

TEAC® A-20

STEREO CASSETTE SERVICE DATA



SPECIFICATIONS

TRACK TYPE:	4 track, 2 channel, stereophonic	TRANSISTORS:	2SC369-BL x 4, 2SC372 x 6, 2SC735-GL x 2, 2SC491-Y x 1
HEADS:	4 track, 2 channel, record/play head (700 ohms, 1 kHz) and half-track 1 channel erase head (40 mA)	DIODES:	FR-1 x 2
TAPE:	Philips type cassette tape	BIAS FREQ.:	55 kHz
TAPE SPEED:	1 speed at 1 7/8 ips.	RESPONSE:	playback 63-10,000Hz 6dB envelope
SPEED ACCURACY:	Within +2% -0%	SN RATIO:	45dB or better, weighted (at 333Hz, 0dB)
FAST WIND TIME:	Within 70 seconds for C-60 cassette	ERASE FACTOR:	60dB or better for 1 kHz
FLUTTER:	Below 0.2%	CROSSTALK:	Between channel -30dB or better for 1 kHz Adjacent track -40dB or better for 100 Hz
OPERATION:	Keyboard pushbuttons	OUTPUT:	Line-0.78 V at 50 kohms load Headphone-0.1 mW at 8 ohms load
MOTOR:	5-pole hysteresis synchronous outer rotor type (AC 50V)	INPUT:	Mike-70 dB (0.3mV), 600 ohms Line-20 dB (0.1 V), 120 kohms
POWER CONSUMPTION:	Maximum 20W		
AC POWER:	100/115/200/220V AC 50/60 Hz		
PHYSICAL DIMENSIONS:	(H) 4 1/4" x (D) 9 3/4" x (W) 10 1/2"		

Specifications and components subject to change without notice.

TEAC CORPORATION

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NOTE

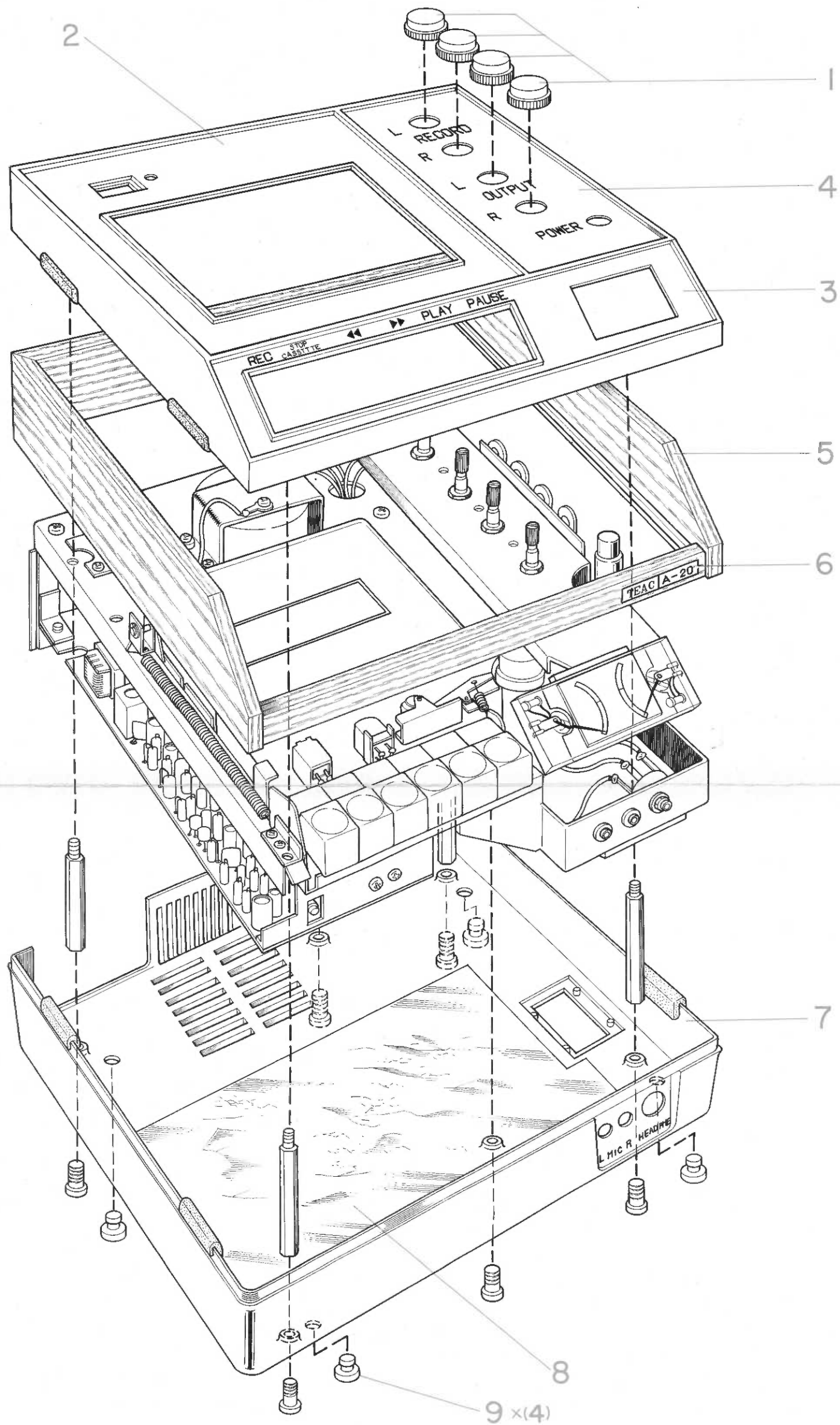
The final manual is at present under preparation and includes the necessary adjustment procedures not in this manual. Please request the TEAC Head Office or TEAC Corporation of America in Los Angeles to obtain the final manual.

As TEAC products are constantly being improved and changes made, please include the following items when placing an order:

EXAMPLE:			
MODEL AND SERIAL NO.	REF. NO.	PART NO.	DESCRIPTION
A-20 NO. 6801	1	25293	KNOB

EXPLODED VIEW

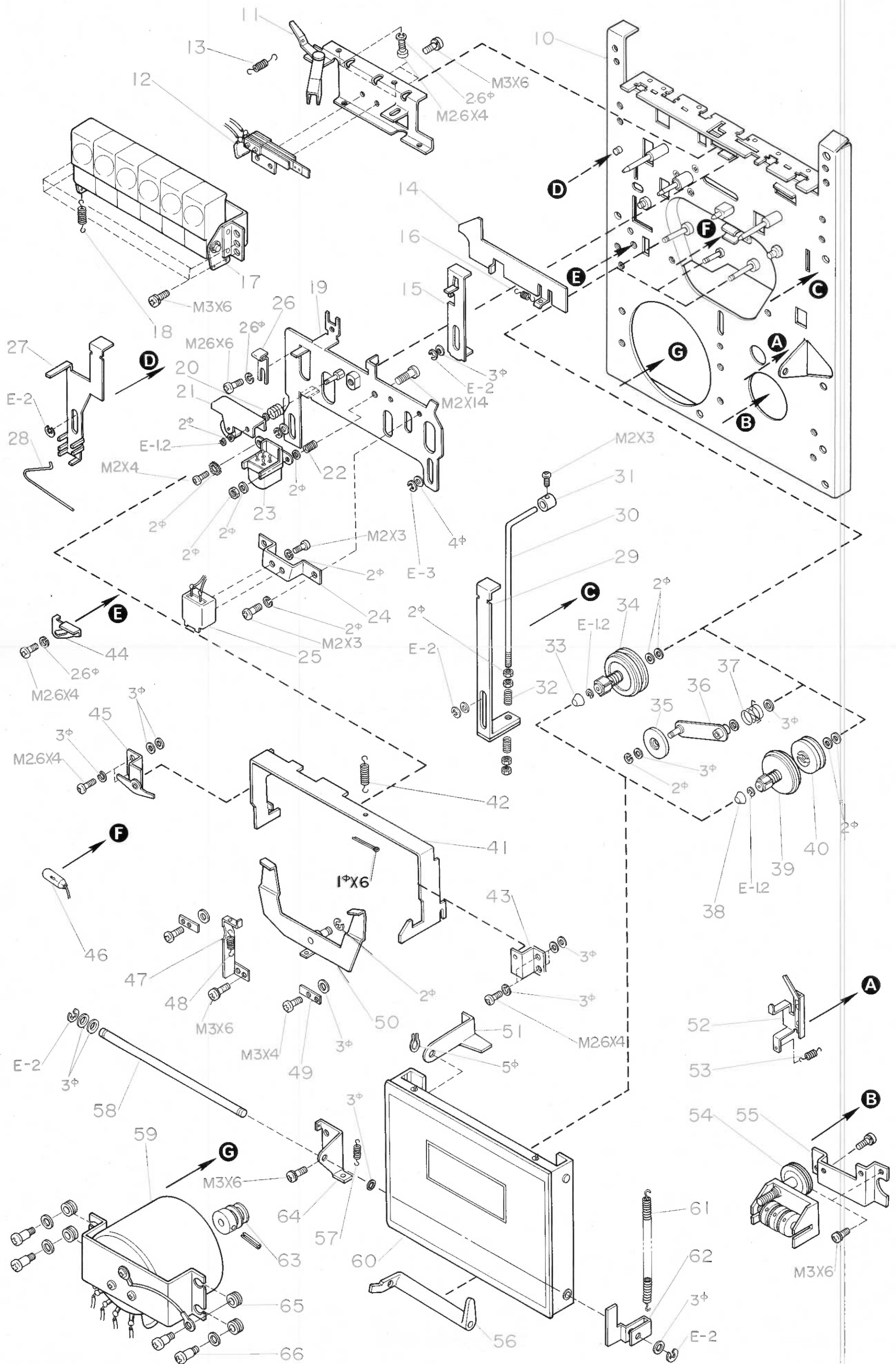
TRIM PARTS



Ref. No.	Parts No.	Description
1	25293	Knob
2	28555-1	Plastic panel A
3	23334-1	Amplifier panel (cemented to cover A)
4	11226-2	Control panel (cemented to cover A)
5	28557	Wood cabinet
6	26202	Nameplate (cemented to cabinet)
7	28556-2	Plastic bottom cover
8	-----	Aluminum foil (static shield)
9	28554	Rubber feet

EXPLODED VIEW

PARTS ABOVE MAIN CHASSIS



MECHANICAL PARTS LIST

Ref. No.	Parts No.	Description
10	11248-3	Mechanism main chassis
11	27555-1	PC board support angle
12	44711-1	Leaf switch
13	22056	Shorting switch spring
14	16185-1	Function plate lock
15	16173-3	Stop lever
16	22063-2	Function plate lock spring
17	44345-1	Pushbutton assembly
18	22066-1	Pause button spring
19	27597	Function base plate
20	22082-1	Spring "C"
21	14019-1	Pinch roller assembly
22	22070-1	Head adjusting spring
23	60001	Cassette stereo rec/play head
24	13426-3	Erase head mounting plate
25	66303	Erase head
26	27574	Cassette adapter
27	15227	Pause button lever
28	22095-1	Idler return spring
29	15109	Record mode lever
30	27456-1	Switch actuating shaft
31	24088	Spacer collar
32	22081	Compression spring
33	16182-1	Turntable shaft cap
34	16010	Right reel drive assembly
35	18035-1	Idler wheel
36	18034-2	Idler arm
37	22092	Coiled torsion spring
38	16182-1	Turntable shaft cap
39	16012-1	Left reel drive assembly

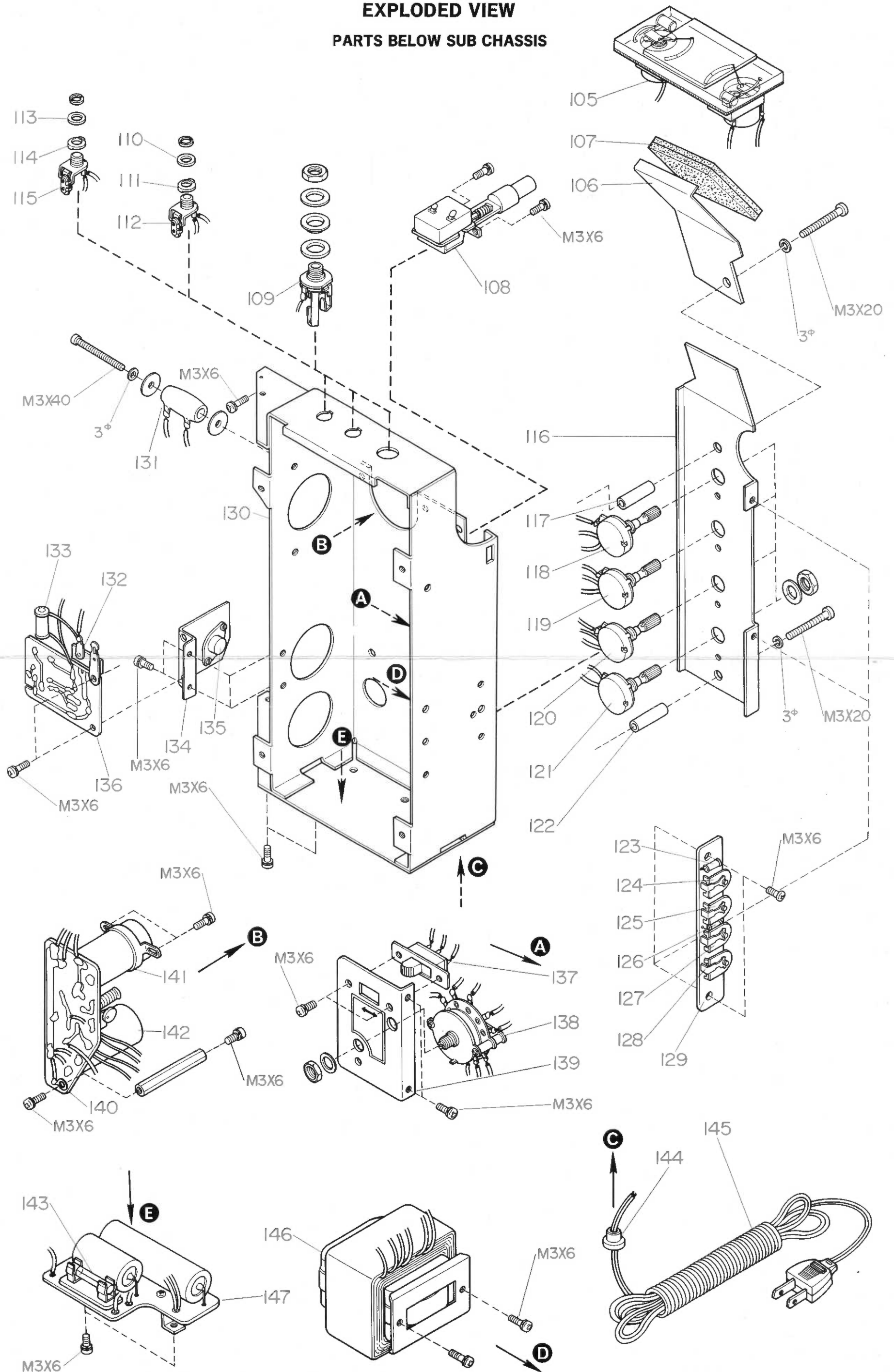
Ref. No.	Parts No.	Description
40	12356-1	Tape counter pulley
41	17605	Cassette holder lock plate
42	22065	Cassette holder lock plate spring
43	27455-1	Cassette holder lock plate spring
44	27598	Spring hook
45	27561-1	Cassette holder lock plate guide
46	41430-1	Wire terminal pilot lamp
47	27467-1	Cassette support bracket
48	22061	Brake plate spring
49	17236-1	Brake plate guide
50	17007-3	Brake plate
51	27486	Interlock stopper
52	27560-1	Record preventing lever assembly
53	22073-3	Record preventing lever spring
54	58508	Tape counter assembly
55	27543	Tape counter mounting bracket
56	27482	Cassette holder lock
57	22065	Cassette holder lock spring
58	27483-3	Cassette holder shaft
59	70222	Drive motor
60	27474	Cassette holder
61	22069-1	Cassette holder spring
62	27484-1	Cassette holder hinge A
63	12349-1	Motor pulley
64	27487-1	Cassette holder hinge B
65	27465	Vibration proof rubber
66	21010	Motor mount screw

MECHANICAL PARTS LIST (continued)

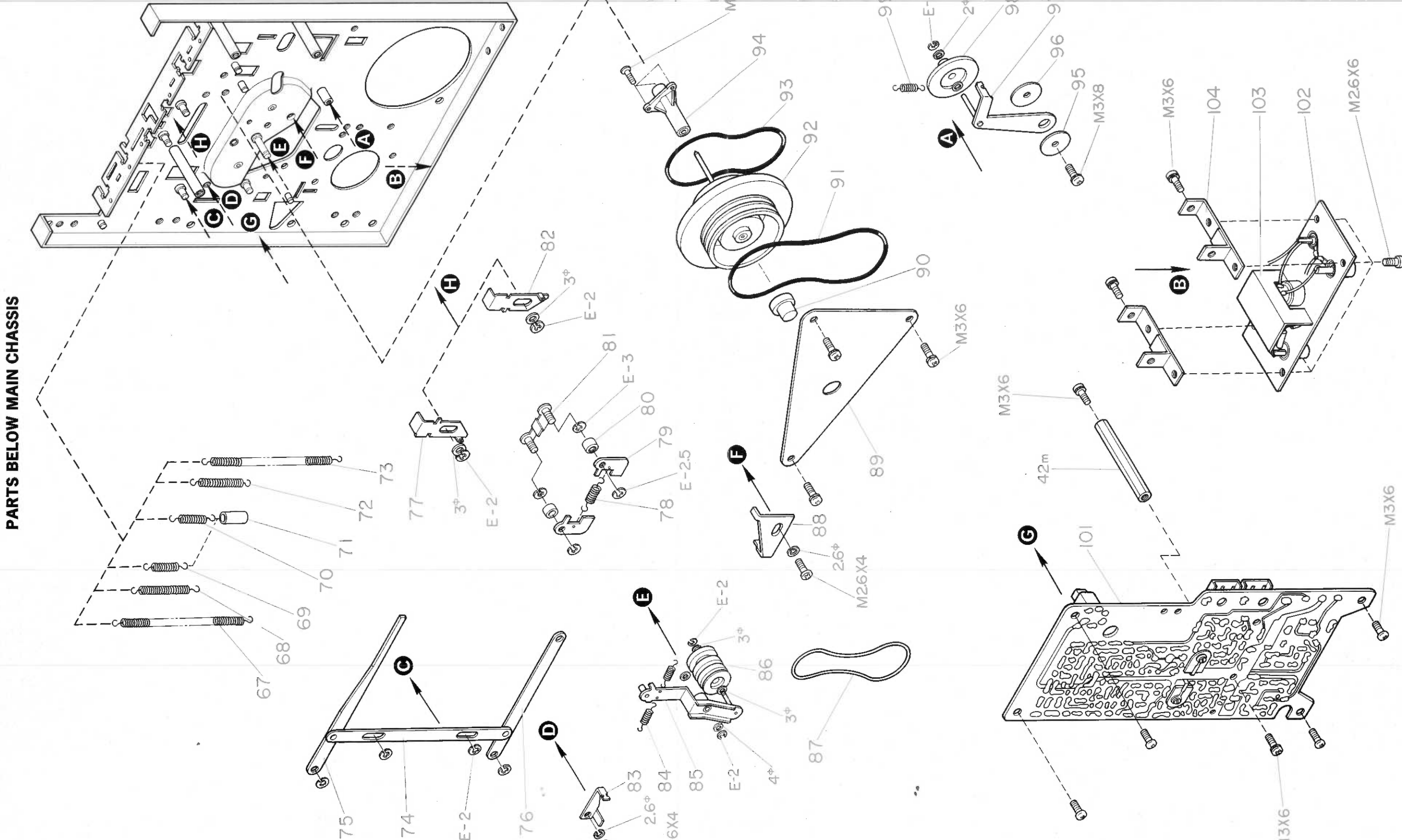
Ref. No.	Parts No.	Description
67	22091	Record lever spring
68	22068-1	Stop lever spring
69	22067-1	Rewind lever spring
70	22069-1	Fast forward spring
71	-----	Vinyl tube
72	22098	Play lever spring
73	22066-1	Pause lever spring
74	17008-1	Brake lever B
75	17240	Brake lever C
76	17250-1	Brake lever A
77	16172-4	Rewind button plate
78	22071-1	Mode selector spring
79	15220-1	Mode selector plate
80	15221-1	Mode selector roller
81	15020	Mode selector base plate Ass'y No. 15020
82	16171-1	Fast forward button plate
83	27598	Spring hook C
84	22062-1	Drive pulley plate spring
85	17009-1	Drive pulley assembly
86	12013-1	Fast wind pulley assembly
87	27471-1	Tape counter belt
88	15229	Idler wheel stopper
89	12364	Capstan thrust plate
90	12365	Capstan thrust bearing
91	12325-1	Capstan belt
92	12014-2	Capstan-flywheel assembly
93	16183-2	Reel drive belt
94	12015	Capstan bearing holder
95	15223-1	Idler arm washer
96	15224-1	Washer
97	18037-1	Idler arm assembly
98	15215-4	32 ϕ idler
99	22096-1	Idler spring
100	-----	-----

Ref. No.	Parts No.	Description
101	48884-1	Rec/play PC board assembly
102	43461	4 pin-jack-strip with DIN connector
103	23298	Shield cover
104	23299	Jack strip mounting bracket

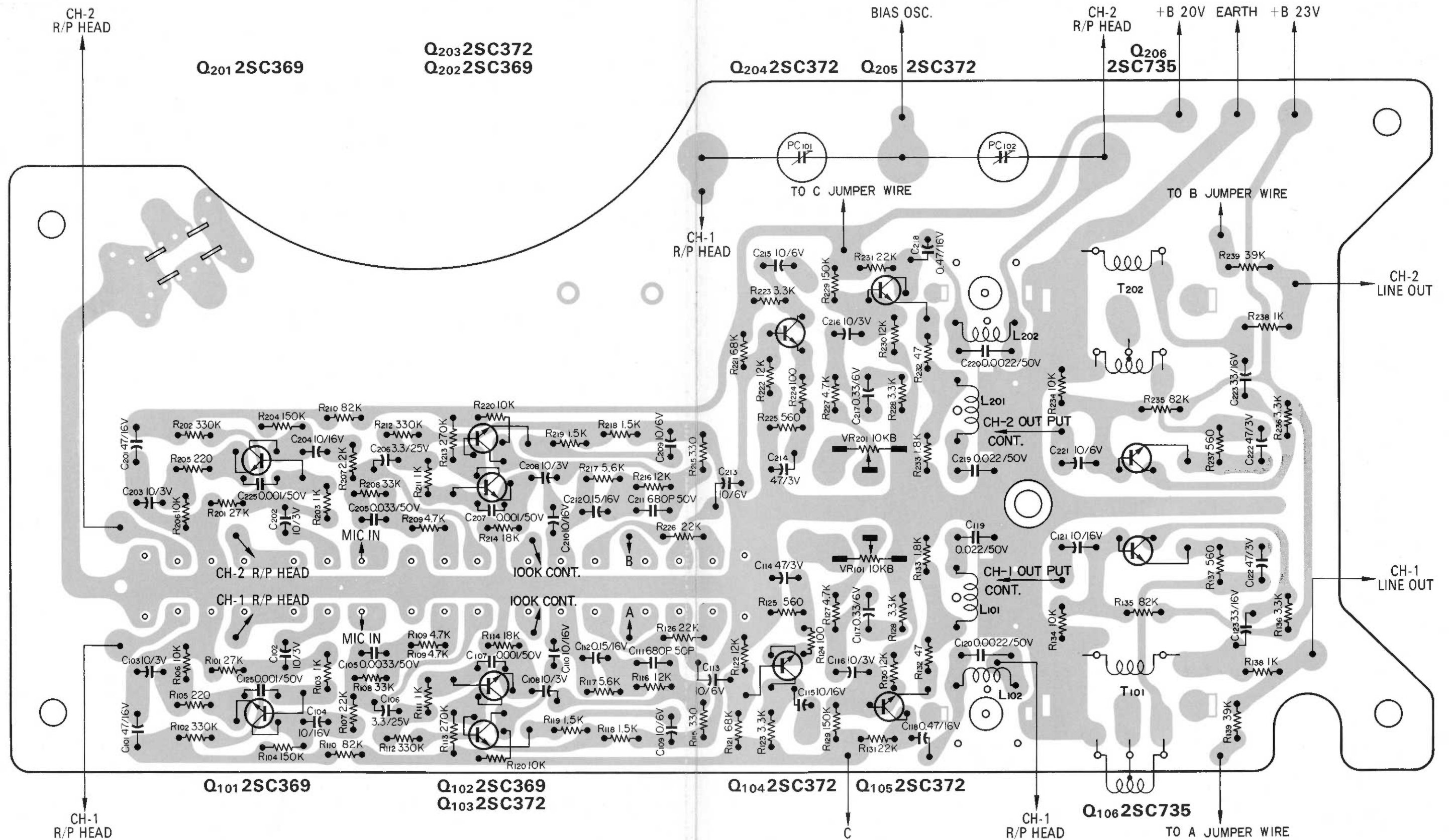
EXPLODED VIEW PARTS BELOW SUB CHASSIS



EXPLODED VIEW
PARTS BELOW MAIN CHASSIS



CIRCUIT BOARD

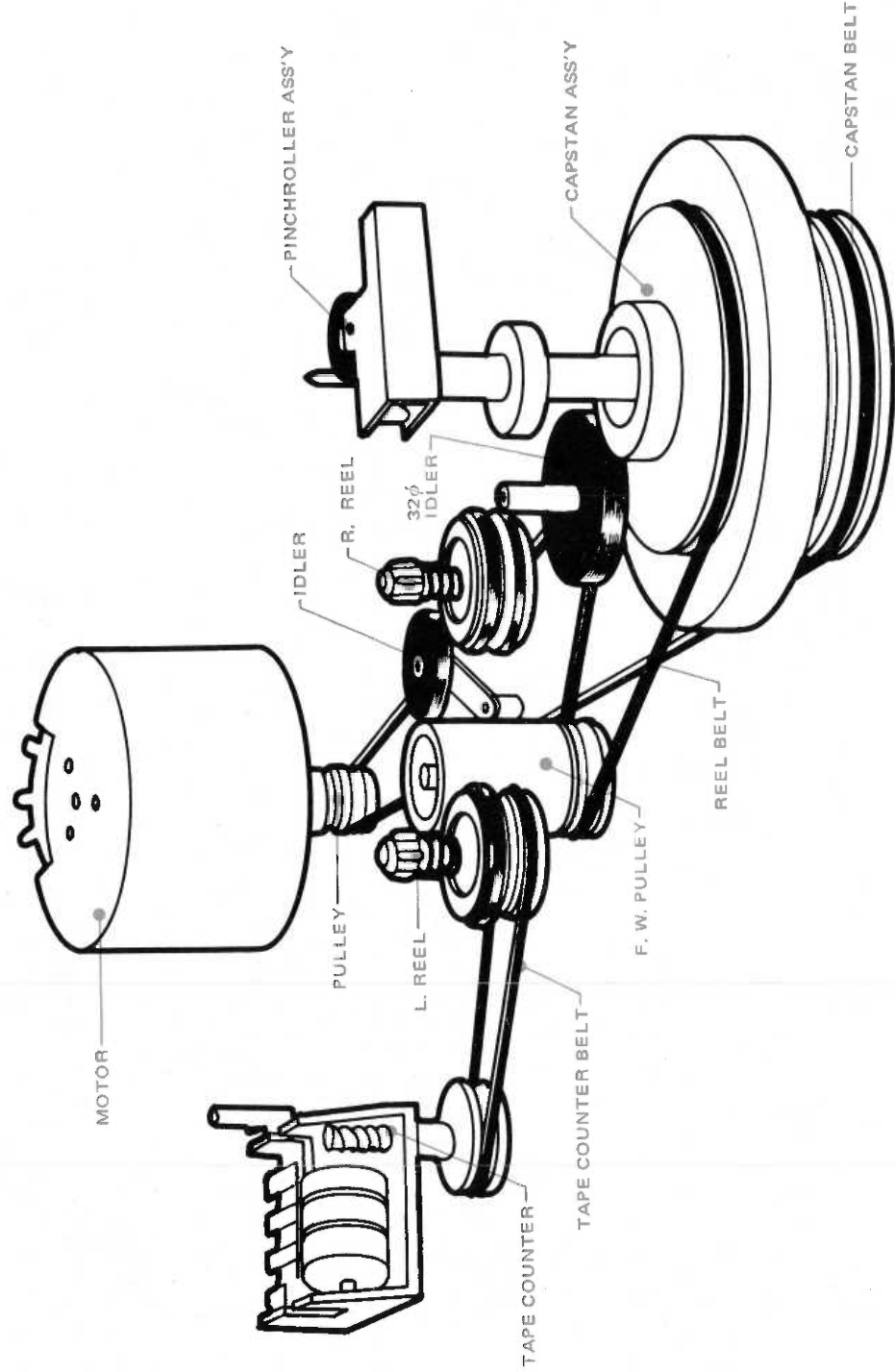


PREAMPLIFIER CIRCUIT

SUB CHASSIS PARTS LIST

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
105	58818	Stereo level meter	141	55445	Chemical capacitor, 35V, 1000
106	27534	Meter support	142	55444	Chemical capacitor, 25V, 1000
107	27443	Meter cushion	143	-----	Fuse, 0.5A, glass tube
108	44321	Push switch	144	27161	Rubber grommet
109	43456	Stereo phone jack	145	47165	AC power cord
110	27442	Insulating washer (white)	146	56155	Power transformer
111	27369	Mini-jack insulating washer	147	48849	Phase advancing capacitor
115	43236	Mini-jack			
116	23292	Potentiometer mounting plate			
117	24087	Spacer tube			
118	53335	10K potentiometer			
119	53335	10K potentiometer			
120	53332	100K potentiometer			
121	53332	100K potentiometer			
122	24087	Spacer tube			
123	51746	10K fixed resistor			
124	53302	10K 10 ϕ flat mount PC type			
125	53302	10K 10 ϕ flat trimmer			
126	15746	10K fixed resistor			
127	53301	5K 10 ϕ flat mount PC type			
128	53301	5K 10 ϕ flat mount PC trimmer			
129	48126-1	Trimmer mount PC board			
130	23293-4	Power supply chassis			
131	52426	Ceramic resistor 500 5H			
132	45206	Lug terminal strip 1L-2P			
133	52552	Wirewound resistor 420 2L			
134	23309	Heat sink			
135	42342	Silicon transistor, 2SC491 (Y)			
136	48847-1	Bias oscillator assembly			
137	44408	DPDT slide switch			
138	44229	Rotary switch			
139	23297	Rotary switch bracket			
140	48850	Rectifier (power supply) PC assembly			

VIEW OF DRIVE MECHANISM



ELECTRICAL PARTS LIST

Ref. No.	Parts No.	Description
	48848-1	Rec/Play amplifier PC board assembly

RESISTORS

All resistors in ohms, 1/8 watt unless otherwise noted.
K = kilohms

R-101/201	51741	27K
R-102/202	51750	330K
R-103/203	51743	1K
R-104/204	51744	150K
R-105/205	51767	220
R-106/206	51746	10K
R-107/207	51747	2.2K
R-108/208	51749	33K
R-109/209	51764	4.7K
R-110/210	51762	82K
R-111/211	51743	1K
R-112/212	51750	330K
R-113/213	51742	270K
R-114/214	51751	18K
R-115/215	51752	330
R-116/216	51753	12K
R-117/217	51754	5.6K
R-118/218	51755	1.5K
R-119/219	51755	1.5K
R-120/220	51746	10K
R-121/221	51756	68K
R-122/222	51753	12K
R-123/223	51757	3.3K
R-124/224	51766	100
R-125/225	51759	560
R-126/226	51760	22K
R-127/227	51764	4.7K
R-128/228	51757	3.3K
R-129/229	51744	150K
R-130/230	51753	12K
R-131/231	51760	22K
R-132/232	51758	47
R-133/233	51761	1.8K
R-134/234	51753	12K
R-135/235	51762	82K
R-136/236	51757	3.3K
R-137/237	51759	560
R-138/238	51743	1K
R-139/239	51763	39K

VR-101/201	53302	PC mount trimmer resistor, 10 ϕ , 10KB
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CAPACITORS

All capacitor in micro farads unless otherwise noted.

C-101/201	55401	PC mount chemical capacitor, 16V, 47
C-102/202	55446	PC mount chemical capacitor, 3.15V, 10
C-103/203	55446	PC mount chemical capacitor, 3.15V, 10
C-104/204	55405	PC mount chemical capacitor, 16V, 10
C-105/205	54824	Mylar capacitor, 50V, 0.033
C-106/206	54913	Capacitor, 6.3V, 3.3
C-107/207	54832	Mylar capacitor, 50V, 0.033
C-108/208	55446	PC mount chemical capacitor, 3.15V, 10
C-109/209	55425	PC mount chemical capacitor, 6.3V, 10
C-110/210	55405	PC mount chemical capacitor, 6.3V, 10
C-111/211	54339	Polystyrene capacitor, 250V, 680Pf
C-112/212	54914	Capacitor, 16V, 0.15
C-113/213	55425	PC mount chemical capacitor, 6.3V, 10
C-114/214	55447	PC mount chemical capacitor, 3.15V, 47
C-115/215	55405	PC mount chemical capacitor, 16V, 10
C-116/216	55446	PC mount chemical capacitor, 3.15V, 10
C-117/217	54915	Capacitor, 6.3V, 0.33
C-118/218	54916	Capacitor, 16V, 0.47
C-119/219	54829	Mylar capacitor, 50V, 0.022
C-120/220	54845	Mylar capacitor, 50V, 0.0022

Ref. No.	Parts No.	Description
C-121/221	55425	PC mount chemical capacitor, 6.3V, 10
C-122/222	55447	PC mount chemical capacitor, 3.15V, 47
C-123/223	55426	PC mount chemical capacitor, 16V, 33

PC-101/201	54702	Trimmer capacitor, 200Pf max.
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TRANSISTORS

Q-101/201	42327	Silicone transistor, 2SC369 (BL)
Q-102/202	42327	Silicone transistor, 2SC369 (BL)
Q-103/203	42325	Silicone transistor, 2SC372
Q-104/204	42325	Silicone transistor, 2SC372
Q-105/205	42325	Silicone transistor, 2SC372
Q-106/206	42354	Silicone transistor, 2SC735 (GL)

SWITCHES

S-101/201	44415	Slide switch, 2-pole-10-circuit
S-106/206	44414-1	Small slide switch, 2-pole-4-circuit

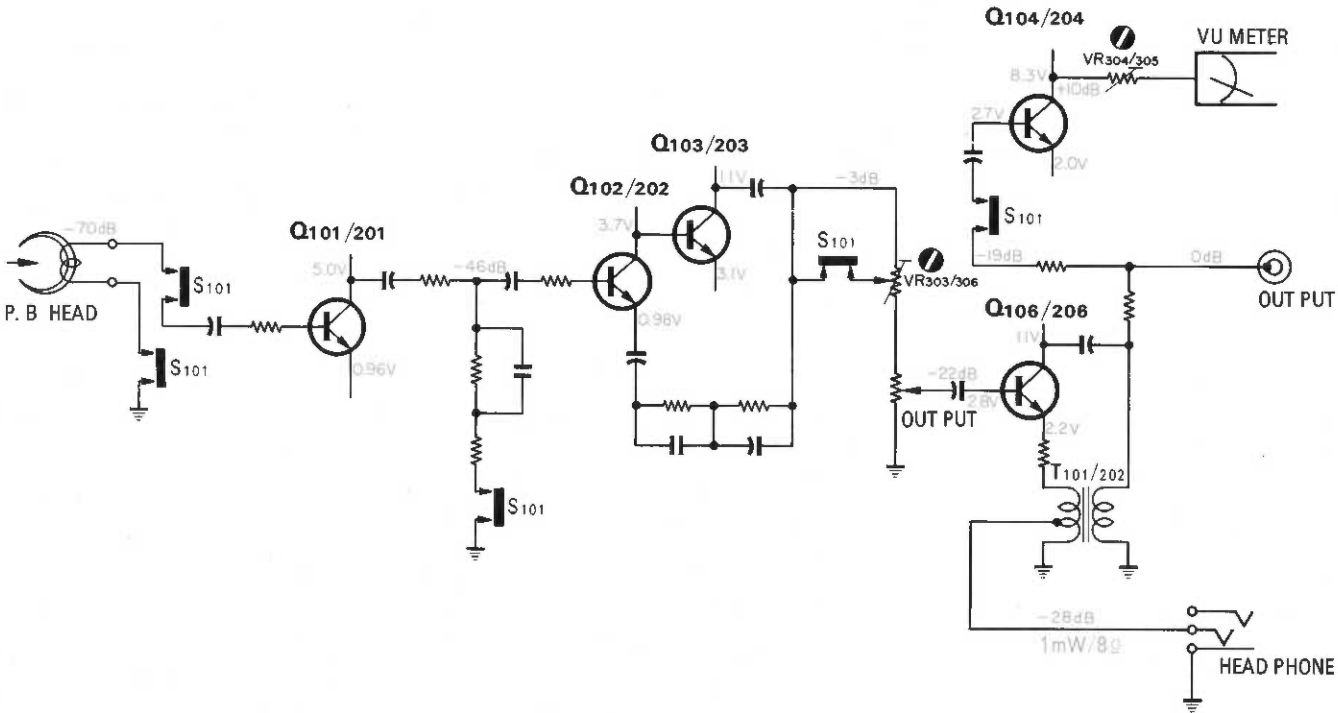
MISCELLANEOUS

L-101/201	56631	Record compensation coil, 8mH,
L-102/202	56630	Trap coil, 3mH, 10 x 10mm
T-101/201	56214	Output transformer, 3K: 8 ohm, 10 ohm

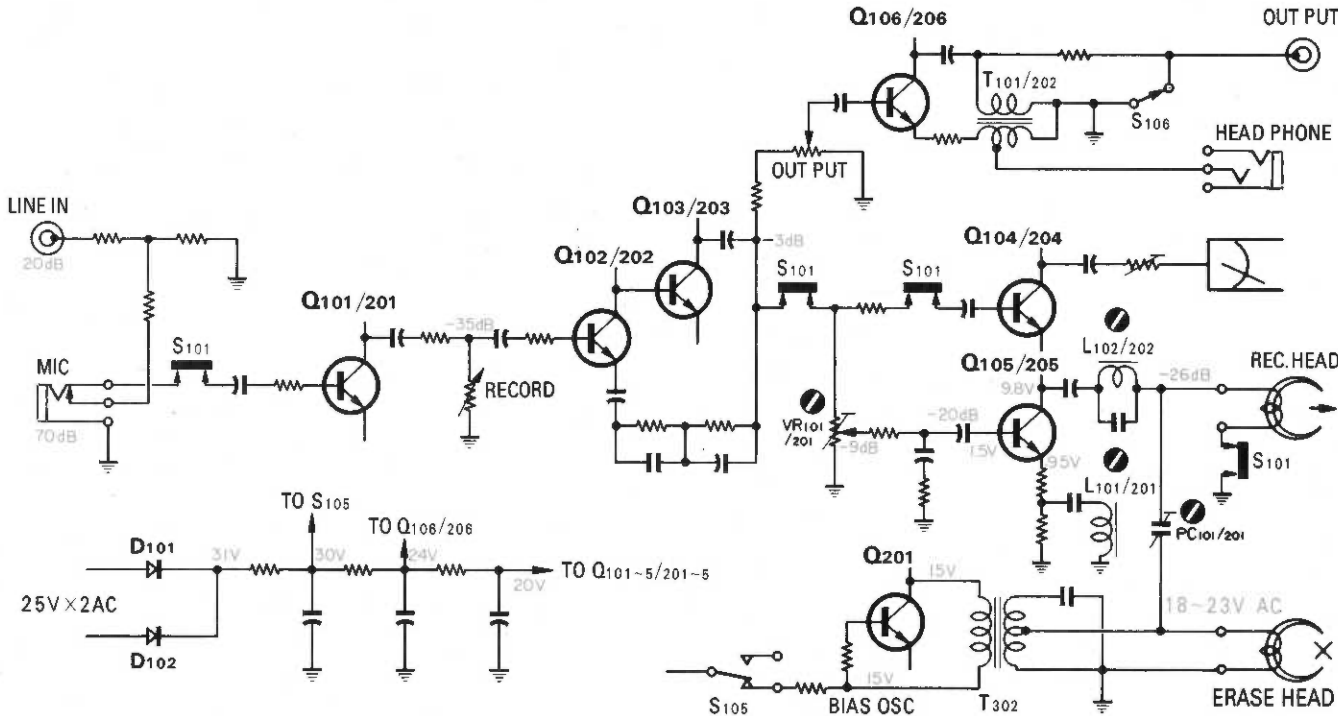
ACCESSORIES

63035	Microphone includes cord and stand
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SIMPLIFIED DIAGRAMS

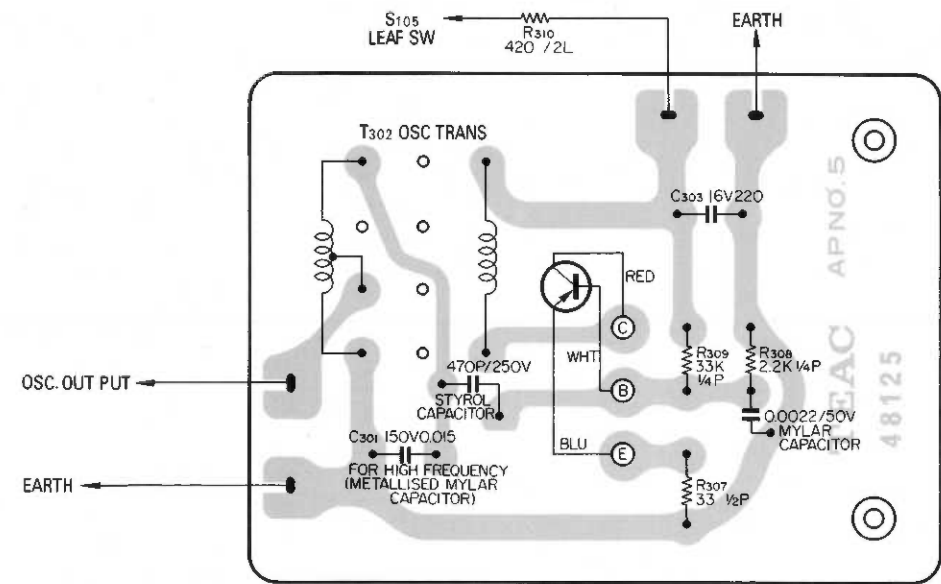


PLAYBACK

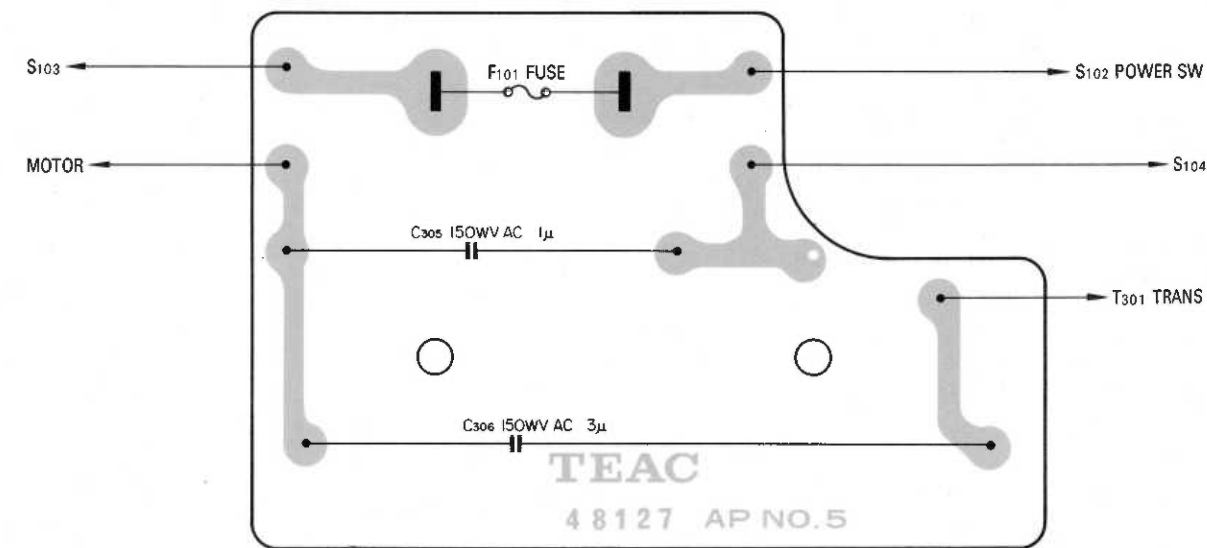


RECORD

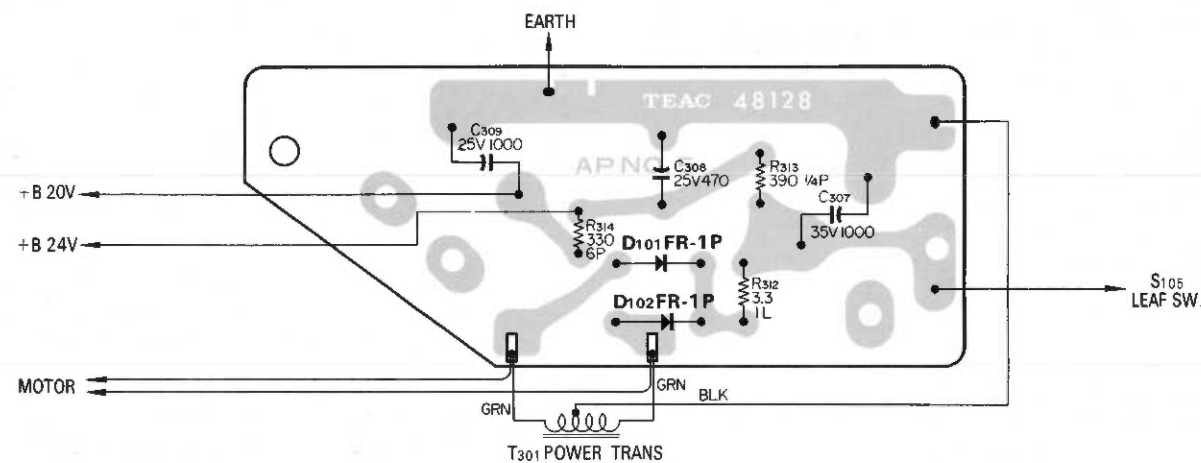
CIRCUIT BOARD (continued)



BIAS OSCILLATOR



FUSE AND MOTOR CAPACITOR



POWER SUPPLY

ELECTRICAL PARTS LIST

BIAS OSCILLATOR			POWER SUPPLY		
Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
	48847-1	Oscillator assembly		48850	Power supply PC board assembly
T302	56312	Oscillator coil	C307	55445	Chemical capacitor, 35V, 1,000
C301	54850	Mylar capacitor 150V, 0.015	C308	55442	Chemical capacitor, 25V, 470
C302	54845	Mylar capacitor 50V, 0.0022	C309	554444	Chemical capacitor, 25V, 1,000
C303	55439	Chemical capacitor 16V, 220	D101	42220	Diode, FR-1P
R307	51615	Fixed resistor P, 33	R312	52544	Wirewound resistor, 1P, 3.3 ohm
R308	51538	Fixed resistor P, 2.2 K	R313	51531	Fixed resistor, P, 330
R309	51557	Fixed resistor P, 33 K	R314	51530	Fixed resistor, P, 390
C310	54337	Polystyrene capacitor 470P/250V		24089	Spacer tube, 42mm
	23309-1	Heat sink			Screw, 3φ x 6 x 4
		Screw, w/captivated washer, 3φ x 6 x 4			Flat washer, 3φ x 2
Q301	43242	Silicone transistor, 2SC491 (Y)	FUSE AND MOTOR CAPACITOR ASS'Y		
		Mylar insulator			
		Mylar washer x2	147	48849	Phase advancing capacitor assembly
		Ground lug, 3			
		Screw, 3φ x 8 x 2	C305	54558	MP capacitor, 150 VAC, 1
		Spring washer, 3φ x 2	C306	54559	MP capacitor, 150 VAC, 3
		Hex nut, 3φ x 2	F101	41216	Fuse holder
				23295	Capacitor PC board mounting bracket
					Screw, 3φ x 6 x 4

MEMO



A-20

