

PHOTOFACT[®] with CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE: Manufacturer Part Numbers Shown Are MOTOROLA



PA8M SERIES

VOLKSWAGEN MODELS PA(PP)8MVG
 (68 Karmann Ghia)
 PA(PP)8MVF
 (68 Fastback, Squareback)
 PA(PP)8MVT
 (68 Transporter)
 PA(PP)8MW
 (68 Sedan)
 2-Track Monaural Tape Player

NOTE: PA Series (Radio) -PP Series (Less Radio)

OPERATING INSTRUCTIONS

Insert cartridge until it locks and turns unit on.

Move Program Selector to I or II to play desired tracks.

Set operating controls as desired.

Remove cartridge to turn unit off.

CLEANING

Clean all tape contact surfaces with a soft, lint-free material and head cleaner or alcohol. Use alcohol to remove oil and grease from all driving surfaces.

LUBRICATING

Lubricate bearings and bushings lightly with #20 machine oil. Use a light film of non-hardening grease on cam surfaces.

HEAD DEMAGNETIZING

Demagnetize head when unit is serviced. Avoid using magnetic materials near head.

ADJUSTMENTS

ADJUST	REMARKS
Head Azimuth	Connect an AC VTVM across speaker. Play an azimuth-test tape and adjust B1 for maximum on Program I and B2 for maximum on Program II, or play any tape and adjust for maximum high-frequency response.

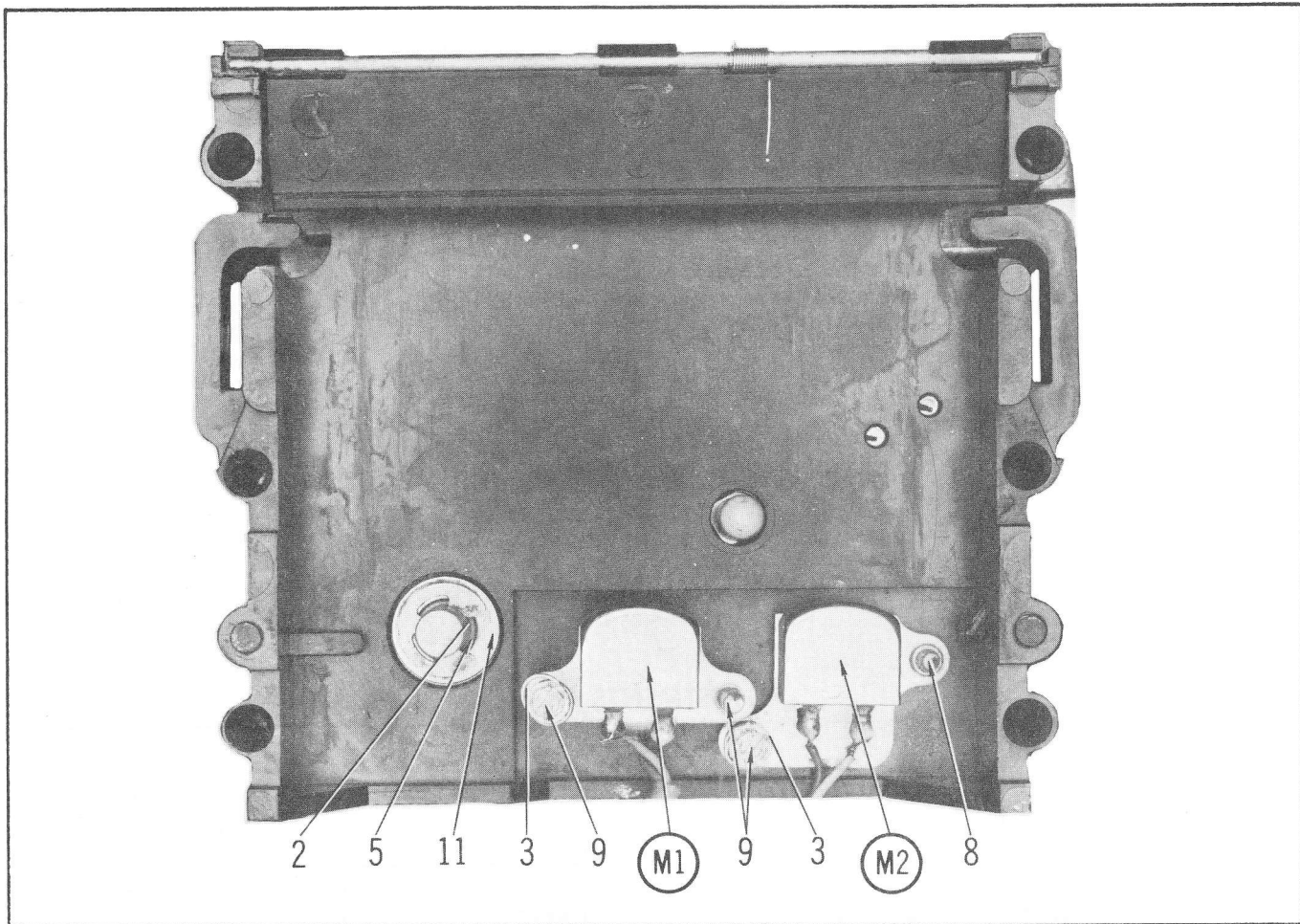
VOLKSWAGEN PA8MV, PP8MV SERIES

TROUBLE CHART

SYMPTOM	REMARKS
Capstan does not rotate.	Belt (1) dirty, worn, or broken. Assembly (10) binding. Motor defective or not supplied with power.
Wow or Flutter.	Belt (1) dirty or worn. Capstan dirty or binding. Cartridge defective. Motor defective. Speed regulator circuit defective.
Sound weak or distorted.	Head dirty, misaligned, or defective. Cartridge defective. Amplifiers defective.
Tape is pulled from cartridge.	Cartridge defective. Capstan dirty or scored.

MECHANICAL PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	42-42996B01	Drive Belt	7	1-42500B88	Tape Player Chassis
2	43-40411B02	Thrust Bearing	8	3-136465	Azimuth Adjust Screw
3	41-42611B01	Tension Spring (2 used)	9	3-136416	Azimuth Adjust and Mounting Screw (3 used)
4	41-42613B01	Door Spring	10	49-42612B01	Flywheel and Capstan Shaft Assembly
5	43-42781B01	Capstan Shaft Insert	11	4-40429B01	Capstan Shaft Thrust Washer
6	5-3144	Capstan Shaft Eyelet (Not used in some versions)			



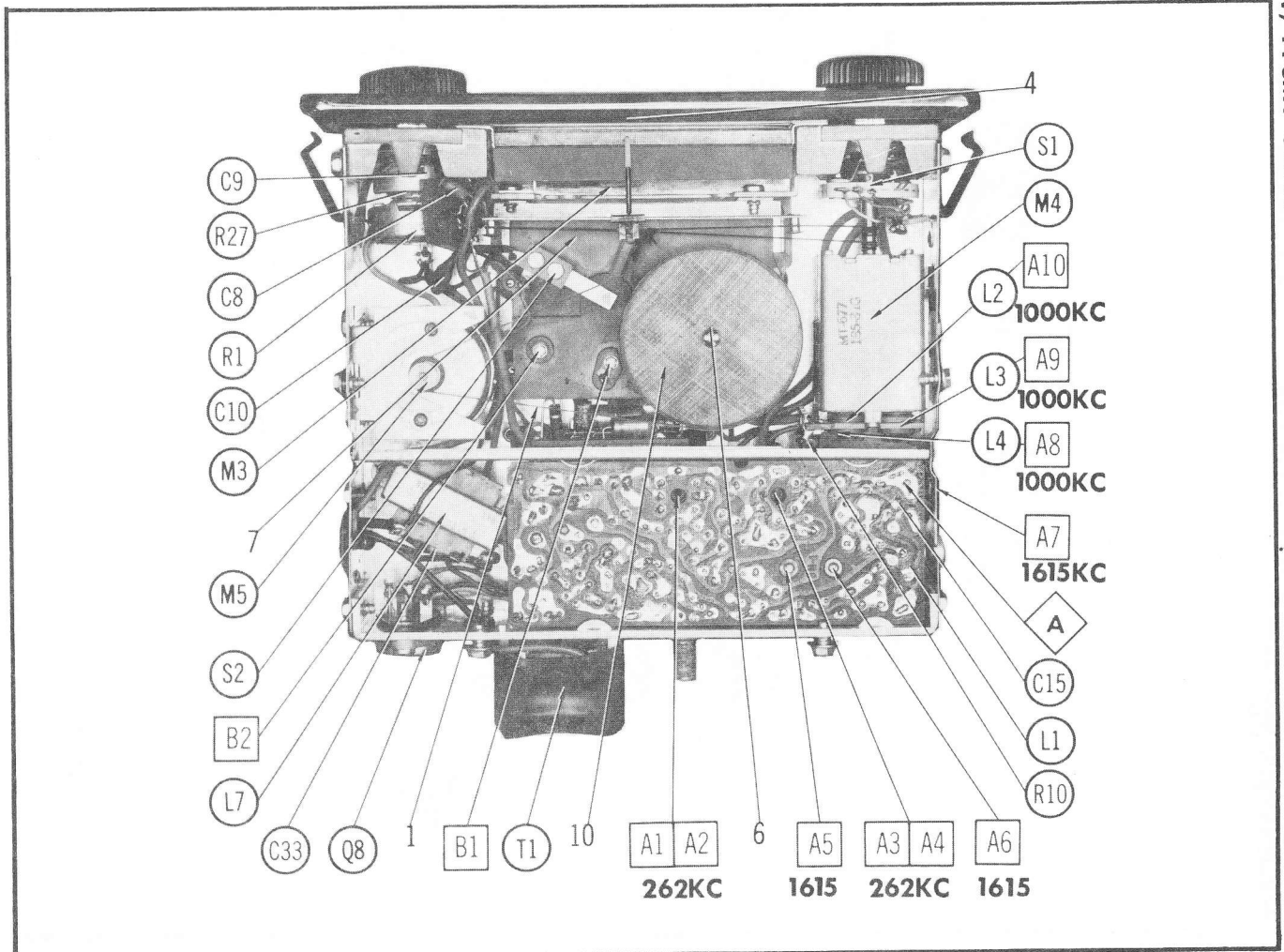
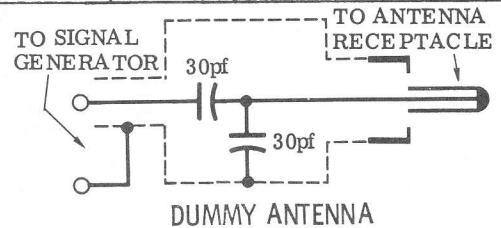
ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
Use only enough generator output
to provide a usable indication.

Suggested Alignment Tools: A1 thru A4.....GENERAL CEMENT #9300,9302,9304
WALSCO #2510, 2511, 2513
A5,A6,A7GENERAL CEMENT #8290,8868,9087
WALSCO #2525, 2528, 2587

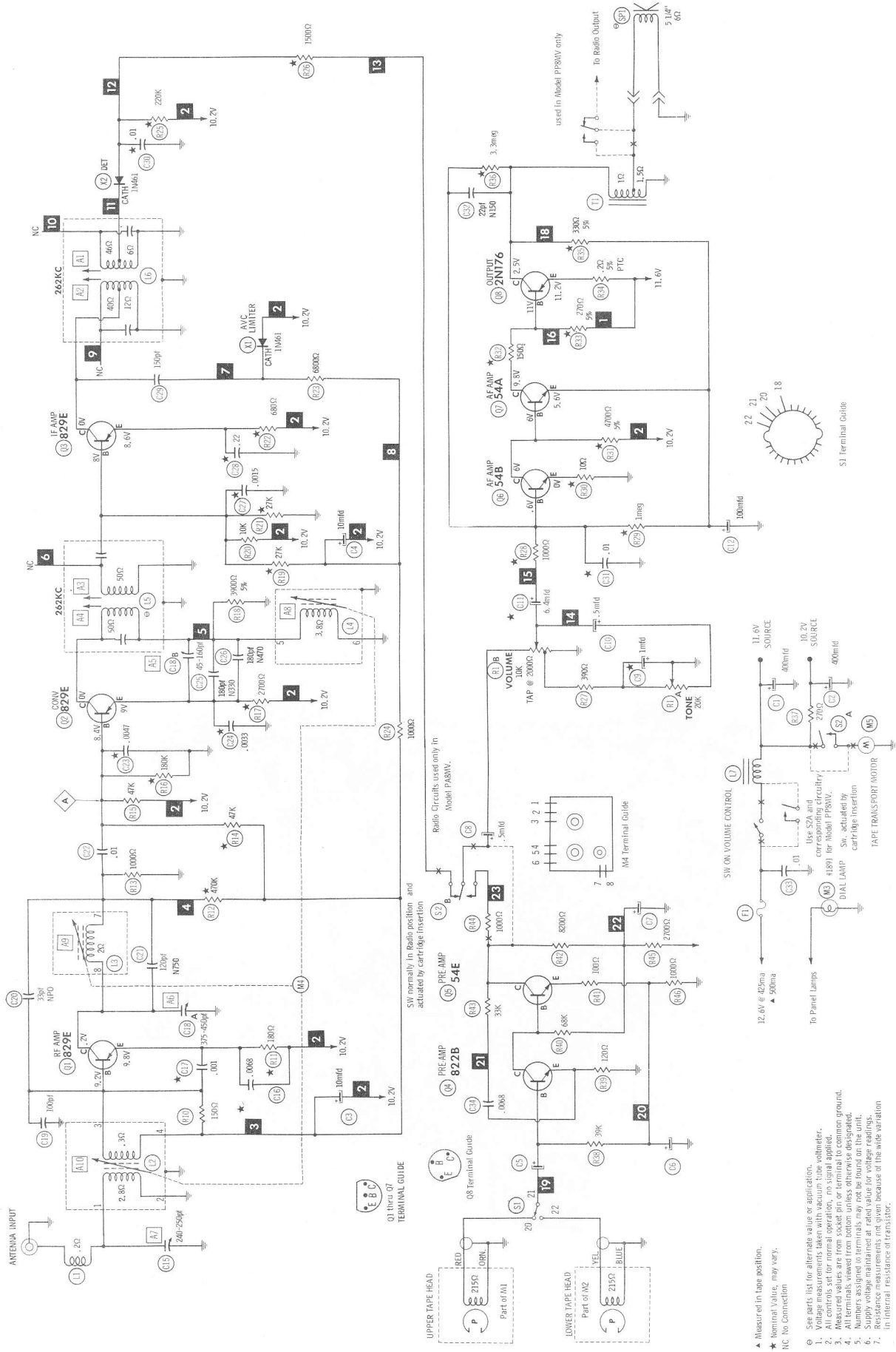
GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point \diamond A, low side to ground.	262KC 400 cycle modulation	High freq. end stop.	Output meter across voice coil.	A1,A2, A3,A4	Adjust for maximum.
2. Thru dummy antenna to antenna input.	1615KC	"	"	A5,A6, A7	"
Step 3 is not necessary unless tuner or associated components have been disturbed. If necessary, back tuning cores (A8,A9,A10) out of coils but not out of forms. Repeat Step 2.					
3. Thru dummy antenna to antenna input.	1000KC	Tune to signal	Output meter across voice coil	A8,A9, A10	Adjust for maximum. Repeat Steps 2 and 3 until no further improvement is noted

With radio installed in car and antenna extended to desired height, tune in a weak station near 1400KC and adjust A7 for maximum output. Antenna adjustment (A7) is located on right rear corner.



VOLKSWAGEN PA8MV, PP8MV SERIES

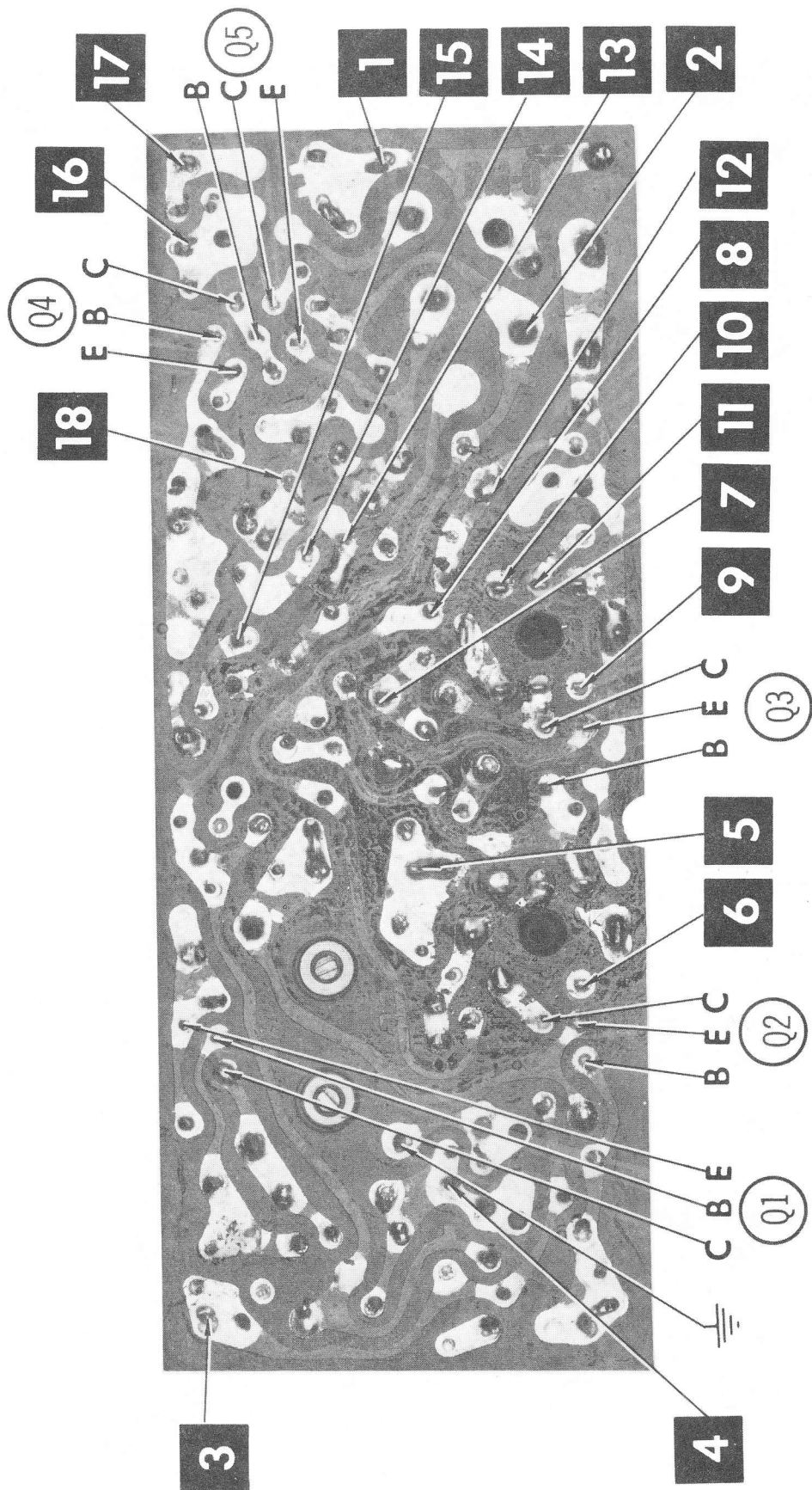
NOTE: DEMAGNETIZE HEADS AFTER SERVICING



VOLKSWAGEN PA8MV, PP8MV SERIES

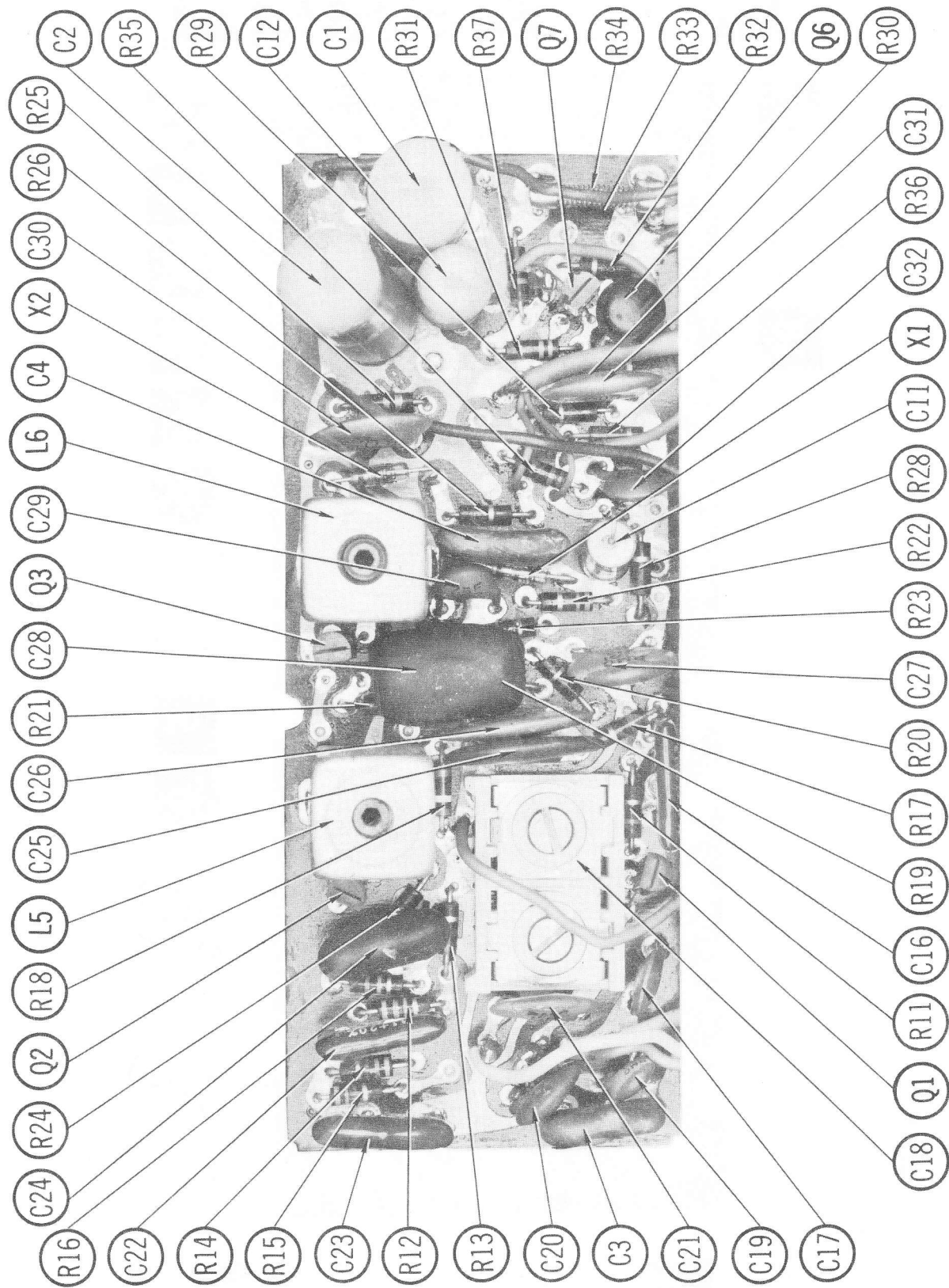
- ▲ Measured in tape position.
- ★ Nominal Value, may vary.
- NC, No Connection.
- Ⓞ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. Numerical values shown in bottom unless otherwise designated.
- 5. Numerical values shown in top unless otherwise designated.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

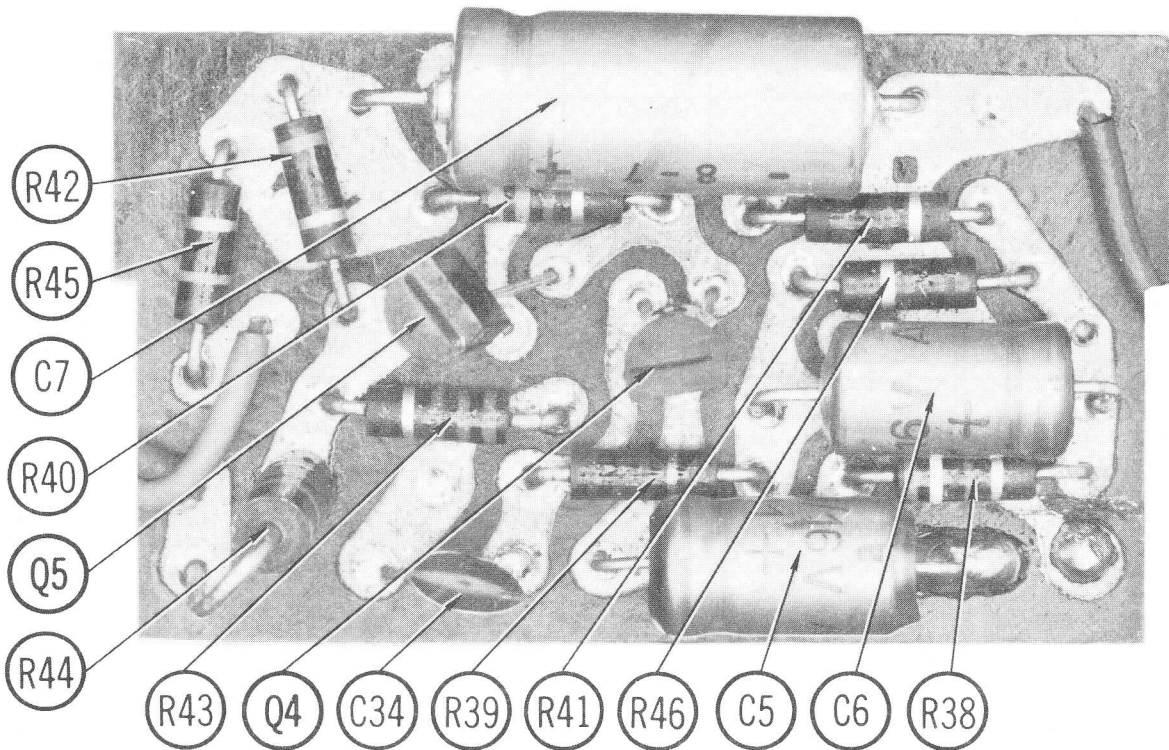
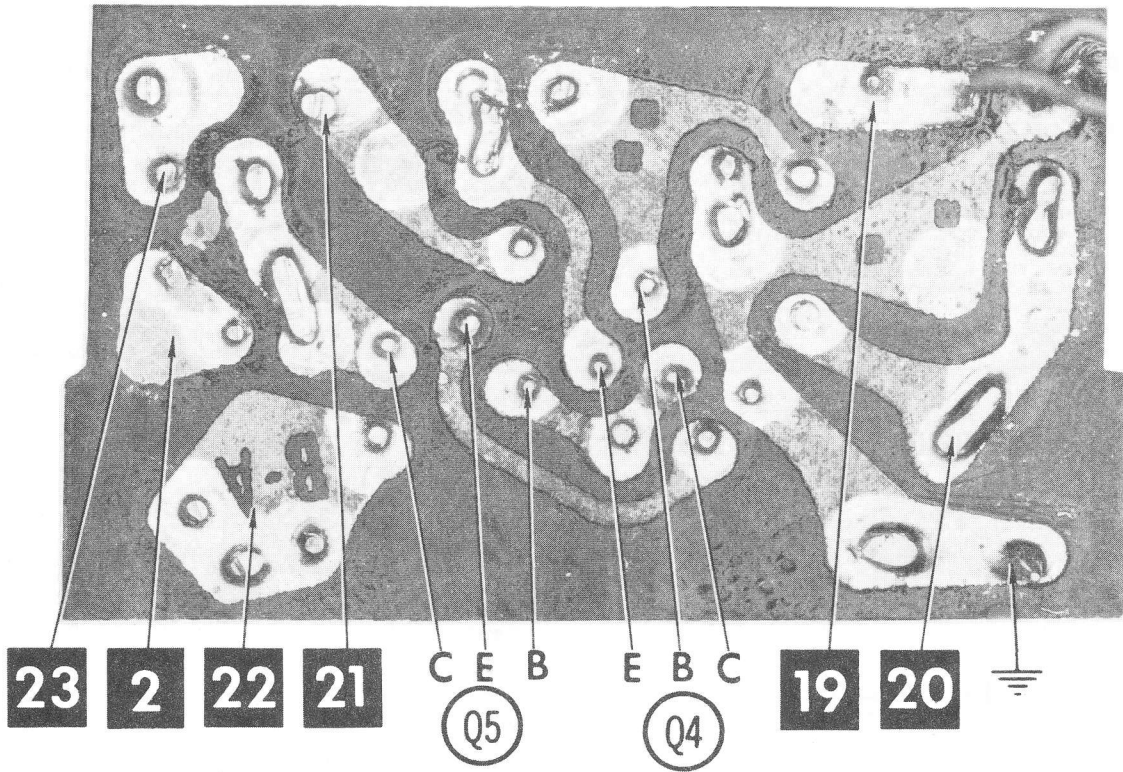
A. PHOTOFACT STANDARD NOTATION SCHEMATIC
with **CircuitCRAFT**
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A Howard W. Sams CIRCUITRACE® Photo

VOLKSWAGEN P8MV, PP8MV SERIES





PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS® for the most up-to-date replacement.

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA						
			MFG. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	829E(D)	RF Amp	48-134914		GE-21	TR-19	HEP57		ECG 106
Q2	829E(D)	Converter	48-134914		GE-21	TR-19	HEP57		ECG 106
Q3	829E(D)	IF Amp	48-134914		GE-21	TR-19	HEP57		ECG 106
Q4	822B	Tape Preamp	48-134823	DS-76	GE-20	TR-21	HEP730	SK3020	ECG 123
Q5	54E	Tape Preamp	48-134846	DS-76	GE-20	TR-21	HEP724	SK3020	ECG 123
Q6	54B(C)	AF Amp	48-134810	DS-66	GE-20	TR-21	HEP725	SK3020	ECG 123
Q7	54A(E)	AF Amp	48-134846	DS-66	GE-20	TR-21	HEP724	SK3020	ECG 123
Q8	2N176	Output *	48-134747	DS-520	GE-3	TR-01	HEP623	SK3009	ECG 104

* When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFG. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	1N461	1N82A	1N82A	ECG 112		
X2	1N461	1N82A	1N82A	ECG 112		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	400 16V	23C42674B01	BCD15500		PC500-16			
C2	400 16V	23C42674B01	BCD15500		PC500-16			
C3	10 6	23C43280A03	CRE457A	EA6-10	AL10-25	MT1-5	MTA10D35	TL-1087
C4	10 6V	23C43280A03	CRE457A	EA6-10	AL10-25	MT1-5	MTA10D35	TL-1087
C5	20 16V	23C41928A24	CRE761A	EA15-25	AL20-16	MT1-10	MTA20D30	TL-1157
C6	20(1) 16V	23C41928A24	CRE761A	EA15-25	AL20-16	MT1-10	MTA20D30	TL-1157
C7	80 16V	23C41928A23	CRE620A	EA15-100	AL100-16	MT1-19	MTA80E15	TE-1161
C8	.5(1) 15V	23C43280A25		UK10-474	TYR13BD474K		TAS474K015P0A	196D474X0035 DB
C9	1 10V	23C43280A22	BCD50001		PC1-100	MT1-1	MTV1CB50	TE-1120
C10	.5 6V	23C43280A23		UK10-474	TYR13BD474K		TAS474M015P0A	196D474X0035 DB
C11	6.4 25V	23C41928A36	CRE605A	EA30-10	AL10-150	MT1-5	MTA6D50	TE-1203
C12	100 10V	23C42674B02	BCD10100	EP15-100	PC100-16	MT1-19	MTV100CD10	TE-1135

(1) Used in PA Series only.

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.
C15	75-350	#20-40746A15 (1)				465		
C16	.0068 100V	(1)	DBE6D68	CPR-6800J	DMF6D68	6DP-1-682	PVC6268	6PS-D68
C17	.001	(1)	GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C18A	150-260	#20-40254A15 (1)						
B	30-150	(1)						
C19	100	(1)	NPO-DI 100	DTZ-100	CV601CG101K	CCT0-101	CN0310	10TCC-T10
C20	33 NPO	(1)	NPO-DI 33	DTZ-33	CS601CG330K	CCT0-330	CN0433	10TCC-Q33
C21	120 N750	(1)		TCN-120	N120	CCTN-121	CN7312	10TCU-T12
C22	.01 100V	(1)	V1612S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	225P10391WD3
C23	.0047 100V	(1)	DBE6D5	CPR-5000J	WMFD5	1DP-1-502	PVC625	6PS-D50
C24	.0033 100V	(1)	DBE6D33	CPR-3300J	DMF6D33	6DP-1-332	PVC6233	6PS-D33
C25	180 NPO	(1)		DTZ-180	HV6-180			10TCC-T18
C26	180 N330	(1)						10TCS-T18
C27	.001	(1)	GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C28	.22 100V	(1)	DBE6P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C29	150	(1)	GPD X5F151K	DD-151		CCD-151	GP315	10TS-T15
C30	.01	(1)	TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C31	.01	(1)	TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C32	22 N150	(1)				*	*	10TCP-Q22
C33	.01	(1)	TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C34	.0068	(1)	GPD X5R682K	DD-682	GP6800	CCD-682	GP268	5GA-D68

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

Motorola Part Number.

(1) Used in PA Series only.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

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CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A B	Tone Volume/Switch	20K 10K Tap @ 2000	18C42205B01 (1)	F1-25K,R16-10K, FFS009,RFS100, KR-4		* QJ-2595A	P24L, 3038, RU14T53,OX562A, IS1000, US41
A B	Tone Volume	20K 10K Tap @ 2000	18C42839B01 (2)	F1-25K,R16-10K, FFS009,RFS100,		** QJ-2621A	P24L, 3038, RU14T53,OX562A, IS1000

* "CONCENTRIKIT" Equivalent: K6 Kit with Base Elements & Shafts: B11-119, P14-019 (Panel), B19-116X, R1-100 (Rear),76-1(Switch)

"SNAPTROL" Equivalent: BU5, CF62, CR49T, SF68, SR107, GC

** "CONCENTRIKIT" Equivalent: K6 Kit with Base Elements & Shafts: B11-119,P14-019 (Panel), B19-116X, R1-028 (Rear)

"SNAPTROL" Equivalent: BU5, CF62, CR49T, SF68, SR107

(1) Used in PA Series only. (2) Used in PP Series only.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R34	.2 (PTC)			17-40757A03

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke	24C40788A04	19-1001	4604	T856
L2	Antenna	(1)			
L3	RF	(1)			
L4	Oscillator	(1)			
L5	Input IF	24D40310B13			
L6	Output IF	24D40310B14			

(1) Part of M4.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES	
	CURRENT (Measured)	DC RES.	INDUCTANCE (10 CURRENT 1000~)	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.		TRIAD PART No.
L7	425ma 500ma(1)	.9	11mh	25D40755B10	C-4095	TC-2	TR-154	TY17XT	(1) Tape

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	20 Tap @	8	25D42840B03					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		PART No.	QUAM PART No.	
SP1	5" PM 8 ohms 4" x 8" PM 8 ohms	50-41265B01 50C41451B01	5A1Z8 48A2Z8	Models P8MVG/T/W Model P8MVF

VOLKSWAGEN PA8MV, PP8MV SERIES

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

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FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	AGA 5 Amp	65R122345	9-41095A20	AGA5	HAF	301005	150145	

TAPE HEADS

ITEM No.	MEASURED			PART No.	NORTRONICS PART No.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
M1	245mh			59-42424B01		Two-Track Monaural Play
M2	245mh			59-42424B01		Two-Track Monaural Play

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M3	Dial Lamp	65-40304A01	#1893
M4	Tuner	77-40632A13	MT677
	Coil Assembly	1-42500B47	
M5	Motor	59-42411B01	
S1	Switch, Program	40-42767B01	PA Series
	Selector	40-42866B01	PP Series
S2	Switch, Tape-Radio	59-42416B01	PA Series

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Bezel (PA Series)	1-42500B94	Knob, Tone or Program	36-42182B01
Bezel (PP Series)	15-42750B01	Knob, Tuning or Volume	36-42230B01
Dial Glass	61-42179B02	Dial Pointer	32-42619B01
Door	15-42614B01		

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Shielded Hook-up Wire	8524 (Stranded) Available in 12 Colors
Rear Seat Speaker Extension Cable	Use BELDEN No. 8885
Bonding Strap	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

DIAL CORD—TOP VIEW

WITH TUNING CORES FULLY OUT OF COIL FORMS,
SET POINTER TO 1610KC.

