

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE  
REPAIR PARTS AND SPECIAL TOOL LISTS  
AND MAINTENANCE ALLOCATION CHART,  
ANTENNA TUNING UNITS BC-939-A AND BC-939-B  
AND TUNER, RADIO FREQUENCY TN-339/GR

Headquarters, Department of the Army, Washington 25, DC

10 June 1964

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**SECTION I  
INTRODUCTION**

**1. Scope**

a. This manual includes an operator's maintenance repair parts and special tools list and an organizational maintenance repair parts and special tools list.

- (1) The operator's maintenance repair parts and special tools list lists items supplied for initial operation. The list includes parts and material issued as part of the major end item. All items authorized for

basic operator maintenance of the equipment are also listed.

- (2) The organizational maintenance repair parts and special tools list lists the repair parts authorized for organizational maintenance and is a basis for requisitioning by organizations which are authorized the major item of equipment. End items of equipments are issued on the basis of allowances prescribed in

\*This manual supersedes TM 11-5820-257-12P, 28 April 1969 including C1, 19 January 1962.

This copy is a reprint which includes current pages from change 1.

equipment authorization tables and other documents that are a basis for requisitioning.

- (3) The maintenance allocation chart assigns maintenance functions and repair operations to be performed by the lowest appropriate maintenance echelon.

b. Columns are as follows:

- (1) *Federal stock number.* This column lists the 11-digit Federal stock number.
- (2) *Designation by model.* The dagger (†) indicates model in which the part is used.
- (3) *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.
- (4) *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.
- (5) *Expandability.* Nonexpandable items are indicated by NX. Expendable items are not annotated.
- (6) *Quantity authorized.* Under "Items Comprising an Operable Equipment," the column lists the quantity of items supplied for the initial operation of the equipment.
- (7) *Quantity incorporated in unit.* This column lists the quantity of each part found in a given assembly, component, or equipment.
- (8) *Organizational.* An asterisk (\*) indicates that an item is not authorized for stock-

age but if required, may be requisitioned for immediate use only.

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

## 2. Parts for Maintenance

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

## 3. Reporting of Equipment Manual Improvements

The direct reporting, by the individual user, or errors, omissions, and recommendations for improving this equipment manual is authorized and encouraged. DA Form 2028 will be used for reporting these improvement recommendations. This form may be completed using pencil, pen, or typewriter. DA Form 2028 will be completed in triplicate and forwarded by the individual using the manual. The original and one copy will be forwarded direct to: Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-MRMP-P, Fort Monmouth, New Jersey, 07703. One information copy will be furnished to the individual's immediate supervisor (officer, noncommissioned officer, supervisor, etc).

## SECTION II. FIRST ECHELON FUNCTIONAL PARTS LIST

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL					DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
										FIG NO.	ITEM NO.
Grd thru AGC						ANTENNA TUNING UNITS BC-393-A, B; TUNNER, RADIO FREOUENCY TN-339/G  TECHNICAL MANUAL TM 11-5820-257-12P  NOTE: Model Column 1 refers to BC-939-A; Column 2 refers to BC-939-B; Column 3 refers to TN-339/GR			2		
5820-223-4641						ANTENNA TUNING UNITS B; Signal dwg SC-DL-34409		NX	1	1	
5820-681-9667						TUNER, RADIO FREQUENCY: 2 to 10 mc and 1C to 20 mc; 2 bands; 9-3/32 x 13-5/16" x 21-1/4" o/a dim; Barker & Williamson dwg No. 321CC  RUNNING SPARES  NO PARTS AUTHORIZED FOR STOCKAGE AT FIRST ECHELON.			1		

### SECTION III. SECOND ECHELON FUNCTIONAL PARTS LIST

FEDERAL STOCK NUMBER	DESIGNATION BY MODEL					DESCRIPTION	UNIT OF ISSUE	EXP	QTY AUTH	ILLUSTRATION	
										FIGURE NO.	ITEM NO.
5820-223-4641	†	†				ANTENNA TUNING UNITS BE-939/A, B; TUNER, RADIO FREQUENCY TN-339/GR  NOTE: Model column 1 refers to BE-939-A; Column 2 refers to BE-939-B; Column 3 refers to TN-339/GR  ANTENNA UNITS BE-939-A, B: Signal dwg SC-DL-34409		NX		1	
5820-681-9667			†			TUNER, RADIO FREQUENCY TN-339/GR: 2 to 1C me and 10 to 20 mc; 9-J/32" x 13-5/16" x 21-1/4" o/a; Baiker & Williamson dwg No. 32100		NX			
5910-574-8160	†	†	†			CAPACITOR, FIXED, VACUUM D1 ELECTRIC:: 12mmf; 20,000v. ac. peak 28 amp, 2-1/4" dia. x 6-1/2" lg Jennings Mfg. VC-12		1	*	2	C22
5910-160-0395	†	†	†			CAPACITOR, FIXED, VACUUM D1 ELECTRIC: 5C mmf; ±2% 2C,000 V 1 peak; 2-1/4" dia x 5" lg Eimdc type VC 50-20		1	*	2	C30
5820-161-0145	†	†	†			CRANK, HAND: Signal dwg SC-B-34445 Grp 2		1	*		
5820-128-9734	†	†	†			CRANK, HAND: Signal dwg SC-B-34445 Grp 1		1	*		
5985-498-0395	†	†	†			HANDLE: Signal dwg SC-B-34446		2	*		
5355-160-5887	†	†	†			KNOB: accom 1/4" shaft; pointer attached; Kurz-Kasch p/n S -309-64-BB-40269		1	*		
5355-160-0697	†	†	†			KNOB: accom 1/4" shaft w/o marking; Kurz-Kasch p/n S-309-64BB		1	*		

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BC-939-A, B, & TN-339/GR

## SECTION IV MAINTENANCE ALLOCATION

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### 4. General

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

### 5. Columns

a. 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 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 are listed immediately below that assembly. Each generation breakdown (components, assemblies, or subassemblies) is 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 un-serviceable components, assemblies, or subassemblies.
- (f) *Repair.* To restore an item to serviceable condition through correction of a specific failure or un-serviceable 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.
- (g) *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 reassemble of the item.

(3) *1st, 2d, 3d, 4th, 5th echelons.* 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.

b. 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) *1st, 2d, 3d, 4th, 5th echelon.* The dagger (†) indicates the echelons normally allocated the facility.

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

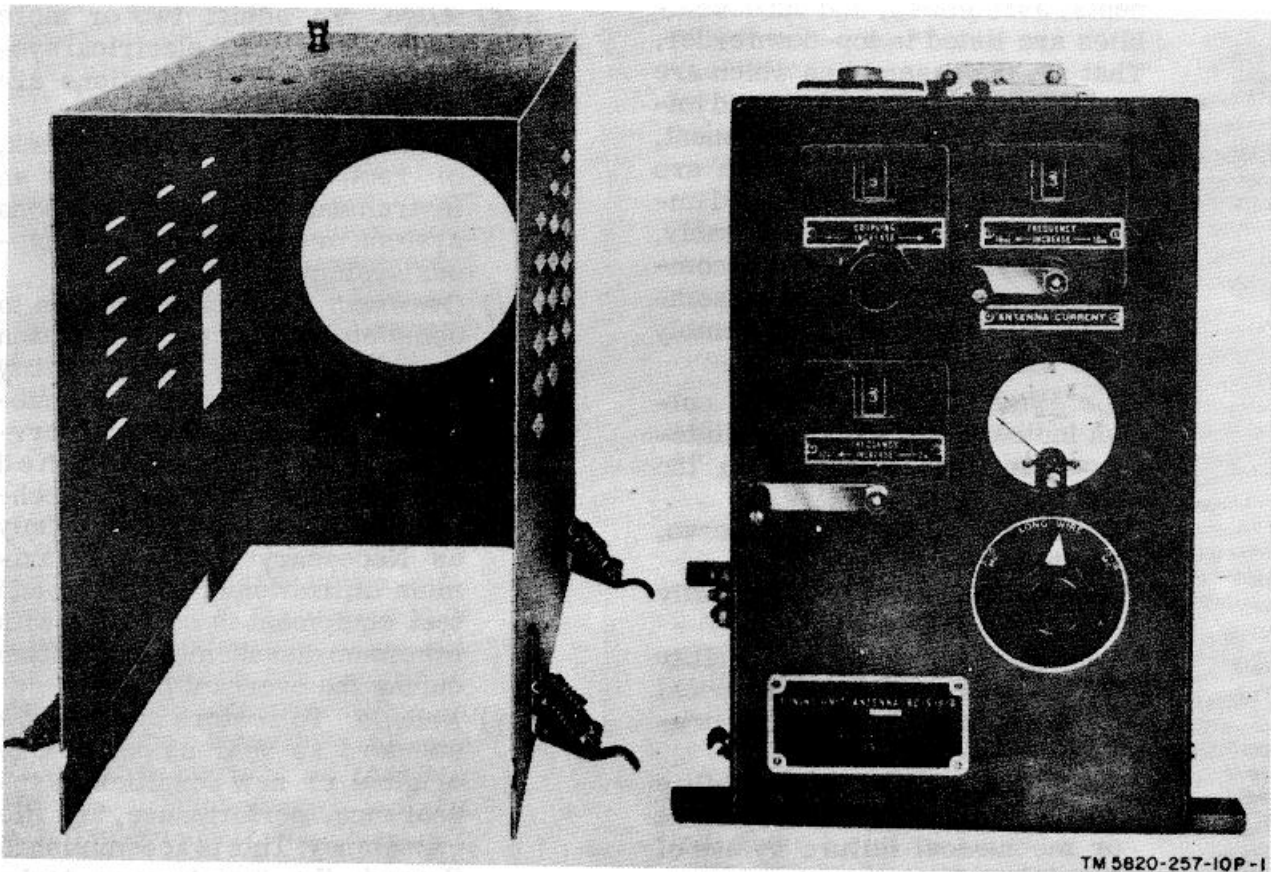


Figure 1.



*Figure 2.*

## SECTION V. MAINTENANCE ALLOCATION CHART

PART OR COMPONENT	MAINTENANCE FUNCTION	1ST ECH	2ND ECH	3RD ECH	4TH ECH	5TH ECH	TOOLS REQUIRED	REMARKS
ANTENNA TUNING UNITS BC-939-A,B TUNER, RADIO FREQUENCY TN-339/GR	service	X						Operator adjust.
	adjust	X						
	inspect	X						
AMMETERS	test		X	X			1 2	Preventive maintenance
	replace		X					
	repair				X		2,4	
	calibrate		X				3	
	overhaul					X	2,4,5	
BAR, ACTUATOR, ELECTRICAL SWITCH	service	X						Preventive maintenance
	inspect		X					
	replace			X			4	
CABLE-	inspect		X					Preventive maintenance
	replace				X			
CAPACITOR, FIXED, VACUUM DIELECTRIC	inspect		X					Preventive maintenance
	replace		X					
CLIP, ELECTRICAL	inspect			X				Preventive maintenance
	replace			X			3	
CLIP, RETAINING	inspect		X					Preventive maintenance
	replace			X			3	
COILS, RADIO FREQUENCY	inspect		X				1,3	Preventive maintenance
	replace			X			2,4	
COLLARS, SHAFTS	inspect		X					Preventive maintenance
	replace			X				
CONTACTS, ELECTRICAL	inspect		X					Preventive maintenance
	replace			X				
COUNTERS, RECIPROCATING	inspect			X				Preventive maintenance
	replace			X				
COUPLING, SHAFT	inspect		X		X		4	Preventive maintenance
	replace			X			3	
CRANKS, HAND	inspect		X					Preventive maintenance
	replace		X				4	
DETENT, SWITCH	inspect		X				3	Preventive maintenance
	replace		X				3	
DETENT, SWITCH	inspect		X					Preventive maintenance
	replace			X			2,4	



PART OR COMPONENT	MAINTENANCE FUNCTION	1ST ECH	2ND ECH	3RD ECH	4TH ECH	5TH ECH	TOOLS REQUIRED	REMARKS
BC-939-A,B & TN-339/GR (continued) HANDLE	inspect		X				3	
	replace		X					
HOLDER, CONTACT	inspect		X				4	
	replace			X				
INSULATORS	service		X					
	inspect		X					
	replace			X				
KNOBS	inspect		X				3	
	replace		X					
NUT SELF-LOCKING	inspect		X				4	
	replace			X				
POST, BINDING	inspect			X			4	
SHAFT	inspect		X					
	replace			X				
SLEEVE, SPACER	service		X				4	
	inspect		X					
	replace			X				
SPRING	inspect		X				4	
	replace			X				
SWITCHES, ROTARY	service		X				4	
	inspect		X					
	replace			X				

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## SECTION VI. ALLOCATION OF TOOLS FOR MAINTENANCE FUNCTIONS

PART OR COMPONENT	1ST ECH	2ND ECH	3RD ECH	4TH ECH	5TH ECH	TOOL CODE	REMARKS
BC - 339-A, B & TN-339/GR (continued)							
MULTI METER AN./URM- 105		†				1	
MULTIMETER TS- 3 52/U			†	†	†		
TOOL EQUIPMENT, RADIO REPAIR TK-115/G		†				3	
TOOL EQUIPMENT, RADAR AND RADIO REPAIRMAN TK-87/U			†	†	†	4	
TOOL EQUIPMENT TE-114				†	†	5	

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EARLE G. WHEELER,  
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*NG*: State AG (3); Units - same as Active Army except allowance is one copy for each unit.

*USAR*: None.

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

**CHANGE**

**TM 11-5820-257-12P  
C1**

**No. 1**

**HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, DC, 24 March 1983**

**OPERATOR AND ORGANIZATIONAL MAINTENANCE REPAIR PARTS AND  
SPECIAL TOOLS LIST AND MAINTENANCE ALLOCATION CHART FOR  
ANTENNA TUNING UNITS BC-939-A AND BC-939-B (5820-00-223-4641)  
AND TUNER, RADIO FREQUENCY TN 339/GR (5820-00-681-9667)**

**TM 11-5820-257-12P, 10 June 1964, is changed as follows:**

**Page 4, Section III.1 is added after Section III.**

## SECTION III.1

CROSS REFERENCE INDEX. The Cross-Reference Index is a cross-reference listing of part number to a National Stock Number.

a. Use of Cross-Reference Index. To order a part listed in the Cross-Reference Index, note part number and then cross-reference that part number to the National Stock Number in the cross-reference index. Then order through normal ordering channels.

b. Ordering Part Numbers Without National Stock Number. If the part number does not have a National Stock Number, then order the part through normal ordering channels using the part number and the FSCM.

# CROSS REFERENCE INDEX FORMAT

## Parts With AN FSN

FSN	NEW NSN	FSCM	PART NUMBER
58201289734	5820001289734	80063	SC-B-34445GRP 1
59101600395	5910001600395	06890	VC-50-20
53551605887	5355001605887	75376	S-309-64BB-40269
58201610458	NONE	80063	SC-B-34445 GRP 2
53551610697	NONE	75376	S-309-64BB
58202234641	5820002234641	80058	BC-939A,B
58202234641	5820002234641	80058	BC-939A,B
59854980395	5985004980395	80063	SC-B-34446
59105748160	NONE	74963	VC-12
58206819667	5820006819667	80058	TN-339/GR
58206819667	5820006819667	80058	TN-339/GR

**By Order of the Secretary of the Army:**

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