



# PHOTOFACT<sup>®</sup>

**TRADE NAME :** Hallicrafters Model CB-3A  
**SUPPLIER :** The Hallicrafters Company  
 4400 W. 54th Street, Chicago 32, Ill.  
**TYPE SET :** 7 Tube Transceiver  
**POWER SUPPLY :** 110 - 120 Volts AC, 60 Cycles (or)  
 6 (or) 12 Volt Storage Battery  
**RATING :** .53 Amp. @ 117VAC  
 4.3 Amp. @ 12.6VDC  
**TUNING RANGE :** Any 8 CB Channels 1 thru 23



## ALIGNMENT INSTRUCTIONS

**Suggested Alignment Tools:**  
 A1 thru A6.....GENERAL CEMENT #8607, 9291, 9294  
 WALSCO #2520, 2522, 2524  
 A7 thru A11, A13.... GENERAL CEMENT #8282, 8606, 8606L  
 WALSCO #2526, 2543, 2544

### RECEIVER ALIGNMENT

Connect DC probe of VTVM to point  $\diamond$ , common to chassis. Output of signal generator should be no higher than necessary to obtain a suitable indication.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to pin 7 of V3 (2nd converter), low side to chassis. (Tune to 262KC Unmod.)	Any	A1, A2, A3, A4	Adjust for maximum deflection.
High side thru .01mfd to pin 7 of V2 (1st converter), low side to chassis. (Tune to 1650KC).	Any	A5, A6	"
High side to antenna receptacle, low side to chassis. Tune to 27.085MC.	11	A7	"
"	11	A8, A9	Adjust for maximum deflection on first peak from maximum counterclockwise position.

### TRANSMITTER ALIGNMENT

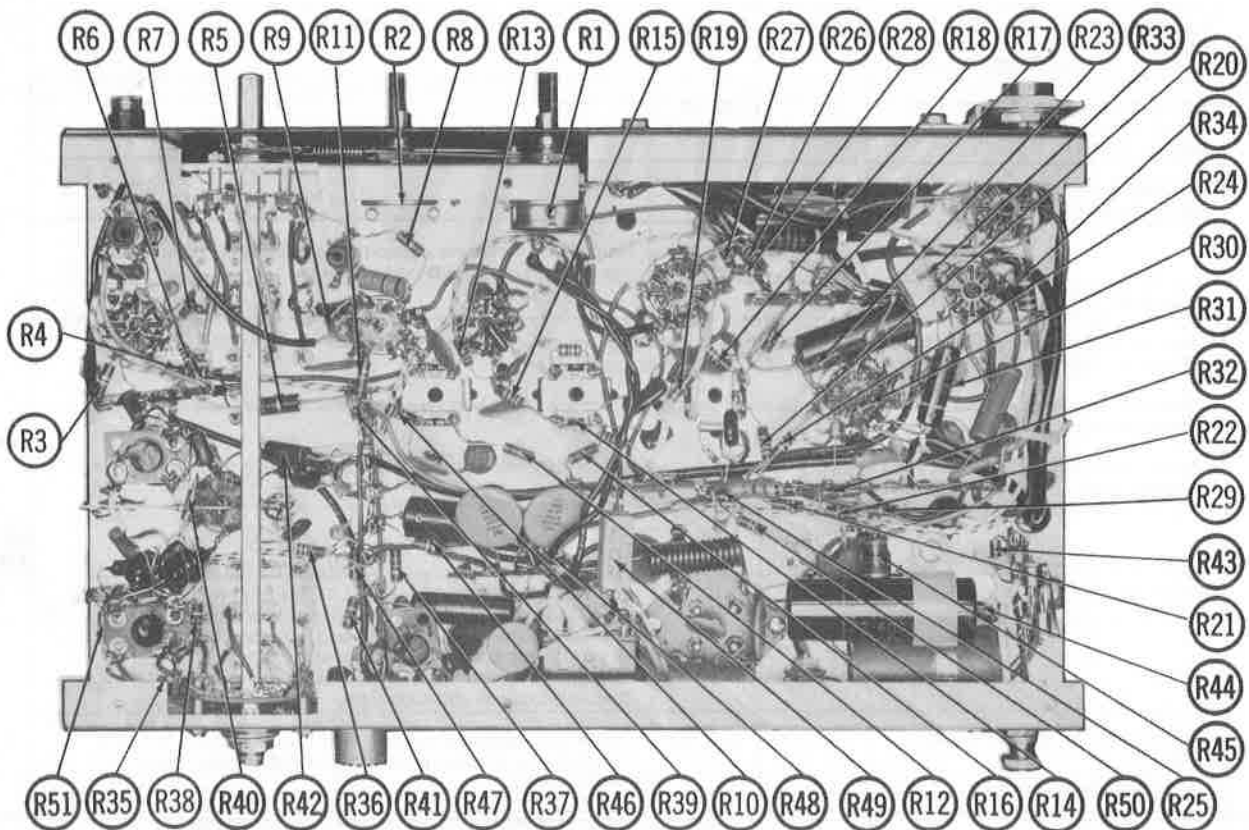
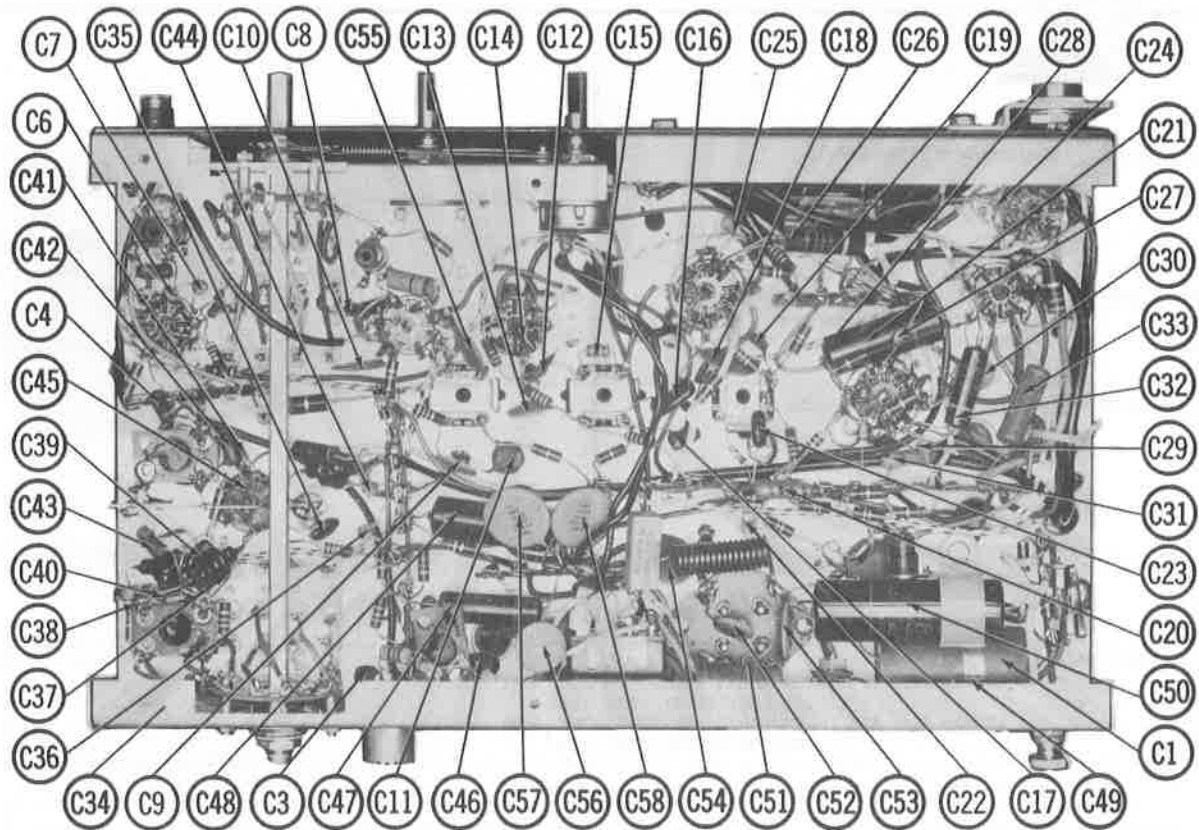
Only those persons properly licensed are permitted to make repairs or adjustments which may result in illegal operation. (Refer to FCC rules and regulations Part 19, Subpart D, Section 19.71).

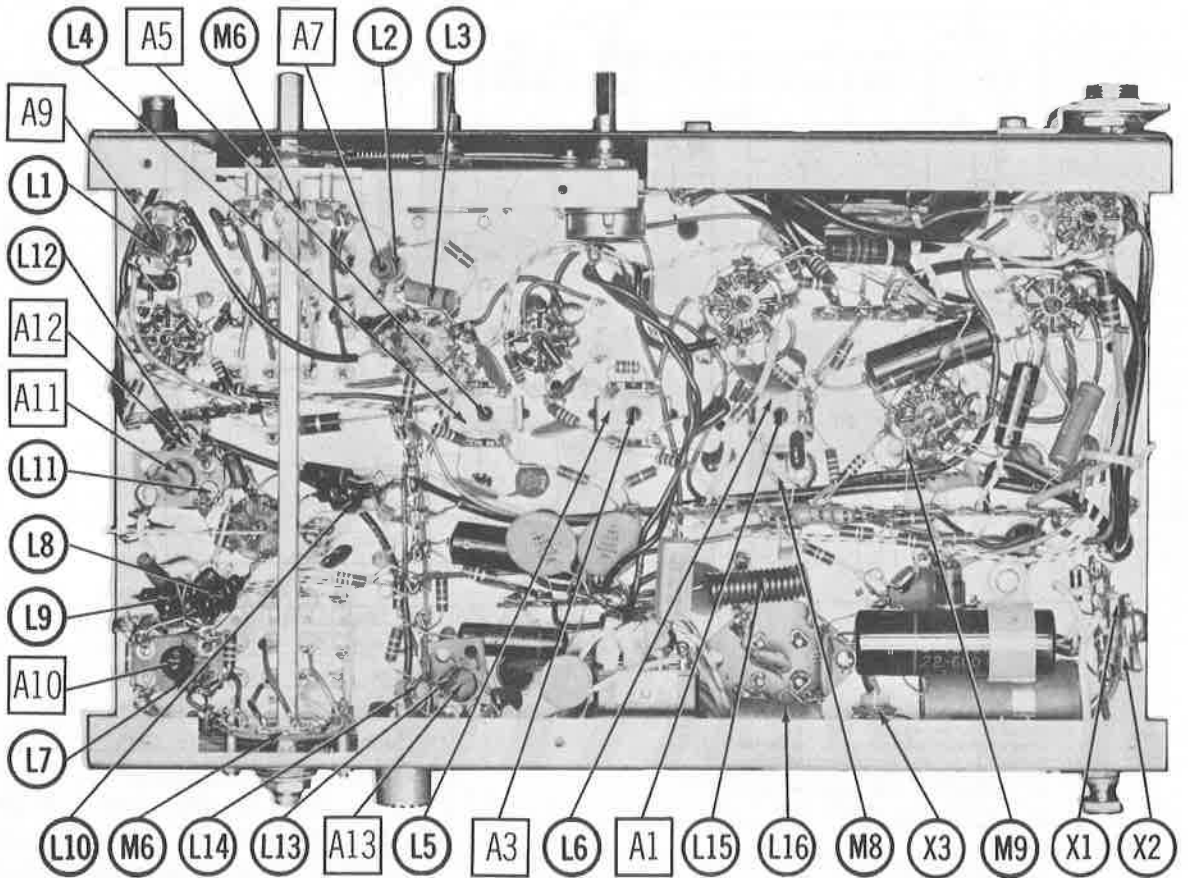
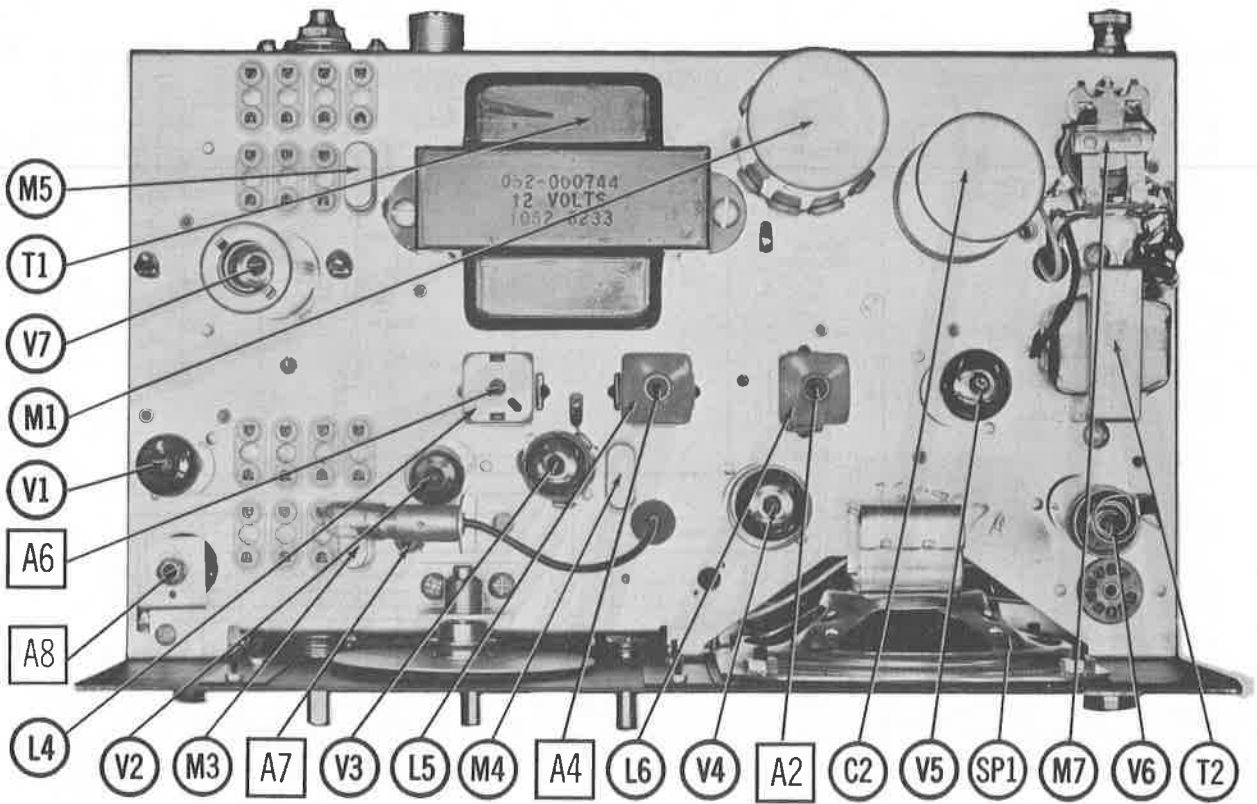
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

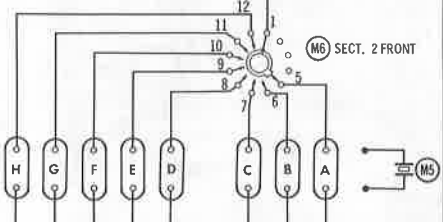
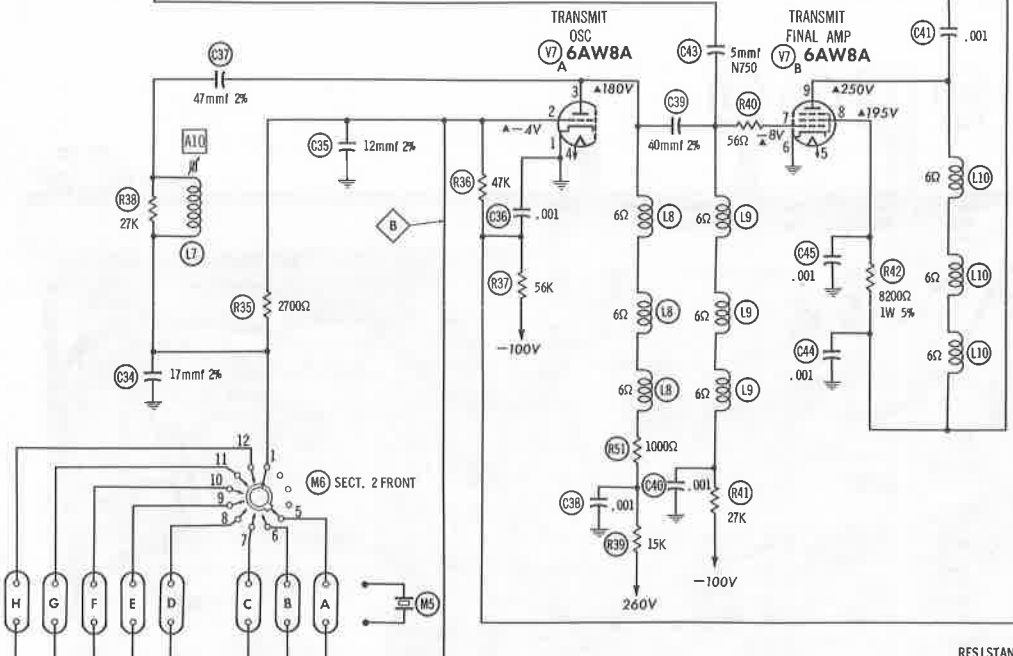
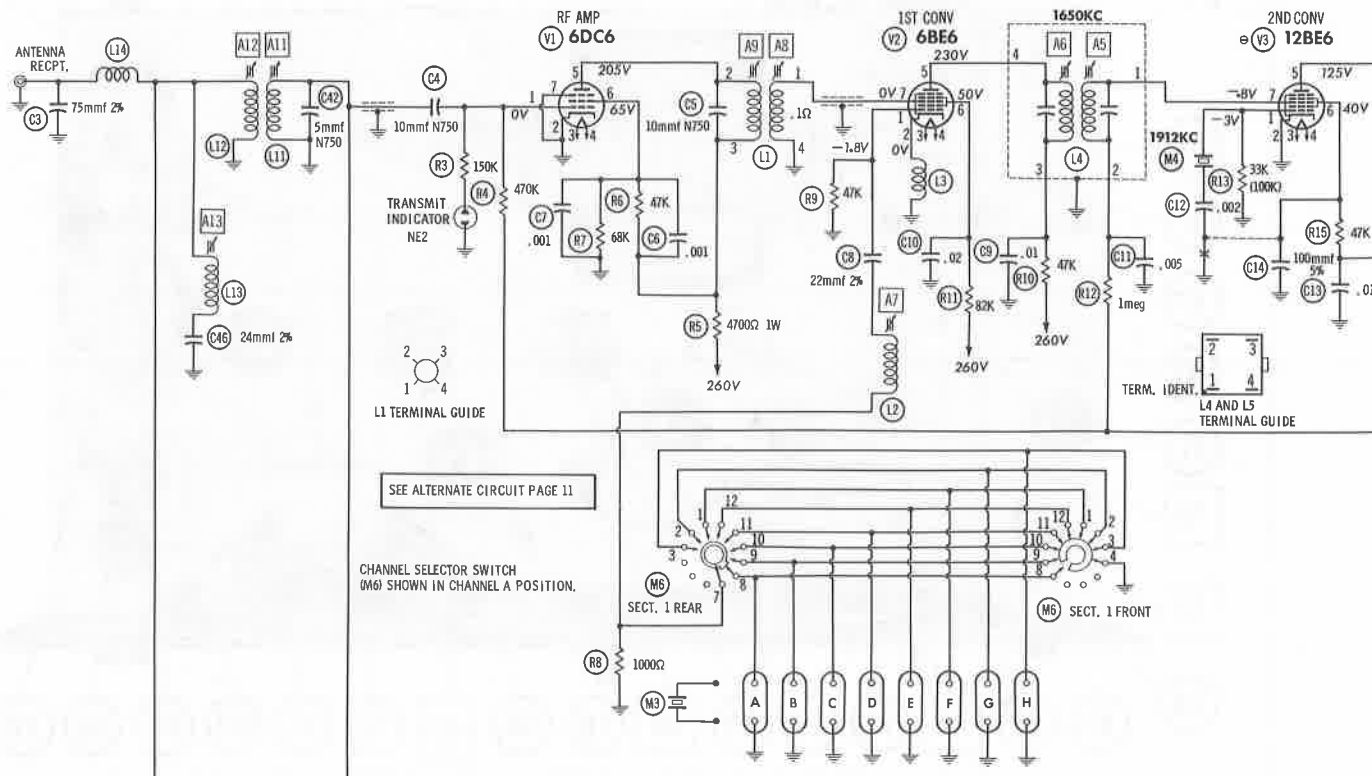
Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

	CHANNEL	ADJUST	REMARKS
Dummy antenna to antenna receptacle.		A10	Connect DC VTVM between point $\diamond$ and ground. Key Transmitter. Adjust for maximum deflection. Rock A10 to each side of peak and note rate of dropoff. Set just below peak on side of gradual dropoff. Key transmitter several times to be sure that oscillator starts each time.
RF Wattmeter or field strength meter.		A11, A12	Adjust for maximum output. A12 has a tendency to return to its original position; "overadjustment" may be necessary.
		A13	Adjust for MINIMUM interference on TV Channel 2.

**HALLICRAFTERS MODEL CB-3A**







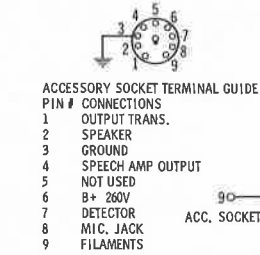
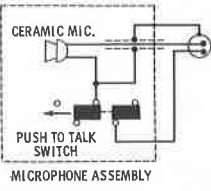
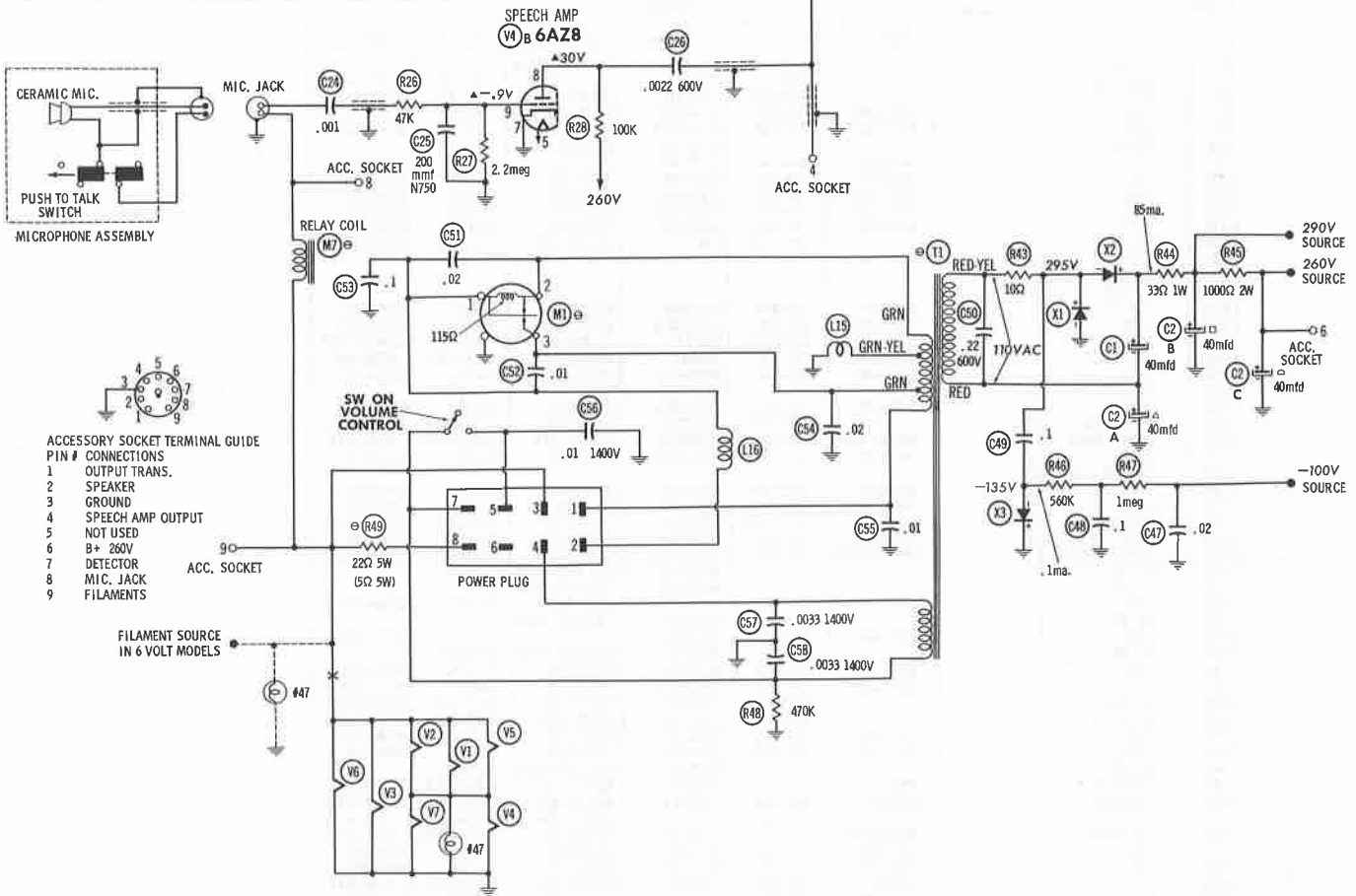
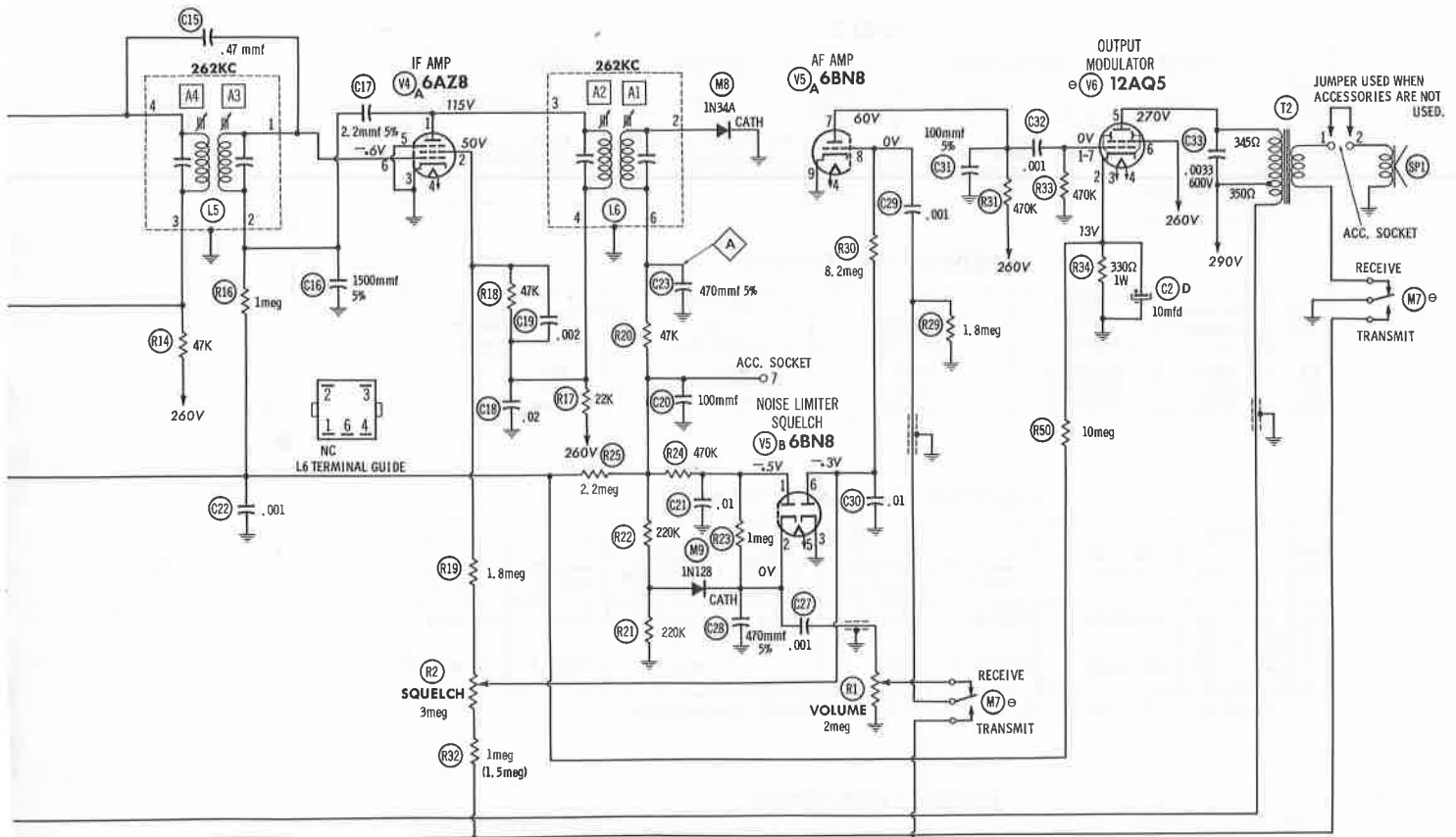
- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6DC6	2.9meg	0Ω	FIL	FIL	15700Ω	†35K	0Ω		
V2	6BE6	47K	0Ω	FIL	FIL	148K	†83K	.1Ω		
V3	12BE6	33K	0Ω	FIL	FIL	148K	†85K	2.8meg		
V4	6A28	2.8meg	†70K	0Ω	FIL	FIL	2.8meg	0Ω	†100K	2.2meg
V5	6N8N	400K	600K	0Ω	FIL	FIL	1.7meg	†470K	8.2meg	0Ω
V6	12A05	470K	330Ω	FIL	FIL	†400Ω	†1100Ω	470K		
V7	6AW8A	0Ω	†47K	12000Ω	FIL	FIL	0Ω	†53K	†8500Ω	†300Ω

† MEASURED FROM OUTPUT OF X2.  
 ALL READINGS TAKEN IN "RECEIVE" POSITION UNLESS OTHERWISE DESIGNATED.  
 ▲ TAKEN IN "TRANSMIT" POSITION.

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# PARTS LIST AND DESCRIPTION

## TUBES

◆ AMPEREX ◆		◆ GENERAL ELECTRIC ◆		◆ RCA ◆		◆ RAYTHEON ◆		◆ SYLVANIA ◆	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE			
V1	RF Amplifier	6DC6		V5	ANL-Squelch-AF Amp. Output-Modulator Trans. Osc. -Final Amp.	6BN8		12AQ5 (6AQ5)*	
V2	1st Converter	6BE6		V6		6AW8			
V3	2nd Converter	12BE6 (6BE6)*		V7					
V4	IF Amp. -Mic Amp.	6AZ8							

\* 6-Volt Versions.

## POWER RECTIFIERS

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS		
			MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.085A	027-000286	A300	1N1763	2F4
X2	.085A	027-000286	A300	1N1763	2F4
X3	.001A	027-000284	1N538	1N1763	Model 10

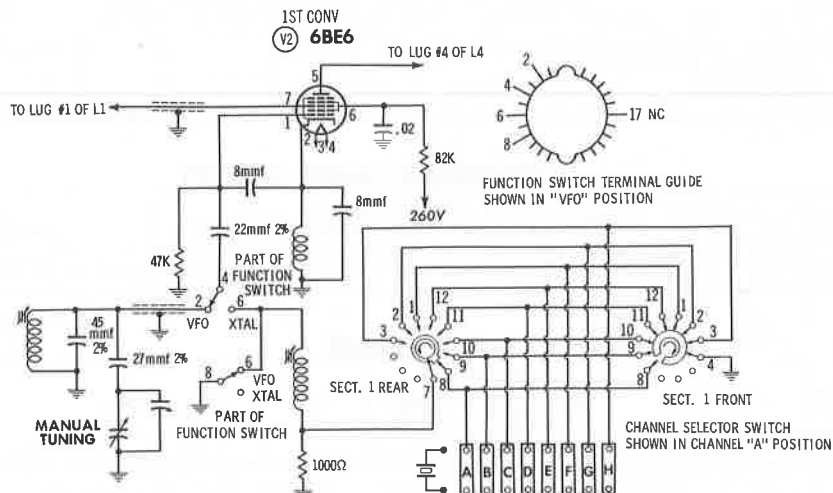
## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Hallcrafters PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	40	200	045-000633	PRS1580	BR40-250	QT1-14	TD-40-250	TC58	TVA-1511
C2A	40	350	045-000632	AFH4-04-70	D0460	QT1-15	XC3-40	FP425	TVLS-4624.5*
B	40	350							
C	40	200							
D	10	50							

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C3	75 2%				22R5Q75	CM-15E-750G			
C4	10 N750			DTN-10	C10Q1U	CCTN-100	CN7-410	10TCU-Q10	
C5	10 N750			DTN-10	C10Q1U	CCTN-100	CN7-410	10TCU-Q10	
C8	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C7	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C8	22 2%				22R5Q22	CM-15E-220G			
C9	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C10	.02		BPD-02	DD-203	BYA6S2	CCD-203	B-120	5HK-S20	
C11	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50	
C12	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20	
C13	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C14	100 5%			DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10	
C15	.47								
C16	1500 5%								
C17	2.2 5%								
C18	.02		BPD-02	DD-203	BYA6S2	CCD-203	B-120	5HK-S20	
C19	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20	
C20	100			DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10	
C21	.01 200V		P288N-01	D6-103	PM2S1	2DP-1-103	GEM-211	2TM-S10	
C22	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C23	470 5%								
C24	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C25	200 N750			DTN-200	C10T2U	CCTN-201	CN7-320	10TCU-T20	
C26	.0022 800V		P688N-0022	DD-222	CUB6D22	6DP-1-222	GEM-6222	6TM-D22	
C27	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C28	470 5%								
C29	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C30	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C31	100 5%			DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10	
C32	.001		BPD-001	DD-102	BYA10S1	CCD-103	B-110	5HK-S10	
C33	.0033 600V		P688N-0033	DD-233	CUB6D33	6DP-1-233	GEM-6233	6TM-D33	
C34	17 2%				22R5Q18	CM-15E-180G			
C35	12 2%				22R5Q12	CM-15E-120G			
C36	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C37	47 2%				22R5Q47	CM-15E-470G			
C38	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C39	40 2%				22R5Q4	CM-15E-340G	MCE223		
C40	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C41	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C42	5 N750			DTN-5	C10V5U	CCTN-050	CN7-550	10TCU-V50	
C43	5 N750			DTN-5	C10V5U	CCTN-050	CN7-550	10TCU-V50	
C44	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C45	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C46	24 2%				22R5Q24	CM-15E-240G	MCE220		
C47	.02 200V		P288N-02	DD-203	BYA6S2	CCD-203	B-120	5HK-S20	
C48	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10	
C49	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10	
C50	.22 800V		P688N-22	DD-222	CUB6P22	6DP-5-224	GEM-6022	6TM-P22	
C51	.02		BPD-02	DD-203	BYA6S2	CCD-203	B-120	5HK-S20	
C52	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C53	.1		P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10	
C54	.02		BPD-02	DD-203	BYA6S2	CCD-203	B-120	5HK-S20	
C55	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C56	.01 1400V		DAC-27	DD16-103	HVE18S1	16DP-3-103	UAC-110	BL-S10	
C57	.0033 1400V		BPD-0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33	
C58	.0033 1400V		BPD-0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33	



**HALLICRAFTERS MODEL CB-3A**

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V. F. O. CIRCUIT (MODEL HA-13) USED IN SOME  
VERSIONS OF MODEL CB-3A

## PARTS LIST AND DESCRIPTION (CONTINUED)

### CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Hallcrafters PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLYORY PART No.
R1	Volume & Switch	2meg	025-002048	F2-2meg, SU204, KR-1 or (B-76, KR-1)	A47-2meg-Z, FS-3, SWE-12	Q13-139, 76-1 or (BU1, CF27, SS1, GC)*	UA26A, SF1000, US-41 or (RU26A, SL38, SF1000, US-41) or (U55, US-26)
R2	Squelch	3meg	025-002047	F3-3meg, SU204, or (B-855)		Q17-140 or (BU1, CF21, SS1, DC1)*	UA38L, SF1000 or (RU38R, SL38, SF1000) or (U59)

\* "SNAPTROL"

### RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R49	22Ω 5W	PW5-22	5W-SQ-22						

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Hallcrafters PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Coupling	051-002791					
L2	Receive Osc.	051-003319					
L3	Conv. Cath. (27uh)	053-000647		72F275AF		T360	
L4	1650KC IF	050-000751				TA632	
L5	262KC IF (Input)	050-000861				T604	
L6	262KC IF (Output)	050-000862				T605	
L7	Trans. Osc. Plate	051-003312					
L8	RF Choke (500uh)	053-000537					
L9	RF Choke (500uh)	053-000537					
L10	RF Choke (500uh)	053-000537					
L11	RF Coupling	051-003324					
L12	RF Coupling Sec.	051-002770					
L13	54MC Trap	053-000584					
L14	RF Choke (.22uh)	053-000861					
L15	Hash Choke	051-002785					
L16	Hash Filter	051-002740					

# PARTS LIST AND DESCRIPTION (CONTINUED)

## TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	Hallcrafters PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC ①, 53A or 12.6VDC ②4.3A	110VAC ①, 085A DC	12.6VAC ①1.6A	052-000744 052-000743*					* 6 Volt Versions

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Hallcrafters PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	18K	3-4Ω	055-000433					

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		Hallcrafters PART No.	QUAM PART No.	
SP1	4" PM 3-4Ω	085-000206	4A07	

## VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FRE-QUENCY	REPLACEMENT DATA			NOTES
				Hallcrafters PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	
M1	Interrupter Interrupter	12.6 6.3	115v 115v	027-000282 027-000281	G-8801 5301	G-1601 1601	

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			Hallcrafters PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M2	3AG	5A 32V	039-100332	006-000883	311005, (3AG 5A 32V)	155020	AGC 5	HHJ-B
	3AG	8A 32V	039-000699†	006-000883				
	3AG	10A 32V	039-000309*	006-000883				

† 12 Volt Operation.  
\* 6 Volt Operation.

## MISCELLANEOUS

ITEM No.	PART NAME	Hallcrafters PART No.	NOTES
M3	Crystal	019-002819	Receive, 1st Converter. When ordering specify desired channel, Model and Serial Number of Receiver. Receive, 2nd Converter (1912KC) Transmit. When ordering specify desired channel, Model and Serial Number of Receiver. Receive (Rotary Wafer) Transmit (Rotary Wafer) 12 Volt Coil 6 Volt Coil
M4	Crystal	019-002917	
M5	Crystal	019-002820	
M6A	Switch	062-000194	
B	Switch	062-000193	
M7	Relay	021-000511	
M7	Relay	021-000510	
M8	Detector	1N34A	
M9	Squelch	1N128	
	Microphone	081-000111	

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob - Channel Selector	015-001683	Handle Assembly	150-003500
Knob - Volume	015-001680	Holder - Microphone	076-003277
Knob - Squelch	015-001678	Latch - Cabinet Bottom	030-000777-1
Front Panel	068-001303	Latch - Cabinet Top	030-000777-2

## WIRING DATA

General-use Hook-up Wire ....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors)
Shielded Antenna Lead .....	Use BELDEN No. 8214 Lowest Loss (RG-8/U Type) 8237 Low Loss (RG-8/U) 8240 (Solid) Miniature (RG-58/U) 8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable .....	Use BELDEN No. 8498 Single Conductor Shielded (Neoprene) 8498 Single Conductor Shielded (Vinyl)
Ignition Noise Suppression ....	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap .....	Use BELDEN No. 8661 (3/8 in.)