | | X | | | | 22,9,18 | |
| | | | | | X | | 20,11,7,2,18,1, 14,4,5,6,8 | |
| | inspect | | X | | | | | |
| | test | | | X | | | 2,11,3,7,10,13,15 18,17,20,23,14 | |
| | | | | | X | | 1,2,11,4,5,6,7,8, 10,12,15,18,17,20, 21,23,24 | |
| | | | | | | X | 1,2,11,4,5,6,7,10, 12,16,13,8,15,18, 17,20,23,14,3,19 | |
| | replace | | X | | | | 22 | |
| | repair | | | | X | | 20,21 | |
| | align | | | X | | | 20,18,11,3,14 | Use codes 4,5,6 at 4th and 5th etch |
| | calibrate | | | X | | | 20,18 | Use code 6 at 4th and 5th etch |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |
| MOUNTING MT-1268/AR | service | | X | | | | | |
| | inspect | | X | | | | | |
| | test | | X | | | | 9 | |
| | replace | | X | | | | 22 | |
| | overhaul | | | | X | | 20,21 | |
| PANEL, CONTROL SB-327/ARC-44 | service | | X | | | | | |
| | adjust | | X | | | | 22 | |
| | | | | X | | | 20 | |
| | inspect | | X | | | | | |
| | test | | | X | | | 20,11,23 | |
| | test | | | | X | | 20,11,12,23 | |
| | replace | | X | | | | 22 | |
| | repair | | X | | | | 21 | Knobs, lamps, lens |
| | repair | | | | X | | 20 | |
| | align | | | X | | | 20 | |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| PANEL, SIGNAL DISTRIBUTION, RADIO SB-329/AR | service | | X | | | | | |
| | inspect | | X | | | | | |
| | test | | | X | | | 2,11,10,18,20,23 | |
| | | | | | | | 17 | |
| | | | | | X | | 1,2,11,10,12,18,20, | |
| | | | | | | | 23,17 | |
| | | | | | | X | 1,2,11,10,12,18,20 | |
| | | | | | | | 23,16 | |
| | replace | | X | | | | 22 | |
| | repair | | X | | | | 21 | knobs, lamps, lens |
| | | | | | X | | 20,21 | |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |
| RECEIVER-TRANSMITTER RT-294/ARC-44; RT-294A/ARC-44 | service | | X | | | | | |
| RT-294B/ARC-44 | adjust | | X | | | | 22,9 | |
| | | | | | X | | 4,5,6,20,11,7,2, | |
| | | | | | | | 18,1,14,15 | |
| | inspect | | X | | | | 22 | |
| | | | | X | | | 2,11,3,7,10,13,15, | |
| | | | | | | | 18,17,20,23,14 | |
| | | | | | X | | 1,2,11,4,5,6,7,10, | |
| | | | | | | | 14,12,15,18,17,20 | |
| | | | | | | | 23,19 | |
| | | | | | | X | 1,2,11,4,5,6,7,10, | |
| | | | | | | | 14,12,15,18,16,20, | |
| | | | | | | | 23,14,19 | |
| | replace | | X | | | | 22 | |
| | repair | | | X | | | 20 | |
| | align | | | X | | | 20,18,6,11,3,4,14 | |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |
| AMPLIFIER, AUDIO FREQUENCY | service | | X | | | | | |
| | inspect | | X | | | | | |
| | replace | | | X | | | 20 | |
| | repair | | | | X | | 20,21 | |
| | rebuild | | | | | X | 20,21 | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| AMPLIFIER, INTERMEDIATE FREQUENCY | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | X | | | 20 | |
| | repair | | | X | | | 20 | |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |
| RECEIVER-TRANSMITTER SUB-ASSEMBLY (HOMING AMPLIFIER) | service | | | X | | | | |
| | adjust | | | X | | | | |
| | replace | | | X | | | 20 | |
| | repair | | | | X | | 20,21 | |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |
| RECEIVER-TRANSMITTER SUB-ASSEMBLY (LIMITER DISCRIMINATOR) | service | | X | | | | | |
| | inspect | | | X | | | | |
| | replace | | | X | | | 20 | |
| | repair | | | | X | | 20,21 | |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |
| RECEIVER-TRANSMITTER SUB-ASSEMBLY (NOISE RECTIFIER) | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | X | | | 20 | |
| | repair | | | | X | | 20,21 | |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| RECEIVER-TRANSMITTER SUB-ASSEMBLY (RF HEAD) | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | X | | | 20 | |
| | repair | | | | X | | 20,21 | |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |
| RECEIVER-TRANSMITTER SUB-ASSEMBLY (SIDE-STEP OSC) | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | X | | | 20 | |
| | repair | | | | X | | 20,21 | |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |
| RECEIVER-TRANSMITTER SUB-ASSEMBLY (TUNING DRIVE) | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | X | | | 20 | |
| | repair | | | X | | | 20 | |
| | rebuild | | | | | X | 20,21 | |
| | overhaul | | | | X | | 20,21 | |

| (1) TOOLS REQUIRED FOR MAINTENANCE FUNCTIONS | (2) 1ST ECH | (3) 2ND ECH | (4) 3RD ECH | (5) 4TH ECH | (6) 5TH ECH | (7) TOOL CODE | (8) REMARKS |
|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | |
| ANALYSER SPECTRUM TS-723/U | | | | | + | 1 | |
| AUDIO OSCILLATOR TS 382/U | | | + | + | + | 2 | |
| FREQUENCY METER AN/URM-32 | | | + | | | 3 | |
| FREQUENCY METER AN/URM-79 | | | | + | + | 4 | |
| FREQUENCY METER AN/URM-80 | | | | + | + | 5 | |
| GAGE TL 559/U | | | | + | + | 6 | |
| GENERATOR, SIGNAL AN/URM-48 | | | + | + | + | 7 | |
| INDICATOR, PANORAMIC IP-173/U | | | | + | + | 8 | |
| MULTIMETER AN/URM 105 | | + | | | | 9 | |
| MULTIMETER TS-352/U | | | + | + | + | 10 | |
| MULTIMETER, METER ME 26/U | | | + | + | + | 11 | |
| OHMMETER ZM-21/U | | | | + | + | 12 | |
| POWER SUPPLY PP-1243/U | | | + | | | 13 | |
| RF WATTMETER AN/URM-120 | | | + | + | + | 14 | |
| TEST OSCILLATOR SET AN/PRM-10 | | | | + | + | 15 | |
| TEST SET, ELECTRON TUBE TV-2/U | | | | | + | 16 | |
| TEST SET, ELECTRON TUBE TV-7/U | | | + | + | | 17 | |
| TEST SET, RADIO AN/ARM-8 | | | + | + | + | 18 | |
| TEST SET, RADIO TS-1458/U | | | + | + | + | 19 | |
| TOOL KIT TK-87/U | | | + | + | + | 20 | |
| TOOL KIT TK-88/U | | | | + | + | 21 | |
| TOOL KIT TK-115/U | | + | | | | 22 | |
| VOLTMETER, METER ME-30/U | | | | + | + | 23 | |

## APPENDIX III (Superseded)

BASIC ISSUE ITEMS FOR RADIO SET AN/ARC-44

### Section 1. INTRODUCTION

1. **Scope**

This appendix lists items supplied for initial operation. The list includes tools, parts, and material issued as part of the major end item. The list includes all items authorized for basic operator maintenance of the equipment. End items of equipment are issued on the basis of allowances prescribed in equipment authorization tables and other documents that are a basis for requisitioning.

2. Columns

***a. Source, maintenance,*** and ***recoverability code.*** Not used.

***b. Federal stock number.*** This column lists the n-digit Federal stock number.

c. ***Designation by model.*** Not used.

***d. Description.*** Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description.

e. ***Unit of issue.*** The unit of issue is each unless otherwise indicated and is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.

f. Expendability. Nonexpendable items are indicated by NX. Expendable items are not annotated.

g. Quantity ***authorized.*** Under "Items com. prising on Operable Equipment," the column lists the quantity of items supplied for the initial operation of the equipment.

***h. Illustration.*** The "Item No." column lists the reference designations that appear on the part in the equipment. These same designations are also used on any illustrations of the equipment. The numbers in the "Figure No. " column refer to the illustrations where the part is shown.

| (1) SOURCE AINTENANCE AND COVERABILITY CODE | (2) FEDERAL STOCK NUMBER | (3) DESIGNATION BY MODEL | (4) DESCRIPTION | (5) UNIT OF ISSUE | (6) EXPENDABILITY | (7) QUANTITY AUTHORIZED | (8) ILLUSTRATIONS FIGURE NO | (9) ILLUSTRATIONS ITEM NO |
|---|---|---|---|---|---|---|---|---|
| | 5821-543-0760 | | RADIO SET AN/ARC-44: 8 w max power output; 24.0 to 51.9 mc freq range; 1 band, 280 channels; 27.5 vdc oper power reqmts; A grouping of components with facilities for frequency modulated communications for aircraft and for the attachemt of homing device | | NX | | 1 | |
| | | | ITEMS COMPRISING AN OPERABLE EQUIPMENT | | | | | |
| | Ord thru AGC | | TECHNICAL MANUAL TM 11-5821 204-12 | | | 2 | | |
| | 5821-543-0547 | | ANTENNA AT-454A/ARC | | NX | 1 | 8 | |
| | 5935-201-7935 | | CONNECTOR, RECEPTACLE, ELECTRICAL: 20 cont rd, female, 5 amp; 1.562 in lg x 0.438 in w x 0.359 in h o/a; Sig Corps Dwg No. SM-C 134605 | | | 1 | 1 | P101 |
| | 5935-642-5387 | | CONNECTOR, RECEPTACLE, ELECTRICAL: 34 cont, 1 connector mating end; 34 female, rd; 5 amp cont; 2.50 in lg x 2.16 in w x 1.66 in h o/a excl protruding terms; Admiral Corp part No. GB2100 | | | 3 | 1 | P201<br>P301<br>P1801 |
| | 5935-643-6904 | | CONNECTOR, RECEPTACLE, ELECTRICAL: 34 cont, 1 connector mating end; cont, female rd; 5 amp current rating; 2.96 in lg x 1.04 in w x 2.11 in h o/a incl hood; Admiral Corp part No. GC2103 | | | 1 | 1 | P815 |
| | 6125-563-5821 | | DYNAMOTOR DY-107A/AR | | NX | 1 | 6 | |
| | 5821-699-0010 | | MOUNTING MT-1267A/AR | | | 1 | 7 | |
| | 5821-092-1140 | | MOUNTING MT-1268/AR | | NX | 1 | 3 | |
| | 5821-092-1047 | | PANEL, CONTROL SB-327/ARC-11 | | NX | 1 | 4 | |
| | 5820-537-4524 | | PANEL, SIGNAL DISTRIBUTION, RADIO SB 329/AR | | NX | 2 | 5 | |
| | 5821-503-1519 | | RECEIVER-TRANSMITTER, RADIO RT-291/ARC-44; RT-291A/ARC-44; RT-291B/ARC-44 | | NX | 1 | 3 | |
| | | | RUNNING SPARES AND ACCESSORY ITEMS | | | | | |
| | | | NO PARTS AUTHORIZED FOR STOCKAGE AT FIRST ECHELON. | | | | | |

## APPENDIX VI (Added)

## MAINTENANCE ALLOCATION FOR DYNAMOTOR DY-107/AR; DY-107A/AR

### Section 1. INTRODUCTION

**1. General**

a. This appendix assigns maintenance functions to be performed on Components, assemblies, and subassemblies by the lowest appropriate maintenance echelon.

***b.*** Columns in the maintenance allocation chart are as follows:

(1) Component. This column shows only the nomenclature or standard item name. Additional descriptive data is included only where clarification is necessary to identify the component. Components, assemblies, and subassemblies are listed in top-down order. That is, the assemblies Which are part of a component are listed immediately below that component and the subassemblies which are part of an assembly. Each generation breakdown (corn. ponents, assemblies, or subassemblies) are listed in disassembly order or alphabetical order.

(2) Maintenance function. This column indicates the various maintenance functions allocated to the echelons.

***(a)*** Service. To clean, to preserve, and to replenish lubricants.

***(b) Adjust.*** To regulate periodically to prevent malfunction.

***(c) Inspect.*** To verify serviceability and to detect incipient electrical or mechanical failure by scrutiny.

***(d) Test.*** To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, etc.

***(e) Replace.*** To substitute serviceable components, assemblies, or subassemblies, for unserviceable components, assemblies, or subassemblies.

***(f) Repair.*** To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to welding, grinding, riveting, straightening, and replacement of parts other than the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.

*(9)* ***Align.*** To adjust two or more components of an electrical system so that their functions are properly synchronized.

***(h) Calibrate.*** To determine, check, or rectify the graduation of an instrument, weapon, or weapons system, or components of a weapons system.

***(i) Overhaul. To*** restore an item to com***pletely serviceable*** condition as prescribed by serviceability standards developed and published by heads of technical services. This is accomplished through employment of the technique of "Inspect and Repair Only as Necessary" (IROAN). Maximum utilization of diagnostic and test equipment is combined with minimum disassembly of the item during the overhaul process.

***(j) Rebuild.*** To restore an item to a standard as near as possible to orig. inal or new condition in appearance, performance, and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements using original manufacturing tolerances and/or specifications and subsequent reassembly of the item.

(3) ***Ist, 2d, 3d, 4th, 5th echelon.*** The symbol X indicates the echelon responsible for performing that particular maintenance operation, but does not neces-

sarily indicate that repair parts will be stocked at that level. Echelons higher than the echelon marked by X are authorized to perform the indicated operation.

(4) ***Tools required.*** This column indicates codes assigned to each individual tool equipment, test equipment, and maintenance equipment referenced. The grouping of codes in this column of the maintenance allocation chart indicates the tool, test, and maintenance equipment required to perform the maintenance function.

(5) ***Remarks.*** Entries in this column are used to clarify any of the data cited in the preceding column.

c. Columns in the allocation of tools for maintenance functions are as follows:

(1) ***Tools required for maintenance functions.*** This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

(2) ***Ist, 2d, 3d, 4th, 5th echelon.*** The dagger (~) symbol in these columns indicates the echelons normally allocated the facility.

(3) ***Toot code.*** This column lists the tool code assigned.

**2. Maintenance by Using Organizations**

When this equipment is used by signal services organizations organic to theater headquarters or communication zones to provide theater communications, those maintenance functions allocated up to and including fourth echelon are authorized to the organization operating this equipment.

## SECTION II. MAINTENANCE ALLOCATION CHART FOR DYNAMOTOR DY–107/AR; DY–107A/AR

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| DYNAMOTOR DY-107/AR; DY-107A/AR | service | | X | | | | 7 | |
| | inspect | | X | | | | 7 | |
| | test | | X | | | | 1,7 | |
| | | | | X | | | 2,5 | |
| | | | | | | X | 2,3,4,5 | |
| | replace | | X | | | | 7 | |
| | repair | | X | | | | 7 | Replacement of fuses and caps |
| | | | | X | | | 5 | |
| | rebuild | | | | | X | 5,6 | |
| | overhaul | | | | X | | 5,6 | |
| DYNAMOTOR SUB-ASSEMBLY | replace | | X | | | | 7 | |
| | repair | | X | | | | 7 | Replacement of brushes and caps |
| | | | | X | | | 5 | |
| | rebuild | | | | | X | 5,6 | |

## SECTION III. ALLOCATION OF TOOLS FOR MAINTENANCE FUNCTIONS

| (1) TOOLS REQUIRED FOR MAINTENANCE FUNCTIONS | (2) 1ST ECH | (3) 2ND ECH | (4) 3RD ECH | (5) 4TH ECH | (6) 5TH ECH | (7) TOOL CODE | (8) REMARKS |
|---|---|---|---|---|---|---|---|
| DY-107/AR; DY-107A/AR (continued) | | | | | | | |
| MULTIMETER AN/URM-105 | | † | | | | 1 | |
| MULTIMETER TS-352/U | | | † | † | † | 2 | |
| TEST SET I-199( ) | | | | † | † | 3 | |
| TEST SET AN/GSM-6: INSULATION BREAKDOWN | | | | | † | 4 | |
| TOOL KIT TK-87/U | | | † | † | † | 5 | |
| TOOL KIT TK-88/U | | | | † | † | 6 | |
| TOOL KIT TK-105/G | | † | | | | 7 | |

## APPENDIX VII (Added)

## BASIC ISSUE ITEMS LIST FOR DYNAMOTOR DY-107/AR; DY-107A/AR

### Section L INTRODUCTION

**1. Scope**

This appendix lists items supplied for initial operation. End items of equipment are issued on the basis of allowances prescribed in equipment authorization tables and other documents that are a basis for requisitioning.

2. **Columns**

***a. Source, Maintenance and Recoverability Code.*** Not used.

***b. Federal Stock Number.*** This column lists the n-digit Federal stock number.

c. ***Designation By Model. Not*** used.

***d. Description.*** Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description.

e. ***Unit of Issue.*** The unit of issue is each unless otherwise indicated and is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.

***f. Expendability.*** Nonexpendable items are indicated by NX. Expendable items are not annotated.

g. ***Quantity Authorized.*** Under "Items Comprising an Operable Equipment," the column lists the quantity of items supplied for the initial operation of the equipment.

***h. Illustration.*** The "Figure No." column lists the figure and reference numbers used for identification of the items in the illustration.

| (1) SOURCE MAINTENANCE AND RECOVERABILITY CODE | (2) FEDERAL STOCK NUMBER | (3) DESIGNATION BY MODEL | (4) DESCRIPTION | (5) UNIT OF ISSUE | (6) EXPENDABILITY | (7) QUANTITY AUTHORIZED | (8) ILLUSTRATIONS FIGURE NO | (9) ILLUSTRATIONS ITEM NO |
|---|---|---|---|---|---|---|---|---|
| | 6125-568-5821 | | DYNAMOTOR DY-107/AR; DY-107A/AR: 27.5 vdc, 3.6 amp continuous operation, 5.25 amp, intermittent operation, 9.22 in lg x 3.40 in w x 5.37 in h o/a; Sig Corps dwg No. SC-DL-134064 | | XX | | 1 | |
| | | | ITEMS COMPRISING AN OPERABLE EQUIPMENT | | | | | |
| | Ord thru AGC | | TECHNICAL MANUAL TM 11-5821-204-12 | | | 2 | | |
| | | | RUNNING SPARES AND ACCESSORY ITEMS | | | | | |
| | | | NO PARTS AUTHORIZED FOR STOCKAGE AT FIRST ECHELON | | | | | |

BY ORDER OF THE SECRETARY OF THE ARMY:

G. H. DECKER,
General, *United States Army,*
*Chief of Staff.*

Official:

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*Major General, United States Army,*
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NG: None.



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TECHNICAL MANUAL

**Operator's and Organizational Maintenance Manual**
**RADIO SET AH/ARC-44**

TM 11-5821-204–12
CHANGES No. 2

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON 25, D. C., 25 May 1962

TM 11–5821–204–12, 30 November 1960, is changed as follows:

***Page* 5,** paragraph 2. (as changed by C 1, 27 Jun 61) Delete subparagraph d and substitute the following:

***al. Comments or Suggestions.*** Any comments concerning omissions and discrepancies in appendixes II thru VII will be prepared on DA Form 2028 and forwarded direct to Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS-ML, Fort Monmouth, N. J.

***Page* 37,** (as deleted by C 1, 27 Jun 61). Delete all reference to TM 11–5965-215-15P.

Change TM 11-6125–204–12P to read: TM 11–6125-207-12P, (as changed by C 1, 27 Jun 61).

## APPENDIX II (Superseded)

**MAINTENANCE A11 OCATION RADIO SET** AN/ARC-44

### Section 1. INTRODUCTION

#### 1. General

***a.*** This appendix assigns maintenance functions to be performed on components, assemblies, and subassemblies by the lowest appropriate maintenance echelon.

b. Columns in the maintenance allocation chart are as follows:

(1) ***Component.*** This column shows only the nomenclature or standard item name. Additional descriptive data is included only where clarification is necessary to identify the component. Components, assemblies, and subassemblies are listed in topdown order. That is, the assemblies which are part of a component are listed immediately below that component and the subassemblies which are part of an assembly. Each generation breakdown (components, assemblies, or subassemblies) are listed in disassembly order or alphabetical order.

(2) ***Maintenance function.*** This column indicates the various maintenance functions allocated to the echelons.

(a) ***Service.*** To clean, to preserve, and to replenish lubricants.

***(b) Adjust.*** To regulate periodically to prevent malfunction.

(c) ***Inspect.*** To verify serviceability and to detect incipient electrical or mechanical failure by scrutiny.

***(d) Test.*** To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, etc.

• **These changes supersedes C1, 27 June 1961.**

*(e)* ***Replace.*** To substitute serviceable components, assemblies, or subassemblies, for unserviceable components, assemblies, or subassemblies.

*(f)* ***Repair.*** To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to welding, grinding, riveting, straightening, and replacement of parts other than the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.

*(9)* ***Align.*** To adjust two or more components of an electrical system so that their functions are properly synchronized.

*(h)* ***Calibrate.*** To determine, check, or rectify the graduation of an instrument, weapon, or weapons system, or components of a weapons system.

*(i)* ***Overhaul.*** To restore an item to ***completely serviceable*** condition as prescribed by serviceability standards developed and published by heads of technical services. This is accomplished through employment of the technique of "Inspect and Repair Only as Necessary" (IROAN). Maximum utilization of diagnostic and test equipment is combined with minimum disassembly of the item during the overhaul process.

*(j)* ***Rebuild.*** To restore an item to a standard as near as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements using original manufacturing tolerances and/or specifications and subsequent reassembly of the item.

(3) ***Ist, 2d, 3d, 4th, 5th echelon.*** The symbol X indicates the echelon responsible for performing that particular maintenance operation, but does not necessarily indicate that repair parts will be stocked at that level. Echelons higher than the echelon marked by X are authorized to perform the indicated operation.

(4) ***Tools required.*** This column indicates codes assigned to each individual tool equipment, test equipment, and maintenance equipment referenced. The grouping of codes in this column of the maintenance allocation chart indicates the tool, test, and maintenance equipment required to perform the maintenance function.

(5) ***Remarks.*** Entries in this column will be utilized when necessary to clarify any of the data cited in the preceding column.

c. Columns in the allocation of tools for maintenance functions chart are as follows:

(1) ***Tools required for maintenance functions.*** This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

(2) ***lst, 2d, 3d, 4th, 5tlt echelon.*** The dagger (t' ) symbol in these columns indicates the echelons normally allocated the facility.

(3) ***Tool code.*** This column lists the tool code assigned.

### 2. Maintenance by Using Organizations

When this equipment is used by signal services organizations organic to theater headquarters or communication zones to provide theater communications, those maintenance functions allocated up to and including fourth echelon are authorized to the organization operating this equipment.

TECHNICAL MANUAL
No. 11-5821-204–12

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON 25, D.C., 90 November 1960

# RADIO SET AN/ARC44



*TM 11-5821-204-12 supersedes the **following publications:** TM 11-517, 4 December 1956, including Cl, 1 July 1957; C2, 22 July 1957, C3, 21 January 1958, and C4, 7 April 1959, as applies to operator's and organizational maintenance. TM 11-5821-204–12P, 23 July 1959, including Cl, 28 June 1960. **TM 11–5821-200-15P, 2** December 1958 as applies to the first echelon portion and the maintenance allocation chart.

reported to a higher echelon using forms and procedures specified by TM 38-750. Equipment that has a deficiency that cannot be corrected by second echelon maintenance should be deadlined in accordance with TM 38–750. Perform all the services listed in the periodic maintenance inspection chart (par. 30.4) in the sequence listed. Whenever a *normal condition* or result is not observed, take corrective action in accordance with the paragraph listed under references.

## 30.4 **Periodic Maintenance Service and Inspection Chart**

***Note.*** Omit items 12 through 19 if the AN/ARC-44 does not have the auxiliary equipments AN/ARA-31 and SA-474/AR.

| Item No. | Procedure | | Reference |
|---|---|---|---|
| | Item | Normal condition or result | |
| 1 | SET: Inspect the equipment for- | | |
| | u. Completeness . . . . . | a. Equipment must be complete. -.. . . . . | a. Par. 5. |
| | b. Proper installation . . . . . | ***b.*** Installation is in accordance with the manual covering the aircraft in which the set is installed. | ***b.*** Configuration manual of applicable aircraft. |
| | c. Cleanliness . . . . . | c. Units must be clean and dry inside and out; free of grease ,dirt, rust, corrosion, and fungus. | c. Par. 29. |
| | d. Preservation . . . . . | d. Painted surfaces must be free of bare spots, rust, and corrosion. | |
| 2 | PUBLICATIONS: Check to see that pertinent publications are available (app. I). | ***a. Operator's*** and organizational maintenance manual must be complete and in usable condition without missing pages. | ***a.*** App. I. |
| | | ***b.*** All Changes pertinent to the equipment are on hand (DA Pam 310-4). | b. DA Pam 310-4 for requirements. |
| 3 | MODIFICATION WORK ORDERS: Check DA Pam 310-4 to determine if new applicable MWO'S have been published. | ALL URGENT MWO'S have been applied to the equipment.<br>ALL ROUTINE MWO'S have been scheduled. | DA Pam 310-4. |
| 4 | FUSES: Check for proper fuses (F101 and FI02) in Dynamotor **DY-107(*)/AR.** | There should be two 1/2-ampere, 250-volt, 3AG type fuses. | Fig, 6. |
| 5 | **BRUSHES: Inspect dynamotor brushes and brush caps.** | Brushes not chipped, broken, or worn to brush wear line. | Par. 32. |
| 6 | **MOUNTING: Inspect** for seating, stability, loose or missing hardware of all mountings. | All components securely mounted in place. No nuts, bolts, ***or*** other fasteners loose or broken on mountings. All bonding straps properly grounded and units properly safety wired. | Par. ***33b.*** |
| 7 | **CONNECTIONS:** Check the connections of all cables interconnecting the components of the equipment, including the headset-microphone and antenna connections. | Connections not loose and connectom properly fitted into their respective receptacle and clean. Cables not frayed. | a. Fig. 2.<br>b. Configuration manual of applicable aircraft. |
| 8 | KNOBS, DIALS, AND SWITCHES: Check for proper mechanical action by setting each control to each of its possible settings. | Action is positive without backlash, binding, ***or*** scraping.<br>Note: Knobs that require frequent tightening should have **setscrews** replaced if they show signs of wear. | Pars, 17-23. |
| 9 | ANTENNA: Inspect, Antenna AT-454(*)/ ARC. | Antenna is complete with whip, base, and coupler, Whip is securely attached to base and tiltcd 15°, and base is secured to aircraft surface. No kinks in whip. | Par, 12. |
| 10 | OPERATIONAL CHECK: Perform complete operational check of the AN/ARC-44 in accordancc with paragraph 31. | Equipment operates normally from the pilot and copilot positions. | a. Par. 31.<br>***b.*** Organizational maintenance manual of applicable aircraft. |
| 11 | SQUELCH ADJUSTMEN'I': Adjust SQUELCH control on the fm rceiver-transmitter in accordance with paragraph 34. | Background noise in the headset is adjusted to a comfortable level. | Par. 34. |

| Item No. | Procedure: Item | Procedure: Normal condition or result | |
|---|---|---|---|
| 12 | AUXILIARY EQUIPMENT: **Inspect Antenna Group AN/ARA-31 and Switch Assembly** SA-474/AR for- | | |
| | a. Completeness ---------- | a. Equipment must complete---------- | a. TM 11-5985-200-12. |
| | b. Proper installation ---------- | *b.* Installation is in accordance with organizational maintenance manual covering the aircraft in which set is installed. | b. Configuration manual of applicable aircraft. |
| | c. Cleanliness . . . . . .. . . . . | c. Units must be clean and dry inside and out; free of grease, dirt, rust, corrosion, and fungus. | |
| | d. Preservation ---------- | *d.* Painted surface must be free of hare spots, rust, and corrosion. | |
| 13 | PUBLICATIONS: Check to see that pertinent publication for the AN/ARA-31 and SA-474/AR arc available. | a. Operator's and organizational maintenance manual (TM 11-5985-200-12) must be complete and in usable condition without miming pages. | a. App. I, TM 11-598-200-12. |
| | | *b.* All Changes pertinent to the equipment are on hand (DA Pam 310-4). | *b.* DA Pam 310-4 for requirements |
| 14 | MODIFICATION WORK ORDERS: Check DA Pam 310-4 to determine whether new applicable MWO's have been published covering the AN/ARA-31 and SA–474/AR. | ALL. URGENT MWO'S have been applied to the equipment. ALL ROUTINE MWO'S have been scheduled. | DA Pam 310-4. |
| 15 | MOUNTING: Inspect for seating, stability, loose or missing hardware of all mountings. | .411 components securely mounted in place. No nuts, bolts, or other fasteners loose or broken on mountings. | a. TM 11-5985–**200-12.** *b.* Configuration manual of applicable aircraft. |
| 16 | CONNECTIONS: Check the connections of all cables interconnecting the components of Antenna Group AN/ARA-31, Switch Assembly SA-474/AR, and Radio Set AN/ARC-44. | Connections not loose and connectors properly fitted into their respective receptacles and clean. Cables not frayed. | Configuration manual of applicable aircraft. |
| 17 | SWITCHES: Check the toggle switches on Switch Assembly SA-474/AR for proper mechanical action by setting each switch to each of its positions. | Action is positive, without binding or sticking. | Par. 36. |
| 18 | ANTENNA: Inspect installation of Antenna Element AT-624 (•)/.AR on aircraft. | The two Antenna Elements AT-624(*)/AR are properly installed and complete with Network, Impedance Matching CU-459/AR. Fiberglass whip of Antenna Element AT-624A/AR is not loose or detached from metal base or conductor. | a. TM 11-5985-200-12. *b.* Configuration manual of applicable aircraft. |
| 19 | OPERATIONAL CHECK: Perform complete operational check of the AN/ARA-31, SA–474/AR, and AN/ARC-44, as a homing facility in accordancc with paragraph *37b*. | Equipment operates normally as a homing facility. | Par. *37b*. |

***Page 32,*** figure 13, caption. Change "SA-464/AR" to: SA-474/AR.

***Page*** 39, paragraph 35c. After "AN/ARA-31 ," add: and Switch Asscmbly y SA–474/AR.

***Page 37.*** Add the following to the appendix.

| | |
|---|---|
| TM 38-750 | The Army Equipment Record System and Procedures. |
| TM 11–5985-200-12 | operator's and Organizational Maintenance Manual: Antenna Group AN/ARA-31 and Switch Assembly SA474/AR. |

By Order of the Secretary of the Army:

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***General, United States Army,***
***Chief of Staff***

Official:

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*Major General, United States Army,*
*The Adjustment General*

Distribution:
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*The Adjutant General*

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*** U.S. GOVERNMENT PRINTING OFFICE: 1992 - 311-831 (43948)**

*Figure 1. Components of Radio Set AN/ARC-44.*

# CHAPTER 1

# INTRODUCTION

## Section 1. GENERAL

### 1. Scope

a. This manual describes Radio Set AN/ARC–44 (fig. 1 ) and covers the operating instructions to be used by the aircraft pilot, operator's preflight inspections, and organizational maintenance procedures to be performed by the organizational repairman or the crew chief.

b. Nomenclature followed by (*) is used to indicate all models of the equipment covered in this manual. Thus, Receiver-Transmitter, Radio RT–294(*)/ARC–44 represents Receiver-Transmitters, Radio RT-294/ARC-44, RT-294A/ARC–44, and RT-294B/ARC-44. Mounting MT–1267(*)/AR represents Mountings MT-1267/AR and MT–1267Al/AR. Antenna AT–454 (*)/ARC represents Antennas AT-454/ARC and AT–454A/ARC. Base, Antenna AFL-340(*) ARC represents Base, Antenna AB–340/ARC and Base, Antenna Support AB-340A/ARC. Antenna Element AT–455(*)/ARC represents Antenna Elements AT–455/ARC and AT–455A/ARC. Antenna Elements AT–624/(*)/AR represents Antenna Elements AT-624/AR and AT-624A/AR. Coupler, Antenna CU–361(*) ARC represents Couplers, Antenna CU-361/ARC, CU-361A/ARC, CU-361B/ARC, CU-361C/ARC, and CU--361D/ARC. Headset-Microphone H-101 (*)/U represents Headset-Microphones H–101/U and H–101A/U. Dynamotor DY-107(*)/AR represents Dynamotors DY-107/AR and DY–107A/AR. Keyer KY-149(') AR represents Keyers KY-149/AR and KY-149A AR.

### 2. Forms and Records

**a.** *Unsatisfactory Equipment Reports.* Fill out and forward DD Form 787–1 (Electronic Failure Report-Signal Equipment) to the Commanding officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS-ML, Fort Monmouth, N. J., as prescribed in AR 700–39.

b. Report of Damaged or Improper Shipment. Fill out and forward DD Form 6 (Report of Damaged or improper Shipment), as prescribed in AR 700–58.

c. Maintenance Forms. Prepare DD Form 781–2 (Aircraft Flight Report and Maintenance Record, Aircraft Inspection and Maintenance) in accordance with the instructions on the form. All preflight and postflight inspections of Radio Set AN ARC-44 will be recorded on this form.

d. Parts List Form. Forward DA Form 2028 (Recommended Changes to DA Technical Manual Parts Lists or Supply Manuals 7, 8, and 9) direct to the Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN : SIGMS-ML. Fort Monrnouth, N. J., with any comments concerning omissions and discrepancies in appendixes II through V.

e. Comments on Manuals. Forward all other comments concerning this publication directly to the Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS-PA2d, Fort Monmouth, N. J.

## Section II. DESCRIPTION AND DATA

### 3. Purpose and Use (fig. 2)

a. Radio Set AN/ARC–44 provides the pilot and copilot with two-way communication between aircraft and ground stations and aircraft to aircraft within the tactical military frequency-modulation channels. The frequency range of Radio Set AN ARC–44 permits the pilot or copilot of the aircraft to communicate with armored, artillery, and infantry units in the field, Radio Set AN/ARC–44 provides these communication facilities within the frequency range of 24 to 51.9 megacycles (me) on 280 preset channels. The distance range is limited

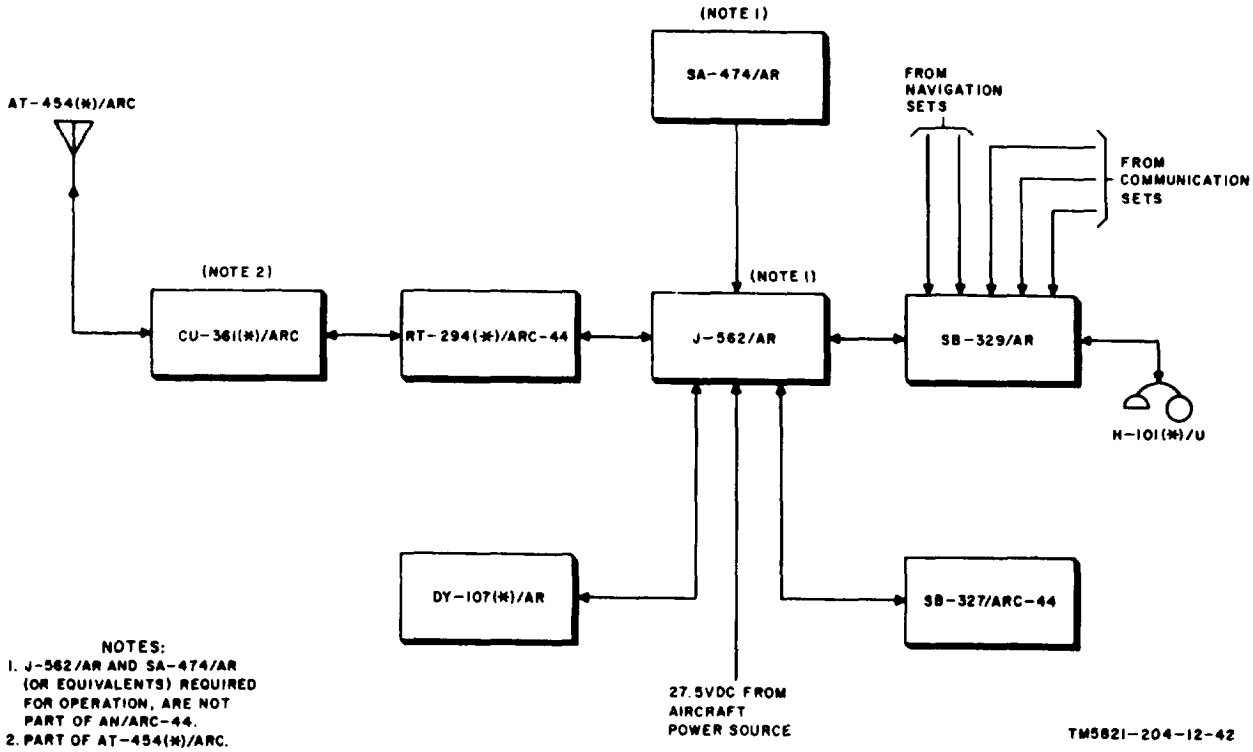


*Figure 2. Radio Set AN/ARC-44, functional block diagram.*

to line of sight up to distances of approximately 50 miles.

b. When used with Antenna Group AN/ARA-31 (para 37), Radio Set AN/ARC-44 provides the pilot with a homing facility which will allow the pilot to home on any keyed unmodulated signal transmitted within the frequency range of 24 to 49 mc.

c. Panel, Signal Distribution, Radio SB-329/AR amplifies and controls the routing and distribution of audio signals applied to or from Headset-Microphone H–101 (*) /U from the navigational sets and other communication sets as well as the Radio Set AN/ARC–44 audio. From Panel, Signal Distribution, Radio SB-329/AR the user may select any one of five receivers, singly or in combination, the aircraft interphone channel, or Radio Set AN/ARC-44 frequency modulation (fro) facility or any of two other radio communication facilities that may be installed in the aircraft.

*Note.* Two separate Panels, Signal Distribution, Radio SB-329/AR **are used to provide intercommunication** and allow the pilot and copilot to use the electronic facilities of the aircraft at their discretion.

d. Panel, Control SB–327 ARC-44 provides for remote control of Receiver-Transmitter, Radio RT–294 ( * )/ARC-44. It allows the pilot or copilot to turn on Receiver-Transmitter, Radio RT–294 ( * ) /ARC-44, select its frequency of operation, and adjust the audio volume level.

e, Receiver-Transmitter, Radio RT–294 ( * ) ,ARC-44 converts the audio generated by the H-101(*)/U to a radiofrequency (rf) signal and vice versa. It receives and transmits on a common antenna, Antenna AT-454 (*)/ ARC, Coupler, Antenna CU-361 ( *) / ARC matches the impedance of Antenna AT-454 ( * ),/ARC to that of Receiver-Transmitter, Radio RT-294 ( * ) /ARC-44.

f. Dynamotor DY–107 ( * ) /AR generates the high-voltage, direct-current (de) and 400-cycle-per-second (cps) alternating-current (at) power for operation of Receiver-Transmitter, Radio RT-294 ( * )/ARC–44 and Panel, Signal Distribution, Radio SB–329/AR.

g. Switch Assembly SA-474/AR (para 36), although not part of Radio Set AN/ARC-44, is generally supplied with it. The SA-474/AR, or its equivalent, is used to turn on and off the squelching action of Receiver-Transmitter,

Radio RT-294(* )/ARC-44. If Radio Set AN/ARC–44 is used with Antenna Group AN/ARA–31, Switch Assembly SA–474/AR is also used to control the application of power to Antenna Group AN/ARA–31.

h. Terminal Box J-562/AR, or its equivalent, is used to interconnect the operating components of Radio Set AN/ARC-44 and provides for the distribution of primary power, dynamotor power, and interconnection of audio facilities.

***Note.*** Radio Set AN/ ARC44 is installed in aircraft of which the signal configuration may vary and, therefore, the components and interconnecting cabling will not always be the same. For data on the individual aircraft wiring and cabling, reference should be made to the organizational maintenance manual covering the aircraft.

## 4. Technical Characteristics of Radio Set AN/AR-44

*a. Receiver-Transmitter, Radio RT-294(*)/ARC-44 and Mounting MT-1268/AR.*

| | |
|---|---|
| Frequency range | *280* preset channels, 24.0 to 51.9 mc; channel separation, 100 kc. |
| Number of tubes | 29. |
| Power source | 27.5 vdc aircraft electrical system and Dynamotor DY-107(*)/AR. |
| Power input from battery to RT-294(*)/ARC-44. | 27.6 vdc, 3 amp. |
| Power input from Dynamotor DY-107(*)/AR to Receiver-Transmitter, Radio RT-294(*)/ ARC-44 | 150 vdc (B+), 85 ma. 300 vdc (B+), 125 ma. 27 vac at 400 cps. |

(1) *Tramsmitter.*

| | |
|---|---|
| Type of modulation | Fm, using reactance-tube modulation. |
| Type of signals transmitted | Voice. |
| Distance range | 50 miles.[1] |
| Power output: | |
| RT-294/ARC-44 | 6 watts, 62 ohms resistive load. |
| RT-294A / ARC-44. | 8 watts, 52 ohms resistive load. |
| RT-294B/ARC-44. | 8 watts, 52 ohms *resistive* load. |
| Audio preemphasis | With input voltage to preemphasis network constant, output voltage increases linearly (within ±2 db) at a 2-db-per-octave rate from 1,000 to 6,000 cps. The output voltage does not decrease more than 4 db at 500 cps nor *more* than 6 db at 250 cps from the measurement at 1,000 cps. |
| Frequency deviation | +20 kc at 1,000 cps (nominal) ; +35 kc (maximum). |
| Sidetone output level | 10 mw to 40 mw (150 ohms load). |

(2) *Receiver.*

| | |
|---|---|
| Receiver type | Double-conversion superheterodyne. |
| Types of signals that can be received | Fm voice, squelch control, and when used as a homing receiver, keyed unmodulated signals. |
| Sensitivity | 1 # v for 10-db signal-plus-noise to noise; 10 # v for 40-db signal-plus-noise to noise, using 62 ohms signal generator. |
| Selectivity | Minimum, 75-kc bandwidth at 6 db. Maximum, 300-kc bandwidth at 60 db. |
| Audio power output | 60 .nw across 160 ohms. |
| Image rejection | 60 db minimum. |
| First if. | 6.55 to 7.45 mc (variable in 0.1-mc steps). |
| Second if. | 2.9876 mc (fixed). |
| Audio reemphasis | With input voltage to deemphasis network constant, output voltage decreases linearly (within ±2 db) at a 2-db-per-octave rate from 1,000 to 6,000 CPS. The output voltage does not increase by more than 4 db at 600 cps nor more than 6 db at 250 cps from the measurement at 1,000 Cps. |

*b. Panel, Signal Distribution, Radio SB-329/AR.*

| | |
|---|---|
| Number of tubes | 5. |
| Power input from dynamotor | 150 vdc (B+) 23 ma. |
| Power input from battery | 27.5 vdc (filament) 360 ma. |

1 The range will vary conidercbly according to tbe terrain, atmospheric conditions, and the altitude of the aircraft.

| | |
|---|---|
| Headset amplifier ,output | 200 mw into 8-ohms resistive load (2.5-volt input). |
| Headset amplifier frequency response | **+1 to – 3** db from 1,000-cps reference signal in the 300 to 6,000-cps range. |
| Microphone amplifier output | 3 volts **across 2,700** ohms ( 0.6-mv input). |
| Microphone amplifier frequency response | + 1 to – 3 db from 1,000-cps reference signal **in** the 300 to 6,000-cps range. |
| Interphone sidetone output | 50 mw. |

c. ***Dynamotor DY–107(*)AR and Mounting MT–1267(*)/AR.***

| | |
|---|---|
| Power input from battery | 4.75 amp maximum at 27.5 vdc. |
| Power **output** | **140 ma at 150 vdc; 125 ma at 300 vdc; 27 vac** at 400 cps. |
| Average operating speed | 8,000 rpm. |

***d. Antenna AT-454(*)/ARC.***

| | |
|---|---|
| Type | Whip ( transmitting and receiving). |
| Frequency range of operation | 24.0 to 51.9 mc. |
| Length (overall) | 8.2 feet. |
| **Maximum VSWR** | **4 to 1.** |

## 5. Components of Radio Set AN/ ARC-44 (fig. 1)

The components of Radio Set AN/ARC-44 are listed in the following chart:

| Quantity | | Height (in.) | Depth (in.) | Width (in.) | Unit weight (lb) |
|---|---|---|---|---|---|
| 1 | Receiver-Transmitter, Radio RT-294(*)/ARC-44 | 7.24 | 13.90 | 5.13 | 14 |
| 1 | Panel, Control SB-327/ARC-44 | 3.00 | 6.06 | 5.75 | 2.19 |
| 2 | Panel, Signal Distribution, Radio SB-329/AR | 2.625 | 5.30 | 5.75 | 1.63 |
| 1 | Dynamotor DY-107( *)/AR | 5.37 | 9.22 | 3.40 | 6 |
| 2 | Headset-Microphone H-101 (*)/U | | | | |
| | Antenna AT-454(*)/ARC, consisting of: | | | | |
| 1 | Coupler, Antenna CU-361 (*)/ARC | 1.61 | 3.06 | 2.04 | 0.63 |
| 1 | Antenna Element AT-455(*)/ARC. | 91.86 | | | 0.75 |
| 1 | Base, Antenna AB-340 (*) /ARC | 4.36 | 3.18 | 5.80 | 1.50 |
| 1 | Mounting MT-1268/AR | 1.73 | 11.80 | 6.00 | 0.87 |
| 1 | Mounting MT-1267 (*)/AR | 1.31 | 9.31 | 3.31 | 0.81 |
| 1 | Connector, receptacle, electrical FSN 5935-201-7935 | | | | |
| 3 | Connector, receptacle, electrical FSN 5935-642–5387 | | | | |
| 1 | Connector, receptacle, electrical FSN 5935-643-6904 | | | | |

## 6. Nomenclature and Common Names

To simplify *textual* references, common names are frequently used in place of the complete nomenclature. A list of the common name assignments is given below.

| Nomenclature | Common names |
|---|---|
| Radio Set AN/ARC-44 | Fm liaison set |
| Receiver-Transmitter, Radio RT-294 ( • )/ARC-44 | Fm receiver-transmitter |
| Mounting MT-1268/AR | Receiver-transmitter mounting |
| Panel, Control SB-327/ARC-44 | FM **control panel** |
| Dynamotor DY-l07(*)/AR | **Dynamotor** |
| Mounting **MT-1267(*)/AR** | **Dynamotor mounting** |
| Panel, Signal Distribution Radio SB-329/AR | INT signal distribution panel |
| Terminal Box J-562/AR | Terminal box |

| Nomenclature | Common names |
|---|---|
| Antenna AT-454(*)/ARC consisting of: | **Communication antenna:** |
| Coupler, Antenna CU-361(*)/ARC | **Coupler** |
| Antenna Element AT-455 (*) / ARC | **Whip** |
| Base, Antenna AB-340(*)/ARC | **Base** |
| Headset-Microphone H-101(*)/U | **Headset-microphone** |
| Switch Assembly SA-474/AR | **Switch panel** |
| Antenna Group AN/ARA-31 | **Antenna group** |
| Connector, Receptacle, Electrical FSN 5935-643-6904 | **Receiver-transmitter connector** |
| Connector, Receptacle, Electrical FSN 5935-642-6387 | **Panel connector** |
| Connector, Receptacle, Electrical FSN 5935-201-7935 | **Dynamotor connector** |

## 7. Description of Radio Set AN/ARC-44

a. The fm liaison set (fig. 1) includes an fm receiver-transmitter and its mounting, two INT signal distribution panels, an FM control panel, a dynamotor and its mounting, a switch panel, an antenna system, and a headset-microphone. The interconnecting cables and terminal box to which all the components are connected are supplied as part of the aircraft in which the set is installed.

***b.*** The components of the fm liaison set are secured to mounting surfaces within the aircraft. From the mountings and panel connectors, connections are made to the aircraft battery and components of the fm liaison set. The coaxial-cable connection to the antenna is made either directly from the front panel of the fm receiver-transmitter or through the keyer if Antenna Group AN/ARA–31 is used. For location of equipment, refer to the applicable aircraft signal electronic configuration technical manual.

## 8. Description of Receiver-Transmitter, Radio RT-294(*)/ARC-44 (fig. 3)

a. The fm receiver-transmitter is a separately housed unit containing the receiver and transmitter circuits of the fm liaison set. A handle is attached to the unit to provide convenient handling. Behind the handle is a hinged door that covers carrier test switch S807 and test jack J809. SQUELCH and HOMING controls are externally accessible and are located above the handle on the left side of the front panel. These two controls are protected by a sliding panel that can be manually raised by moving the slide button adjacent to the controls.

b. The outlet for the fm receiver-transmitter exhaust fan is located at the rear of the unit on the rear cover, When installed, the fm receiver-transmitter is secured in place on its mount. The receiver-transmitter connector (Federal stock No. 5935-643-6904 (fig. 1)), is fastened to the rear of the MT-1268 / AR. Mating plug P815 on the rear of the fm receiver-transmitter (fig. 3) is attached to the receiver-transmitter connector when the fm receiver-transmitter is placed on the MT–1268/AR.

c. The fm receiver-transmitter (fig. 3) is held in place on the MT–1268/AR by two guide pins and two mounting screws. The ground straps provide an electrical connection between the mounting shelf and the bottom plate of the MT–1268/AR. This assures a good ground connection in an installation. The vibration isolators (shock mounts) on the MT–1268/AR protect the fm receiver-transmitter from vibration and shock.

## 9. Description of Panel, Control SB-327/ARC-44 (fig. 4)

a. The FM control panel is a separately housed unit containing a VOL control, a REM-LOCAL selector switch, an ON-OFF switch, and concentrically mounted frequency selector switches (ring and knob), combined with a FREQ indicator window. An escutchen plate covers the frequency selector ring and knob and provides the viewing window for the frequency selected. It is held in place by two escutchen mounting screws. The outer ring of the frequency selector switch rotates to show, one at a time, the whole numbers from 24 through 51 in the top of the FREQ window. The center frequency selector switch (knob)

rotates to show decimals of a megacycle from 0.0 through 0.9 in the bottom of the FREQ window.

*b.* Three panel lights, located across the top of the panel, are covered by red translucent plastic covers. They edge-light the clear plastic panel so that the letters and numerals light up red and appear clearly visible and contrasted against the dark background.

*c.* The FM control panel is flush mounted


*Figure 3. Reciever-Transmitter, Radio RT-294(*)/ARC-44 and Mounting MT-1268/AR.*

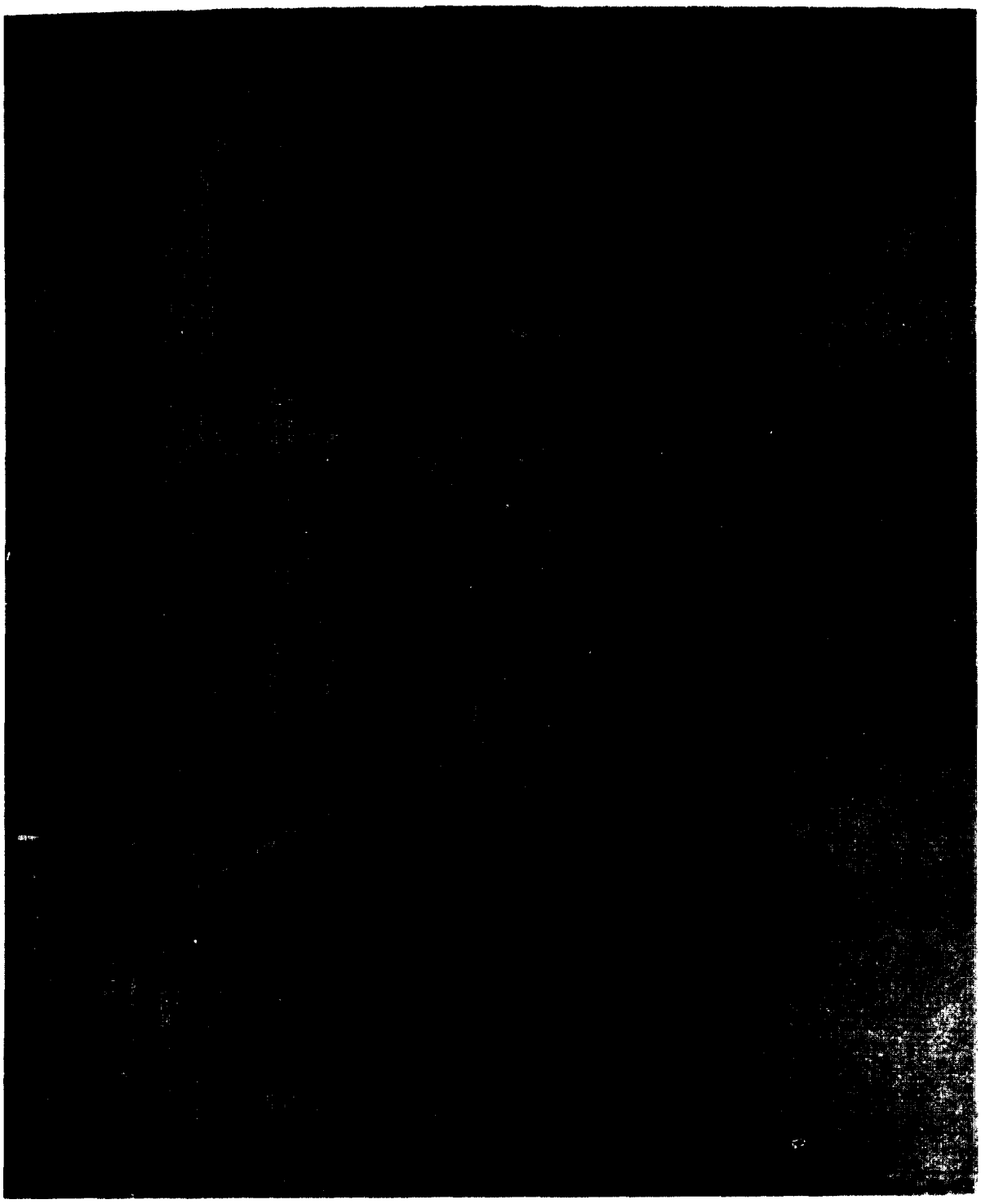

***Figure 4.*** *Panel, Control SB-327 / ARC-44.*

by four Dzus (quick-disconnect) fasteners at the corners of the front panel. The cover is held in place by a spring lock cover fastener. All external connections are made to the rear of the FM control panel through jack J201. The spring lock fasteners on the panel connector (fig. 1) secure the panel connector (Federal stock No. 5935–642–5387 ) to springlock receptacles on the rear of the FM control panel (fig. 4).

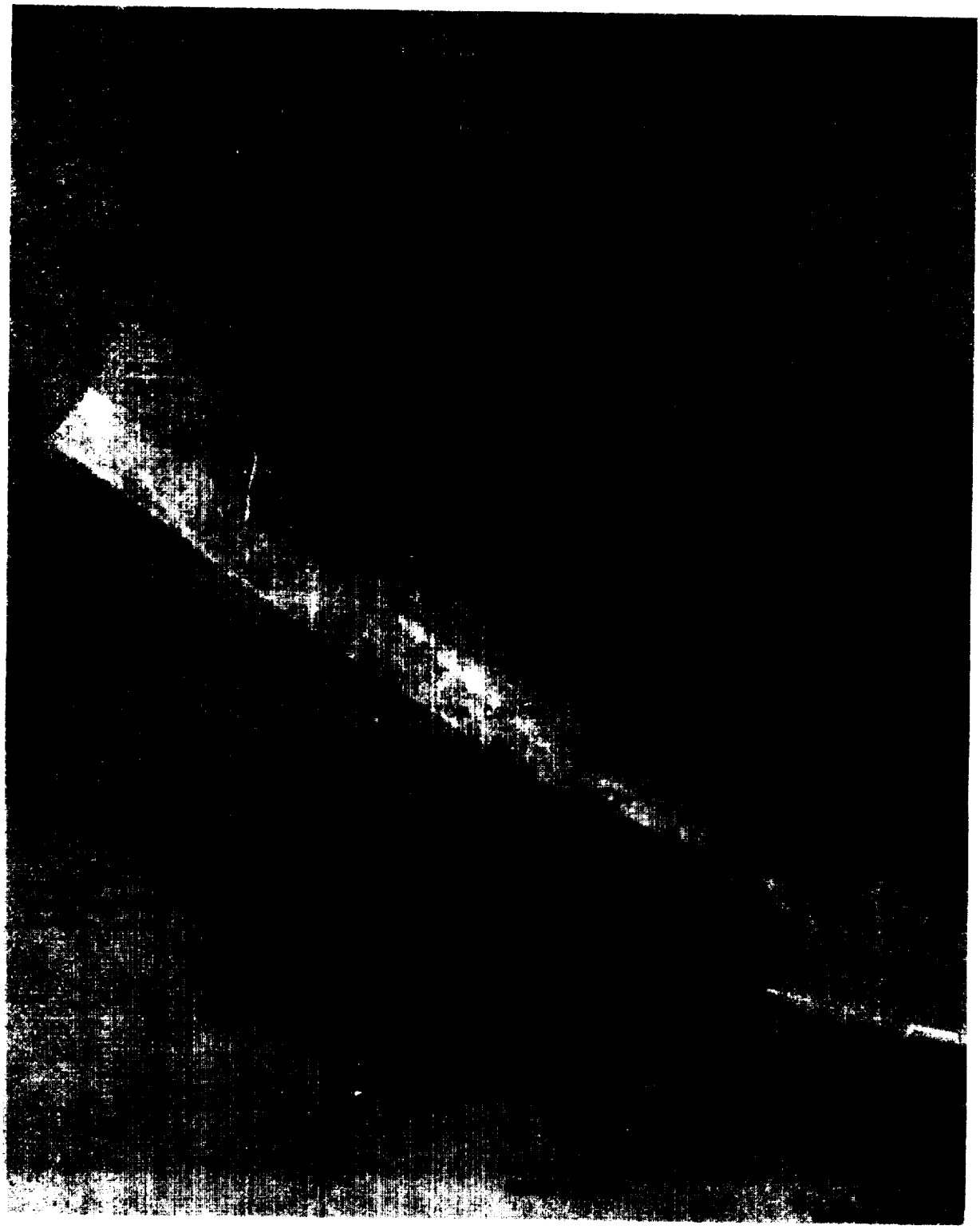

*Figure 5. Panel, Signal Distribution, Radio SB-329/AR.*

10. Description of Panel, Signal Distribution, Radio SB-329/AR (fig. 5)

a. The INT signal distribution panel is a separately housed unit which has five receiver selection switches, marked RECEIVERS 1, 2, 3, MB, and NAV, and a TRANS selector switch. The TRANS selector switch is a four-position switch marked INT, 1, 2, and 3. These appear one at a time in the window above the TRANS selector switch. The position numbers correspond to the numbers on the RECEIVERS switches. An escutchen plate, mounted on the front panel, provides a viewing window for the TRANS selector switch.

b. Panel lights edge-light the clear plastic panel so that the numerals light up red and are clearly visible and well-contrasted against a dark background, All electrical wiring is made through J301 located at the rear of the INT signal distribution panel.

c. The INT signal distribution panel is flush mounted by four quick-disconnect fasteners on the sides of the front panel. The spring lock receptacles mate with the spring lock fasteners on the panel connector (Federal stock No. 5935–642–5387 (fig. 1 ) ) that secure the panel connector to the rear of the INT signal distribution panel (fig. 5). The top and bottom covers are secured to the INT signal distribution panel by mounting screws.

11. Description of Dynamotor DY-107(*)/AR

a. The dynamotor (fig. 6) consists of a dynamotor subassembly mounted on an electrical equipment chassis. The chassis contains the various line filter components, fuses, and a voltage booster relay. Two output circuit fuses are readily accessible at the front of the chassis. Three pairs of dynamotor brushes are mounted at accessible positions on the dyna-

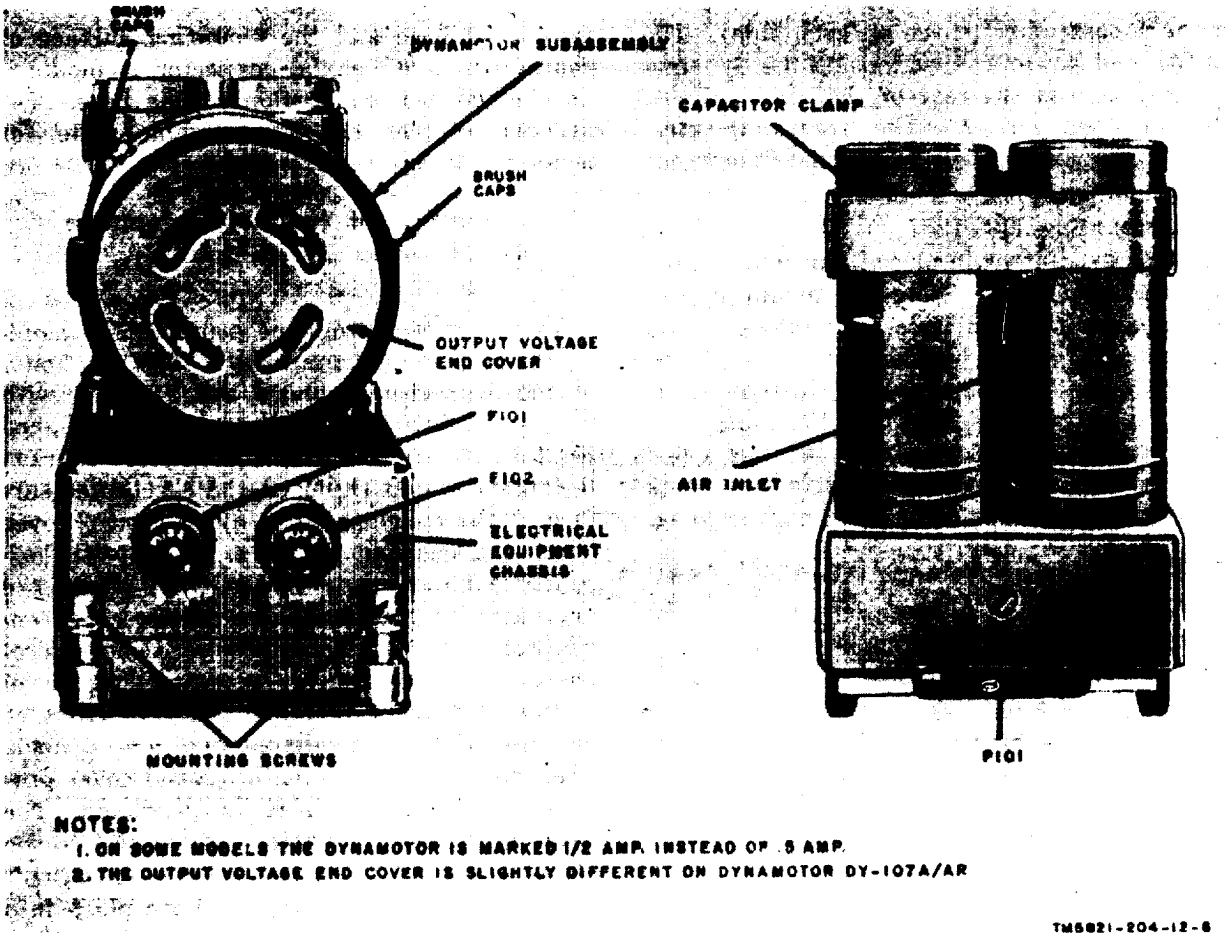


*Figure 6. Dynamotor DY-107(*)/AR*

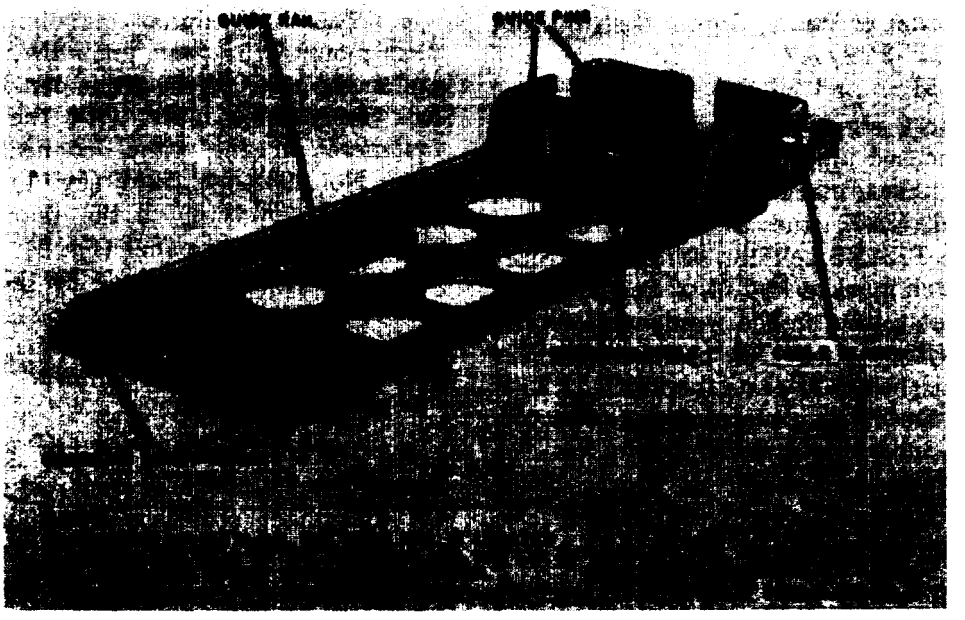

*Figure 7. Mounting MT-1267(*)/AR.*

motor subassembly (three on each side). The control and power connections to the dynamotor are made at the rear of the unit at P101. Two mounting screws at the front of the electrical equipment chassis secure the dynamotor to its mounting.

b. Mounting MT-1267(*)/AR (fig. 7) secures the dynamotor in place in an installation. The dynamotor slides onto the mount guided by the guide rail and is secured into place on the mounting shelf by the guide pins. The dynamotor is held in place by fastening the mounting screws (a above) so that they lock into the mounting screw inserts. The cable clamp on the dynamotor mounting prevents the dynamotor power cable from pulling loose.

### 12. Description of Antenna AT454(*)/ARC (fig. 8)

The communication antenna consists of a whip, a base, and a coupler. The coupler is con netted to the base by a coaxial cable. The tapered whip is approximately 71/2 feet long. The whip screws into the antenna base and is secured by a setscrew and whip tightening nut. The base mounts the whip in a rigid position and in such a manner that the whip is tilted 15”. An insulating plate electrically separates the base from the aircraft mounting surface, and a gasket provides a watertight seal between the base and the mounting surface of the aircraft. A coaxial connector is mounted on the flat bottom portion of the base. The antenna coupler has a removable plate for access to the internal components.

### 13. Description of Headset-Microphone H-101(*)/U (fig. 9)

The headset-microphone provides for hand-free low-noise communication. The earphones of the headset-microphone are provided with neoprene-covered padded cushions, designed for the left and right ear, which are marked R (right) and L (left) on the rear outer surface of the cushions. The nylon earcap cover holds the cushion in place. A polyethylene moisture barrier and black nylon guard are provided over the microphone to protect it from moisture and physical damage. The microphone with nylon guard is mounted on a swivel so that it may be placed directly in front of the lips when transmitting and moved aside when not in use. A nylon headband cover protects the user’s hair from the headband. The position of the microphone with respect to the lips is adjusted with the swivel bracket adjusting screw. The headset-microphone plugs into the communication system with Telephone Plug U-93 U or U-93A U.

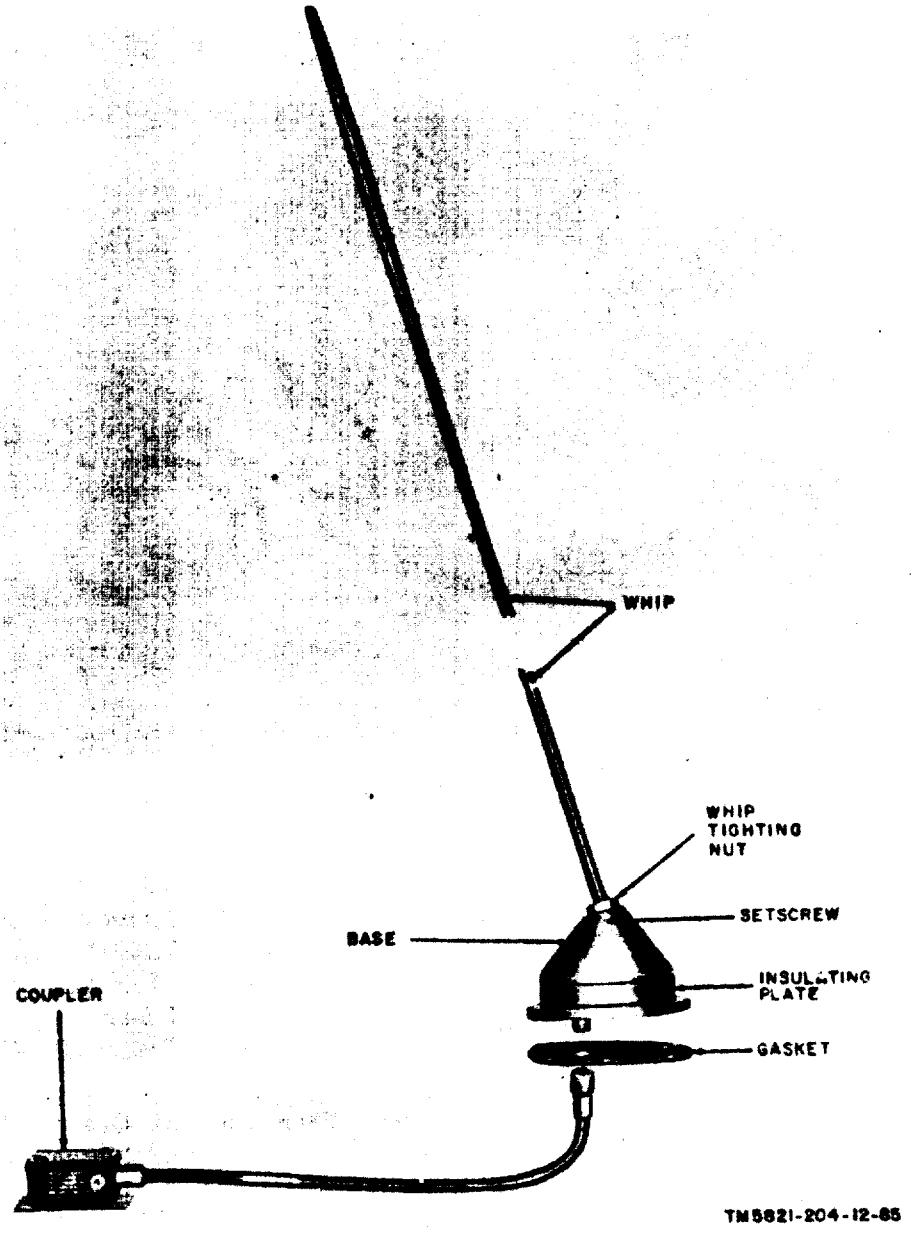


*Figure 8. Antenna AT-454(*)/ARC.*

## 14. Description of Connectors (fig. 1)

*a. Reciever-Transmitter Connector..* The receiver-transmitter connector is a female, 34-contact, 5-ampere, arc-resistant, plastic dielectric connector. it has two mounting studs of the friction-locking type. The connector is environment resistant.

b. ***Panel Connectors.*** The panel connectors are female, 34-contact, 5-ampere, arc-resistant, plastic dielectric connectors. The base of the connectors is corrosive-resistant aluminum. The panel connectors are equipped with spring lock fasteners, two on each connector. These secure the panel connectors to the unit \vith which they are used.

c. *Dynamotor Connetors.* The dynamotor connector is a female, 20-contact, 5-ampere, arc-resistant, plastic dielectric connector. It has an aluminum, corrosive-resistant base and is of the friction-locking type.

**Figure 9.** *Headset-Microphone* ***H-101(*)/U.***

### 15. Additional Equipment Required

The following items are not supplied as part of the fm liaison set but are required for operation. The items are supplied as part of the aircraft in which the fm liaison set is installed.

***a.*** Switch Assembly SA-474/AR (fig. 13) or equivalent is used with Antenna Group AN/ARA-31.

***'b.*** Terminal Box J–562/AR (fig. 10) or equivalent is required for interconnecting the components of the fm liaison set.

c. The following cord and cable assemblies are required for interconnection or operation of the indicated components:

(1) Electrical Cord Assembly CX-2555/U with a separately installed transmit-receive switch, or Electrical Cord Assembly CX–2556/U with a transmit-receive switch, as part of the cable assembly.

(2) Cables from the HOME switch on the switch panel to Keyer KY–149 (* ) /AR and the terminal box if Antenna Group AN/ARA–31 is installed.

(3) Cable RG-58C/U for connection between the fm receiver-transmitter and Keyer KY–149 ( * ) /AR, coupler and Keyer KY–149/AR, and homing antennas and Keyer KY-149(*) /AR if Antenna Group AN/ARA-31 is installed.

***d.*** When Antenna Group AN/ARA-31 is not part of the installation, a separate squelch switch is required. A single-pole, double-throw switch mounted on the aircraft instrument control panel may be used for this purpose.

e. A source of power capable of supplying +27.5 volts dc at 10 amperes and provided with a means of switching the power on and off is required to operate the fm liaison set. This power is supplied by the aircraft in which the equipment is installed.

f. Circuit breakers (push-to-reset type) are required to protect the aircraft electrical system from overload.

g. Interconnecting cabling is required to interconnect the operating components of the AN/ARC-44 within the aircraft. For the pertinent details concerning this cabling, refer

to the applicable aircraft organizational maintenance manual.

16. Differences in Models

a. ***Receiver-Transmitter, Radio RT-294 (*)/ ARC-44.*** The external appearances of Receiver-Transmitter, Radio RT-294/ARC-44, RT–294A/ARC–44, and RT–294B/ARC-44 are identical. Operational procedures and organizational maintenance described in this manuaI apply equally to all models unless otherwise noted.

*b.* ***Antenna AT-454(*)/ARC.*** The modified Antenna AT-454A/ARC consists of Base, Antenna Support AB-340A/ARC, Antenna Element AT-455A/ARC, and Coupler, Antenna CU-361A/ARC. Couplers, Antenna CU-361 B/ARC, CU-361C/ARC, and CU-361D/ ARC may also be used with Antenna AT-454A/ARC. Differences in models of these components are given below.

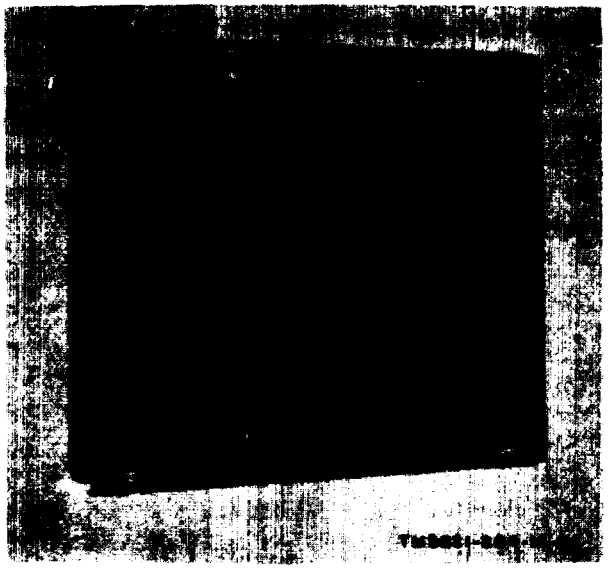

*Figure 10. Terminal Box J-562/ AR.*

(1) Base, ***Antenna AB-340(*)/ARC.***

| AB-340/ARC | AB-340A/ARC |
|---|---|

(2) ***Antenna Element AT-455(*)/ARC.***

| AT-43S/ARC | AT-455A\ARC |
|---|---|
| Reuires a l-inch wrench **to** unscrew the element from the base. Threaded ferrule is **1% inches long.** | Requires a 5/8-inch wrench to unscrew the element from the base. Base of element is tapered. Threaded ferrule base is 3 1/2 inches long. |

(3) ***Coupler, Antenna CU-361(*)/ARC.*** Couplers, Antenna CU-361/ARC, CU-361A/ARC, CU-361B/ARC, CU-361C/ARC, and CU-361D/ARC are similar in appearance and vary only in certain mechanical details of mounting electrical component. Differences, where significant, and the interchangeability of models are given in the chart below:

| CU-361/ARC | CU-361A/ARC | CU-361B/ARC | CU-361C/ARC | CU-361D/ARC |
|---|---|---|---|---|
| Does not have provisions for safety wiring. | Has provisions for safety wiring. | Has **provisions for safety wiring.** | Has provisions for safety wiring. | Has provisions for safety wiring. |
| | **One-way** inter-**changeable with CU-361/ARC.** | Two-way interchangeable with CU-361A/ARC. | **Interchangeable with CU-361/ARC, CU-361A/ARC, and CU-361B/ARC.** | **One-way interchangeable with all models** of the **coupler. This model** *is* **capable of withstanding greater vibration as encountered in helicopters.** |

(*. ***Dynamotor DY-107(*)/AR. The ex-***ternal differences between Dynamotors DY-107/AR and DY–107A/AR are given in the chart below.

| DY-107/AR | DY-107A/AR |
|---|---|
| Output **voltage end cover has four elongated circular slots for ventilation ports.** | **Output voltage end cover has two rows of holes on the outer circumfer-*ence* to provide additional ventilation for cooling of dynamotor.** |
| **150 V.D.C. and 300 V.D.C. fuses marked or rated cm chassis as .5** A M P fuses. | **150 V.D.C. and 300 V.D.C. fuses marked or rated** on chassis as 1/2 AMP fuses. |

***d. Headset-Microphone H-101(*)/U.*** Differences between Headset-Microphones H-101/U and H–101A/U are listed below.

| H-101/U | H-101A/U |
|---|---|
| Headset **cord terminated with Plug, Telephone U-93/U.** | **Headset cord terminated with Plug, Telephone U-93A/U.** |
| **Microphone operating and rest (up) position predetermined by detent stops; position of detent stops determined by setting of swivel bracket adjusting screw.** | **One adjustment of swivel bracket thumb nut permits microphone to be placed in any position.** |
| **Microphone cord terminated in junction box on headband.** | **Microphone cord provided with a quick-disconnect plug on headband.** |
| **Headband not readily hung on hook.** | **Headband provided with stowing grommet to permit hanging on hook.** |

***e. Mounting MT-1267(*)/AR.*** Mounting MT-1267A/AR differs from Mounting MT-1267/AR only in the position and length of the guide rail (fig. 7). On the MT-1267A/AR, the guide rail is located closer to the rear of the mounting, and the lip of the guide rail has been cut back approximately one-half inch. This decreases the distance required to slide the dynamotor forward before it can be released from the mounting.

## Section 1. CONTROLS

### 17. INT Signal Distribution Panel (fig. 11)

Two INT signal distribution panels are usually installed in an aircraft: one for the pilot and the other for the copilot. The two panels are identical and provide the pilot and copilot with identical facilities. The operating controls and their functions are listed in the chart below.

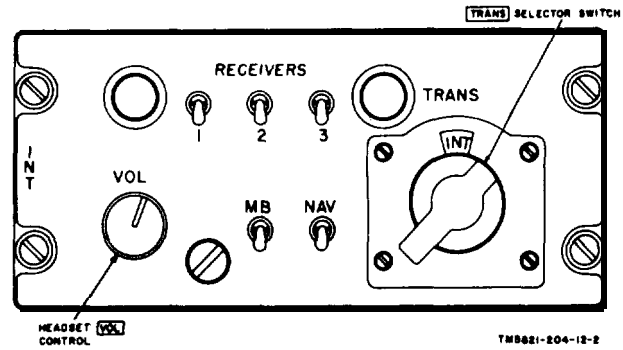


*Figure 11. INT Signal distribution panel, front view*

| Control | Function |
|---|---|
| **RECEIVERS, receiver selection switches.** | Selects **receiver, the output of which will be applied to headsets.**<br>**l—In the up position, the switch connects the output of the f m liaison set to the headset-microphone associated with the INT signal distribution panel. In the down position, it disconnects the fm liaison set receiver output from the headset-microphone. (See note 1.)**<br>**2-In the up position, the switch connects the output of a second receiver to the headset-microphone associated with the INT signal distribution panel. In the down position, it disconnects the second rceiver from the headset-microphone. (See note** 1.)<br>**3-in the up position, the switch connects the output of a third receiver to the headset-microphone associated with the INT signal distribution panel. In the down position, it disconnects the third receiver from the headset microphone. (See note 1.)**<br>**MB-In the up position, the switch connects the audio output of the marker beacon receiver to the headset-microphone associated with the INT signal distribution panel. In the down position, it disconnects the marker beacon receiver from the headset-microphones.**<br>**NAV—In the up position, the switch connects the audio output of the navigational *receiver* or automatic direction finder receiver to the headset-microphone associated with the INT signal distribution panel. (See note 2.)** |
| **TRANS selector switch. (See note 1.)** | **Selects fm liaison set, receiver-transmitter number 2, receiver-transmitter number 3, or interphone facility.**<br>**INT position—Connects the INT signal distribution panels together for interphone operation. At the same time, the operator will hear his own transmission as a sidetone signal in his headset-microphone. The** other crewmember will hear the interphone message regardless of the position of his INT signal distribution panel TRANS selector switch.<br>1, 2, and 3 positions—Selects the receiver-transmitter to **be used to receive or transmit, regardless of the positions of the RECEIVERS 1, 2, or 3 switches.** |
| **Headset VOL control.** | **Adjusts the volume level of the audio applied to the headset-microphone associated** with the **INT signal distribution panel. (See note 2.)** |

Notes.

**1. The number** selections **of the** TRANS **selector switch correspond to the numbers of the** RECEIVERS **switchen. For this manual, it is assumed that the function of each position of the TRANS switch is as indicated below.**

TRANS selector **switch:**
Position 1 : **FM transmitter**
**Position 2 : Transmitter number 2**
**Position 3 : Transmitter number 3**

**2. The receiver VOL control has no effect on the audio level of the navigational receivers. Their level is adjusted by the control panel associated with that equipment.**

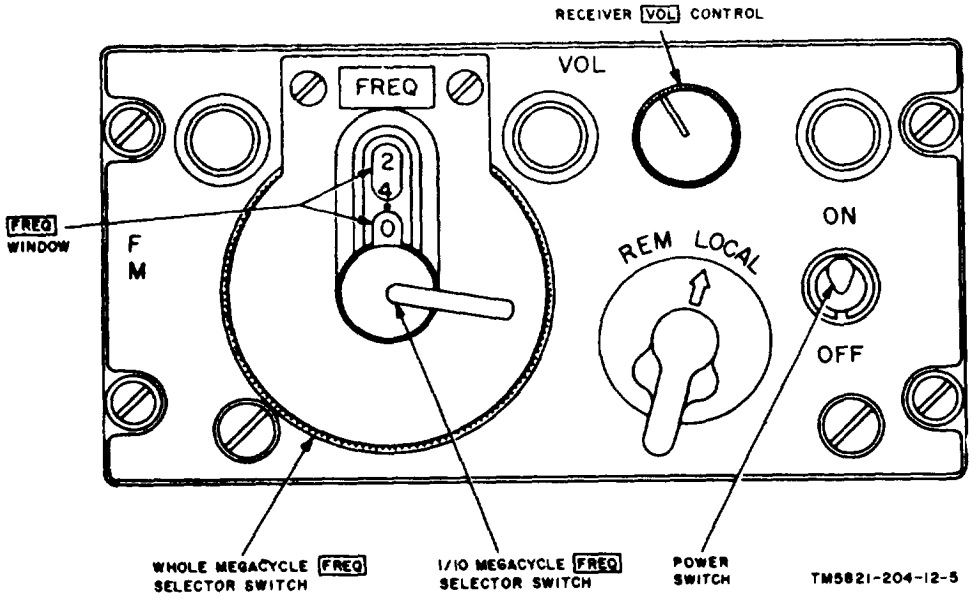


*Figure* ***12. FM control panel, front view.***

## 18. FM Control Panel (fig. 12)

The FM control panel provides for remote control of the fm liaison set. The following chart lists the controls on the FM control panel and their functions.

| Control | Function |
|---|---|
| **Power ON-OFF switch.** | **In the ON position, applies power to the fm receiver-transmitter. In the OFF position, removes power from the fm receiver-transmitter.** |
| **REM-LOCAL switch.** | Must *always be in LOCAL position.* Used only when two or **more FM control panels are used.** |
| **1/10 and whole megacycle FREQ selector switches.** | **Selects the receiving and transmitting frequency of the fm receiver-transmitter.** **Outside knurled ring ( whole-megacycle FREQ selector), selects first two numbers of receiver and transmitter operating frequencies.** **Inside knob (l/l0-megacycle FREQ selector), selects third number of transmitter and receiver operating frequencies.** |
| **Receiver VOL control.** | **Provides volume control for the fm receiver-transmitter *receiver* audio.** Turn clockwise to increase the audio output. |

## 19. Power Switches and Controls

The following controls, although not part of the fm liaison set, are directly related to the operation of the equipment. These controls are not supplied as part of the fm liaison set but are supplied as part of the aircraft in which tn. set is installed:

| Control | Function |
|---|---|
| **Master power on-off switch.** | When actuated (in), applies power to the dynamotor and INT signal distribution panels. Also makes power available for use by the **fm liaison set.** |
| **FM push-pull circuit breaker.** | When in the on **position, power is made available to the fm push-pull circuit breaker.** |
| **Microphone switch.** | **Normally a two-position switch. In one position, it energizes the transmitter; in the other position, it deenergizes the transmitter,** |
| **Lights control . . . .** | **Varies the brilliance** of **the** panel lamps on the control panels. |
| **Squelch switch-..** | Permits squelching **of the fm liaison set.** |
| **Homing switch-..** | **Activates the homing circuits in the fm receiver-transmitter and permits homing operation; deactivates the transmitting facility.** |

**• Installed as part of the airframe only when Switch Assembly SA-474/AR is not included in the aircraft.**

## Section II. OPERATING INSTRUCTIONS

### 20. Types of Operation

*a.* The fm liaison set is operated remotely from the aircraft cockpit through the use of the FM control panel and the INT signal distribution panel. Depending on the setting of the various controls, the fm liaison set can be operated as an fm receiver-transmitter, an fm homing receiver, or as an interphone system.

*b.* The RECEIVERS 2, 3, NAV, and MB switches on the INT signal distribution panel are used to connect additional receivers through the INT signal distribution panels. For the application of these switches, refer to the applicable aircraft electronic communication configuration manual that covers the other facilities that are used with the AN/ARC-44.

*c.* To operate the equipment for any particular type of operation, perform the following:

(1) Starting procedure (para 21).
(2) Procedure for interphone operation (para 22).
(3) Procedure for fm liaison set operation (para 23).
(4) Procedure for fm homing (para 37b).
(5) Stopping procedure (para 23c).

### 21. Starting Procedure

*a. Preliminary.* Set the various controls as follows :

| Control | Position |
|---|---|
| Master power on-off switch | off . |
| Fm push-pull circuit breaker[a] | off . |
| Squelch switch[b] | off. |
| Homing switch[b] | Communication position. |
| RECEIVERS switches (fig. 11) | All in down (off) positions. |
| Headset and receiver VOL controls (figs. 11 and 12). | Full counter-clockwise. |
| TRANS selector switch (fig. 11) | INT. |
| Power ON-OFF switch (fig. 12) | OFF. |
| REM-LOCAL switch (fig. 12) | LOCAL. |
| 1/10 and whole megacycle FREQ selector switches (fig. 12). | Rotate for desired frequency. |
| HOME, SQUEL, and SPARE switches[c] (fig. 13). | All switches in the off (down) position. |

a. Part of aircraft power circuitry.
b. Used only when Switch Assembly SA-4'74/AR is not installed in the aircraft.
c Normally installed in aircraft when Antenna Group AN/ ARA-31 is used with the fm liaison set.

b. Starting.

(1) Place the aircraft master power on-off switch to its on position.
(2) Actuate the aircraft fm push-pull circuit breaker.
(3) Set the squelch switch to off (down) position.
(4) Set the homing switch to the communication position.
(5) Allow the INT signal distribution panel to warm up for approximately 3 minutes.
(6) Follow the procedures in paragraphs 22 and 23 for the desired type of operation.

### 22. Interphone Operation

*a.* From either the pilot or copilot positions, press the microphone switch.

*b.* Speak into the microphone; sidetone will be heard in the pilot and copilot headsets.

*c.* Adjust the INT signal distribution panel headset VOL controls for comfortable audio in the headset.

*Note.* It is not necessary for both INT signal distribution panels to be at INT. Sidetone and interphone communication will be heard at the other position whenever the operator place his switch in the INT position.

### 23. Fm Liaison Set Operation

*Note.* Refer to paragraph 21b for starting procedure.

*a. Reception.*

(1) On the operator's INT signal distribution panel (fig. 11), place the RECEIVERS 1 switch at up.
(2) Turn the VOL control on the INT signal distribution panel fully clockwise for maximum volume.
(3) On the FM control panel (fig. 12), place the power switch at ON. Allow approximately 2 minutes for warmup. Cycling (automatic frequency selection ) may take place in the fm receiver-transmitter. This will be indicated by a 400-cycle-per-second signal heard in the headsets. The tone lasts approximately 6 seconds,

(4) Be sure that the **REM-LOCAL** switch is at **LOCAL.**

*Note.* In a two FM control panel installation, the FM control panel not selected for LOCAL operation will automatically switch to REM when the power ON-OFF switch is set to ON. The FM control panel in the REM position will lose frequency control and frequency selection.

(5) Select the required frequency with the 1/10 and whole megacycle FREQ selector switches. Set the whole-megacycle FREQ selector switch (outer perimeter knob of the FREQ control) until the number appearing corresponds to the whole-megacycle number of the operating frequency. Set the inner 1/10 megacycle FREQ selector switch to the exact 1/10 megacycle.

(6) Turn the receiver VOL control on the FM control panel for maximum volume, and reduce the volume to a suitable listening level, if necessary, with the headset VOL control on the INT signal distribution panel (fig. 11).

(7) To eliminate background noise when no signal is being received, place the squelch switch (fig. 13) to the on (squelched) position.

(8) If the incoming signal is too weak, the reception can be improved by placing the squelch switch to the unsquelched (off) position to enable the reception of weak signals. Normally, the switch is on.

*b. Transmission.*

(1) Operate the fm liaison set for reception as indicated in a above.

(2) Check to be sure that the fm homing switch, if installed, is in the communication position.

*Note.* Refer to paragraph 37b for homing operation.

(3) On the INT signal distribution panel (fig. 11) of the operator desiring to transmit, turn the TRANS selector switch so that 1 appears in the window just above the switch.

*Note.* With the TRANS selector switch in the 1 position, interphone operation is overridden during transmission.

(4) Transmit by depressing the microphone switch to the communication position. Keep it depressed while speaking.

(5) Release the microphone switch to receive the return transmission.

c. *Stopping.*

*(1)* Set the power switch on the FM control panel (fig. 12) to OFF.

(2) On the INT signal distribution panel (fig. 11), place the RECEIVERS 1 switch to its down (off) position and the TRANS selector switch in the INT position.

(3) If the entire communication facility is to be shut down completely, proceed as follows:

*(a)* Set the master power on-off switch to its off position.

*(b)* Pull the fm push-pull circuit breaker out.

## CHAPTER 3

## PREFLIGHT (DAILY) INSPECTION

### 24. General

*a.* The operator's inspections listed in paragraph 25 and 26 below supplement the inspection procedures in the pilot's preflight checklist. The operator's inspections consist of checking the fm liaison set for flight preparedness by performing a visual inspection (para *25b)* to discover defects and an operational check (para 26) to verify serviceability. The inspections listed should be accomplished prior to the first flight of the day, as called for by local standard operating procedure, or as indicated in the flight manual covering the aircraft in which this equipment is installed.

*b.* The pilot or copilot should report any malfunction or failures noted in flight and any discrepancy noted in the preflight inspection on DD Form 781–2.

### 25. Inspections for l ll Flights

*a. Exterior Inspection.* While making the exterior walkaround inspection of the aircraft, check the communication antenna and the fm homing antennas (if installed) for cracked insulators, broken elements, loose mounting, damaged insulation, and frayed cabling.

*b. Interior Inspection.* The interior inspection indicated below is to be performed on a daily basis and in accordance with the "On Entering the Airplane" checklist contained in the applicable Pilot's Flight Handbook. This inspection ((1) through (4) below) is an extension of the tests given in the handbook.

(1) Visually inspect the fm liaison set for completeness, evidence of damage, and security of mounting and safety wiring.

(2) Check all control panels for loose or binding knobs.

(3) Check shock mounts for cracks, corrosion, loose attaching bolts or rivets, deterioration of rubber, and loose or missing bonding.

(4) Check operational controls for loose or missing knobs and for proper operation. Insure that all controls and switches are in the positions indicated in paragraph 21a.

### 26. Preflight Inspection, Power On

*a. General.* The following preflight tests should be made during engine warmup as an extension of the "Ground Tests" in the applicable Pilot's Flight Handbook. The pilot or copilot should perform the tests *(b* through *d* below) in the order given. While performing these tests, check for the following:

(1) Clarity of sidetine (c(27) and *d* (6) below) .

(2) Clarity of received signal (c(2) and d(6) below).

(3) Ease of tuning (d(3) and (6) below).

(4) Accuracy of tuning (d(3) and (6)).

(5) Operation of controls, smooth with no erratic indication of binding *(b,c* and d below).

(6) Clarity of transmission (d(3) below).

(7) Performance of homing facility, if installed (d(9) below).

*b. Preliminary.*

(1) Place the aircraft master power on-off switch to its on position.

(2) Actuate the aircraft fm push-pull circuit breaker.

c. *Interphone.*

(1) Place the TRANS selector switch (fig. 11) on both INT signal distribution panels to the INT position.

(2) Press the microphone switch to the interphone position and speak into the microphone. Sidetone should be heard in the headset-microphone. The test communication should also be heard at the other position.

(3) Adjust the volume control of each INT signal distribution panel to a comfortable level.

(4) Repeat the procedure in (2) above from the copilot's position. The test communication should now be heard at the pilot's position.

*d. Fm Liaison Set.*

(1) On the FM control panel, (fig. 12),

place the power ON-OFF switch to the ON position.

(2) On the pilot's INT signal distribution panel, (fig. 11), place the RECEIVERS 1 switch to the on (up) position.

(3) Turn the FM control panel frequency selector switches to a known fm station transmission.

*Note.* A 400-cycle tone will be heard in the headsets when changing channels.

(4) On the INT signal distribution panel, turn the headset VOL control for maximum volume and use the receiver VOL control on the FM control panel to regulate the audio output. Readjust the INT signal distribution panel headset VOL control, if necessary.

(5) On the pilot's INT signal distribution panel, place the RECEIVERS 1 switch in the off (down) position, and place the TRANS selector switch in the 1 position.

(6) On the FM control panel, tune to a local fm station, and establish communication. While communicating with the station, check operation of the squelch circuit by operating the squelch switch back and forth. When no signal is being received and the squelch switch is placed in the on position, background noise will not be heard; in the off position, background noise is heard.

(7) Repeat the instruction in (6) above for several different frequencies. if possible.

(8) Repeat (2) through (6) above from the copilot's position.

*Note.* If Antenna Group AN/ARA–31 is not installed, omit (9) (a) through (c) below.

(9) To test the fm homing facility, proceed as follows:

*(a)* Place the homing switch (para 19) at the homing position.

(b) A steady tone, U (..-) or D (-..), should be heard in the headset-microphones, depending on the location of the aircraft with respect to the transmitting station. (Refer to figure 15. )

(c) Return the homing switch ( (a) above ) to the off position.

(10) To shut down the fm liaison set, proceed as follows:

(a) Place the FM control panel power switch to its OFF position.

(b) Place the INT signal distribution panel TRANS selector switch to the INT position.

(c) Pull the aircraft fm push-pull circuit breaker out.

(d) Set the aircraft master power on-off switch to its off position.

## CHAPTER 4

## ORGANIZATIONAL MAINTENANCE

### 27. Scope of Organizational Maintenance

Organizational maintenance of the fm liaison set, as performed by the organizational repairman or crew chief, consists of preventive maintenance, including mechanical and electrical checks and cleaning. Report all deficiencies, malfunctions, or abnormal conditions on DD Form 781-2 (para 2c). For the interval and more specific details for performing preventive maintenance on this equipment, refer to the applicable aircraft organizational maintenance manual. Paragraphs 29 through 32 provide general organizational maintenance procedures that should be used when performing preventive maintenance on this equipment. Removal and replacement instructions are provided in paragraph 33; adjustments to be made when the equipment is reinstalled in the aircraft after repairs or after the scheduled periodic pullout checks are given in paragraph 34.

### 28. Tools, Materials, and Test Equipment Required

The only tools, materials and test equipment required for performing organizational maintenance are as follows:

*a.* Multimeter AN/URM-105 (TM 11-6625–203-12).

*b.* Tool Equipment TE–41.

*c.* Cleaning Compound, Federal stock No. 7930–395-9542.

### 29. Preventive Maintenance Techniques

*a.* Use No. 000 sandpaper to remove rust and corrosion.

*b.* Use a clean, dry, lint-free cloth or a dry brush for cleaning. If necessary, wipe any parts, including electrical contacts by using a cloth moistened with cleaning compound; then wipe the cleaned parts dry with a clean dry cloth.

*Caution:* Cleaning compound is flammable and its fumes are toxic. Do not use near a flame; provide adequate ventilation.

### 30. Preventive Maintenance Instructions

*a.* Check for completeness and general condition of the fm receiver-transmitter, FM control panel, INT signal distribution panel, dynamotor, communication antenna, and mountings. Make sure no knobs, screws, or lamps are missing. Check both fuses in the dynamotor to see that they are 0.5 ampere and in good condition.

*b.* Remove dirt and moisture from the cases, component panels, antenna, mountings, air intake screen, wiring, cables, and connectors. Disconnect the plugs and jacks, clean their contacts, and reconnect them.

*c.* Inspect all metal surfaces on the cases, component panels, mountings, antenna, and connectors for rust and corrosion. Remove the rust and corrosion by using fine sandpaper.

*d.* Inspect the wiring, cords, cables, and shock mounts for cuts, kinks, breaks, fraying, and signs of excessive strain. Check all bonding straps and safety wire to assure that each component is properly grounded and properly safety wired.

*e.* Check all controls and accessible items (switches, knobs, connectors, pilot lights, fuseholders, screws, nuts, and bolts) to make sure that they are properly tightened. Tighten any item that is loose.

*f.* Inspect all controls for easy operation.

*g.* Check for normal operation of the fm liaison set (para 31) from the pilot position and the copilot position.

### 31. Equipment Performance Checklist

*a. General.* The equipment performance checklist is used to systematically check the performance of the fm liaison set. All corrective measures which the organizational repairman can perform are given in the *Corrective* measures column. When using the checklist to verify serviceability of the equipment, start at the beginning and follow each step in sequence. Successful completion of the checklist indicates that the equipment is operating in a satisfactory manner. When using the performance checklist, first determine from DD Form 781–2 the cause or symptom of failure, Get firsthand information from the pilot or copilot on how

the equipment was operating just before failure. Perform the preparatory procedures given in c below before beginning. If trouble is found and the corrective measures indicated do not correct the cause, troubleshooting is required by a higher echelon. On DD Form 781-2 note the symptoms, how the equipment performed, and what corrective measures were taken.

1). *Auxiliary Power*. Before attempting to operate the fm liaison set, be sure that an external power supply is connected to the aircraft. The receptacle for connecting the external power supply is normally on the left side of the fuselage; refer to the applicable aircraft technical manual for exact location, When the external power source is connected to the aircraft, the aircraft battery is isolated from the aircraft electrical system.

***Warning:*** **When an external power supply is connected, the aircraft electrical system is energized regardless of the position of the aircraft battery switch.**

*c. Equipment Performance Checklist.*

| | Step | Unit | Action | Normal indication | Corrective measures |
|---|---|---|---|---|---|
| PREPARATORY | 1 | Both FM control panels (fig. 12). *Note.* If aircraft uses one FM control panel apply subsequent procedure appropriate to one FM control panel. | Set power switch to OFF. | | |
| | 2 | | Rotate receiver VOL control fully counterclockwise. | | |
| | 3 | | Set REM-LOCAL switch to LOCAL position on one panel. *Note.* If l ircraft uses only one FM control panel, leave REM-LOCAL switch in LOCAL throughout checklist and ignore further reference to it. | | |
| | 4 | | Rotate frequency selector switches until desired frequency appears in FREQ window. | | |
| | 5 | Both INT signal distribution panels (fig. 11). | | | |
| | 6 | | Set all RECEIVERS switches to their off (down) positions. | | |
| | 7 | | Rotate TRANS selector switch to INT. | | |
| | 8 | | Rotate headset VOL control fully counterclockwise. | | |
| | 9 | Switch panel (fig. 13) or equivalent. | Set FM HOME switch or equivalent to off position and, FM SQUELCH switch or equivalent to off position. *Note.* If Aircraft does not con. tain the switch panel, squelch switch squelch control) for the FM laision set is mounted separately. Refer to applicable configuration manua1 for its location | | |

| | Step | Unit | Action | Normal indication | Corrective measures |
|---|---|---|---|---|---|
| PERFORMANCE | 10 | Aircraft main power switch and appropriate circuit breakers. Refer to b above for application of auxiliary power. | Turn on main power switch and appropriate circuit breakers. Allow sufficient warmup time. | Characters, numerals, and panel lights on control panel and distribution panels glow. | Replace lamps.<br>Check to see if aircraft power is available at main power switch and circuit breakers. |
| | | | | Dynamotor rotates. | Check for 27.5 volts dc at dynamotor terminals H, L, and J on P101 (fig. 6). If no voltage is present, check wiring leading to terminals. If voltage is present, replace dynamotor (para 33i and j). |
| | | | | Fan motor in fm receiver-transmitter operates. | Check 27-volt ac supply from dynamotor at terminals V and X on P815 (fig. 3).<br>*Note.* Fan in fm receiver-transmitter should exhaust air from rear of unit for proper air circulation. If fan draws in air at rear of unit, replace fm receiver-transmitter (para 33c and d). |
| | 11 | Either INT signal distribution panel (fig. 11). (Select either operating position in the aircraft. ) | Press microphone switch from selected operating position and speak into microphone. Listen on this position's headset and adjust headset VOL control to comfortable audio level. | Sidetone heard in headset. | Check fuse F101 in dy - namotor and replace if defective (fig. 6). Check headset-microphone by substitution. Replace INT signal distribution panel (para 336g and h). Check overall cabling between headset-microphone and INT signal distribution panel. Check microphone switch and associated circuitry. |
| | 12 | Other INT signal distribution panel (fig. 11) (other operating position in the aircraft). | Press microphone switch from this operating position and speak into microphone. Listen on this position's headset and adjust headset VOL control to comfortable audio level. | Sidetone heard in headset. | Check headset-microphone by substitution. Replace INT signal distribution panel (para 33g and h). Check overall cabling between headset-microphone and INT signal distribution panel. Check microphone switch and associated circuitry. |
| | 13 | | From either operating position, press microphone switch and speak into microphone while listening to headset in other operating position. | Audio heard in headset. | First replace one INT signal distribution panel (para 33g and h). If audio is not heard in headset, then replace other INT signal distribution panel. Check cabling between distribution panels. |
| | 14 | | From other operating position, repeat step 13 above: | Same as step 13. | Same as step 13. |

| | Step | Unit | | Normal indication | Corrective measures |
|---|---|---|---|---|---|
| PERFORMANCE | 15 | Both INT signal distribution panels (fig. 11). | Rotate TRANS selector switch to position 1 and RECEIVERS 1 switch to on (up) position. *Note.* It is assumed that fm receiver-transmitter is wired to 1 positions of INT signal distribution panels ; however, check aircraft frequency card to be sure. | | |
| | 16 | Either FM control panel (fig. 12) ( select either operating position corresponding to the FM control panels). | Set REM-LOCAL switch to LOCAL. Rotate frequency selector switches to frequency of local fm ground station. Set ON-OFF switch to ON position. Allow sufficient warmup time. Adjust receiver VOL control to comfortable audio level. | Characters, numerals, and panel lights glow. | Check cable connection to FM control panel, Replace defective lamps. |
| | | | | 400-cps cycling tone heard in headset while fm receiver-transmitter is cycling to frequency selected: | If 400-cps cycling tone lasts longer than 10 seconds, turn ON-OFF switch to OFF. Check cable connections to fm receiver-transmitter and FM control panel. Replace fm receiver-transmitter (para 33c and d). |
| | | | | Noise or fm communications heard in headset. | Check cable connections between INT signal distribution panel, FM control panel, and fm receiver-transmitter. Replace FM control panel (para 33e and f). Replace fm receiver-transmitter (para 33c and d). Check overall wiring between these units. |
| | 17 | | From the operating position selected in step 16 above, press the microphone switch, speak into the microphone and establish fm communications. | Reliable fm communications established. | No transmission: Check fuse F102 in dynamotor and replace if defective. If second fuse blows, replace fm receiver-transmitter (para 33c and d). Check cable connections for fm control panel, INT signal distribution panel, and fm receiver-transmitter. Replace FM control panel (para 33e and f). Check overall wiring between these units. |
| | | | | | No reception: same as step 16 above. |
| | 18 | Other FM control panel (fig. 12). *Note.* If aircraft has only one FM control panel installed, proceed to step 19 below. | Same as step 16 above. | Same as step 16 above. | Check cable connections to FM control panel. Replace FM control panel (para 33e and f). Check overall wiring to FM control panel. |
| | 19 | Switch panel (fig. 13). *Note.* If l ircraft does not have the homing facility Installed. proceed to step 21 below. | Set homing switch to (up) position, Select fm station, preferably one with a known relative bearing. | Keyer motor starts running. A coded D (- . .) or U (.. -) 400-cps signal or a continuous 400-cps signal is heard in headset, de- | If no 400-cps tone signal is heard, replace fm receiver-transmitter (para 33c and d). Replace the switch assembly. If no homing signal is heard, check for |

| | Step | Unit | Action | Normal indication | Corrective measures |
|---|---|---|---|---|---|
| PERFORMANCE | | | | pending on aircraft heading. | fm communications by setting homing switch to off position. If fm communications is present, check homing antenna system; replace Keyer KY-149/AR. |
| | 20 | | Set homing switch to off position. Set squelch to on position and then to off position. | Considerable decrease in receiver noise when squelch is set to on position. Abrupt increase in receiver noise when set to off position. | Check FM SQUEL switch and switch assembly and connections to fm receiver-transmitter. Check squelch adjustment on fm receiver-transmitter (para 34). |
| — | — | | | | |
| STOP | 21 | Both FM control panels (fig. 12). | Set power ON-OFF switch to OFF position. | | Check power ON-OFF switch and if defective, replace FM control panel (para 33e and f). |
| | 22 | Aircraft main power switch and appropriate circuit breakers. | Turn off main power switch and appropriate circuit breakers. | Character, numerals, and panel lights cease to glow. Dynamotor stops operating and INT signal distribution panels are turned off. (Fan motor stops.) | Check for defective power switch and circuit breakers. |
| — | — | | | | |

## 32. Maintenance of Dynamotor

*a. General* Organizational maintenance of the dynamotor consists of inspection, replacement of fuses, brushes, brush caps, and replacement of the dynamotor when it becomes defective. Instructions for the inspection and replacement of dynamotor brushes and brush caps are given in *a* below. Instructions for the removal and replacement of the dynamotor are given in paragraphs 33i and j.

*b. Inspection, Removal, and Replacement of Brushes and Brush Caps (fig. 6).*

*Note.* When removing the dynamotor brushes, observe the markings and relative position of each brush with respect to its holder. Each brush is marked with its polarity on one side and with a brush wear line on the other. Replace each brush in the same position and in the same brush holder from which it was removed. The polarity mark should always face up when the brush is in its holder. Proper replacement of brushes results in smoother operation of the dynamotor,

(1) Unscrew the brush cap from its respective holder assembly and observe the brush spring tension. If the brush spring tension is weak, replace the brush assembly with a new one.

(2) Remove the brush assembly from its holder and observe the condition of the brush. If the brush is chipped, broken, or worn to brush wear line, replace it with a new brush assembly.

(3) Before replacing the brush caps after inspection and replacement of brushes, note the condition of each cap. Replace the cap with a new one if it is nicked, broken, or damaged.

## 33. Removal and Replacement of Fm liaison Set

*a. General.* This paragraph contains general removal and replacement procedures of all the components of the fm liaison set authorized to be replaced in the aircraft at the organizational maintenance level. When it has been determined by troubleshooting that a major component is malfunctioning or inoperative, replace it with a serviceable unit. Since installations of this equipment may vary in different aircraft, it may be necessary to refer to the appropriate aircraft or configuration technical manuals to accomplish removal and replacement of these components.

*b. Safety Wiring.* When the components

are reinstalled, be sure that holddown bolts, mounting nuts, and appropriate plugs and connectors are properly safety wired.

*c. Removal of Fm Receiver- Transmitter* (fig. 3).

(1) Disconnect antenna cable from plug P803A on the front of the fm receiver-transmitter.
(2) Cut and remove the safety wire from the mounting screws.
(3) Unscrew both mounting screws from their mounting blocks at the front of the fm receiver-transmitter; turn both screws simultaneously and at the same rate.
(4) Slide the fm receiver-transmitter forward and upward and remove it from the receiver-transmitter mounting.

*d. Replacement of Fm Receiver- Transmitter* (fig. 3).

(1) Carefully place the fm receiver-transmitter on the receiver-transmitter mounting.
(2) Slide the fm receiver-transmitter to the rear of the shock mount until the guide pins mate and plug P815 and receptacle J815 properly engage.
(3) Screw in the mounting screws and secure the fm receiver-transmitter to the shock mount. Safety-wire the two mounting screws.
(4) Connect the antenna cable to plug P803A on the front of the fm receiver-transmitter.

*e. Removal of FM Control Panel* (fig. 5).

(1) Unscrew the four Dzus fasteners that mount the FM control panel.
(2) Withdraw the FM control panel far enough to reach the spring lock fasteners that secure the panel connector to the rear of the panel.
(3) Unscrew the spring lock fasteners and disconnect the panel connector from receptacle J201.
(4) Remove the FM control panel.

*f. Replacement of FM Control Panel* (fig. 4).

(1) Connect the panel connector to receptacle J201 and tighten the spring lock fasteners that secure the connector to the rear of the FM control panel.
(2) Set the FM control panel in place and tighten the four Dzus fasteners that mount the panel.

*g. Removal of INT Signal Distribution Panels* (fig. 5). Each panel is removed in the same manner as follows:

(1) Unscrew the four Dzus fasteners that mount the INT signal distribution panel.
(2) Withdraw the INT signal distribution panel far enough to reach the spring lock fasteners that secure the panel connector to the rear of the INT signal distribution panel.
(3) Unscrew the spring lock fasteners and disconnect the panel connector from receptacle J301.
(4) Remove the INT signal distribution panel.

*h. Replacement of INT Signal Distribution Panel* (fig. 5).

(1) Connect the panel connector to receptacle J301 and tighten the spring lock fasteners that secure the connector to the rear of the INT signal distribution panel.
(2) Set the INT signal distribution panel in place and tighten the four Dzus fasteners that mount the INT signal distribution panel.

*i. Removal of Dynamotor* (fig. 6 and 7).

(1) Cut and remove the safety wire from the mounting screws.
(2) Unscrew the mounting screws.
(3) Slide the dynamotor forward to disconnect the connectors and guide pins at the rear of the dynamotor mounting.
(4) Slide the dynamotor forward and out of the guide rail to remove it from the mounting.

*j. Replacement of Dynamotor* (fig. 6 and 7).

(1) Carefully place the dynamotor on its mount by sliding it to the rear until the connectors and guide pins properly engage.
(2) Screw in the mounting screws to secure the dynamotor to the mounting,
(3) Safety-wire the mounting screws to prevent them from loosening.

*k. Removal of Communication Antenna* (fig. 8).

(1) Disconnect the coaxial connector from the base.
(2) On the base, loosen the ¼-inch Allen setscrew and the 1-inch whip tightening nut (5/8-inch on A models).
(3) Unscrew and remove the communication whip.
(4) Remove the six screws that hold the base and gasket to the aircraft.
(5) Remove the base and the gasket.

*l. Replacement of Communication Antenna* (fig. 8).

(1) Replace the gasket and base and secure them to the aircraft with the six screws.
(2) Screw the whip in the base and tighten the ¼-inch Allen setscrew and the l-inch tightening nut (5/8-inch on A models).
(3) Connect the coaxial connector to the base.

## 34. FM Receiver-Transmitter Squelch Adjustment

The SQUELCH control for the fm receiver-transmitter is located above the handle on the left side of the front panel (fig. 3). The control is behind a sliding panel that can be manually raised by moving the slide button adjacent to the SQUELCH control. The SQUELCH control is adjusted as follows:

*a.* Place the fm receiver-transmitter in the receive condition (para 23) with no signal input by disconnecting the antenna cable from plug P803A.

*b.* Set the squelch switch on the switch panel (fig. 13) to its off position.

*Note.* When the squelch switch is in its on position, the receiver squelch circuits are used. When it is in the off position, an external bias voltage is applied to the receiver, disabling the receiver internal squelch circuits.

*c.* Adjust the background noise in the headsets to a comfortable level; use the headset VOL control on the INT signal distribution panel (fig. 11) or the receiver VOL control on the FM control panel (fig. 12).

*d.* Rotate SQUELCH control (fig. 3) on the fm receiver-transmitter to its maximum counterclockwise position.

*e.* Set the squelch switch on the switch panel (fig. 13) to its on position.

*f.* Rotate the SQUELCH control clockwise to the position where the background noise just cuts out. *Do not rotate the control beyond this point.*

*g.* Check the squelch setting on several other frequencies. If all frequencies selected are not fully squelched, turn the SQUELCH control slightly more clockwise.

*h.* Remove power from the fm liaison set and reconnect the antenna cable to plug P803A.

## CHAPTER 5

## AUXILIARY EQUIPMENT

### 35. Introduction

*a.* Antenna Group AN/ARA-31 and Switch Assembly SA-474/AR are used as auxiliary equipment to extend the operational use of the fm liaison set. This equipment respectively provides the fm liaison set with homing operation and remote switching operation for homing and for squelch control of the fm receiver-transmitter.

*b.* The description and operation of SA-474/AR and Antenna Group AN/ARA-3l are covered in paragraphs 36 and 37. Removal and replacement instructions for Switch Assembly SA–474/AR are also included in paragraph 36c.

*Figure 13. Switch Assembly* SA-464/AR.

*c.* Complete description, operation, and organizational maintenance for Antenna Group AN/ARA-31 are covered in a separate Depart ment of the Army publication.

### 36. Switch Assembly SA-474/AR
(fig. 13)

*a. Description.* The switch panel is a separately housed unit containing five front panel switches. All five switches are wired to receptacle J1801 on the rear of the switch panel. All switch functions are indicated on the front panel. Only two of these switches function as part of the fm liaison set; the other three are designated as spares. Two panel lights edgelight the front panel The switch panel is flush mounted by means of four Dzus fasteners located on the sides of the panel mounting plate. Two panel mounting screws secure the plastic panel to the panel mounting plate. All external connections are made through receptacle J1801 on the rear of the switch panel.

*b. Control Function.* The following chart lists the switch panel controls and indicates their functions.

| Control | Function |
|---|---|
| FM HOME toggle switch. | In the on position, this switch energizes the homing circuits, disconnects the communication antenna, connects the homing antennas through Keyer KY-149(•)/AR (para 37a(2) to the fm receiver-transmitter input, and disables the microphone switch. In the off position, homing operation is disabled, and the fm liaison set returns to normal receiving operation. |
| FM SQUEL toggle switch. | In the off position, receiver output is unsquelched. In the on position, squelch circuits operate. |
| SPARE toggle switches. | Not used with the fm liaison set, tronic equipment installed in the aircraft. |

*Note.* Refer to paragraph *37b* for homing operation.

*c. Replacement* and *Removal of Switch Panel (fig. 13).*

(1) Removal.

*(a)* Unscrew the four Dzus fasteners that mount the switch panel.

*(b)* Withdraw the switch panel far enough to reach the spring lock fasteners that secure the panel connector to the rear of the switch panel.

*(c)* Unscrew the spring lock fasteners and disconnect panel connector P1801 from receptacle J1801.

*(d)* Remove the switch panel,

(2) *Replacement.*

*(a)* Connect panel connector P1801 to receptacle J1801 and tighten the spring lock fasteners that secure the panel connector to the rear switch panel.

*(b)* Set the switch panel in place and tighten the four Dzus fasteners that mount the switch panel.

### 37. Antenna Group AN/ARA41

*a. Description (fig.* 14).

(1) Antenna Group AN/ARA-31 consists of Keyer KY-149(*)/AR, Mounting MT-1620/AR, two Networks, Impedance Matching CU-459/AR, and four Antenna Elements AT-624(*)/AR. Two Antenna Elements AT-624 (*) /AR and one Network, Impedance Matching CU-459/AR make up a homing antenna. There are two identical homing antennas: one for the left side of the aircraft, and one for the right side.

(2) Keyer KY-149(•)/AR is a separately housed unit mounted on Mounting MT–1620/AR which is a flat mounting base. The keyer is enclosed by a sliding cover which is held in place by a single spring lock fastener on the rear of the cover. The front panel of the keyer contains four coaxial connectors and a two-pin connector for a 28-volt power input. The keyer is secured to the mounting by two mounting screws located at the f rent of the unit.

(3) Network, Impedance Matching CU-459/AR has a bullet-shaped, black nylon shell. Two antenna connectors are mounted on the outer surface of the bullet, one on each side. All the components within the bullet housing are permanently sealed to prevent changes in impedance characteristics

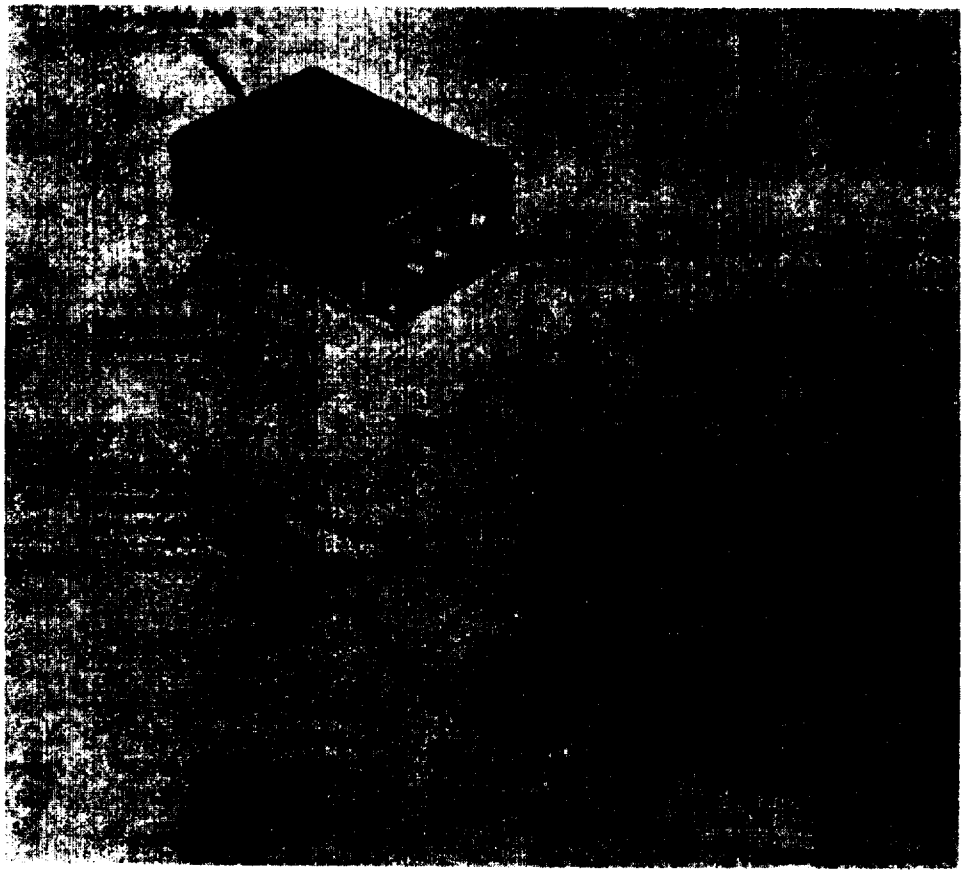

*Figure 14. Antenna Group AN/ARA–31.*

which might be caused by a shifting of the components' positions.

*b. Operation.* Place the fm liaison set in operation as instructed in paragraphs 21 through 23.

(1) Set the FM HOME toggle switch on the switch panel to its on position (fig. 13).

(2) Rotate the frequency selector switches on the FM control panel to the desired operating frequency. The coded D and U signals or steady 400-cps on-course tone should be present in the operator's' headset-microphone (or both operators' headset-microphones in a two-position installation).

(3) Three types of signals that are heard when using the homing facility are given below. Each signal has a specific meaning to the pilot. Figure 15 gives an illustrative example of homing signal use.

| Signal | Meaning |
|---|---|
| A keyed 400-cps tone with the code character D — "dah-dit-dit" predominant. | The transmitting station to which I am tuned is on the left (port-side ) of the course that I am heading. I must turn to the left until my headset-microphone signal changes to a steady 400-cps tone. |
| A keyed 400-cps tone with the code character U _ "dit-dit-dab" predominant. | The transmitting station to which I am tuned is on the right (starboard side) of the course that I am heading. I must turn to the right until my headset-phone signal changes to a steady 400-cps tone. |
| A steady 400-cps tone*. | I am heading directly toward the transmitting station to which I am tuned. |

* it is possible that, when a steady 400-cps tone is heard, the aircraft is heading directly l way from the station. By flying to the right or left of the on-course heading, the l rror may be corrected by following the directions for reception of D and U signals.

(4) Turn off the equipment as instructed in the stopping procedure (para 23c).

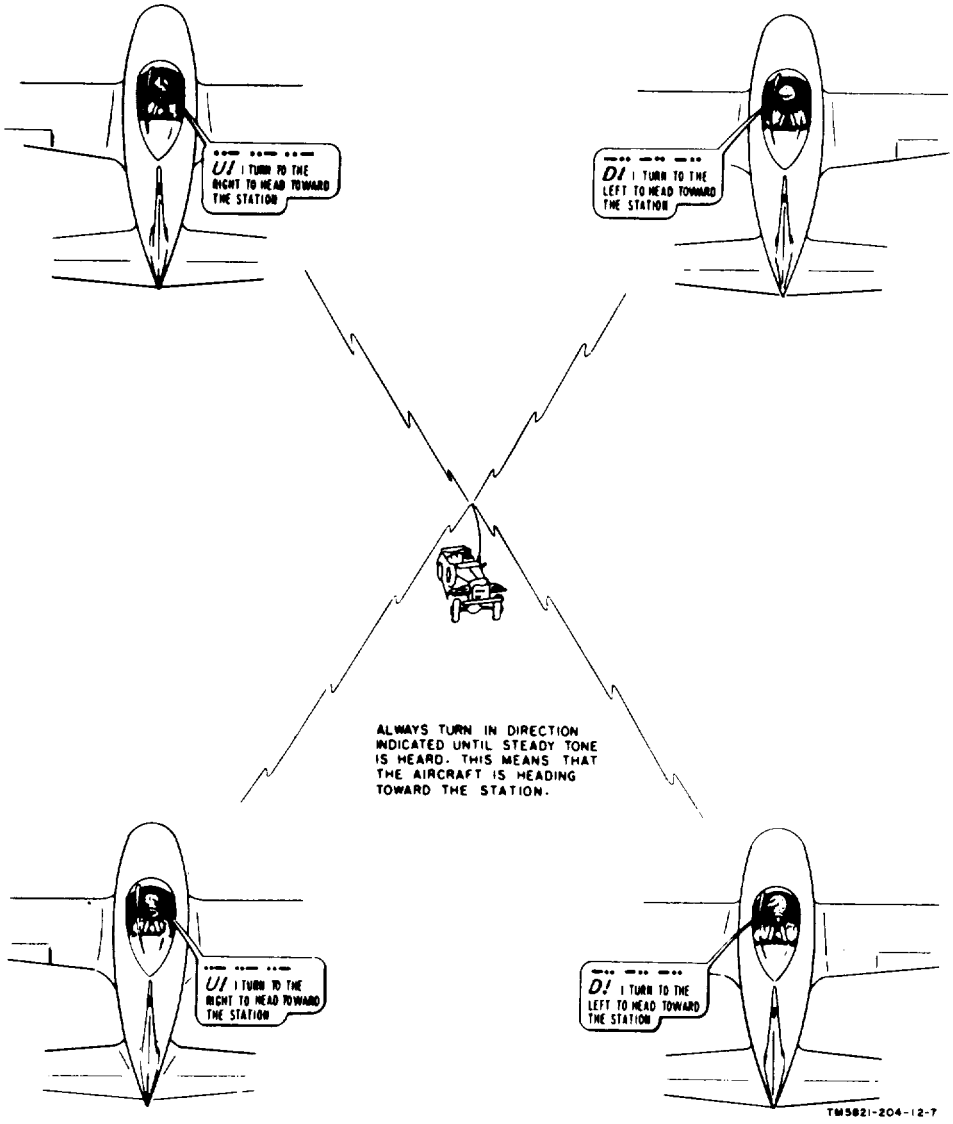


*Figure 15. Identifying homing signals.*

## CHAPTER 6

## DEMOLITION OF MATERIEL TO PREVENT ENEMY USE

### 38. Authority for Demolition

Demolition of the equipment will be accomplished only upon the order of the commander. The destruction procedures outlined in paragraph 39 will be used to prevent further use of the equipment.

### 39. Methods of Destruction

Use any of the following methods to destroy the equipment.

*a. Smash.* Smash the controls, tubes, coils, switches, capacitors, and transformers; use sledges, axes, handaxes, hammers, or crowbars.

*b. Cut.* Cut the output and power cord and slash the rf shield; use axes, handaxes, or machetes.

*c. Burn.* Burn cords and technical manuals; use gasoline, kerosene, oil flamethrowers, or incendiary grenades.

*d. Bend.* Bend panels and cases.

*e. Explode.* If explosives are necessary, use firearms, grenades, or TNT.

*f. Dispose.* Bury or scatter the destroyed parts in slit trenches, foxholes, or throw them into streams.

## APPENDIX I

## REFERENCES

| | |
|---|---|
| TM 11-5965-215-15P | Repair Parts and Special Tools List and Maintenance Allocation Chart: Headset-Microphones H-101/U and H-10/A/U. |
| TM 11–6125-204-12P | Operator's and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart: Dynamotor DY-107/AR, DY-107A/AR. |
| TM 11-6626-203-12 | Operation and Organizational Maintenance: Multimeter AN/URM-105, including Multimeter ME-77/U. |

## APPENDIX II

## MAINTENANCE ALLOCATION CHART FOR RADIO SET AN/ARC-44

### 1. General

*a.* This appendix assigns maintenance functions and repair operations to be performed by the lowest appropriate maintenance echelon.

*b.* Columns in the maintenance allocation chart are as follows:

(1) *Part or component.* This column shows only the nomenclature or standard name. Additional descriptive data are included only where clarification is necessary to identify the part. Components and parts comprising a major end item are listed alphabetically. Assemblies and subassemblies are in alphabetical sequence with their components listed alphabetically immediately below the assembly listing.

(2) *Maintenance function.* This column indicates the various maintenance functions allocated to the echelon capable of performing the operations.

*(a) Service.* To clean, to preserve, and to replenish fuel and lubricants.

*(b) Adjust.* To regulate periodically to prevent malfunction.

*(c) Inspect.* To verify serviceability and to detect incipient electrical or mechanical failure by scrutiny.

*(d) Test.* To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, etc.

*(e) Replace.* To substitute serviceable assemblies, subassemblies, and parts for unserviceable components.

*(f) Repair.* To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to, inspecting, cleaning, preserving, adjusting, replacing, welding, grinding, riveting, and straightening,

*(9) Align,* To adjust two or more components of an electrical system so that their functions are properly synchronized.

*(h) Calibrate.* To determine, check, or rectify the graduation of an instrument, weapon, or weapons system, or components of a weapons system.

*(i) Rebuild. To* restore an item to a standard as near as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements using original manufacturing tolerances and/or specifications, and subsequent reassembly of the item,

(3) *1st, 2d, 3d, 4th, 5th echelon.* The symbol X indicates the echelon responsible for performing that particular maintenance operation, but does not necessarily indicate that repair parts will be stocked at that level. Echelons higher than the echelon marked by X are authorized to perform the indicated operation.

(4) *Tools required.* This column indicates codes assigned to each individual tool equipment, test equipment, and maintenance equipment referenced. The grouping of codes in this column of the chart indicate the tool, test, and maintenance equipment required to perform the maintenance function.

(5) *Remarks.* Entries in this column will be utilized when necessary to clarify any of the data cited in the preceding columns.

*c.* Columns in the section allocation of tools for maintenance functions are as follows:

( 1 ) *Tools required for maintenance functions.* This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

*(2) 1st, 2d, 3d, 4th, 5th echelon.* A dagger

(†) indicates the echelons allocated the facility.

(3) *Tool code.* This column lists the tool code assigned.

(4) *Remarks*. Entries in this column are used to clarify data in the other columns.

**2. Maintenance by Using Organizations**

When this equipment is used by signal service organizations organic to theater headquarters or communication zones to provide theater communications, those maintenance functions allocated up to and including fourth echelon are authorized to the organization operating this equipment.

**3. Mounting Hardware**

The basic entries of the maintenance allocation chart do not include mounting hardware such as screws, nuts, bolts, washers, brackets, and clamps.

# MAINTENANCE ALLOCATION CHART FOR RADIO SET AN/ARC-44

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| **RADIO SET AN/ARC-44** | service | | X | | | | | |
| | | | | X | | | 22 | |
| | adjust | | X | | | | 21, 25, 11, 17 | |
| | | | | X | | | 22, 3, 8, 17, 2, 24, 9, 4, 14, 16 | |
| | | | | | X | | 22, 3, 8, 2, 17, 1, 24, 10, 9, 5, 6, 7 | |
| | inspect | | X | | | | | |
| | | | | X | | | 22 | |
| | test | | | X | | | 2, 3, 4, 8, 9, 12, 14, 15, 16, 17, 19, 22, 23, 24 | |
| | | | | | X | | 1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 15, 16, 17, 19, 20, 22, 23, 24 | |
| | | | | | | X | 1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 15, 16, 17, 18, 20, 22, 23, 24 | |
| | replace | | X | | | | 21 | |
| | repair | | | | X | | 22 | |
| | align | | | X | | | 22, 17, 3, 4, 24, 9 | Use codes 5, 6, and 7 at 4th and 5th echelons |
| | calibrate | | | X | | | 22, 17, 9 | Use code 7 at 4th and 5th echelon |
| | rebuild | | | | | X | 22 | |
| **MOUNTING MT-1268/AR** | service | | X | | | | | |
| | inspect | | X | | | | | |
| | test | | X | | | | 11 | |
| | replace | | X | | | | 21 | |
| **CONNECTOR** | replace | | | X | | | | |
| **LEAD, ELECTRICAL** | replace | | | X | | | | |
| **PIN, COTTER** | replace | | | X | | | | |
| **RACK ASSEMBLY** | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| **SHIELD, ELECTRICAL CONNECTOR** | replace | | | X | | | | |
| **SPRING** | replace | | | X | | | | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| PANEL, CONTROL SB-327/ARC-44 | service | | X | | | | | |
| | | | | X | | | 22 | |
| | adjust | | X | | | | 21 | |
| | | | | X | | | 22,9 | |
| | inspect | | X | | | | | |
| | | | | X | | | 22 | |
| | test | | | X | | | 22,3,23,9 | |
| | | | | | X | | 22,3,13,23,9 | |
| | replace | | X | | | | 21 | |
| | repair | | | | X | | 22 | |
| | align | | | X | | | 22 | |
| | rebuild | | | | | X | 22 | |
| ARMATURE ADJUSTMENT ASSEMBLY | replace | | | X | | | | |
| ARMATURE, RELAY | replace | | | X | | | | |
| ARM, SWITCH ACTUATOR | replace | | | X | | | | |
| BALL, BEARING | replace | | | X | | | | |
| BEARING, SLEEVE | replace | | | X | | | | |
| BLOCK, SPACING | replace | | | X | | | | Fabricate at 5th echelon |
| BRACKET | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| BUSHING, SLEEVE | replace | | | X | | | | Fabricate at 5th echelon |
| CAM ASSEMBLY | replace | | | X | | | | Fabricate at 5th echelon |
| CASE, CONTROL PANEL | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| CLAMP, LOOP | replace | | | X | | | | Fabricate at 5th echelon |
| COIL, ELECTROMAGNETIC ACTUATOR | replace | | | X | | | | |
| CONNECTOR | replace | | | X | | | | |
| DIAL | replace | | | X | | | | |
| DIAL, SCALE | replace | | | X | | | | |
| ESCUTCHEON PLATE | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| FELT, MECHANICAL PREFORMED | replace | | | X | | | | Fabricate at 5th echelon |
| HUB | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| GASKET | replace | | | X | | | | Fabricate at 5th echelon |
| KNOB | replace | | X | | | | | |
| LAMPHOLDER | replace | | | X | | | | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| LAMP, INCANDESCENT | replace | | X | | | | | |
| LINK ASSEMBLY | replace | | | X | | | | Fabricate at 5th echelon |
| PANEL | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| PIN | replace | | | X | | | | Replace at 5th echelon |
| PLATE ASSEMBLY | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| POST, MOUNTING | replace | | | X | | | | Fabricate at 5th echelon |
| RESISTOR | replace | | | X | | | | |
| RING, RETAINING | replace | | | X | | | | |
| SCREW, MACHINE (SPECIAL): H-238, H-239 and H-240 | replace | | | X | | | | |
| SHAFT | replace | | | X | | | | Fabricate at 5th echelon |
| SHIM | replace | | | X | | | | Fabricate at 4th echelon |
| SPACER, SLEEVE | replace | | | X | | | | Fabricate at 5th echelon |
| SPRING | replace | | | X | | | | |
| SPRING ASSEMBLY | replace | | | X | | | | Fabricate at 5th echelon |
| STUD ASSEMBLY, TURNLOCK, FASTENER | replace | | | X | | | | |
| SWITCH ASSEMBLY | replace | | | X | | | | |
| SWITCH HUB AND PLATE ASSEMBLY | replace | | | X | | | | Fabricate at 5th echelon |
| SWITCH, SECTION, ROTARY | replace | | | X | | | | |
| SWITCH | replace | | | X | | | | |
| TURNLOCK FASTENER ASSEMBLY | replace | | | X | | | | |
| WASHER, FLAT H-251 | replace | | | X | | | | |
| PANEL, SIGNAL DISTRIBUTION, RADIO SB-329/AR | service | | X | | | | | |
| | | | | X | | | 22 | |
| | inspect | | X | | | | | |
| | | | | X | | | 22 | |
| | test | | | X | | | 2,3,9,12,17, 22,23,19 | |
| | | | | | X | | 1,2,3,9,12,13,17, 22,23,19 | |
| | | | | | | X | 1,2,3,9,12,13,17, 22,23,18 | |
| | replace | | X | | | | 21 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | 22 | |
| CAPACITOR | replace | | | X | | | | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| CHASSIS, ELECTRICAL EQUIPMENT | replace | | | X | | | | |
| | repair | | | | X | | | |
| | rebuild | | | | | X | | |
| CLAMP, LOOP | replace | | | X | | | | Fabricate at 5th echelon |
| CONNECTOR | replace | | | X | | | | |
| COVER | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| ELECTRON TUBE | replace | | | X | | | | |
| ESCUTCHEON PLATE | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| FUSE, CARTRIDGE | replace | | X | | | | | |
| FUSEHOLDER | replace | | | X | | | | |
| GASKET | replace | | | X | | | | Fabricate at 5th echelon |
| KNOB | replace | | X | | | | | |
| KNOB ASSEMBLY | replace | | | X | | | | |
| LAMP, INCANDESCENT | replace | | X | | | | | |
| LAMPHOLDER | replace | | | X | | | | |
| PANEL | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| POST, MOUNTING | replace | | | X | | | | Fabricate at 5th echelon |
| RESISTOR | replace | | | X | | | | |
| RETAINER, ELECTRON TUBE | replace | | | X | | | | |
| SCREW, MACHINE (SPECIAL): H322 | replace | | | X | | | | |
| SHIM | replace | | | X | | | | Fabricate at 5th echelon |
| SOCKET ASSEMBLY, ELECTRON TUBE | replace | | | X | | | | Fabricate at 5th echelon |
| SOCKET, ELECTRON TUBE | replace | | | X | | | | |
| STRAP, RETAINING | replace | | | X | | | | Fabricate at 5th echelon |
| SWITCH | replace | | | X | | | | |
| TERMINAL BOARD | replace | | | X | | | | Fabricate at 5th echelon |
| TERMINAL LUG | replace | | | X | | | | |
| TERMINAL, STUD | replace | | | X | | | | |
| TRANSFORMER, AUDIO FREQUENCY | replace | | | X | | | | |
| TURNLOCK FASTENER, ASSEMBLY | replace | | | X | | | | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| RECEIVER-TRANSMITTER, RADIO RT-294/ARC-44; RT-294A/ARC-44; RT-294B/ARC-44 | service | | X | | | | | |
| | | | | X | | | 22 | |
| | adjust | | X | | | | 21, 25, 11 | |
| | | | | X | | | 22, 3, 8, 2, 17, 24, 9, 4, 14, 16 | |
| | | | | | X | | 22, 3, 8, 2, 17, 1, 24, 9, 16, 5, 6, 7 | |
| | inspect | | X | | | | 21 | |
| | | | | X | | | 22 | |
| | test | | | X | | | 2, 3, 4, 8, 9, 12, 14, 15, 16, 17, 19, 22, 23, 24 | |
| | | | | | X | | 1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 15, 16, 17, 19, 20, 22, 23, 24 | |
| | | | | | | X | 1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 15, 16, 17, 18, 20, 22, 23, 24 | |
| | replace | | X | | | | 21 | |
| | repair | | | | X | | 22 | |
| | align | | | X | | | 22, 17, 9, 7, 3, 4, 5, 24 | |
| | calibrate | | | X | | | 22, 17, 9, 7 | |
| | rebuild | | | | | X | 22 | |
| AMPLIFIER, AUDIO FREQUENCY | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | X | | | 22 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | | |
| CAPACITOR | replace | | | | X | | | |
| CHASSIS ASSEMBLY | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | | X | | 22 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | | |
| ELECTRON TUBE | replace | | | | X | | | |
| CONNECTOR, PLUG, ELECTRICAL | replace | | | | X | | | |
| CONNECTOR, RECEPTACLE, ELECTRICAL | replace | | | | X | | | |
| RESISTOR | replace | | | | X | | | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| AMPLIFIER, INTERMEDIATE FREQUENCY | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | X | | | 22 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | | |
| CAPACITOR | replace | | | | X | | | |
| COIL, ASSEMBLY, RADIO FREQUENCY | replace | | | | X | | | |
| CONNECTOR | replace | | | | X | | | |
| ELECTRON TUBE | replace | | | | X | | | |
| RESISTOR | replace | | | | X | | | |
| SHIELD, ELECTRON TUBE | replace | | | | X | | | |
| ARM, SWITCH ACTUATOR | replace | | | | X | | | |
| BALL, BEARING | replace | | | | X | | | |
| BASE. CHASSIS | replace | | | | X | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| BLOCK, SHOCK SUPPORT | replace | | | X | | | | Fabricate at 5th echelon |
| BRACKET | replace | | | | X | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| BUSHING | replace | | | X | | | | |
| BUTTON, SLIDE | replace | | | X | | | | Fabricate at 5th echelon |
| BUTTON, THRUST | replace | | | | X | | | Fabricate at 5th echelon |
| CABLE ASSEMBLY, RADIO FREQUENCY | replace | | | X | | | | |
| CONNECTOR, PLUG, ELECTRICAL | replace | | | X | | | | |
| CAM ASSEMBLY | replace | | | | X | | | Fabricate at 5th echelon |
| CAPACITOR | replace | | | | X | | | |
| CHASSIS SUB-ASSEMBLY | replace | | | | X | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| CLAMP, LOOP | replace | | | X | | | | Fabricate at 5th echelon |
| CLIP, SPRING TENSION | replace | | | X | | | | |
| COIL, RADIO FREQUENCY | replace | | | | X | | | |
| COLLAR | replace | | | | X | | | Fabricate at 5th echelon |
| CONNECTOR, PLUG; ELECTRICAL | replace | | | | X | | | |
| CONNECTOR, RECEPTACLE, ELECTRICAL | replace | | | | X | | | |
| CONTACT ASSY, ELECTRICAL | replace | | | | X | | | |
| COVER | replace | | | | X | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| CRYSTAL UNIT, QUARTZ | replace | | | X | | | | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| DOOR, SUB-ASSEMBLY | replace | | | | X | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| ELECTRON TUBE | replace | | | | X | | | |
| ELECTRON TUBE | replace | | | X | | | | Ref Symbol V901, V902 |
| FILTER, ASSY, OUTPUT | replace | | | X | | | | |
| FILTER ELEMENT, AIR | replace | | | X | | | | |
| GEAR, BEVEL | replace | | | | X | | | |
| GEAR, SPUR | replace | | | | X | | Gear Puller | |
| HINGE | replace | | | | X | | | |
| HOUSING, FAN | replace | | | | X | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| IMPELLER, FAN | replace | | | X | | | | |
| MOTOR, FAN | replace | | | X | | | | |
| PARTITION SUB-ASSEMBLY | replace | | | | X | | | Part of Rebuilding set, Fabricate at 5th ech. |
| | repair | | | | X | | | |
| PIN | replace | | | | X | | | Fabricate at 5th echelon |
| PLATE | replace | | | | X | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| POST, MOUNTING | replace | | | | X | | | Fabricate at 5th echelon |
| PUSH ON NUT | replace | | | X | | | | |
| RECEIVER-TRANSMITTER SUB-ASSEMBLY | service | | | X | | | | |
| (Limiter Discriminator) | inspect | | | X | | | | |
| | replace | | | X | | | 22 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | | |
| CAPACITOR | replace | | | | X | | | |
| COIL ASSEMBLY, RADIO FREQUENCY | replace | | | | X | | | |
| CONNECTOR | replace | | | | X | | | |
| ELECTRON TUBE | replace | | | | X | | | |
| RESISTOR | replace | | | | X | | | |
| SHIELD, ELECTRON TUBE | replace | | | | X | | | |
| SUPPRESSOR, PARASITIC | replace | | | | X | | | |
| RECEIVER-TRANSMITTER SUB-ASSEMBLY | service | | | X | | | | |
| (Noise Rectifier) | inspect | | | X | | | | |
| | replace | | | X | | | 22 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| CAPACITOR | replace | | | | X | | | |
| CONNECTOR | replace | | | | X | | | |
| DETECTOR, RADIO FREQUENCY | replace | | | | X | | | |
| ELECTRON TUBE | replace | | | | X | | | |
| RESISTOR | replace | | | | X | | | |
| SHIELD, ELECTRON TUBE | replace | | | | X | | | |
| RECEIVER-TRANSMITTER, SUB-ASSEMBLY (Side-step osc.) | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | X | | | 22 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | | |
| CAPACITOR | replace | | | | X | | | |
| CONNECTOR | replace | | | | X | | | |
| ELECTRON TUBE | replace | | | | X | | | |
| POINTER, DIAL | replace | | | | X | | | |
| RESISTOR | replace | | | | X | | | |
| SHIELD, ELECTRON TUBE | replace | | | | X | | | |
| SUPPRESSOR, PARASITIC | replace | | | | X | | | |
| TRANSFORMER, RADIO FREQUENCY | replace | | | | X | | | |
| RECEIVER-TRANSMITTER, SUB-ASSEMBLY (RF Head) | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | | X | | 22 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | | |
| CAPACITOR | replace | | | | X | | | |
| CONNECTOR | replace | | | | X | | | |
| ELECTRON TUBE | replace | | | | X | | | |
| RESISTOR | replace | | | | X | | | |
| SHIELD, ELECTRON TUBE | replace | | | | X | | | |
| TRANSFORMER, AUDIO FREQUENCY | replace | | | | X | | | |
| RECEIVER-TRANSMITTER, SUB-ASSEMBLY (Homing Amplifier) | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | X | | | 22 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | | |
| CAPACITOR | replace | | | | X | | | |
| COIL ASSEMBLY, RADIO FREQUENCY | replace | | | | X | | | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | | |
| CONNECTOR | replace | | | | X | | | |
| ELECTRON TUBE | replace | | | | X | | | |
| RESISTOR | replace | | | | X | | | |
| SHIELD, ELECTRON TUBE | replace | | | | X | | | |
| RECEIVER-TRANSMITTER SUB-ASSEMBLY (Tuning Drive) | service | | | X | | | | |
| | inspect | | | X | | | | |
| | replace | | | | X | | 22 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | | |
| CLUTCH, FRICTION | replace | | | | X | | | |
| CRYSTAL ASSEMBLY | replace | | | | X | | | |
| GEAR ASSEMBLY | replace | | | | X | | Gear puller | |
| MOTOR, D.C. | replace | | | | X | | | |
| MOUNTING, MOTOR | replace | | | | X | | | Fabricate at 5th echelon |
| MOUNTING PLATE | replace | | | | X | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| PIN | replace | | | | X | | | Fabricate at 5th echelon |
| RELAY | replace | | | | X | | | |
| SWITCH SECTION, ROTARY | replace | | | | X | | | |
| SWITCH, SENSITIVE | replace | | | | X | | | |
| RECEPTACLE, TURNLOCK FASTENER | replace | | | | X | | | |
| RELAY, ARMATURE | replace | | | X | | | | |
| RESISTOR | replace | | | | X | | | |
| RETAINER | replace | | | X | | | | |
| RING, RETAINING | replace | | | | X | | | |
| ROLLER, CAM | replace | | | | X | | | Fabricate at 5th echelon |
| SHAFT | replace | | | | X | | | Fabricate at 5th echelon |
| SHIM | replace | | | | X | | | Fabricate at 5th echelon |
| SOLENOID, ELECTRICAL | replace | | | X | | | | |
| SPACER, FLANGED | replace | | | | X | | | Fabricate at 5th echelon |
| SPACER | replace | | | | X | | | |
| SPRING | replace | | | X | | | | |
| STUD, HEX HEAD | replace | | | | X | | | |
| STUD, TURNLOCK FASTENER | replace | | | X | | | | |
| STRAP | replace | | | | X | | | Fabricate at 4th echelon |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AN/ARC-11 (continued) | | | | | | | | |
| SUPPORT SUB-ASSEMBLY | replace | | | | X | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| | rebuild | | | | | X | | |
| SWITCH, RF | replace | | | | X | | | |
| TERMINAL BOARD ASSEMBLY | replace | | | | X | | 22 | |
| TERMINAL, FEED-THRU, INSULATED | replace | | | X | | | | |
| TERMINAL, STUD | replace | | | | X | | | |
| TRANSFORMER, INTERMEDIATE FREQUENCY | replace | | | | X | | | |
| WASHER, BEVEL | replace | | | | X | | | |
| SWITCH ASSEMBLY SA-474/AR | service | | X | | | | | |
| | inspect | | X | | | | | |
| | test | | X | | | | 11 | |
| | replace | | X | | | | 21 | |
| | repair | | | | X | | 22 | |
| | rebuild | | | | | X | | |
| CONNECTOR, RECEPTACLE | replace | | | X | | | | |
| GASKET | replace | | | X | | | | |
| LAMP, INCANDESCENT | replace | | X | | | | | |
| LENS, INDICATOR LIGHT | replace | | | X | | | | |
| LIGHT, INDICATOR | replace | | | X | | | | |
| PANEL, MOUNTING | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| SHIELD | replace | | | X | | | | |
| SWITCH, TOGGLE | replace | | | X | | | | |

# ALLOCATION OF TOOLS FOR MAINTENANCE FUNCTIONS

| (1) TOOLS REQUIRED FOR MAINTENANCE FUNCTIONS | (2) 1ST ECH | (3) 2ND ECH | (4) 3RD ECH | (5) 4TH ECH | (6) 5TH ECH | (7) TOOL CODE | (8) REMARKS |
|---|---|---|---|---|---|---|---|
| AN/ARC-44 (continued) | | | | | | | |
| ANALYZER, SPECTRUM TS-723/U | | | | † | † | 1 | |
| AUDIO OSCILLATOR TS-382 | | | † | † | † | 2 | |
| ELECTRONIC MULTIMETER TS-505/U | | | † | † | † | 3 | |
| FREQUENCY METER AN/URM-32 | | | † | | | 4 | |
| FREQUENCY METER AN/URM-79 | | | | † | † | 5 | |
| FREQUENCY METER AN/URM-80 | | | | † | † | 6 | |
| GAGE TL-559/G | | | | † | † | 7 | |
| GENERATOR, SIGNAL AN/URM-48 | | | † | † | † | 8 | |
| MAINTENANCE KIT, ELECTRONIC EQUIPMENT MK-402/ARC | | | † | † | † | 9 | |
| MODULATION METER ME-57/U | | | | † | † | 10 | |
| MULTIMETER TS-297/U | | † | | | | 11 | To be used until AN/URM-105 becomes available |
| MULTIMETER TS-352/U | | | † | † | † | 12 | To be used until Multimeter AN/URM-105 becomes available |
| OHMMETER ZM-21/U | | | | † | † | 13 | |
| POWER SUPPLY PP-1243/U | | | † | | | | |
| SHUNT, INSTRUMENT MULTI-RANGE MX-1471/U | | | † | † | † | 15 | |
| TEST OSCILLATOR SET AN/PPM-10 | | | † | † | † | 16 | |
| TEST SET, RADIO AN/ARM-8 | | † | † | † | † | 17 | |
| TEST SET, ELECTRON TUBE TV-2/U | | | | | † | 18 | |
| TEST SET, ELECTRON TUBE TV-7/U | | | † | † | | 19 | |
| TEST SET I-199 | | | | † | † | 20 | |
| TOOL EQUIPMENT TE-41 | | † | | | | 21 | To be used until TK-87/U becomes available |
| TOOL EQUIPMENT TE-113 | | | † | † | † | 22 | To be used until TK-88( )/U becomes available |
| VOLTMETER, METER ME-30/U | | | † | † | † | 23 | |
| WATTMETER AN/URM-43 | | | † | † | † | 24 | |
| WATTMETER AN/USM-101 | | † | | | | 25 | |

# APPENDIX III

# BASIC ISSUE ITEMS LIST FOR RADIO SET AN/ARC-44

## Section 1. INTRODUCTION

### 1. Scope

*a.* This appendix lists items supplied for initial operation and for running spares. The list includes tools, accessories, parts, and material issued as part of the major end item. End items of equipment are issued on the basis of allowance prescribed in equipment authorization tables and other documents that are a basis for requisitioning.

*b.* The columns are as follows:

(1) *Source, maintenance, and recoverability code.* Not used.

(2) *Federal stock number.* This column lists the n-digit Federal stock number.

(3) *Designation by model.* Not used.

(4) *Description.* Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description on the requisition.

(5) *Unit of issue.* The unit of issue is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.

(6) *Expendabilitv.* Expendable items are indicated by the letter X; nonexpendable items are indicated by NX.

(7) *Quantity* authorized. Under "Items Comprising an Operable Equipment", the column lists the quantity of items supplied for the initial operation of the equipment.

(8) *Illustrations.* The "Item No." column lists the reference designations that appear on the part in the equipment. These same designations are also used on any illustrations of the equipment.

### 2. Stockage

No parts authorized for stockage at first echelon.

## Section II. FUNCTIONAL PARTS LIST

| (1) SOURCE MAINTENANCE AND RECOVERABILITY CODE | (2) FEDERAL STOCK NUMBER | (3) DESIGNATION BY MODEL | (4) DESCRIPTION | (5) UNIT OF ISSUE | (6) EXPENDABILITY | (7) QUANTITY AUTHORIZED | (8) ILLUSTRATIONS FIGURE NO | (9) ILLUSTRATIONS ITEM NO |
|---|---|---|---|---|---|---|---|---|
| | | | ITEMS COMPRISING AN OPERABLE EQUIPMENT | | | | | |
| | | | RADIO SET AN/ARC 11 | | | | | |
| | 5821 513 0760 | | RADIO SET AN/ARC 11 | ea | XX | | | |
| | | | | | | | | |
| | | | | | | | | |
| | 5821 513 0547 | | ANTENNA AT 1514/ARC | ea | XX | 1 | | |
| | 5935 201 7935 | | CONNECTOR, RECEPTACLE, ELECTRICAL: Bendix Rel part/dwg No. 0C2933S3-2 | ea | X | 1 | | |
| | 5935-612-5387 | | CONNECTOR, RECEPTACLE, ELECTRICAL: Bendix Rel part/dwg No. A2187302-1 | ea | X | 3 | | |
| | 5935 613-6901 | | CONNECTOR, RECEPTACLE, ELECTRICAL: Bendix Rel part/dwg No. A2187301-1 | ea | X | 1 | | |
| | 6125 568-5821 | | DYNAMOTOR DY 107/AR; DY 107A/AR | ea | XX | 1 | | |
| | 5965 296 2173 | | HEADSET MICROPHONE H 101/U | ea | XX | 2 | | |
| | 5821 699 0010 | | MOUNTING MT 1267A/AR | ea | X | 1 | | |
| | 5820 092-1110 | | MOUNTING MT 1268/AR | ea | XX | 1 | | |
| | 5821 092 1017 | | PANEL, CONTROL SB 327/ARC 11 | ea | XX | 1 | | |
| | 5820 537-1521 | | PANEL, SIGNAL DISTRIBUTION, RADIO SB 329/AR | ea | XX | 2 | | |
| | 5821 503 1519 | | RECEIVER TRANSMITTER, RADIO RT 291/ARC 11;RT 291A/ARC 11;RT 291B/ARC 11 | ea | XX | 1 | | |
| | 5930 312 6071 | | SWITCH ASSEMBLY SA 171/AR | ea | XX | 1 | | |
| | | | PANEL, CONTROL SB 327/ARC 11 | | | | | |
| | 6240-133 7836 | | LAMP, INCANDESCENT: AN type AN3110-327 | ea | X | 3 | | 1201<br>1202<br>1203 |
| | 6210 295-1973 | | LENS, INDICATOR LIGHT: Dialight part No. 11 31 2 | ea | X | 3 | | |
| | | | PANEL, SIGNAL DISTRIBUTION, RADIO SB 329/AR | | | | | |
| | 5960 171-1862 | | ELECTRON TUBE: MIL type JAN 6217 | ea | X | 1 | | V301 |

| (1) SOURCE MAINTENANCE AND RECOVERABILITY CODE | (2) FEDERAL STOCK NUMBER | (3) DESIGNATION BY MODEL | (4) DESCRIPTION | (5) UNIT OF ISSUE | (6) QUANTITY PER EQUIPMENT | (7) QUANTITY AUTHORIZED | (8) ILLUSTRATIONS FIGURE NO. | (9) ILLUSTRATIONS ITEM NO. |
|---|---|---|---|---|---|---|---|---|
| | | | AN/ARC-11 (Continued) | | | | | |
| | 5960-220-3793 | | ELECTRON TUBE: MIL type JAN 5718<br>Item Nos. V302, V303, V304, V305 | ea | X | 1 | | See desc column |
| | 5920-229-1312 | | FUSE, CARTRIDGE: MIL type FO2GR062A | ea | X | 1 | | F301 |
| | 6210-155-7336 | | LAMP, INCANDESCENT: ANA type No. AN3140-327 | ea | X | 2 | | I301<br>I302 |
| | 6210-295-1973 | | LENS, INDICATOR LIGHT: Dialco part No. 11-51-2 | ea | X | 2 | | |
| | 5960-537-1657 | | RETAINER, ELECTRON TUBE: Bendix Radio part/dwg No. C202250-1 | ea | X | 2 | | |
| | | | RECEIVER TRANSMITTER, RADIO RT-291/ARC-11;<br>RT-291A,B/ARC-11 | | | | | |
| | 5955-577-7791 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 31.119150 mc | ea | XX | 1 | | Y801 |
| | 5955-667-1615 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 32.119150 mc | ea | XX | 1 | | Y802 |
| | 5955-570-5191 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 33.119150 mc | ea | XX | 1 | | Y803 |
| | 5955-577-7789 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 34.119100 mc | ea | XX | 1 | | Y804 |
| | 5955-570-5192 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 35.119100 mc | ea | XX | 1 | | Y805 |
| | 5955-577-7735 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 36.119100 mc | ea | XX | 1 | | Y806 |
| | 5955-577-7781 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 37.119350 mc | ea | XX | 1 | | Y807 |
| | 5955-577-7733 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 38.119350 mc | ea | XX | 1 | | Y808 |
| | 5955-577-7739 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 39.119350 mc | ea | XX | 1 | | Y809 |
| | 5955-577-7791 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 10.119300 mc | ea | XX | 1 | | Y810 |
| | 5955-667-1620 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 11.119300 mc | ea | XX | 1 | | Y811 |
| | 5955-570-5193 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 12.119300 mc | ea | XX | 1 | | Y812 |
| | 5955-577-7731 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 13.119250 mc | ea | XX | 1 | | Y813 |
| | 5955-570-5191 | | CRYSTAL UNIT, QUARTZ: MIL type CR-51/U at 11.119250 mc | ea | XX | 1 | | Y814 |
| | 5955-295-7132 | | CRYSTAL UNIT, QUARTZ: MIL type CR-18/U at 9.5375 mc | ea | XX | 1 | | Y1001 |
| | 5955-667-2502 | | CRYSTAL UNIT, QUARTZ: MIL type CR-18/U at 9.6375 mc | ea | XX | 1 | | Y1002 |
| | 5955-667-3261 | | CRYSTAL UNIT, QUARTZ: MIL type CR-18/U at 9.7375 mc | ea | XX | 1 | | Y1003 |
| | 5955-667-3257 | | CRYSTAL UNIT, QUARTZ: MIL type CR-18/U at 9.8375 mc | ea | XX | 1 | | Y1004 |
| | 5955-667-3258 | | CRYSTAL UNIT, QUARTZ: MIL type CR-18/U at 9.9375 mc | ea | XX | 1 | | Y1005 |
| | 5955-667-2701 | | CRYSTAL UNIT, QUARTZ: MIL type CR-18/U at 10.0375 mc | ea | XX | 1 | | Y1006 |
| | 5955-667-3256 | | CRYSTAL UNIT, QUARTZ: MIL type CR-18/U at 10.1375 mc | ea | XX | 1 | | Y1007 |
| | 5955-667-3262 | | CRYSTAL UNIT, QUARTZ: MIL type CR-18/U at 10.2375 mc | ea | XX | 1 | | Y1008 |

| (1) SOURCE MAINTENANCE AND RECOVERABILITY CODE | (2) FEDERAL STOCK NUMBER | (3) DESIGNATION BY MODEL | (4) DESCRIPTION | (5) UNIT OF ISSUE | (6) EXPENDABILITY | (7) QUANTITY AUTHORIZED | (8) ILLUSTRATIONS FIGURE NO | (9) ILLUSTRATIONS ITEM NO |
|---|---|---|---|---|---|---|---|---|
| | | | AN ARC 11 (Continued) | | | | | |
| | 5955-667-2703 | | CRYSTAL UNIT, QUARTZ: MIL type CR 18/U at 10.3375 mc | ea | XX | 1 | | Y1009 |
| | 5955-667-3263 | | CRYSTAL UNIT, QUARTZ: MIL type CR 18/U at 10.1375 mc | ea | XX | 1 | | Y1010 |
| | 5960-230-5226 | | ELECTRON TUBE: MIL type JAN 5636 | ea | X | 1 | | |
| | 5960-230-5231 | | ELECTRON TUBE: MIL type JAN 5617 | ea | X | 1 | | |
| | 5960-223-3793 | | ELECTRON TUBE: MIL type JAN 5718 | ea | X | 2 | | |
| | 5960-188-3915 | | ELECTRON TUBE: MIL type JAN 5763 | ea | X | 2 | | |
| | 5960-272-8516 | | ELECTRON TUBE: MIL type JAN 5929WA | ea | X | 1 | | |
| | 5960-230-5211 | | ELECTRON TUBE: MIL type JAN 5910 | ea | X | 1 | | |
| | 5960-218-3090 | | ELECTRON TUBE: MIL type JAN 5992 | ea | X | 1 | | |
| | 5960-262-1831 | | ELECTRON TUBE: MIL type JAN 6BF6A | ea | X | 1 | | |
| | 5960-280-5585 | | ELECTRON TUBE: MIL type JAN 6112 | ea | X | 1 | | |
| | 5960-501-1756 | | SHIELD, ELECTRON TUBE: Bendix Radio part Dwg No. 6655293-1 | ea | X | 1 | | |
| | 5960-296-4118 | | SHIELD, ELECTRON TUBE: Bendix Radio part Dwg No. 2025551 | ea | X | 1 | | |
| | | | SWITCH ASSEMBLY SA-471-AR | | | | | |
| | 6210-155-7836 | | LAMP, INCANDESCENT: MS type MS3110-327 | ea | X | 2 | | |
| | 6210-295-1973 | | LENS, INDICATOR LIGHT: Dialco part No. 11-51-2 | ea | X | 2 | | |
| | | | BEARING SPARES AND ACCESSORY ITEMS | | | | | |
| | | | RADIO SET AN ARC 11 | | | | | |
| | | | PANEL, CONTROL SB-327 ARC 11<br>PANEL, SIGNAL DISTRIBUTION, RADIO SB-329 AR<br>RECEIVER TRANSMITTER, RADIO RT-291/ARC 11; RT-291A, B/ARC-11<br>SWITCH ASSEMBLY SA-471-AR | | | | | |
| | | | NO PARTS AUTHORIZED FOR STOCKAGE AT FIRST ECHELON. | | | | | |

# APPENDIX IV

# BASIC ISSUE ITEMS LIST FOR ANTENNA AT-454/ARC

## Section 1. INTRODUCTION

### 1. Scope

*a.* This appendix lists items supplied for initial operation and for running spares. The list includes tools, accessories, parts, and ma. terial issued as part of the major end item. End items of equipment are issued on the basis of allowances prescribed in equipment authorization tables and other documents that are a basis for requisiting.

*b.* The columns are as follows:

(1). *Source, maintenance, and recoverabil ity code.* Not used.

(2) *Federal stock number.* This column lists the 1l-digit Federal stock number.

(3) *Designation by model.* Not used.

(4) *Designation.* Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description on the requisition.

(5) *Unit of issue.* The unit of issue is the supply term by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes,

(6) *Expendability.* Expandable items are indicated by the letter X; nonexpendable items are indicated by NX.

(7) *Quantity authorized.* Under "Items (’comprising an Operable Equipment", the column lists the quantity of items supplied for the initial operation of the equipment. Under "Running Spares and Accessory Items." the quantities listed are those issued initially with the equipment as spare parts. No parts are authorized to be kept on hand by the operator for maintenance of the equipment.

(8) *Illustrations.* Not used.

### 2. Critical Items

A zero slash (ø) in the "Description" column indicates items that are expected to fail during the first year, or items that will make the equipment inoperative if they fail.

## Section II. FUNCTIONAL PARTS LIST

| (1) SOURCE MAINTENANCE AND RECOVERABILITY CODE | (2) FEDERAL STOCK NUMBER | (3) DESIGNATION BY MODEL | (4) DESCRIPTION | (5) UNIT OF ISSUE | (6) EXPENDABILITY | (7) QUANTITY AUTHORIZED | (8) ILLUSTRATIONS FIGURE NO | (9) ILLUSTRATIONS ITEM NO |
|---|---|---|---|---|---|---|---|---|
| | | | ITEMS COMPRISING AN OPERABLE EQUIPMENT | | | | | |
| | | | ANTENNA AT-1514/ARC | | | | | |
| | 5821-543-0547 | | ANTENNA AT-1514/ARC | ea | NX | | | |
| | 5821-552-0199 | | 0 ANTENNA ELEMENT AT-1554/ARC | ea | X | 1 | | |
| | 5821-295-7061 | | 0 BASE, ANTENNA AB-3104/ARC | ea | NX | 1 | | |
| | 5821-752-0019 | | COUPLER, ANTENNA CU-361D/ARC | ea | NX | 1 | | |
| | 5821-543-0577 | | COUPLER, ANTENNA CU-361A/ARC; CU-361B/ARC; CU-361C/ARC | ea | NX | 1 | | |
| | | | RUNNING SPARES AND ACCESSORY ITEMS | | | | | |
| | | | ANTENNA AT-1514/ARC | | | | | |
| | | | NO PARTS AUTHORIZED FOR STOCKAGE FOR FIRST ECHELON. | | | | | |

## APPENDIX V

## MAINTENANCE ALLOCATION CHART FOR ANTENNA AT-454/ARC

### 1. General

*a.* This appendix assigns maintenance functions and repair operations to be performed by the lowest appropriate maintenance echelon.

*b.* Columns in the maintenance allocation chart are as follows:

(1) *Part or component.* This column shows only the nomenclature or standard item name. Additional descriptive data are included only where clarification is necessary to identify the part. Components and parts comprising a major end item are listed alphabetically.

(2) *Maintenance function.* This column indicates the various maintenance functions allocated to the echelon capable of performing the operation.

*(a) Service.* To clean, to preserve, and to replenish fuel and lubricants.

*(b) Inspect.* To verify serviceability and to detect incipient electrical or mechanical failure by scrutiny.

*(c) Test.* To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, etc.

*(d) Replace.* To substitute serviceable assemblies, subassemblies, and parts for unserviceable components.

*(e) Repair.* To restore an item to a serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to inspecting, preserving, adjusting, replacing, welding, grinding, riveting, and straightening.

*(f) Rebuild.* To restore to a condition comparable to new by disassembling the item to determine the condition of its component parts and reassembling it using serviceable, rebuilt, or new assemblies, subassemblies, and parts.

(3) *1st, 2d, 3d, 4th, 5th echelon.* The symbol X indicates the echelon responsible for performing that particular maintenance operation, but does not necessarily indicate that repair parts will be stocked at that level. Echelons higher than the echelon marked by X are authorized to perform the indicated operation.

(4) *Tools required.* This column indicates codes assigned each individual tool equipment, test equipment, and maintenance equipment referenced. The grouping of codes in this column of the chart indicate the tool, test, and maintenance equipment required to perform the maintenance function.

(5) *Remarks.* Entries in this column will be utilized when necessary to clarify any of the data cited in the preceding columns.

*c.* Columns in the section allocation of tools for maintenance function are as follows:

(1) *Tools required for maintenance functions.* This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

(2) *1st, 2d, 3d, 4th, 5th echelon.* A dagger (t) indicates the echelons allocated the facility.

(3) *Tool code.* This column lists the tool code assigned.

(4) *Remarks.* Entries in this column are used to clarify data in the other columns.

### 2. Maintenance by Using Organizations

When this equipment is used by signal service organizations organic to theater headquar-

ters or communication zones to provide theater communications, those maintenance functions allocated up to and including fourth echelon are authorized to the organization operating this equipment.

### 3. Mounting Hardware

The basic entries of the maintenance allocation chart do not include mounting hardware such as screws, nuts, bolts, washers. brackets, and clamps.

# MAINTENANCE ALLOCATION CHART FOR ANTENNA AT-454/ARC

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| ANTENNA AT-454A/ARC | service | | X | | | | | |
| | inspect | | X | | | | | |
| | test | | X | | | | 3, 7 | |
| | | | | X | | | 1, 4, 5, 6, 8 | |
| | | | | | | X | 2, 4, 6 | |
| | replace | | X | | | | 7 | |
| | repair | | | | X | | 8 | |
| | rebuild | | | | | X | 8 | Plus Machine Shop Support |
| ANTENNA ELEMENT AT-455A/ARC | service | | X | | | | | |
| | inspect | | X | | | | | |
| | replace | | X | | | | 7 | |
| BASE, ANTENNA AB-3104/ARC | service | | X | | | | | |
| | inspect | | X | | | | | |
| | replace | | X | | | | 7 | |
| | repair | | | | X | | 8 | |
| | rebuild | | | | X | | 8 | |
| BASE, ANTENNA | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| CONNECTOR | replace | | | X | | | | |
| GASKET | replace | | | X | | | | |
| INSULATOR, BUSHING | replace | | | X | | | | |
| PACKING, PREFORMED | replace | | | X | | | | |
| PIN, TAPERED, PLAIN | replace | | | X | | | | Fabricate at 5th echelon |
| PLATE, INSULATING | replace | | | X | | | | Fabricate at 5th echelon |
| SCREW | replace | | | X | | | | |
| SUPPORT, ANTENNA | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| TERMINAL, LUG | replace | | | X | | | | |
| WASHER, LOCK | replace | | | X | | | | |

| (1) PART OR COMPONENT | (2) MAINTENANCE FUNCTION | (3) 1ST ECH | (4) 2ND ECH | (5) 3RD ECH | (6) 4TH ECH | (7) 5TH ECH | (8) TOOLS REQUIRED | (9) REMARKS |
|---|---|---|---|---|---|---|---|---|
| AT-454A/ARC (continued) | | | | | | | | |
| COUPLER, ANTENNA CU-361A/ARC; CU-361B/ARC; CU-361C/ARC; CU-361D/ARC | service | | X | | | | | |
| | inspect | | X | | | | | |
| | test | | | X | | | 1, 4, 5, 6 | |
| | | | | | | X | 2, 4, 6 | |
| | replace | | X | | | | 1 | |
| | repair | | | | X | | 8 | |
| | rebuild | | | | | X | 8 | |
| BRACKET | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| CABLE ASSEMBLY, RF | replace | | | X | | | | |
| CABLE, RF | replace | | | X | | | | |
| CLAMP | replace | | | X | | | | |
| CONNECTOR | replace | | | X | | | | |
| CAPACITOR | replace | | | X | | | | |
| CASE ASSEMBLY | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |
| CLAMP | replace | | | X | | | | Fabricate at 5th echelon |
| COIL, RADIO FREQUENCY | replace | | | X | | | | |
| CONNECTOR | replace | | | X | | | | |
| COVER ASSEMBLY | replace | | | X | | | | Fabricate at 5th echelon |
| | repair | | | | X | | | |

# ALLOCATION OF TOOLS FOR MAINTENANCE FUNCTIONS

| (1) TOOLS REQUIRED FOR MAINTENANCE FUNCTIONS | (2) 1ST ECH | (3) 2ND ECH | (4) 3RD ECH | (5) 4TH ECH | (6) 5TH ECH | (7) TOOL CODE | (8) REMARKS |
|---|---|---|---|---|---|---|---|
| AT-454A/ARC (continued) | | | | | | | |
| FREQUENCY METER AN/URM 32 | | | + | | | 1 | |
| FREQUENCY METER AN/URM 80 | | | | + | + | 2 | |
| MULTIMETER TS 297/U | | + | | | | 3 | To be used until Multimeter AN/URM 105 becomes available |
| MULTIMETER TS 352/U | | | + | + | + | 1 | To be used until Multimeter AN/URM 105 becomes available |
| POWER SUPPLY PP-1213/U | | | + | | | 5 | |
| TEST OSCILLATOR SET AN/PRM 10 | | | + | + | + | 6 | |
| TOOL EQUIPMENT TE-11 | | + | | | | 7 | To be used until TK-87/U becomes available |
| TOOL EQUIPMENT TE-113 | | | + | + | + | 8 | To be used until TK-88( )/U becomes available |

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*USAR:* None.

For explanation of abbreviations used, see AR 320-50.

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