This Manual is provided by



Someone who wanted to help you repair your equipment scanned this manual.

If you would like to help us put more manuals online support us.

Supporters of CBTricks.com paid for the hosting so you would have this file.

CBTricks.com is a non-commercial personal website was created to help promote the exchange of service, modification, technically oriented information, and historical information aimed at the Citizens Band, GMRS (CB "A" Band), MURS, Amateur Radios and RF Amps.

CBTricks.com is not sponsored by or connected to any Retailer, Radio, Antenna Manufacturer or Amp Manufacturer, or affiliated with any site links shown in the links database. The use of product or company names on my web site is not endorsement of that product or company.

If your company would like to provide technical information to be featured on this site I will put up on the site as long as I can do it in a non-commercial way.

The site is supported with donation from users, friends and selling of the Galaxy Service Manual CD to cover some of the costs of having this website on the Internet instead of relying on banner ads, pop-up ads, commercial links, etc. to pay my costs. Thus I do not accept advertising banners or pop-up/pop-under advertising or other marketing/sales links or gimmicks on my website.

ALL the money from donations is used for CBTricks.com I didn't do all the work to make money (I have a day job). This work was not done for someone else to make money also, for example the ebay CD sellers.

All Trademarks, Logos, and Brand Names are the property of their respective owners. This information is not provided by, or affiliated in any way with any radio or antenna Manufacturers.

Thank you for any support you can give.



Рнотобаст®

TRADE NAME: Lafayette Model HE-20B

SUPPLIER: Lafayette Radio Electronics Corp.

III Jericho Turnpike, Syosset, L.I., N.Y.

TYPE SET: 7 Tube Citizens Band Transceiver

POWER SUPPLY: 110-120VAC, 60 Cycles (or)

12 Volt Storage Battery

RATING: 51 Watts, .5 Amp. @ 117VAC (or) 3.7 Amp. @ 12.6VDC (Receive)

TUNING RANGE: Any 8 Crystal Controlled Channels 1-23 (Receiver may be manually tuned)



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1, A2, A3.....GENERAL CEMENT #5000, 5003, 5006 WALSCO #2515, 2516, 2518 A4......GENERAL CEMENT #8282, 8606, 8606L

WALSCO #2526, 2543, 2544

A5 thru A10.... GENERAL CEMENT #5097, 8607, 8727

WALSCO #2515

RECEIVER ALIGNMENT

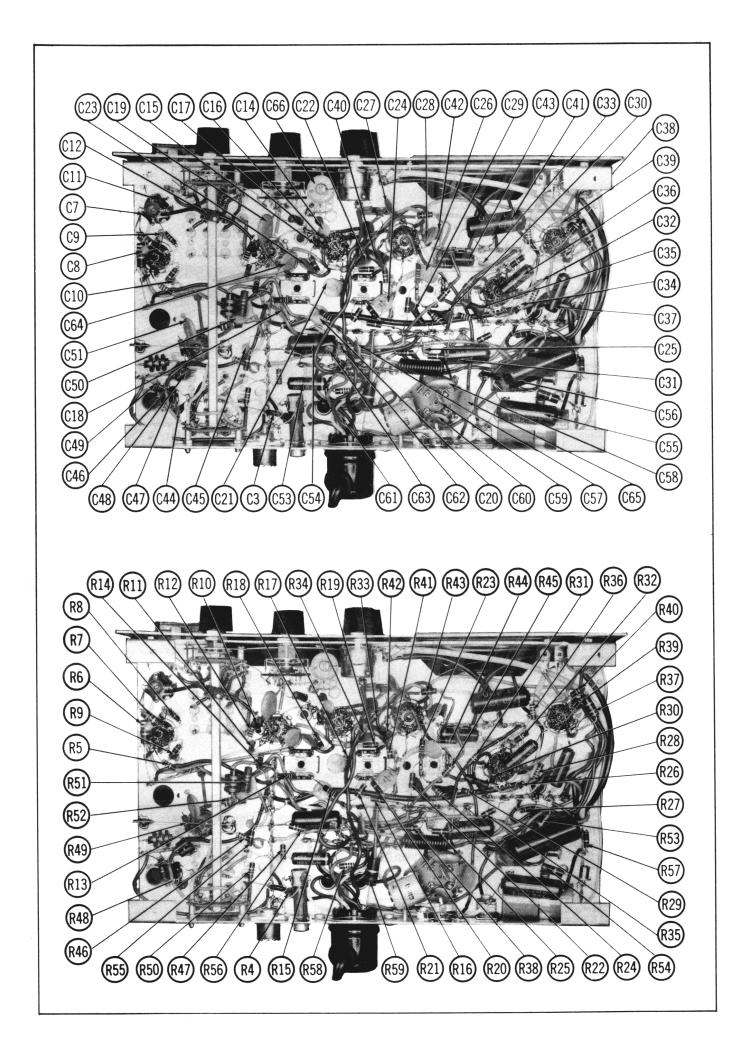
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an

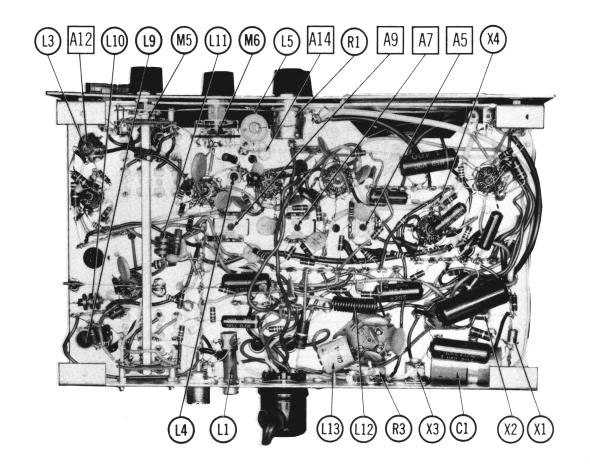
SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS				
High side thru .01mfd to pin 7 (grid) of Converter, low side to ground. Tune to 1650KC (400∿ Mod.).	Any	A5, A6, A7, A8, A9, A10	Turn squelch control fully clockwise. Adjust for maximum outp				
Across antenna receptacle. Tune to Channel Frequency.	Center Channel Used (Fixed)	A11	Connect a 100Ω resistor and .005mfd capacitor in series across the secondary of L3. Adjust for maximum output.				
"	11	A12	Move resistor and capacitor to the primary of L3. Adjust for maximum output. Remove resistor and capacitor.				
"	1 (26.965MC) (Tune)	A13	Adjust for maximum output. Two peaks will be obtained. Use the higher.				
"	23 (27. 255MC) (Tune)	A14	Adjust for maximum output. Readjust Al3 and Al4 until maximum calibration is attained.				
		A4	Adjust for MINIMUM interference on the three lower TV channels.				

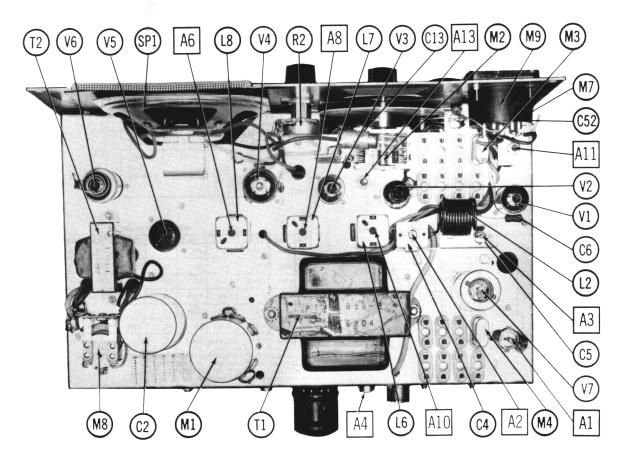
TRANSMITTER ALIGNMENT

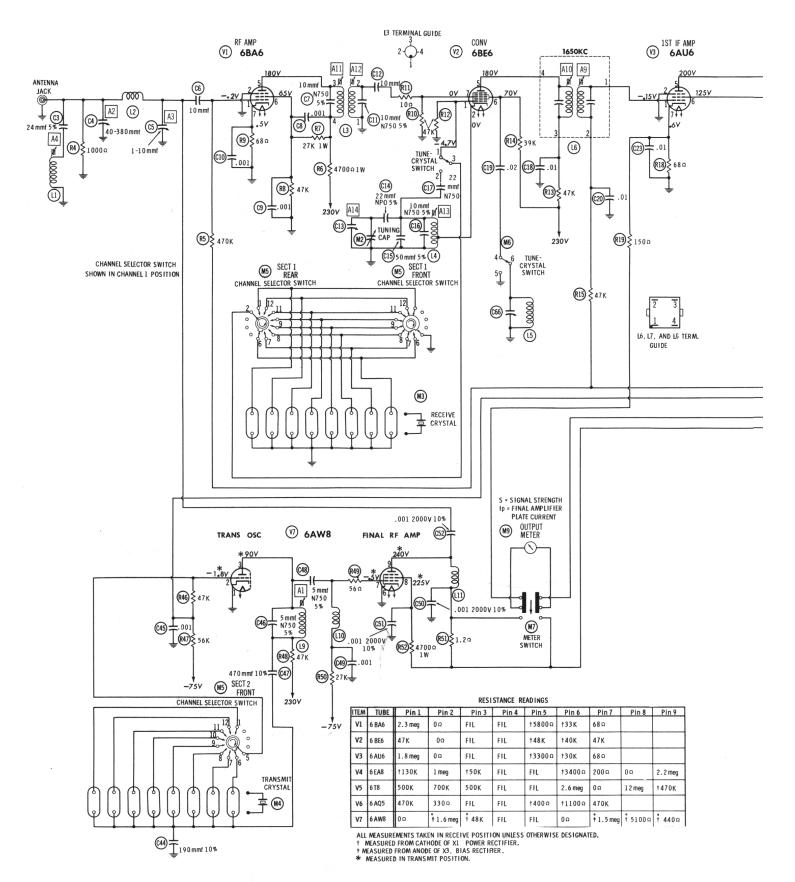
ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES & REGULATIONS PART 19, SUBPART D, SECTION 19.71)

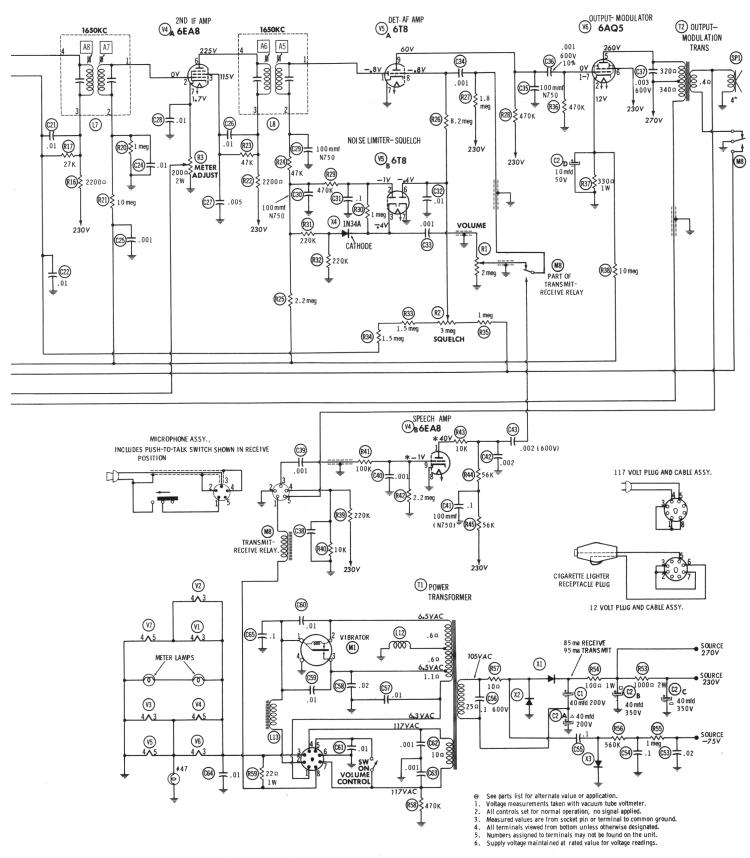
INDICATOR	ADJUST	REMARKS
Connect DC probe of VTVM to pin 7 (grid) of final RF Amp, common to ground.	Al	Key transmitter and adjust for maximum deflection.
RF Power Indicator Meter	A2, A3	Key transmitter and adjust for maximum deflection.











LAFAYETTE MODEL HE-20B

PARTS LIST AND DESCRIPTION

TUBES

	◆ AMPEREX ◆	GENERAL ELECTRIC ◆	RCA	◆ RAYTHEON ◆	SYLVANIA +
ITEM No.	USE	TYPE	ITEA No.	"I USF	TYPE
V1 V2 V3 V4	RF Amplifier Converter 1st IF Amplifier 2nd IF AmpSpeech Amp.	6BA6 6BE6 6AU6 6EA8	V5 V6 V7	DetAF Amp Noise Limiter-Squelch Output - Modulator Trans. OscFinal	6T8 6AQ5 6AW8

POWER RECTIFIERS & SIGNAL DIODES

				RECTIFIERS	NOTES	
ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	MALLORY RCA PART No. PART No.			
X1 X2 X3 X4			1N2070 1N2070	1N1763 1N1763	40H 40H Model 12 1N34A	HV Rectifier HV Rectifier Bias Rectifier Noise Limiter

ELECTROLYTIC CAPACITORS

	RATING		REPLACEMENT DATA								
ITEM No.	CAP.	VOLT.	Lafayette PART No.	AEROVOX PART No.	CORNELL- DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.		
C1 C2A B C	40 40 40 40 10	200 200 350 350 50) (PRS1580 AFH3-43 PRS1580	BR4025 C0340 BR4035	QT1-14 XC4-22	TD-40-250 TMT-3700 TD-40-350	TC58 FP420.36	TVA-1511 TVA-1611		

FIXED CAPACITORS

ITEM No.						MENT DATA		
- 1	RATING	REMARKS	AEROVOX PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	24 5%		1469-000024	TC Z-24	22R5Q24	CM-19B-240J	CNO-425	MS-424
C4	40-380			829-10				
C5 C6	1-10 10			829-10				
C7	10 N750 5%		N750-SI 10	TCN-10	C10Q1U	CCTN-100	CN7-410	10TCU-Q10
C8	. 001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C9	. 001		BPD-001	DD-102 DD-102	BYA10D1 BYA10D1	CCD-102 CCD-102	B-210 B-210	5HK-D10 5HK-D10
C10 C11	.001 10 N750 5%		BPD-001 N750-SI 10	TCN-10	C10Q1U	CCTN-100	CN7-410	10TCU-Q10
C12	10 14730 3/6		1469-00001	TC Z-10	22R5Q1	CM-19B-100M	MCB215	MS-41
C13							GNO 400	10TCC-Q22
C14	22 NPO 5%		1460 00005	DTZ-22 TCZ-50	C10-22C 22R5Q5	CM-19B-500J	CNO-422 MCE225	MS-45
C15 C16	50 5% 10 N750 5%		1469-00005 N750-SI 10	TCN-10	C10Q1U	CCTN-100	CN7-410	10TCU-Q10
C17	22 N750		N750-SI 22	TCN-22	C10Q22U	CCTN-22	CN7-422	10TCU-Q22
C18	. 01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C19	. 02		BPD-02	DD-203	BYB6S2 BYA10S1	CCD-203 CCD-103	B-120 B-110	5HK-S20 5HK-S10
C20 C21	. 01 . 01		BPD-01 BPD-01	DD-103 DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C21	.01	1	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	. 01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C24	. 01		BPD-01	DD-103	BYA10S1	CCD-103	B-110 B-210	5HK-S10 5HK-D10
C25	. 001		BPD-001 BPD-01	DD-102 DD-103	BYA10D1 BYA10S1	CCD-102 CCD-103	B-110	5HK-S10
C26	.01 .005		BPD-005	DD-103	BYA10D5	CCD-502	B-250	5HK-D50
C28	. 01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C29	100 N750		N750-SI 100	TCN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10 10TCU-T10
C30	100 N750 .1 200V		N750-SI 100 P488N-1	TCN-100 DF-104	C10T1U CUB4P1	CCTN-101 4DP-3-104	CN7-310 GEM-401	4TM-P10
C31 C32	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C33	. 001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C34	. 001		BPD-001	DD-102	BYA10D1	CCD-102	B-210 CN7-310	5HK-D10 10TCU-T10
C35	100 N750		N750-SI 100 V84C6D1	TCN-100	C10T1U PM6D1	CCTN-101 6DP-1-102	GEM-1621	6TM-D10
C36 C37	.001 600V 10%		P688N-003	D6-302	CUB6D3	6DP-1-302	GEM-623	6TM-D30
C38	.001		BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C39	. 001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C40	100 N750		N750-SI 100	TCN-100	C10T1U CUB4P1	CCTN-101 4DP-3-104	CN7-310 GEM-401	10TCU-T10 4TM-P10
C41 C42	.1		P488N-1 BPD-002	DF-104 DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C43	.002 600V		P688N-002	D6-202	CUB6D2	6DP-1-202	GEM-622	6TM-D20
C44	190 10%		1469-0002	TCZ-200	22R5T2	CM-19B-201K		MS-32
C45 C46	.001 5 N750 5%		BPD-001 N750-SI 5	DD-102 TCN-5	BYA10D1 C10V5U	CCD-102 CCTN-050	B-210 CN7-550	5HK-D10 10TCU-V50
C46	470 10%		14100-010	1011-0	20130	111-000	311. 000	
C48	5 N750 5%		N750-SI 5	TCN-5	C10V5U	CCTN-050	CN7-550	10TCU-V50
C49	.001	1	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C50 C51	.001 2000V 10% .001 2000V 10%						1	
C52	.001 2000V 10%							
C53	.02 200V		P288N-02	DD-203	CUB2S2	4DP-2-203	GEM-412	2TM-S20
C54	.1 200V	1	P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201 GEM-401	2TM-P10 4TM-P10
C55 C56	.1 400V .1 600V	1	P488N-1 P688N-1	DF-104 DF-104	CUB4P1 CUB6P1	4DP-3-104 6DP-4-104	GEM-401 GEM-601	6TM-P10
C57	.01	2 22	BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C58	.02		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C59 C60	.01		BPD-01 BPD-01	DD-103 DD-103	BYA10S1 BYA10S1	CCD-103 CCD-103	B-110 B-110	5HK-S10 5HK-S10
C61	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-810
C62	.001		EF-001	MFT-1000		CCF-102	CT280A	
C63	. 001		EF-001	MFT-1000	DAY 4 1001	CCF-102	CT280A	5HK-S10
C64 C65	.01 .1 100V		BPD-01	DD-103	BYA10S1	CCD-103	B-110	OHE-SIO
C66	.1 1004							

PARTS LIST AND DESCRIPTION (CONTINUED)

CONTROLS

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

		DECICE	REPLACEMENT DATA							
No.	USE	RESIST- ANCE	Lafayette PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.			
RI	Volume & Switch	2meg	V-332A-2	B-76, KR-1	A47-2meg-Z, FS-3, SWE-12	Q13-139, 76-1	U55, US-26			
R2 R3	Squelch Meter Adjust	3meg 200Ω 2W	V-331A-2 P325-3	B-84, AK-31 WN-201	A-43-200, FKS-1/4	WH-200, SK-5	U57, EB247			

COILS (RF-IF)

TEM No. USE					,	/	2.1002	
No.	ITEM			REPLA	ACEMENT D	ATA		
L2 Antenna Load L3 RF Bandpass L4 Rec. Oscillator L5 Crystal Feedback (6, 8uh) L6 lst IF 1-110-5 L7 2nd IF 1-110-5 L8 3rd IF 1-110-5 L9 Transmitter Osc. L10 RF Choke (500uh) L1 RF Choke (500uh) L2 RF Choke (500uh) L3 RF Choke (500uh) L4 RTC-3592 L5 T324 L7 TV-188 6174 RTC-3592 T324		USE						NOTES
L6 1st IF 1-110-5 1-10-5	L2 L3 L4	Antenna Load RF Bandpass Rec. Oscillator Crystal Feedback						
	L7 L8 L9 L10 L11	lst IF 2nd IF 3rd IF Transmitter Osc. RF Choke (500uh) RF Choke (500uh)	1-110-5 1-110-5					
	L13		187-1					

TRANSFORMER (POWER)

					REPLACEMENT DATA							
No.			KATING		Lafayette				THORDARSON		NOTES	
	PRI.	SEC. 1	SEC. 2	PART No.	PART No.	PART No.	PART No.	PART No.				
	117VAC (a) . 5A(or) 12.6VCT (a) 2.5A	105V ② .080A	12.6V ② * 1.8A	PTV-183-2					* 117 Volts operation only.			

TRANSFORMER (AUDIO OUTPUT)

_								,			
					REPLA						
- 1	TEM No.					Lafayette	MERIT		THORDARSON		NOTES
L		PRI.	SEC.	PART No.	PART No.	PART No.	PART No.	PART No.			
	T2	10.7K	3-4Ω	T-184-1							
		Tap @ 4600Ω									

SPEAKER

	ТҮРЕ	REPLACEM	ENT DATA	
No.		Lafayette PART No.	QUAM PART No.	NOTES
SPl	4" PM 3-4Ω	S717-1	4A07	

VIBRATOR

1					RE	PLACEMENT DA	TA	
	No.	TYPE	VOLTS	FRE- QUENCY	Lafayette PART No.	CORNELL- DUBILIER PART No.	MALLORY PART No.	NOTES
	Ml	Interruptor	12.6	115∿		6301	G-1601	

MISCELLANEOUS

ITEM No.	PART NAME	Lafayette PART No.	NOTES
M2 M3 M4 M5 M6 M7 M8 M9	Variable Cap Crystal Crystal Switch Switch Switch Relay Meter Microphone		1 Gang, Receiver Tuning Receiver (Order channel desired) Transmitter (Order channel desired) Channel Selector (Rotary Wafer Type) Receiver Tuning, Crystal -Tune (Wafer Type) Meter (STDP, Slide Type) Transmit - Receive Power Monitor or Signal Strength Includes Spring Loaded Push-to-talk Switch

WIRING DATA

- 1	General-use Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
- 1	8524 (Stranded) Available in 12 Colors
- 1	Shielded Antenna Lead Use BELDEN No. 8214 Lowest Loss (RG-8/U Type)
- 1	8237 Low Loss (RG-8/U)
- 1	8240 (Solid) Miniature (RG-58/U)
- 1	8259 (Stranded) Miniature (RG-58A/U)
-1	Coiled Microphone Cable Use BELDEN No. 8497 3 Conductor - 1 Shielded for Press-to-Talk (Neoprene)
- 1	8496 3 Conductor- 1 Shielded for Press-to-Talk (Vinyl)
-1	Ignition Noise Suppression Use BELDEN No. 7300-Series Spark-Plug Sets
- 1	Bonding Strap Use BELDEN No. 8661 (3/8 In.)