

MOTOROLA Service Manual

AUTO RADIO MODEL VWA7

GENERAL INFORMATION

TYPE - Automotive type superheterodyne receiver designed for custom installation in the 1957, 1956, 1955, 1954 & 1953 Volkswagen cars.

TUNING RANGE - 535 to 1605 Kc

IF - 262.5 Kc

OPERATES FROM - 6 volt storage battery

TUBE COMPLEMENT - 6BE6

Converter

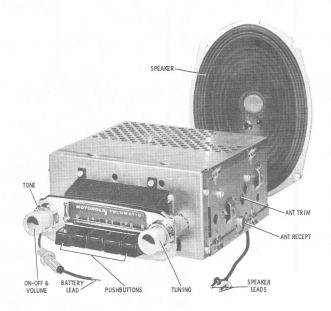
6BA6

IF amp Det-AVC-AF amp

6CR6 6A05

6X4

Pwr amp Rectifier



TO SET PUSHBUTTONS

This receiver has an automatic tuner, with 5 pushbuttons for automatic station selection.

To set the pushbuttons for automatic tuning, proceed as follows:

1. Tune in the desired station with the manual tuning knob. Tune carefully until you are exactly on the station.

- 2. Pull out the first pushbuttons to be set, to unlock the button for station set-up, and then push button in firmly to set and lock the button.
- 3. Follow the above procedure for the remaining four but-

MOTOROLA AUTO RADIO WARRANTY SERVICE STATION PROCEDURE FOR BRANDED MODELS

- 1. The definition of a Motorola Branded Model is one that is branded with the Motorola name, and distributed to dealers through authorized Motorola Distributors.
- 2. Before performing a warranty repair on a Motorola Branded Auto Radio, you must first receive from the customer the Customer's Warranty Policy. This policy must be filled out by the selling dealer at the time of retail purchase. The Customer's Warranty Policy must show the radio to be within the ninety day warranty period if the repair is to be handled under the Motorola Auto Radio Warranty Plan.
- 3. The removal or reinstallation of the radio, the elimination of motor noise, tire static, electrical interference, or faulty installation and aerial repairs are not considered as warranty repairs. Consequently, charges for these services are to be borne by the customer.
- 4. Fill in the Motorola Auto Radio Warranty Labor Claim, Part No. 54P480884; and mail White and Green copies to the Motorola Distributor serving your area. The Yellow copy is to be retained by the Warranty Service Station for his files.
- 5. Defective parts for warranty repairs made on Motorola Branded Auto Radios are to be sent to your Motorola Distributor for free replacement, supported with the defective parts return form which you are now using.
- 6. Only those service shops authorized by their Motorola Distributor can perform repairs within the warranty period on a no-charge basis to the customer. If you are not already authorized as a Motorola Auto Radio Warranty Service Station, and you are interested in handling this service, please contact your Motorola Distributor for complete details.

ALIGNMENT

Connect an output meter across the speaker voice coil. Set volume to maximum and tone to treble. Attenuate the signal generator output to maintain 1.79 volts on output meter at all times to prevent overloading the receiver.

STEP	GENERATOR CONNECTION	GENERATOR FREQUENCY (400 cycle mod)	TUNER SET TO	ADJUST	REMARKS
IF ALI	GNMENT Ant recept through .1 mf & chassis	262.5 Kc	Hi end stop	1, 2, 3 & 4	Adjust for maximum.
RF AL	GNMENT Ant recept through dummy (see Fig.)	1610 Kc	Hi end stop	5,6 & 7	Adjust for maximum.

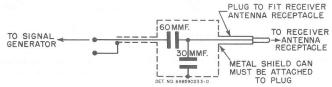
NOTE: Do not perform steps 3, 4, 5 & 6 unless the tuner has been tampered with or components have been replaced. Remove the escutcheon, dial scale assembly and dial background plate to expose the core screws. Before proceeding with step 3, back the tuning cores as far as possible out of the coils to eliminate their effect on trimmer adjustments.

		1			
3.	Ant recept through dummy (see Fig.)	1610 Kc	Hi end stop	5,6 & 7	Adjust for maximum.
4.	н	1200 Kc	Tuner carriage 9/32" from hi end stop	8, 9 & 10	Adjust for maximum.
5,	н	1610 Kc	Hi end stop	5,6 & 7	Adjust for maximum.
6. Rep	eat steps 4 and 5 unt	il no further incre	ase, then cement tuni	ng cores in place.	Step 5 should be the last adjustment.
ANTEN	NA TRIMMER				***************************************

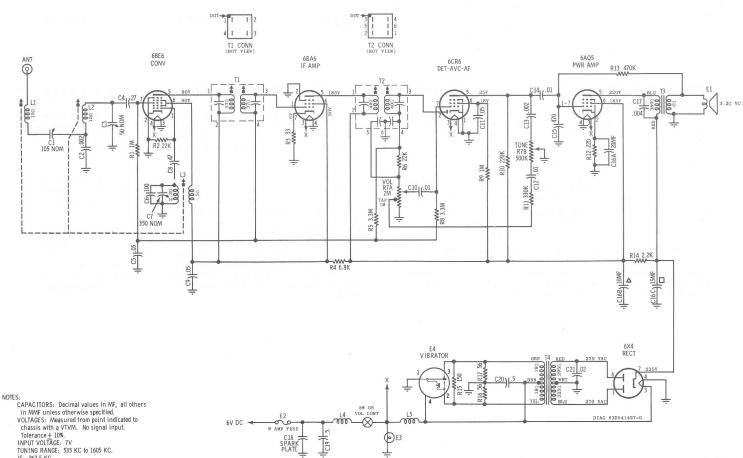


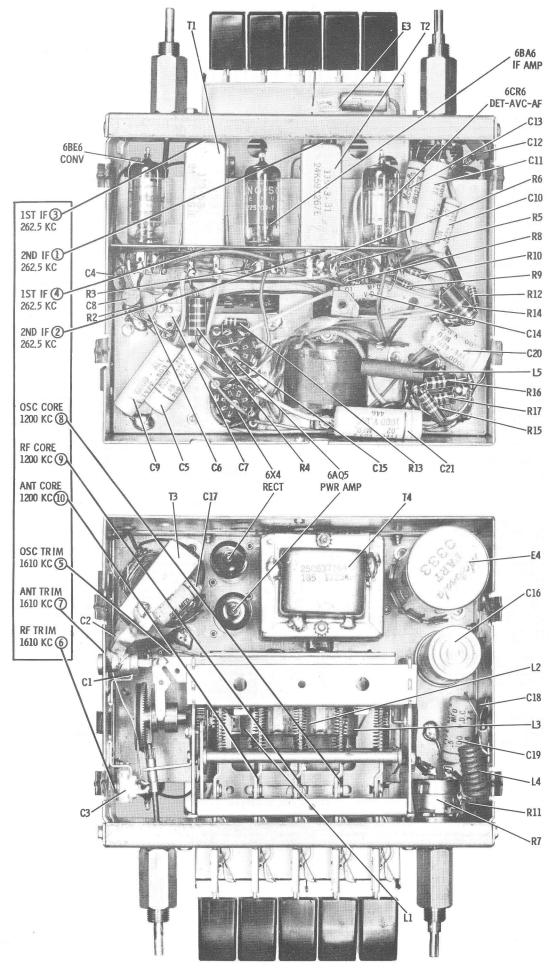
IF: 262.5 KC.

With radio installed in car and antenna fully extended, adjust antenna trimmer for maximum.



DUMMY ANTENNA DETAIL





ALIGNMENT ADJUSTMENTS AND PARTS LOCATIONS

REPLACEMENT PARTS LIST

NOTE: When ordering parts, specify model number of set in addition to part number and description of part.

Ref.	Part Number	Description	List Price	Ref.	Part Number	Description	List Price
ELECTE	RICAL PARTS				42B733793	Clip, IF mtg	.02
					42A4215	Clip, vibrator grounding	.10
C-1	20K541699	Capacitor, mica trim: 35 mmf to 200 mmf	.50		*15K541823	Cover, bot	. 45
C-2	8R121568	Capacitor, paper tub: .002 mf 600V Capacitor, mica trim: 20 mmf to 120 mmf	.30		15C541670	Cover, top	. 45
C-3	*20K542018	Capacitor, mica trim: 20 mmf to 120 mmf	. 45		*13B541930	Escutcheon	1.50
C-4 C-5	21R410089 8R121005	Capacitor, cer disc: 27 mmf 500V	. 25		*36K542005 36B522020	Knob, dummy	.40
C-6	21R410036	Capacitor, paper tub: .05 mf 200V Capacitor, cer disc: 100 mmf 500V	. 23		*36K542194	Knob, vol & tuning	.30
0-0	2111110000	NTC750PPM	. 25		2B521332	Nut, clinch (staked to housing)	.02
C-7	*20K542092	Capacitor, mica trim: 310 mmf to 390 mm			*1V542214	Pointer	
C-8	21R115593	Capacitor, cer disc: 47 mmf 500V			38C541147	Pushbutton	.10
		NTC750PPM	. 25		*9K541991	Receptacle, fuse	.70
C-9	8R121567	Capacitor, paper tub: .05 mf 400V	. 25		*34B542050	Scale, dial	.20
C-10	8R121868	Capacitor, paper tub: .01 mf 200V	. 25		*1B541917	Shaft, manual tuning: incl bushing	1.15
C-11	8R121567	Capacitor, paper tub: .05 mf 400V	. 25		9A530168 9A70208	Socket, ant	.20
C-12 C-13	21R121946 8R121568	Capacitor, cer disc: .01 mf 500V Capacitor, paper tub: .002 mf 600V	. 25		9K541697	Socket, 4 pin (vibrator) Socket, pilot light	.20
C-14	8R121868	Capacitor, paper tub: .002 ml 000v	. 25		9K539132	Socket, tube: 7 pin min	. 15
C-15	21R114554	Capacitor, cer disc: 470 mmf 500V	,25		29A76280	Terminal, pin: black (spkr leads)	. 05
C-16	23A485677	Capacitor, electrolytic: 10-15mf/350V;			29K76282	Terminal, pin: white (spkr leads)	.03
		20mf/25V	3.05		4K481689	Washer, felt (cont knobs)	.01
C-17	8R121000	Capacitor, paper tub: .004 mf 600V	.35				
C-18	64K530177	Spark Plate	. 05	MOUNT	ING PARTS &	ACCESSORIES	
C-19	8K122076	Capacitor, paper tub: .5 mf 100V	.50	110 011 1			
C-20 C-21	8K122076 8R121004	Capacitor, paper tub: .5 mf 100V Capacitor, paper tub: .02 mf 1000V	. 50 . 35		*7B542000	Bracket, rcvr mtg	.10
C-21	OR121004	Capacitor, paper tub: .02 mi 1000v	. 30		64C520202	Plate, spkr mtg	
E-1	50C541101	Speaker, PM: 6 x 9"; 3.2 ohm VC	7.75**		*1V542033	Kit, mtg parts: incl items listed belo	
E-2	65R16248	Fuse, 9 amp	. 05		8A4491	Condenser, noise suppression	. 85
E-3	65R10867	Bulb, pilot light: 6V; #44	.20		487657 487688	Lockwasher, ext: #8	.01
E-4	48B3333	Vibrator, 6V	3.80		401000	Lockwasher, int-ext: 5/8 x 1/4 (rcvr mtg)	.01
					287003	Nut, hex: 8-32 x 5/16 (spkr mtg)	.01
L-1, 2		See Tuner Replacement Parts List	0.5		252879	Nut, hex: 7/16-28 (rcvr mtg)	.05
L-4 L-5	*24K542019 24A538914	Choke, RF	.05 .35		3\$8039	Screw, cap: 1/4-20 x 3/8 (rcvr mtg)	.05
T-2	24AJJ0514	Choke, hash	. 30		*3\$122799	Screw, tapping: #6 x 3/8	.01
Resist	tors - Note:	All resistors are insulated carbon type			4S7550	Washer, flat: 7/16156048	.01
RCDID	torb note.	unless otherwise specified			2A912119	Wingnut: 8-32 (spkr mtg)	.01
R-1	6R6004	1 meg 20% 1/2W	. 10				
R-2	6R6028	22,000 20% 1/2W	.10	TUNER	77K542165 ((AT-233) PARTS	
R-3	6R2036	33 10% 1/2W	. 10	* 1	0.40505.450	0.13	0.5
R-4	6R5690	6800 10% 2W	. 25	L-1 L-2	24C535458 24C535458	Coil, ant	.25
R-5 R-6	6R2118 6R6028	3.3 meg 20% 1/2W	, 10 , 10	L-3	24C535456	Coil, RF	.30
R-7	*18B542013	Dual Control & Switch: vol 2 meg, tap	, 10	Ц-0	*77K542165	Tuner, AT-233: complete	
10-1	100012015	at 1 meg; tone 500K	2.25		1B534778	Adjusting Screw & Nut Assem	.10
R-8	6R2118	3.3 meg 20% 1/2W	.10		45C534697	Arm, Clutch release	.10
R-9	6R6004	1 meg 20% 1/2W	.10		1A540830	Arm, pointer	.10
R-10	6R6015	220,000 20% 1/2W	.10		*45B534574	Arm, pushbutton extension	. 03
R-11	6R6014	330,000 20% 1/2W	.10		43A4326	Bearing, ball	.01
R-12	6R6270	220 10% 1/2W	.10		1V535114	Clutch Assem: incl friction washers, crown gear & pinion gear	2,20
R-13 R-14	6R6032 6R476130	470,000 20% 1/2w	.25		1V542258	Coils & Mtg Plate Assem: incl L1, L2,	4,20
R-15	6R6330	150 10% 1W	.20		11012200	L3 & mtg plate	2.55
R-16	6R2037	56 10% 1W	. 20		76K534642	Core, iron (ant & RF coil)	.55
R-17	6R2037	56 10% lw	.20		76K534644	Core, iron (osc coil)	. 55
					5K536918	Grommet, coil mtg (ant & RF coil)	. 03
T-1	24B580193	Transformer, lst IF: 262.5 Kc Transformer, 2nd IF: 262.5 Kc	1.45		5K534727	Grommet, coil mtg (osc coil)	.02
T-2	24K591267	Transformer, 2nd IF: 262.5 Kc	1.70		5K534508 45A534509	Grommet, core mtg	.02
T-3 T-4	25B70171	Transformer, output	1.90 4.30		1K542255	Plate, coil mtg	.20
1-4	25C537164	itanstormer, power	1,00		42K534660	Retainer, clutch	.20
MECHAI	NICAL PARTS				76B534589	Sleeve, iron	. 05
					41A501096	Spring, pointer	.10
	*7B541865	Bracket, dial background	.40		41A535493	Spring, tension (clutch bar return)	.03
	*7C541894	Bracket, dial scale ret	. 15		41A534566	Spring, tension (conn link)	. 05
	*43K541923	Bushing, mtg	. 40		4A501039	washer, "C" (pointer arm)	.01
	42A500196	Clip, dial scale ret	.02		4A535325	Washer, rubber (sleeve ret)	.02

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
*New Item, Appears in any List for First Time
**Plus Federal Excise Tax at Current Rate



MOTOROLA Service Manual

AUTO RADIO SUPPLEMENT NO. 1

> MODEL VWA7

SUPPLEMENT TO VWA7 SERVICE MANUAL PART NO. 68P541456

GENERAL INFORMATION

This supplement covers parts used on Model VWA7 auto radio when it is installed in a 1958 Volkswagen car. For

all other information, refer to the VWA7 Service Manual (Part No. 68P54I456).

SUPPLEMENTARY REPLACEMENT PARTS LIST

NOTE: When ordering parts, specify model number of set in addition to part number and description of part.

Electronic parts of equivalent rating are not necessarily of equivalent standards. The components listed in this Service Manual have been chosen for reliability and applicability to the specific circuits involved. For maximum customer satisfaction and minimized call-backs, use the exact Motorola parts replacement.

Part Number No. The following pa

Description

following parts are used when installing a VWA7 in a

7B542795 Bracket, rcvr mtg: LH (dash)
7K542798 Bracket, rcvr mtg: RH (dash)
7B542767 Bracket, rcvr mtg (rear)
*43K542776 Bushing, mtg: 1-5/16 long overall

Ref. Part Number

> 8B538244 Condenser, voltage regulator 13B542780 Escutcheon

7/16-28 (rcvr mtg) 2S2879 Nut, hex: Scale, dial
Screw, tapping: #10 x 3/8 (spkr mtg)
Suppressor, distributor 34B542775 35128062 6A4141

Description

*New Item, Appears in any List for First Time