

SECTION X
DIFFERENCE DATA SHEET

10-1. INTRODUCTION.

Field maintenance instructions for the model included in this section is the same as the procedures given in sections I through IX of this manual.

10-2. PRODUCTION LINE CHANGES.

For each modification, the serial number of the first radio set to receive the modification is listed, except for modules.

The only correct way of knowing if the modification in question has been performed on a certain module is to observe the module and see if the modification has been accomplished.

No modification effects the interchangeability of any of any of the modules or chassis.

LIST OF MAJOR ELECTRICAL AND MECHANICAL CHANGES THAT HAVE BEEN
INCORPORATED IN THE PRODUCTION OF RADIO SET AN/URC-32

- 227
- a. Frequency Comparator (54Q-1), Collins part no. 522-1074-00.
Chassis: Accomplished on all units starting with radio set serial no. 91
Changed: Resistor R7, 1470 ohms - 1/4 watt, Collins part no. 705-7264-00, was
2210 ohms - 1/4 watt, Collins part no. 705-7264-00.
- b. Frequency Generator (786H-1), Collins part no. 522-0860-00.
Chassis: Accomplished on all units starting with radio set serial no. 113.
Post - Collins part no. 543-3153-002 changed to 545-7747-002.
Post - Collins part no. 543-3170-002 changed to 545-7748-002.
Post - Collins part no. 543-3179-002 changed to 545-7749-002.
Block - Collins part no. 543-3070-002 changed to 545-7586-002.
Shaft - Collins part no. 543-3139-002 changed to 545-7584-002.
Gear "B" - Collins part no. 543-3155-002 changed to 545-7740-002.
Gear "F" - Collins part no. 543-3158-002 changed to 545-7743-002.
Post - Collins part no. 543-3156-002 changed to 545-7741-002.
Gear "C" - Collins part no. 543-3173-002 changed to 545-7745-002.
Add:
6 each - Gears, Collins part no. 309-0661-00.
2 each - Retainers, Collins part no. 545-7585-002.
Chassis: Accomplished on all units starting with radio set serial no. 286.
Chassis: Accomplished on all units starting with radio set serial no. 322.
Resistors R1, 2, 3, 4, 150 ohm - 1 watt, Collins part no. 745-3317-00 changed to
to 470 ohms - 1 watt, Collins part no. 745-3338-00.
Reference Oscillator, Collins part no. 542-7729-004.
Modification A:
Rechanged by Modification E.

Modification B:

Transistor Q13, type 2N118, Collins part no. 352-0049-00 changed to type J213,
Collins part, no. 352-0087-00.

Modification C:

Resistor R36, 39000 ohms - 1/2 watt, Collins part no. 745-1419-00 changed to
18000 ohms - 1/2 watt, Collins part no. 745-1405-00.

Modification D:

Resistor R20, 22000 ohms - 1/2 watt, Collins part no. 745-1408-00 changed to
10000 ohms - 1/2 watt, Collins part no. 745-1394-00.

Modification E:

Transistor Q3, type 2N525, Collins part no. 352-0094-00 changed to type 2N527,
Collins part no. 352-0124-00.

Transistors Q1, 2 4 type 2N538, Collins part no. 352-0024-00 changed to type
2N540, Collins part no. 352-0026-00.

Modification F:

Resistor R2, 47 ohms - 1/2 watt, Collins part no. 745-1296-00 changed to 100
ohms - 1/2 watt, Collins part no. 745-1310-00.

Tie Emitters of Q2 and Q4 together.

Modification G:

Add diodes CR1 and CR2 type 1N91, Collins part no. 542-7742-005.

Modification H:

Resistor R6, 22 ohms - 2 watt, Collins part no. 747-5155-00 changed to 5 ohms -
2 watt, Collins part no. 747-5314-00.

Modification J:

Add CR3, type 1N721A, Collins part no. 353-2741-00.

Add Resistor R40, 33000 ohms - 1/4 watt, Collins part no. 745-0803-00.

Resistor R29, 12000 ohms - 2 watt, Collins part no. 745-5698-00 changed to
7500 ohms - 5 watt, Collins part no. 747-9399-00.

Frequency Divider, Collins part no. 542-7697-004.

Capacitor C3, 1500 mmfd, Collins part no. 912-1922-00 changed to 2000 mmfd,
Collins part no. 912-1931-00.

Resistor R5, 23700 ohms - 1/4 watt, Collins part no. 705-4500-00 changed to
19600 ohms - 1/4 watt, Collins part no. 705-4501-00.

Resistor R2, 4700 ohms - 1/2 watt, Collins part no. 745-1380-00 changed to
5100 ohms - 1/2 watt, Collins part no. 745-1382-00.

Resistor R18, 2200 ohms - 1/2 watt, Collins part no. 745-1366-00 changed to
2700 ohms - 1/2 watt, Collins part no. 745-1369-00.

c. R. F. Tuner, Collins part no. 542-7792-005.

Accomplished on all units starting with radio set serial no. 137.

Chassis, Collins part no. 543-3008-004, changed to Collins part no. 544-2772-004.

Coil Z18, Collins part no. 543-2995-003, changed to Collins part no. 544-2765-003.

Coil Z19, Collins part no. 543-2996-003, changed to Collins part no. 544-2766-003.

Coil Z20, Collins part no. 543-2997-003, changed to Collins part no. 544-2767-003.

Accomplished on all units starting with radio set serial no. 116.

Add choke L34, Collins part no. 240-0198-00.

Add choke L33, Collins part no. 240-0313-00.

Add capacitor C183, Collins part no. 913-3159-00.

Add resistor R65, Collins part no. 745-5701-00.

Delete resistor R14, Collins part no. 745-1436-00.

d. Sideband Generator (786F-1), Collins part no. 522-0861-004.

Chassis: Accomplished as all units starting with radio set serial no. 235.

Add Resistor R31, 1000 ohms - 2 watt, Collins part no. 745-5694-00.

Change switch S1 from one wafer to two wafers.
Carrier Generator Module, Collins part no. 543-1500-004.
Modification A.

Choice of values for R2 increased as follows:

33,000 ohms - 1/2 watt, Collins part no. 745-1414-00.

39,000 ohms - 1/2 watt, Collins part no. 745-1418-00.

43,000 ohms - 1/2 watt, Collins part no. 745-1420-00.

Choice of values for C3 increased as follows:

270 mmfd - 0.1 percent, Collins part no. 912-3471-00.

260 mmfd - 0.1 percent, Collins part no. 912-3492-00.

Modification B.

Change L1 - 1 MH, Collins part no. 240-0591-00 to 1 MH (changed to meet specifications), Collins part no. 240-0595-00.

e. Power Amplifier (367A-3), Collins part no. 522-0864-00.

Chassis: Accomplished on all units starting with radio set serial no. 261 Tube Duct.

Delete: 2 each, Collins part no. 543-0456-003 - duct.

Add: 2 each, Collins part no. 544-9112-002 - duct.

2 each, Collins part no. 544-9113-003 - clamp.

f. Low-Voltage Power Supply (429B-1), Collins part no. 522-0862-003.

Chassis: Accomplished on all units starting with radio set serial no. 286.

Smo discriminator heater modification:

Add wire from T1 Pin 7 to J2 Pin 15.

g. High-Voltage Power Supply (428B-1), Collins part no. 522-0863-006.

Chassis: Accomplished on all units starting with radio set serial no. 329.

Changed: Fuse F2, normal blow, Collins part no. 264-4021-00, was Slo Blo,

Collins part no. 264-4250-00.

h. Handset Adapter, Collins part no. 543-6094-00.

Chassis: Accomplished on all units starting with radio set serial no. 333.

Add: Transformer and bracket, Collins part no. 677-1446-00.

i. Sideband Generator 786F-1 begin with serial no. 360.

Chassis, Mod B (R-F Gain Control Mod)

Added CR6, CR7 (p/n 353-0204-00, 1N457). Relocated CR1.

Change silkscreen "Remote" to "External Control ."

j. Sidestep Oscillator, Collins part no. 543-1501-004.

Modification A:

Final test selected value of R19 was 18000 ohms - 1/2 watt, Collins part no. 745-1405-00.

Choice values for R15 changed to 1800 ohms - 1/2 watt to 82000 ohms - 1/2 watt.

Resistor R16, 100000 ohms - 1/2 watt, Collins part no. 745-0436-00 added.

Modification B:

Capacitor C1, 10 uuf, Collins part no. 912-1776-00 changed to 33 uuf,
Collins part no. 912-1797-00.

Capacitor C7, 0.01 uf, Collins part no. 931-4481-00 changed to 0.033 uf,
Collins part no. 931-5297-00.

Capacitor C9, 0.01 uf, Collins part no. 931-9078-00 changed to 6800 uuf,
Collins part no. 931-9094-00.

Resistor R2, 68000 ohms - 1/2 watt, Collins part no. 745-1429-00 changed to
33000 ohms - 1/2 watt, Collins part no. 745-1415-00.

Modification C:

Resistor R22, 27000 ohms - 1/4 watt, Collins part no. 745-0800-00 added
across C25.

Modification D:

Capacitor C27, 0.033 uf, Collins part no. 931-5344-00 changed to 200 uuf,
Collins part no. 912-1854-00.

k. Stabilized Master Oscillator, Collins part no. 542-7791-005.

Add Resistor R33, 22000 ohms - 1/2 watt, Collins part no. 745-1408-00.

l. 153H-2 Junction Box

Replace 153H-2 with 153H-2A

153H-2A will include Receiver Input Protector Relay Assembly and new fuseholders.

m. 159B-1 Audio and Control Unit.

Replace phone jack J6 with new phone jack p/n 358-1040-00.

n. 428B-1 HVPS

Change F1 to 15 amp p/n 264-0005-00 (for 220 volts 8 amp p/n 264-0002-00).