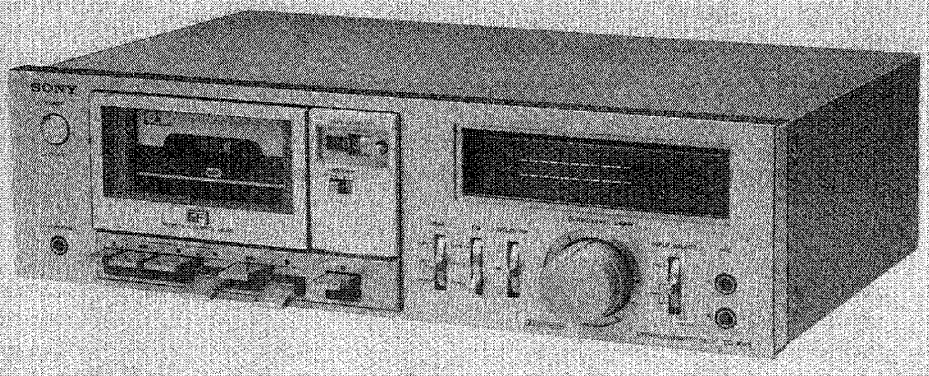
TC-K45

US Model
Canadian Model
AEP Model
UK Model



STEREO CASSETTE DECK

SPECIFICATIONS

GENERAL

Power Requirements: US, Canadian model:
120 V ac, 60 Hz
AEP model:
220 V ac ~, 50/60 Hz
(or 240 V ac by internal rewiring)
UK model:
240 V ac ~, 50/60 Hz
(or 220 V ac by internal rewiring)

Power Consumption: 12 W (US, Canadian model)
14 W (AEP, UK model)

Dimensions: US, AEP, UK model:
approx. 430 (w) x 130 (h) x 290 (d) mm
17 (w) x 5 1/8 (h) x 11 1/2 (d) inches
Canadian model:
approx. 460 (w) x 130 (h) x 290 (d) mm
18 1/8 (w) x 5 1/8 (h) x 11 1/2 (d) inches
including projecting parts and controls

— Continued on page 2 —

Tape Transport Mechanism Type	TCM-91V1	
	Specification	Test Equipment
Forward Torque	28 — 55 g·cm (0.39 — 0.76 oz·inch)	Sony torque meter CQ-102
Fast Forward Torque Rewind Torque	60 — 120 g·cm (0.84 — 1.66 oz·inch)	Sony torque meter CQ-201
Back Tension Torque	2.0 — 4.5 g·cm (0.03 — 0.06 oz·inch)	Sony torque meter CQ-102
Pinch Roller Pressure	310 — 390 g (11 — 13 oz)	spring scale or tension gauge

SERVICE MANUAL

Weight: US, AEP, UK model:
approx. 5.8 kg, 12 lb 13 oz
Canadian model:
approx. 6.6 kg, 14 lb 9 oz

TAPE RECORDER SECTION

Recording System: 4-track 2-channel stereo

Fast-forward and Rewind Time: Approx. 90 sec. (with C-60)

Frequency Response: DOLBY NR OFF

US, Canadian model:
- With TYPE III cassette (Sony Fe-Cr)
  20 – 17,000 Hz
  30 – 15,000 Hz (±3 dB)
- With TYPE II cassette (Sony EHF)
  20 – 17,000 Hz
  30 – 15,000 Hz (±3 dB)
- With TYPE I cassette (Sony HFX)
  20 – 15,000 Hz

AEP, UK model:
- With TYPE III cassette (Sony Fe-Cr)
  20 – 17,000 Hz
  30 – 15,000 Hz (±3 dB)
  30 – 15,000 Hz (DIN)
- With TYPE II cassette (Sony CD-α)
  20 – 17,000 Hz
  30 – 15,000 Hz (±3 dB)
  30 – 15,000 Hz (DIN)
- With TYPE I cassette (Sony BHF)
  20 – 15,000 Hz
  30 – 13,000 Hz (DIN)

Wow and Flutter: 0.05 % WRMS (US, Canadian model)
0.05 % WRMS (NAB) | (AEP, UK model)
±0.14 % (DIN) |

S/N Ratio: DOLBY NR OFF

US, Canadian model:
- With TYPE III cassette (Sony Fe-Cr)
  58 dB at peak level
- With TYPE II cassette (Sony EHF)
  56 dB at peak level

AEP, UK model:
- With TYPE III cassette (Sony Fe-Cr)
  58 dB at peak level (NAB)
  56 dB (DIN, 1975 rev.)
- With TYPE II cassette (Sony CD-α)
  56 dB at peak level (NAB)

DOLBY NR ON
Improved 5 dB at 1 kHz,
10 dB above 5 kHz

Total Harmonic Distortion: 1.3 % (with Sony Fe-Cr cassette)

Bias Frequency: 105 kHz

Inputs: MIC (two phone jacks)
sensitivity 0.25 mV (–70 dB)
for a low-impedance microphone
LINE IN (two phono jacks)
sensitivity 77.5 mV (–20 dB)
input impedance 50 kΩ
REC/PB (connector) . . . (AEP, UK model)
input impedance less than 10 kΩ

Outputs: LINE OUT (two phono jacks)
output level 0.435 V (–5 dB) at load impedance 50 kΩ
suitable load impedance more than 10 kΩ
Headphone output (binaural jack)
output level –26 dB at load impedance 8 Ω
REC/PB (connector) . . . (AEP, UK model)
output impedance less than 10kΩ

LED PEAK PROGRAM METERS

Response Range: –40 dB to +5 dB

Response Time: 1 millisecond

Decay Time (from 0 dB to –20 dB): 750 milliseconds

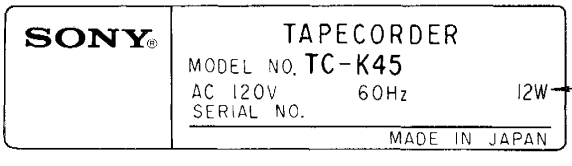
Overshoot: None

Indicator Elements: 16 elements for each channel

0 dB = 0.775 V

MODEL IDENTIFICATION

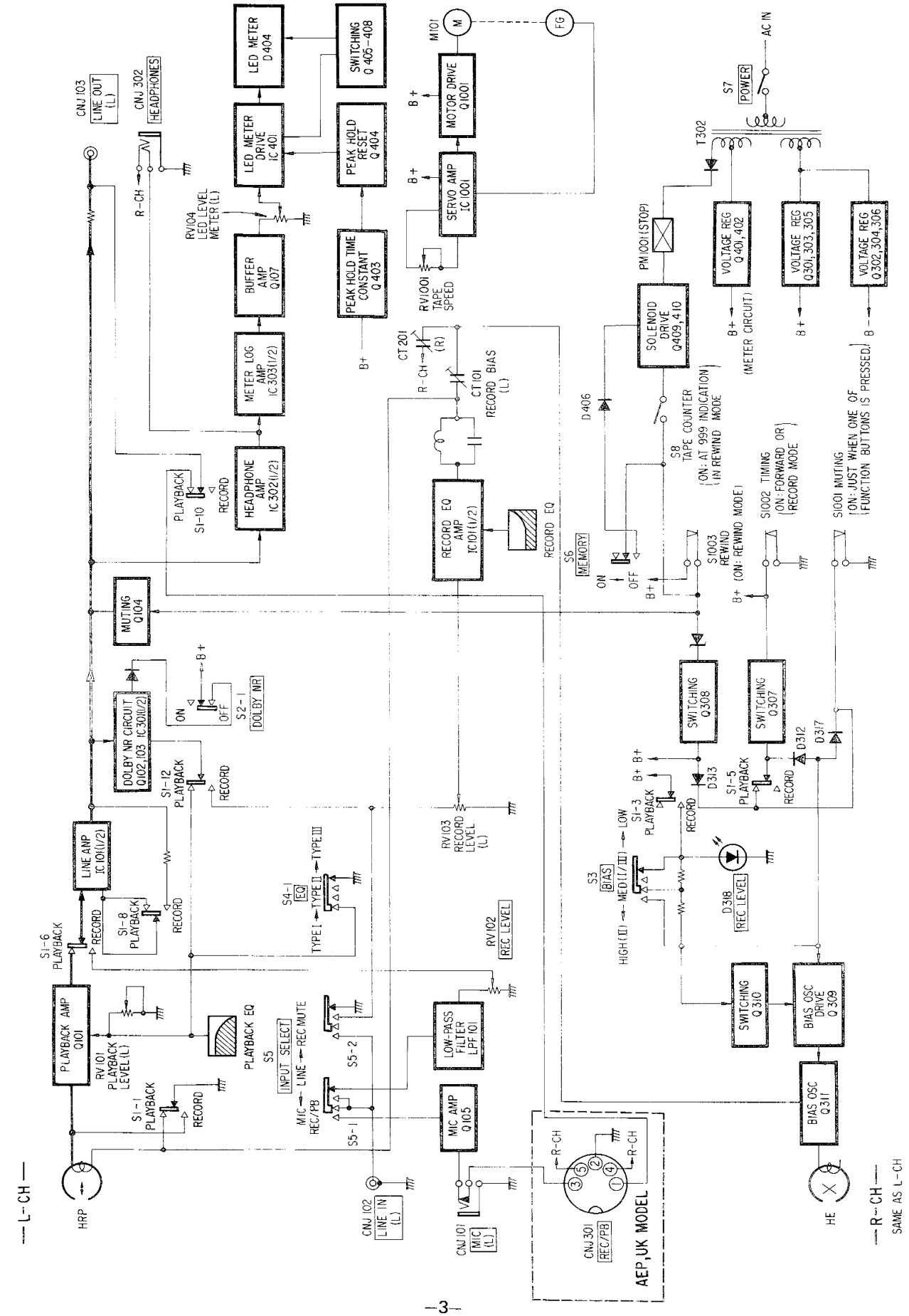
– Specification Label –



AC 120V	*60Hz*	*12W*	····· *US, Canadian model*
AC 220V~	*50/60Hz*	*14W*	····· *AEP model*
AC 240V~	*50/60Hz*	*14W*	····· *UK model*

SECTION 1
OUTLINE

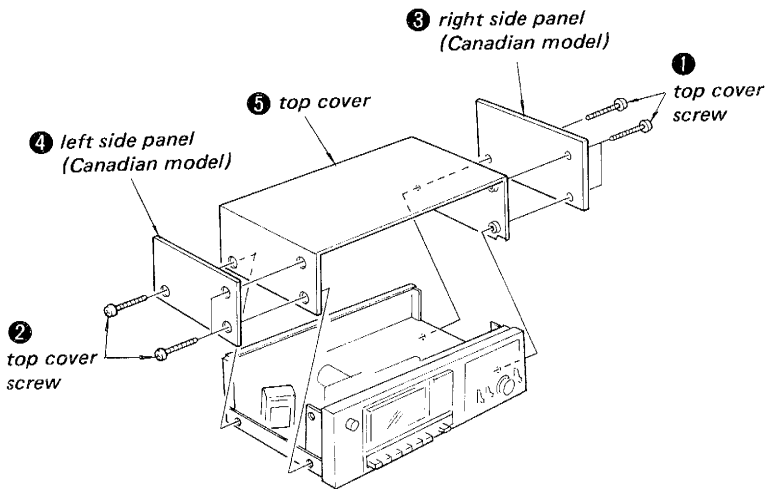
1-1. BLOCK DIAGRAM



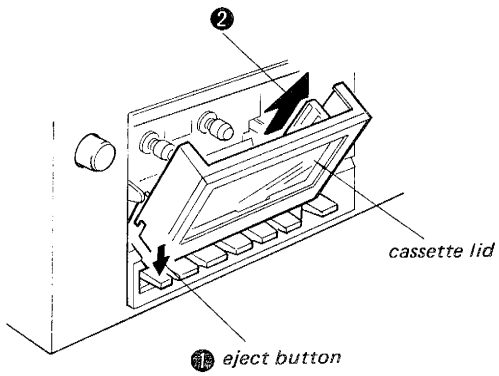
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

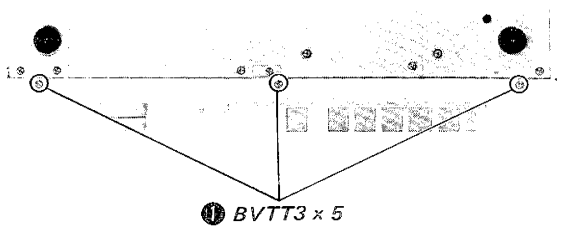
TOP COVER REMOVAL

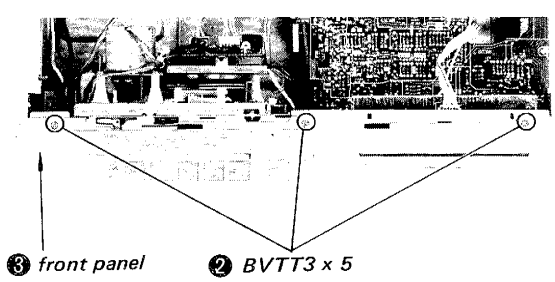


CASSETTE LID REMOVAL

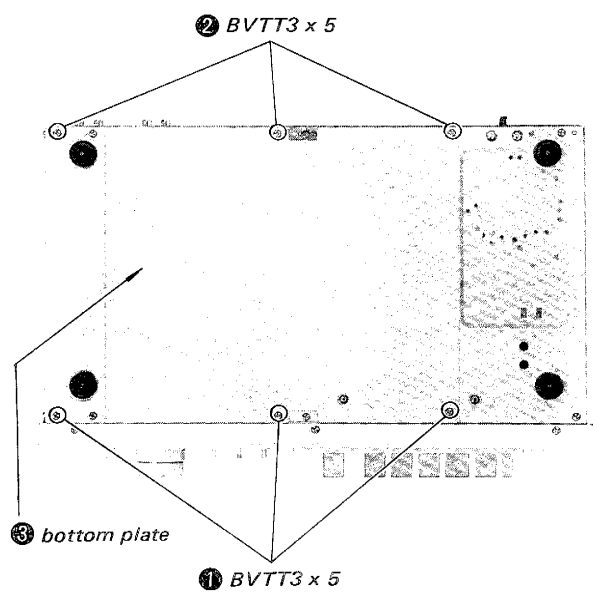


FRONT PANEL REMOVAL

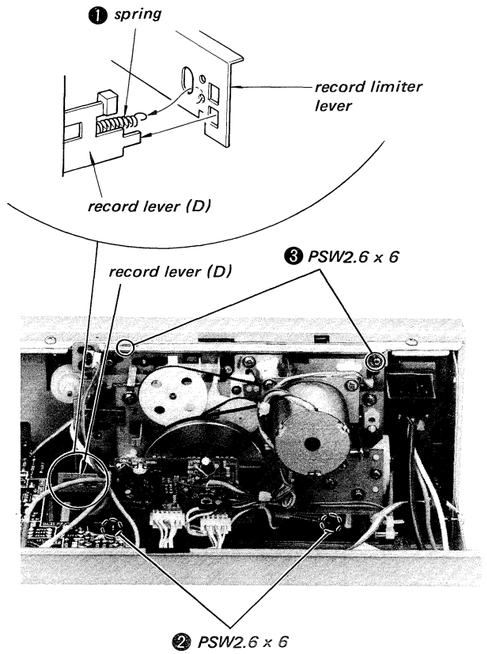




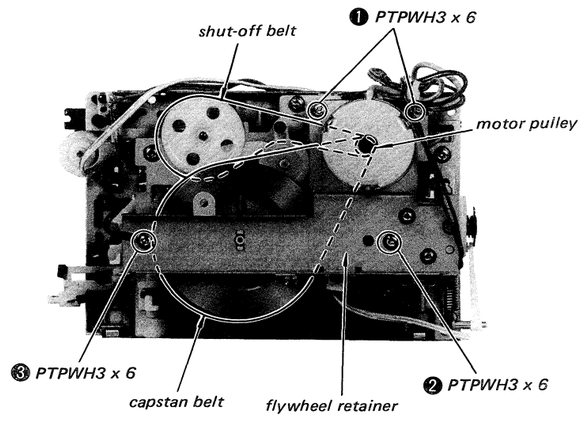
BOTTOM PLATE REMOVAL



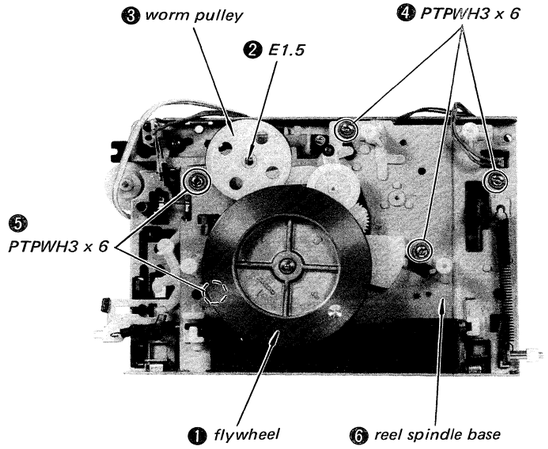
MECHANICAL BLOCK REMOVAL



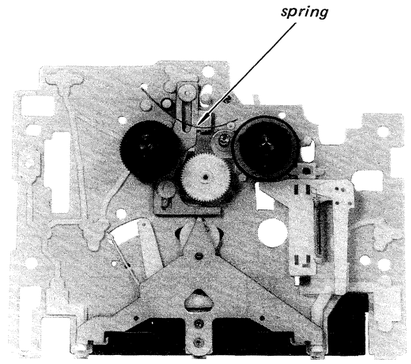
FLYWHEEL RETAINER REMOVAL



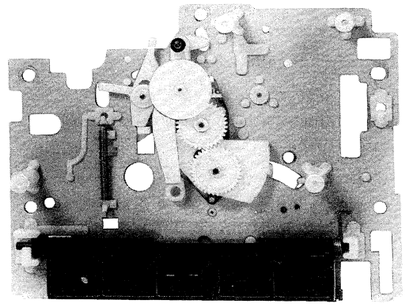
REEL SPINDLE BASE REMOVAL



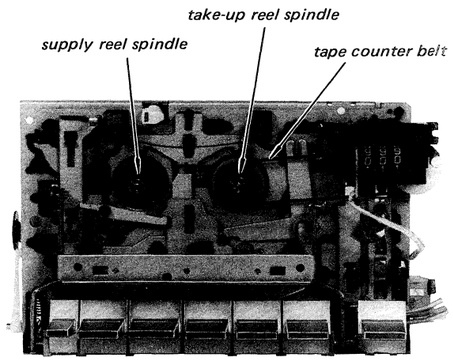
Reel spindle base front view



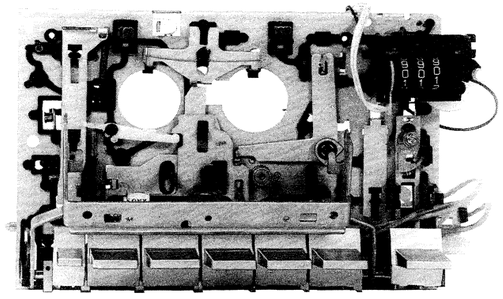
Reel spindle base rear view



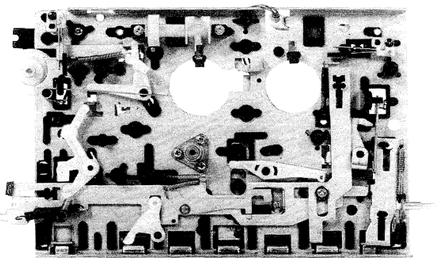
Reel spindle base is not removed.
(front view)



Reel spindle base is removed.
(front view)



Reel spindle base is removed.
(rear view)



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

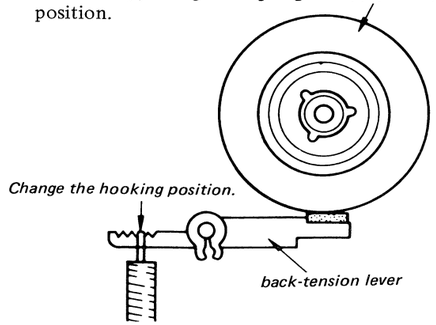
record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

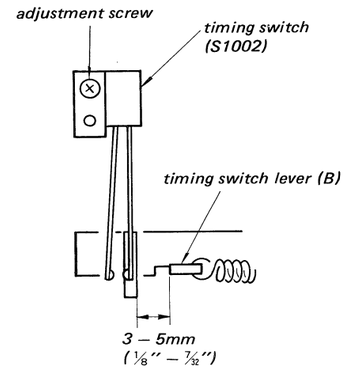
Back Tension Torque Adjustment
– playback mode –

Torque meter	Meter reading
CQ-102	2.0 – 4.5g·cm (0.02 – 0.06 oz·inch)

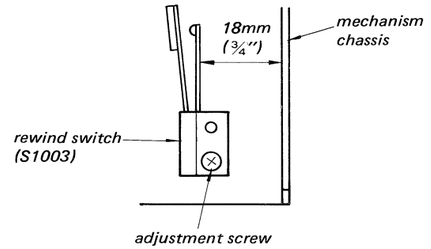
If necessary, change the spring position.



Timing Switch (S1002) Position Adjustment
– stop mode –

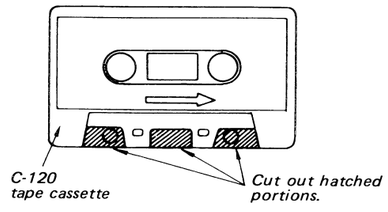


Rewind Switch (S1003) Position Adjustment
– stop mode –

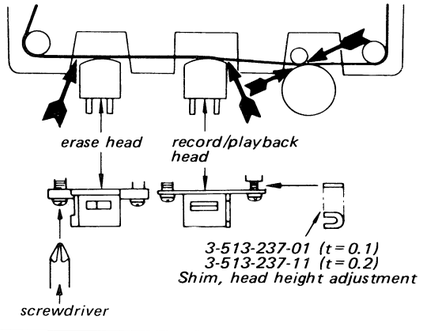


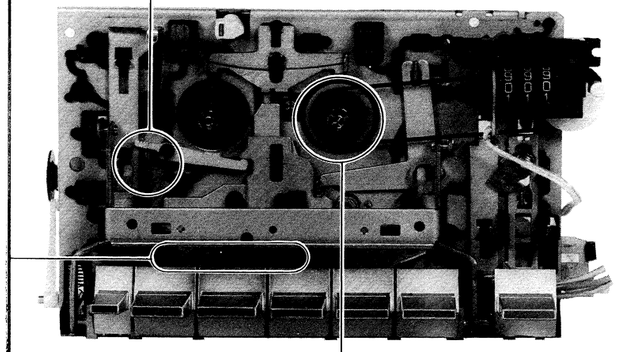
Head Height Adjustment

1. Prepare an adjustment cassette as shown below.



2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions shown by arrows.

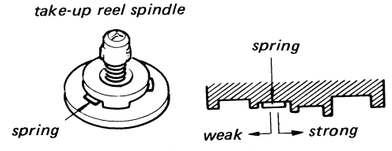




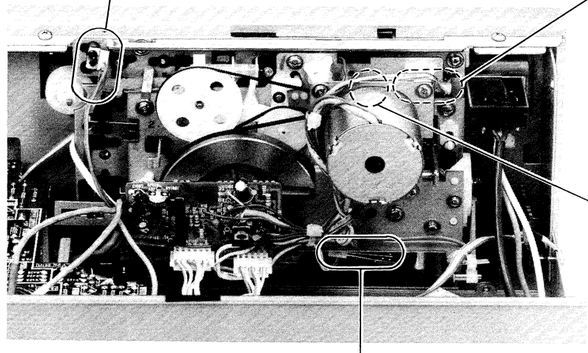
Forward Torque Adjustment
– playback mode –

Torque meter	Meter reading
CQ-102	28 – 55g·cm (0.39 – 0.76 oz·inch)

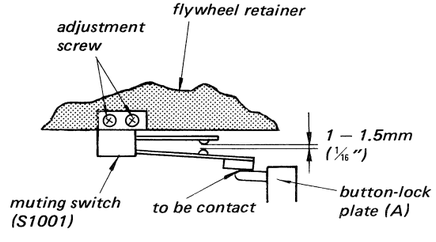
If necessary, change the spring position.



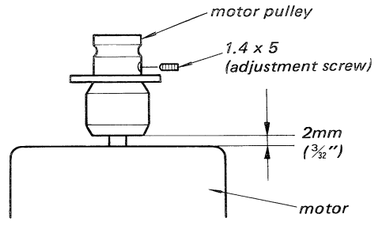
(Approx. 8g·cm per one slide.)



Muting Switch (S1001) Position Adjustment
– stop mode –



Pulley Height Adjustment
– stop mode –



3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

- Set the BIAS and EQ switches according to the tape as follows.

Tape	BIAS switch	EQ switch
CS-10	MED (I/III)	TYPE I
CS-25	HIGH (II)	TYPE II
CS-30	MED (I/III)	TYPE III

- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch: OFF
EQ switch: TYPE I
BIAS switch: MED (I/III)
INPUT SELECT switch: LINE
MEMORY switch: OFF

- Standard Record:

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

Standard Input Level

	MIC	LINE IN	REC/PB (AEP and UK model)
source impedance	300Ω	10kΩ	100kΩ
input level	0.77mV (−60dB)	0.25V (−10dB)	17mV (−33dB)

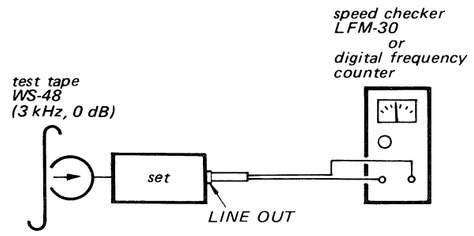
Standard Output Level

	LINE OUT	HEAD-PHONES	REC/PB (AEP and UK model)
load impedance	47kΩ	8Ω	50kΩ
output level	0.44V (−5dB)	39mV (−26dB)	0.44V (−5dB)

Tape Speed Adjustment

Procedure:

Mode: playback



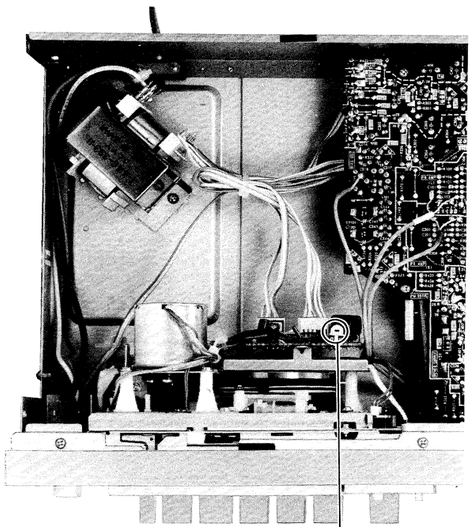
Specification:

Speed checker	Digital frequency counter
−0.6 – +0.6%	2980 – 3020Hz

Frequency difference between the beginning and the end of the tape should be within 0.6% (20Hz).

Adjustment Location:

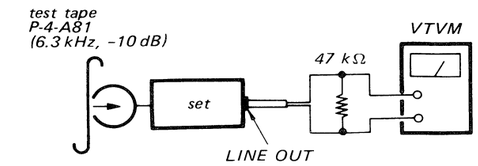
– servo amp board –



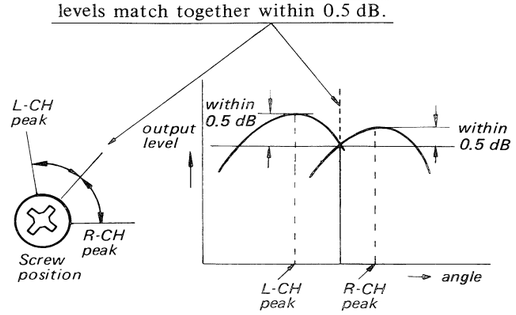
Record/playback Head Azimuth Adjustment

Procedure:

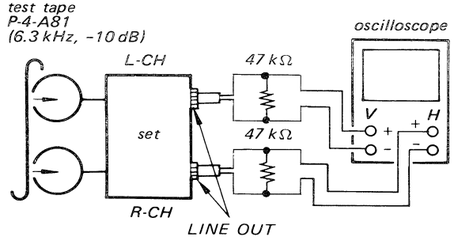
1. Mode: playback

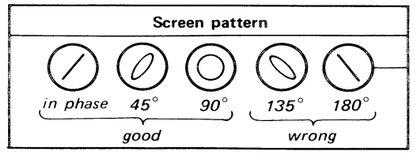


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw where both of output levels match together within 0.5 dB.

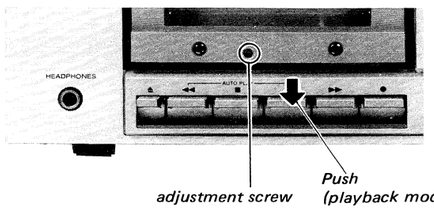


3. Phase Check
Mode: playback





Adjustment Location:



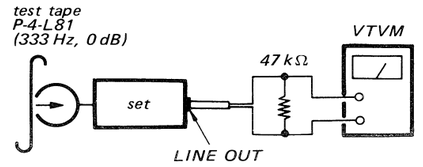
Playback Level Adjustment

Setting:

TAPE SELECT switch: TYPE I

Procedure:

Mode: playback



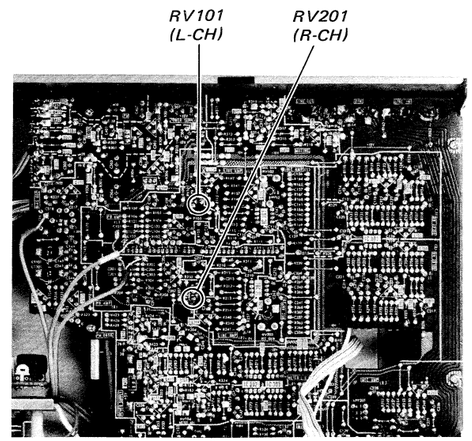
Specification:

LINE OUT level: 0.52 – 0.59V
(−3.5 to −2.5dB)
Level difference between channels:
less than 0.5dB
Level difference from TYPE I:
between −0.5dB and +0.5dB
(TAPE SELECT switch: TYPE III)

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:

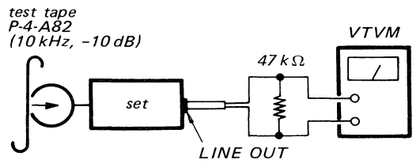
– audio amp board –



Playback Equalizer Adjustment

Procedure:

Mode: playback



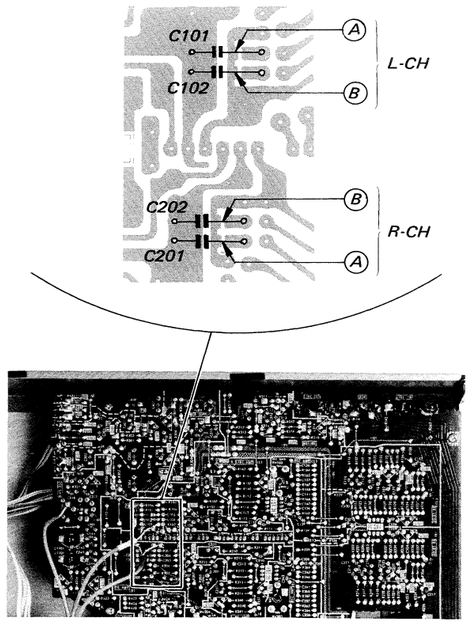
Specification:

EQ switch	LINE OUT level
TYPE I	0.13 – 0.24V (–15.5 to –10.5dB)
TYPE II or TYPE III	0.069 – 0.14V (–21 to –15dB)

Adjustment Location:

– audio amp board –

Bridge patterns	High frequency level
(open)	down ↕ up
Ⓐ	
Ⓐ and Ⓑ	



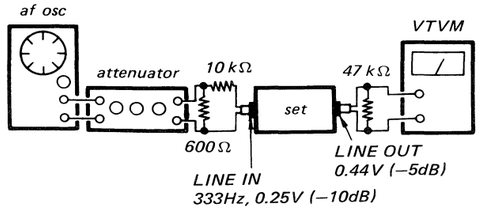
LED Peak Program Meter Calibration

Setting:

REC LEVEL control: standard record
(See page 9.)

Procedure:

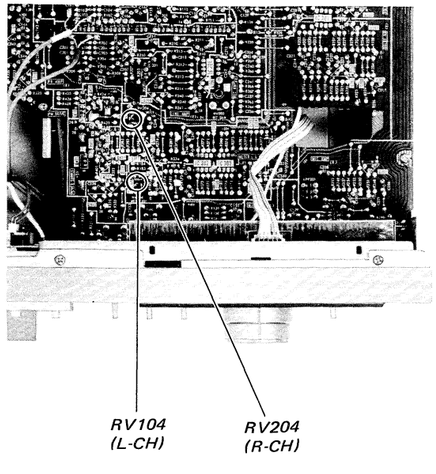
1. Mode: record



Turn RV104 (L-CH) and RV204 (R-CH), and stop them just when ninth segment from the left goes out.

Adjustment Location:

– audio amp board –



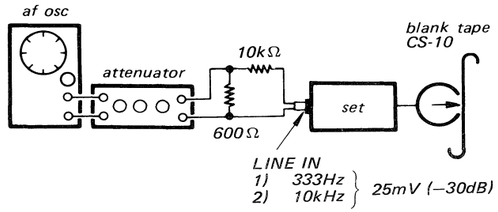
Record Bias Adjustment

Setting:

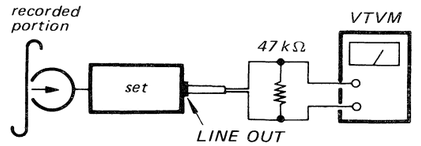
REC LEVEL control: standard record
(See page 9.)

Procedure:

1. Mode: record

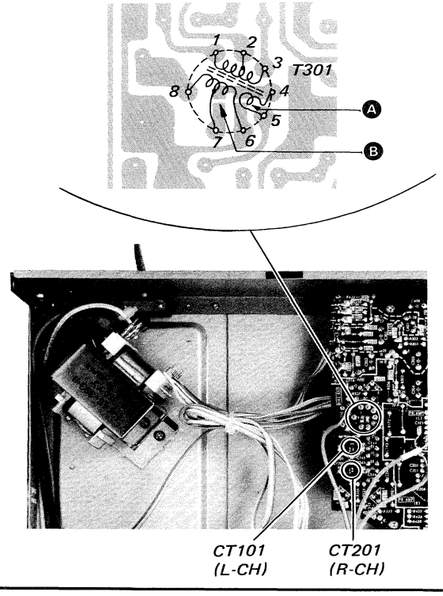


2. Mode: playback



Adjust CT101 (L-CH) and CT201 (R-CH) to make 1kHz and 10kHz signal output levels equal.
If necessary, unsolder portion Ⓐ and solder portion Ⓑ.

Adjustment Location: *– audio amp board –*



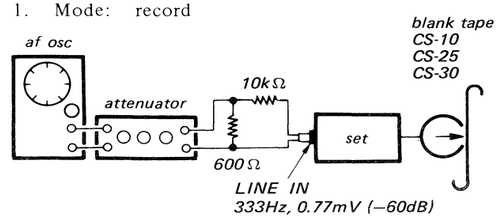
Record Level Adjustment

Setting:

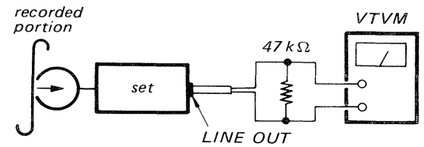
REC LEVEL control: standard record
(See page 9.)

Procedure:

1. Mode: record



2. Mode: playback

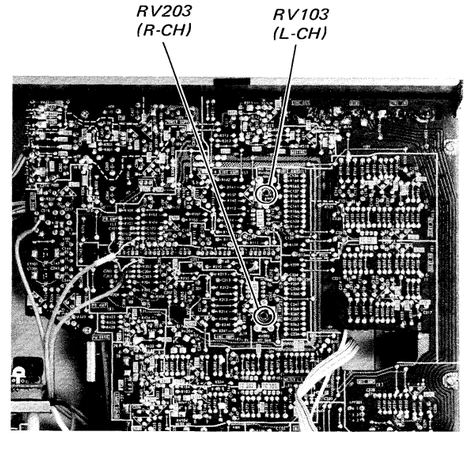


Specification:

tape	LINE OUT level
CS-10	0.41 – 0.46V (–5.5 to –4.5dB)
CS-25 CS-30	0.37 – 0.52V (–6.5 to –3.5dB)

Adjustment Location:

– audio amp board –



SECTION 4
DIAGRAMS

For Schematic Diagram

Note:

- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- All capacitors are in μF unless otherwise noted. pF = μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ⊛ : nonflammable resistor.
- ⊛ : fusible resistor.
- ⊛ (N) : low-noise resistor.

- ⊛ □ : panel designation.

- ○ Switch

Ref. No.	Switch	Position
S1-1 to 1-12	RECORD/PLAYBACK	PLAYBACK
S2-1, 2	DOLBY NR	OFF
S3	BIAS	MED (I/III)
S4-1 to 4-4	EQ	TYPE I
S5-1 to 5-4	INPUT SELECT	LINE
S6	MEMORY	OFF
S7	POWER	OFF
S8	TAPE COUNTER	OFF
S1001	MUTING	OFF
S1002	TIMING	OFF
S1003	REWIND	OFF

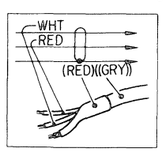
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

For Mounting Diagram

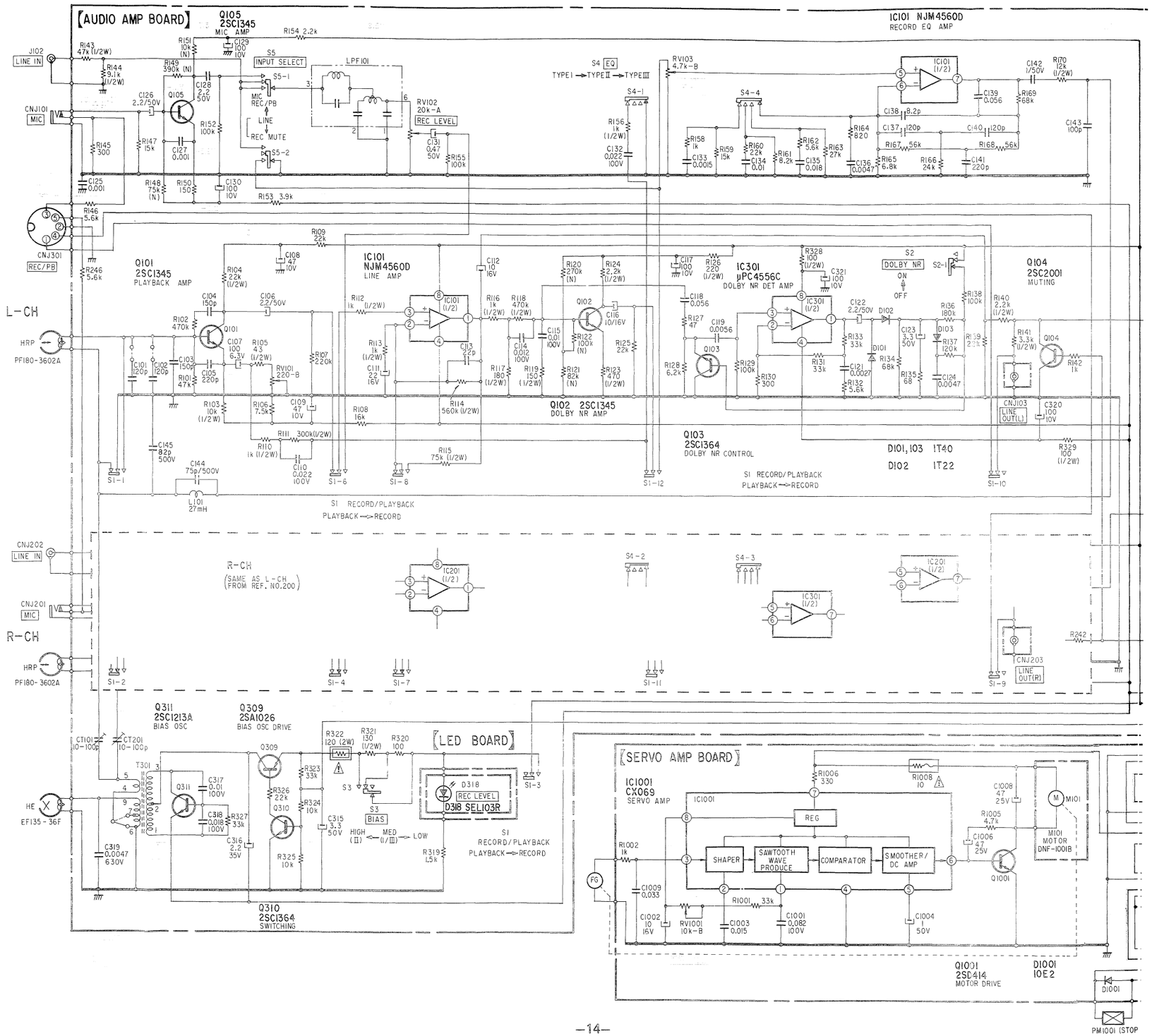
Note:

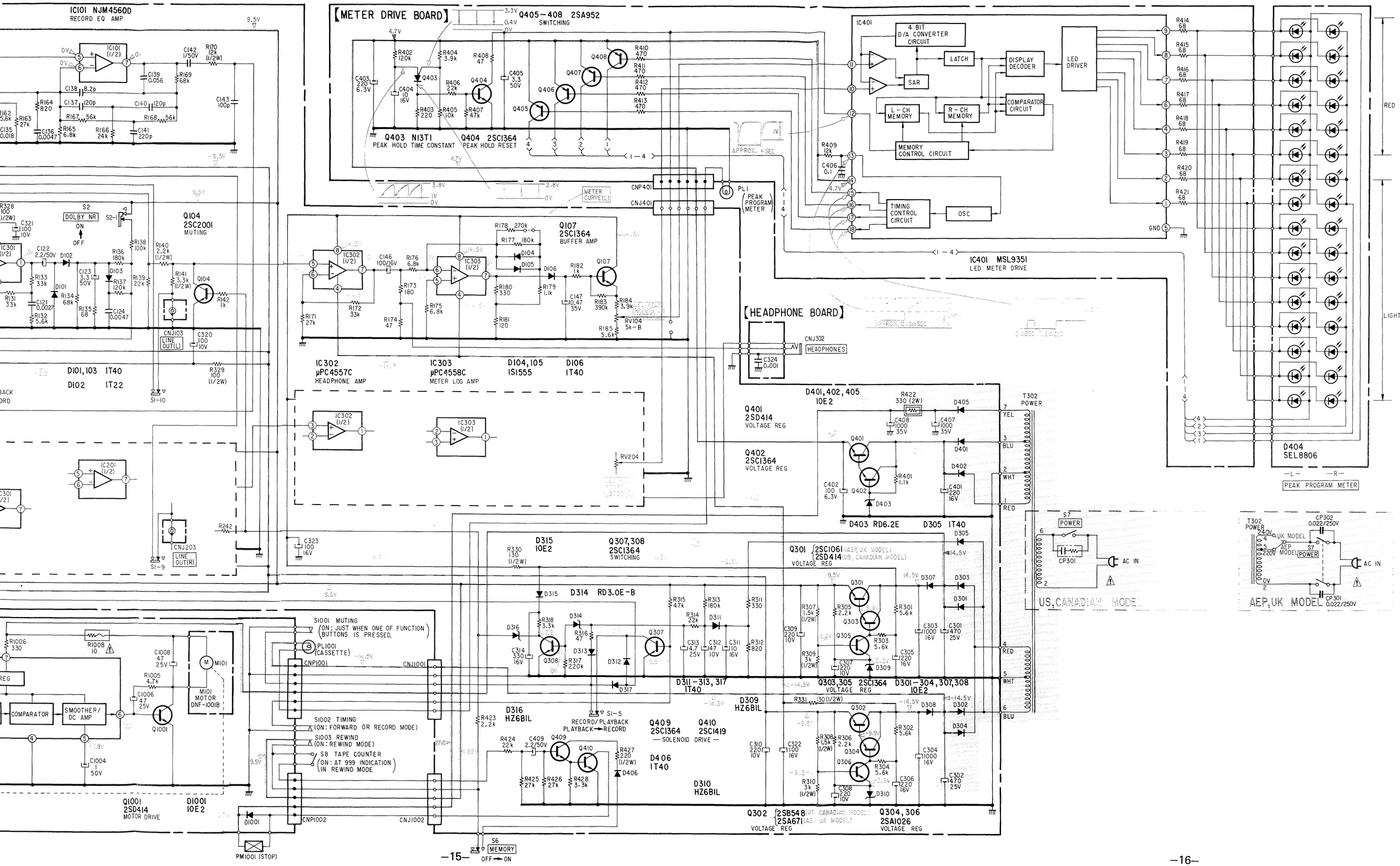
- Color code of sleeving over the end of the jacket.



- ⊛ ○—— : parts extracted from the component side.
- ⊛ ⊙—— : parts extracted from the conductor side.

4-1. SCHEMATIC DIAGRAM

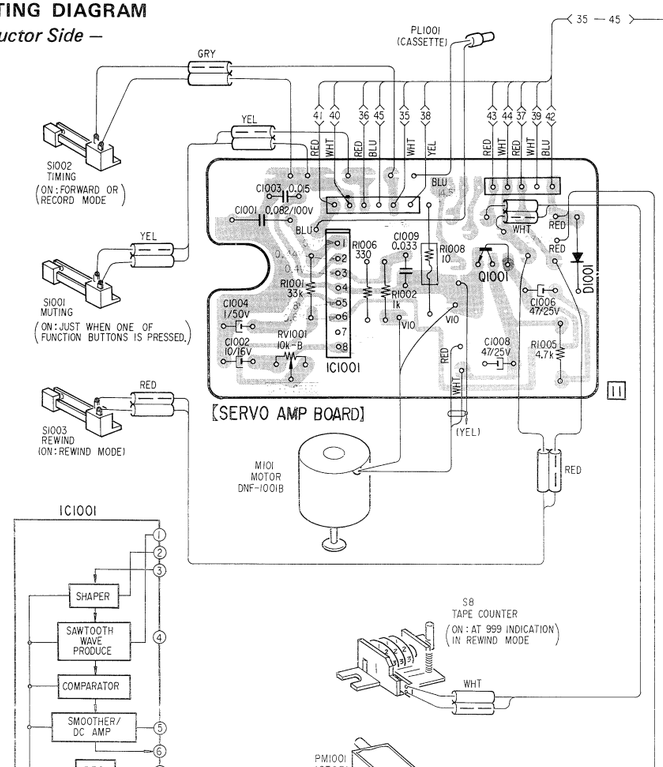


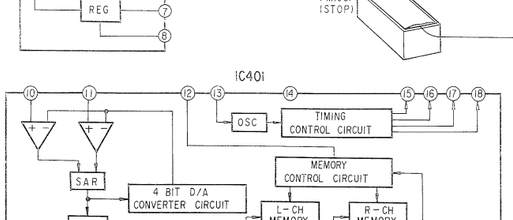

IC101 NJM4560D
RECORD EQ AMP
【METER DRIVE BOARD】
Q405–408 2SA952
SWITCHING
Q403 NI3TI
PEAK HOLD TIME CONSTANT
Q404 2SCI364
PEAK HOLD RESET
IC401
4 BIT D/A CONVERTER CIRCUIT
LATCH
SAR
DISPLAY DECODER
LED DRIVER
L–CH MEMORY
R–CH MEMORY
COMPARATOR CIRCUIT
MEMORY CONTROL CIRCUIT
TIMING CONTROL CIRCUIT
OSC
IC401 MSL9351
LED METER DRIVE
RED
LIGHT GREEN
PEAK PROGRAM METER
Q104 2SC2001
MUTING
Q107 2SCI364
BUFFER AMP
IC302 μPC4557C
HEADPHONE AMP
IC303 μPC4558C
METER LOG AMP
D101,103 IT40
D102 IT22
D104,105 ISI555
D106 IT40
【HEADPHONE BOARD】
CNJ302
HEADPHONES
D401,402,405 10E2
Q401 2SD414
VOLTAGE REG
Q402 2SCI364
VOLTAGE REG
D403 RD6.2E
D305 IT40
T302 POWER
D404 SEL8806
–L– –R–
S7 POWER
CP301
AC IN
US,CANADIAN MODEL
T302 POWER
CP302 0.022/250V
UK MODEL
AEP MODEL
S7 POWER
AC IN
CP301 0.022/250V
AEP,UK MODEL
D315 10E2
Q307,308 2SCI364
SWITCHING
D314 RD3.0E-B
Q301 2SCI061 (AEP,UK MODEL)
2SD414 (US, CANADIAN MODEL)
VOLTAGE REG
D311–313,317 IT40
Q303,305 2SCI364
VOLTAGE REG
D301–304,307,308 10E2
D309 HZ6BIL
D316 HZ6BIL
Q409 2SCI364
Q410 2SCI419
— SOLENOID DRIVE —
D406 IT40
D310 HZ6BIL
Q302 2SB548 (US, CANADIAN MODEL)
2SA671 (AEP, UK MODEL)
VOLTAGE REG
Q304,306 2SAI026
VOLTAGE REG
SI001 MUTING
(ON: JUST WHEN ONE OF FUNCTION BUTTONS IS PRESSED.)
PLI001 (CASSETTE)
SI002 TIMING
(ON: FORWARD OR RECORD MODE)
SI003 REWIND
(ON: REWIND MODE)
S8 TAPE COUNTER
(ON: AT 999 INDICATION
IN REWIND MODE)
S6 MEMORY
OFF → ON
SI–5 RECORD/PLAYBACK
PLAYBACK → RECORD
M101 MOTOR DNF-1001B
Q1001 2SD414
MOTOR DRIVE
D1001 10E2
PM1001 (STOP)
COMPARATOR
SMOOTHER/ DC AMP

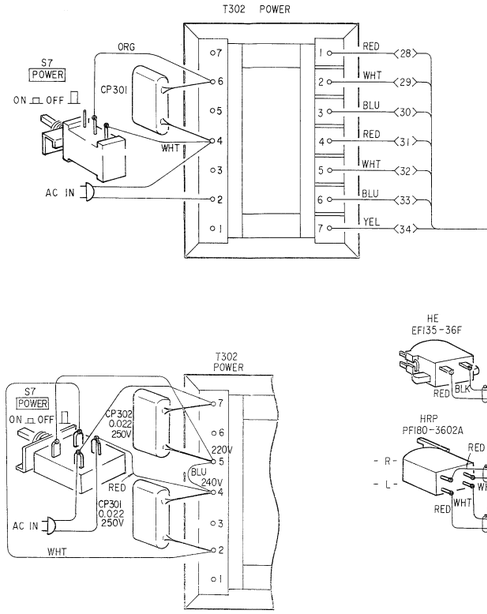
See page 13 for the notes and page 20 for semiconductor illustration.

4-2. MOUNTING DIAGRAM

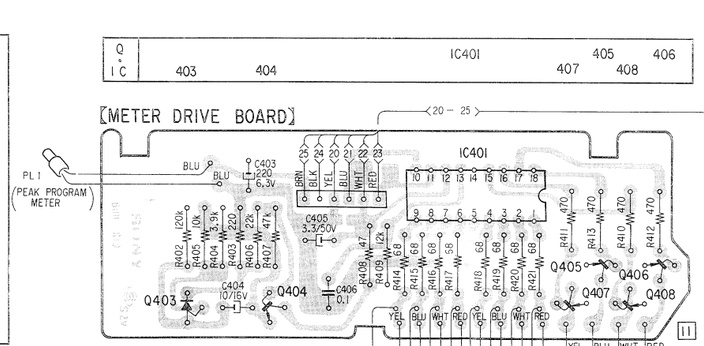
– Conductor Side –

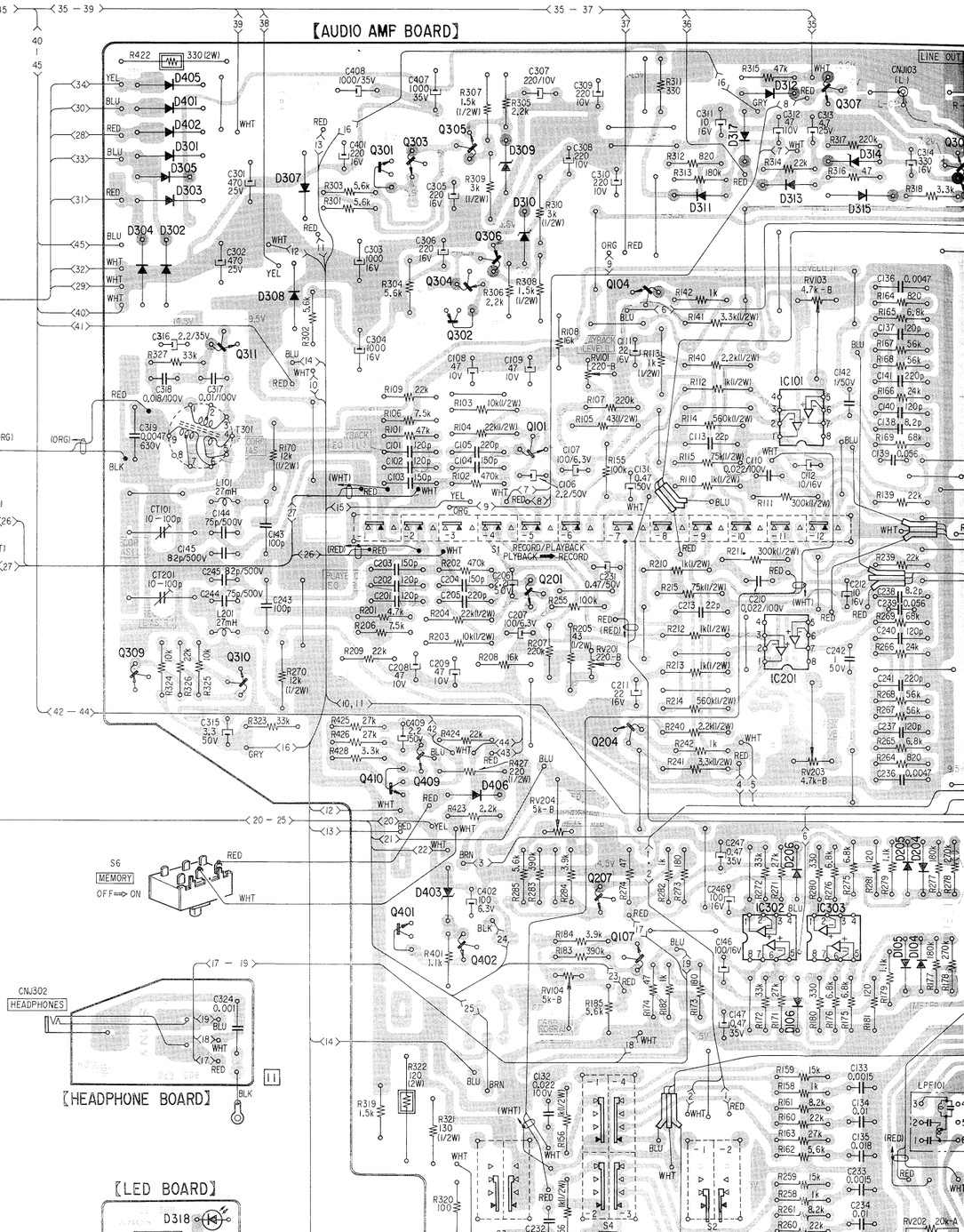






Q I C	IC401					
403	404				405 407	406 408





TC-K45

【AUDIO AMF BOARD】

【HEADPHONE BOARD】

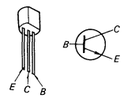
【LED BOARD】

Q , IC	D
307	405 312 401
305 303 308 301	402 317 301 309 314
	305 307 313 316 303 311 315
	310
306	304 302
304 104 102	308
302 311	102 103,101
IC101	
101 103 IC301	
203	
201	
IC201	202,203,201
202 309 310	
204	
409	
410	406
	205 206 204
207	403
401 IC302,303 402 205 107	105 104
	106
	318
105	
Q , IC	D

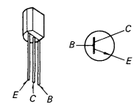
Replacement Semiconductors

For replacement, use semiconductors except in ( ).

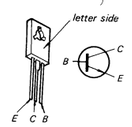
Q101, 201, Q102, 202, Q105, 205 : 2SC1345
Q104, 204 : 2SC2001



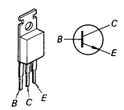
Q103, 203, Q107, 207, Q303, 305, Q307, 308, Q310, 402, Q404, 409 : 2SC1364



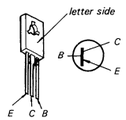
Q301 (US, Canadian model), Q401, 1001 : 2SD414



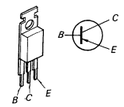
Q301 (AEP, UK model): 2SC1061
Q410: 2SC1061 (2SC1419)



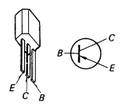
Q302 (US, Canadian model): 2SB548



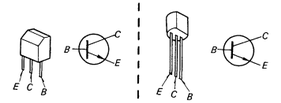
Q302 (AEP, UK model): 2SA671



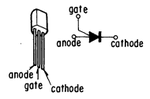
Q304, 306, 309: 2SA1027R (2SA1026)



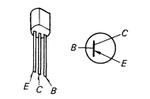
Q311: 2SC1475 (2SC1213A)



Q403: N13T1

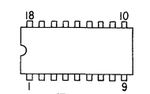


Q405 – 408: 2SA952

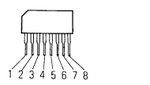


IC101, 201 : NJM4560D
IC301 : μPC4556C
IC302 : μPC4557C
IC303 : μPC4558C

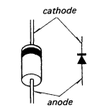
IC401: MSL9351



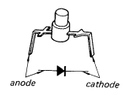
IC1001: CX069



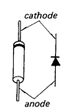
D309, 310, 316: HZ6B2L (HZ6B1L)



D318: SEL103R

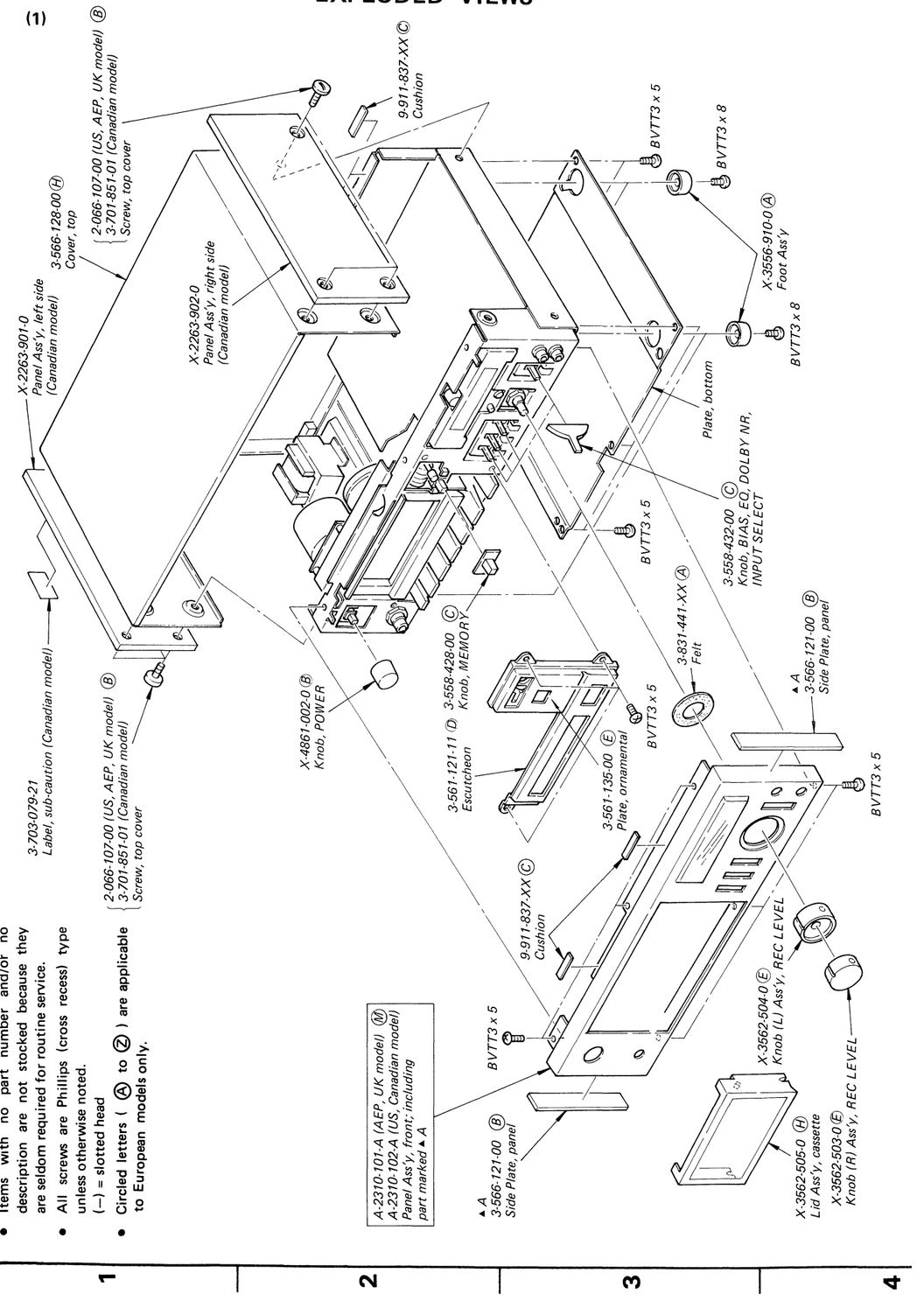


D101, 201, D103, 203, D106, 206, D305, 311–313, D317, 406 : 1S1555 (1T40)
D102, 202 : 1T22AM (1T22)
D104, 204, D105, 205 : 1S1555
D301–304, D307, 308, D315, 401, D402, 405 : 10E2
D1001
D314 : RD3.0E (RD3.0E-B)
D403 : RD6.2E



SECTION 5
EXPLODED VIEWS

(1)

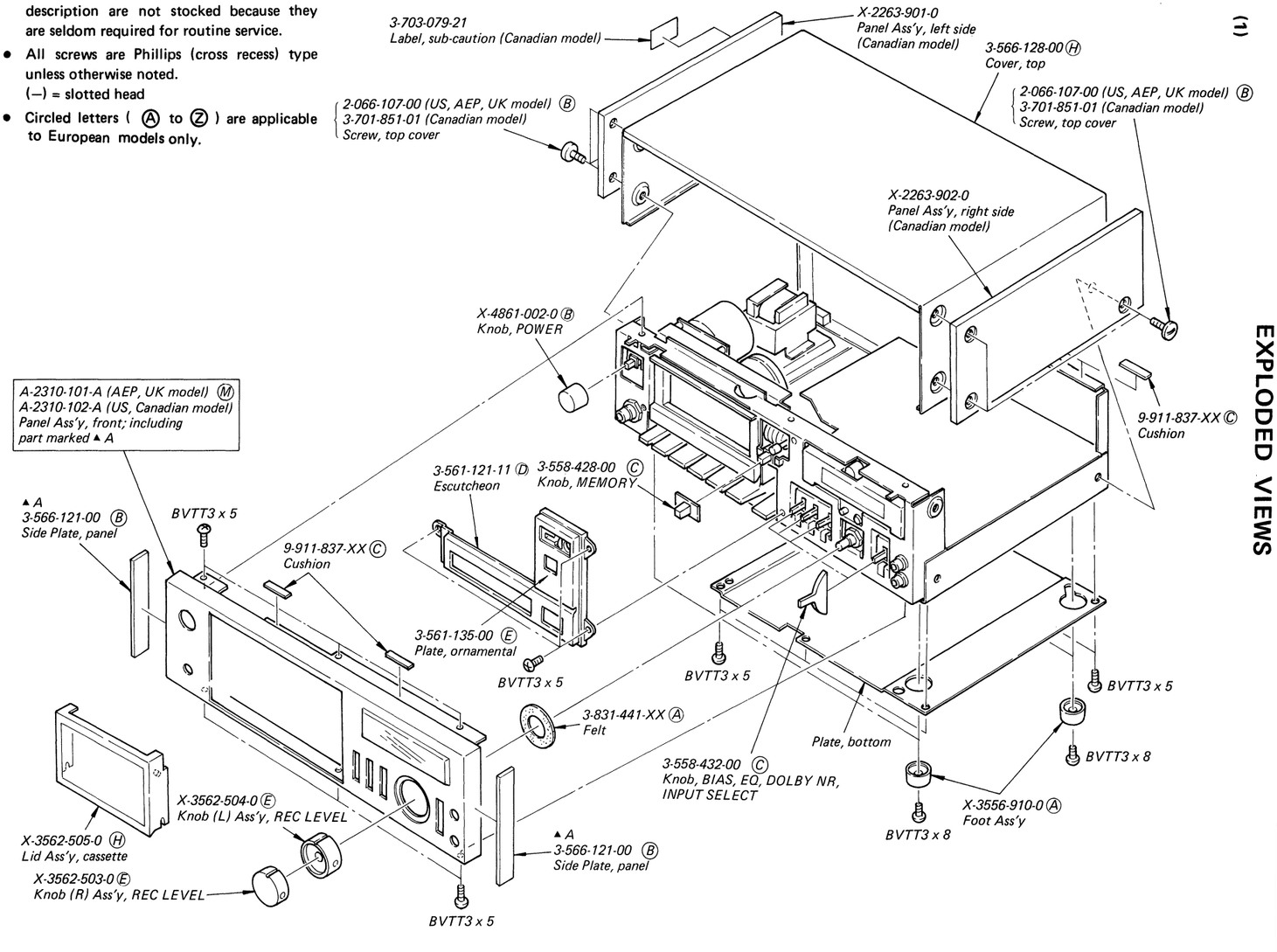


(2)

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

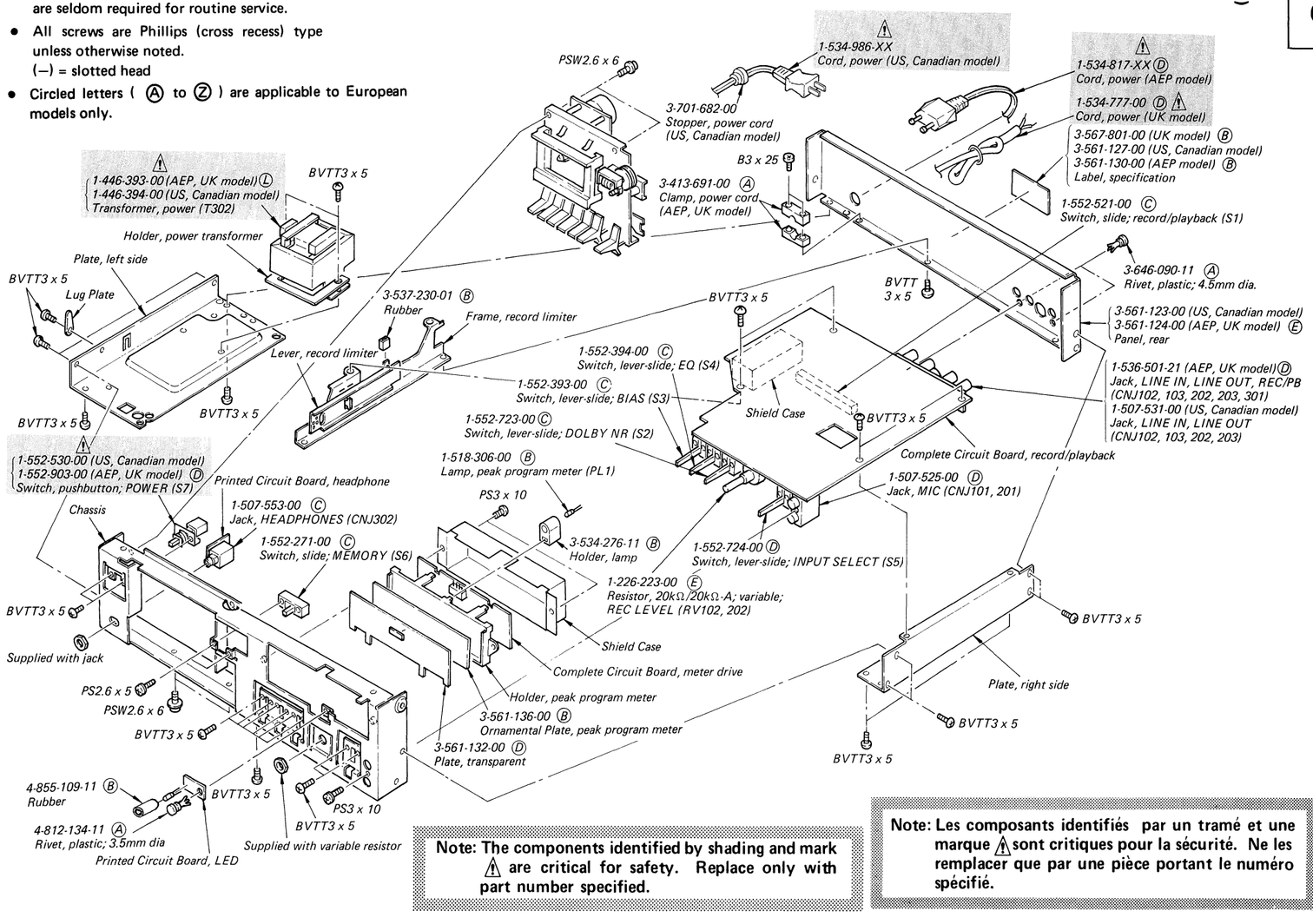
(1)

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.



(2)

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

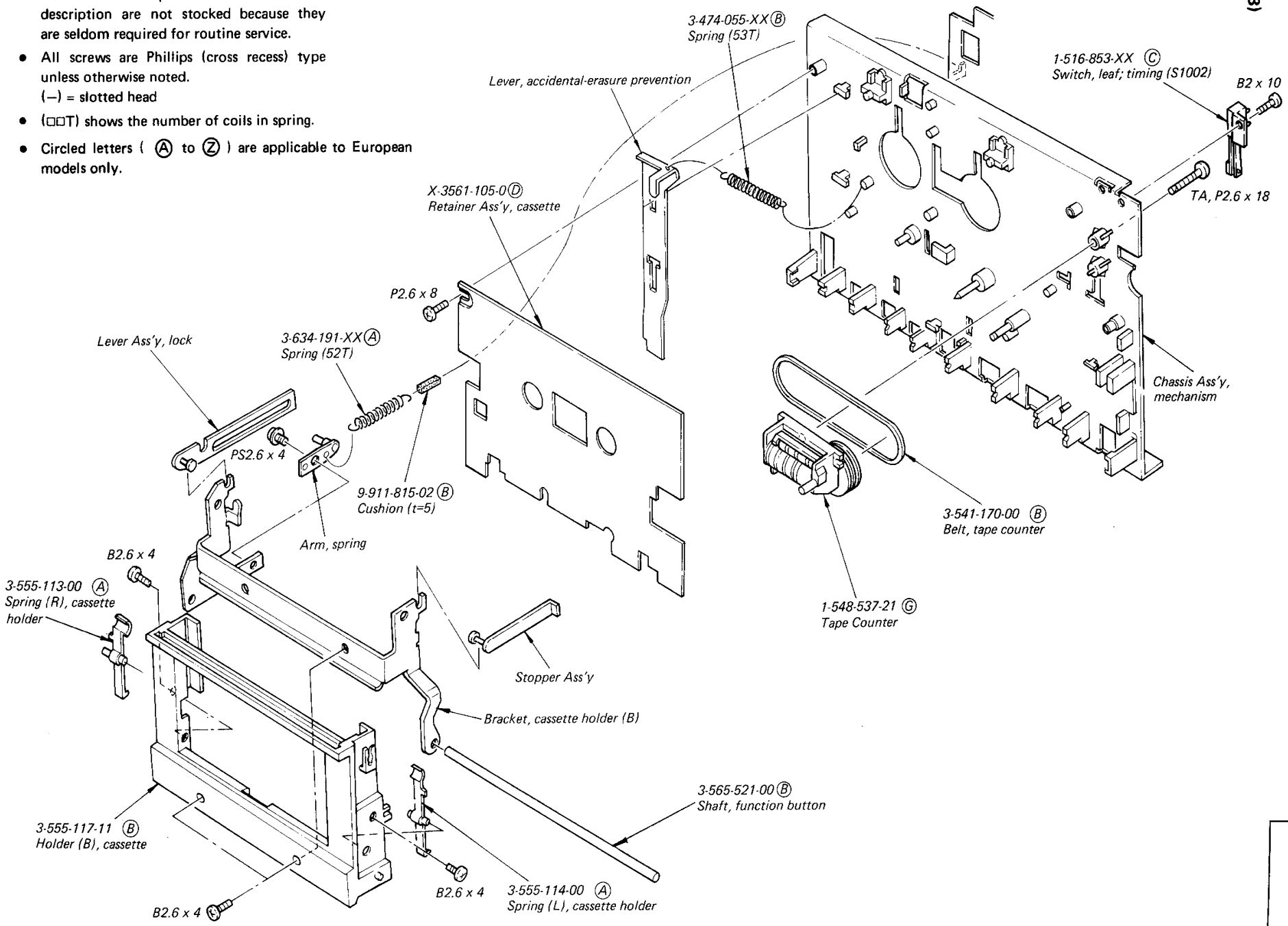


Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

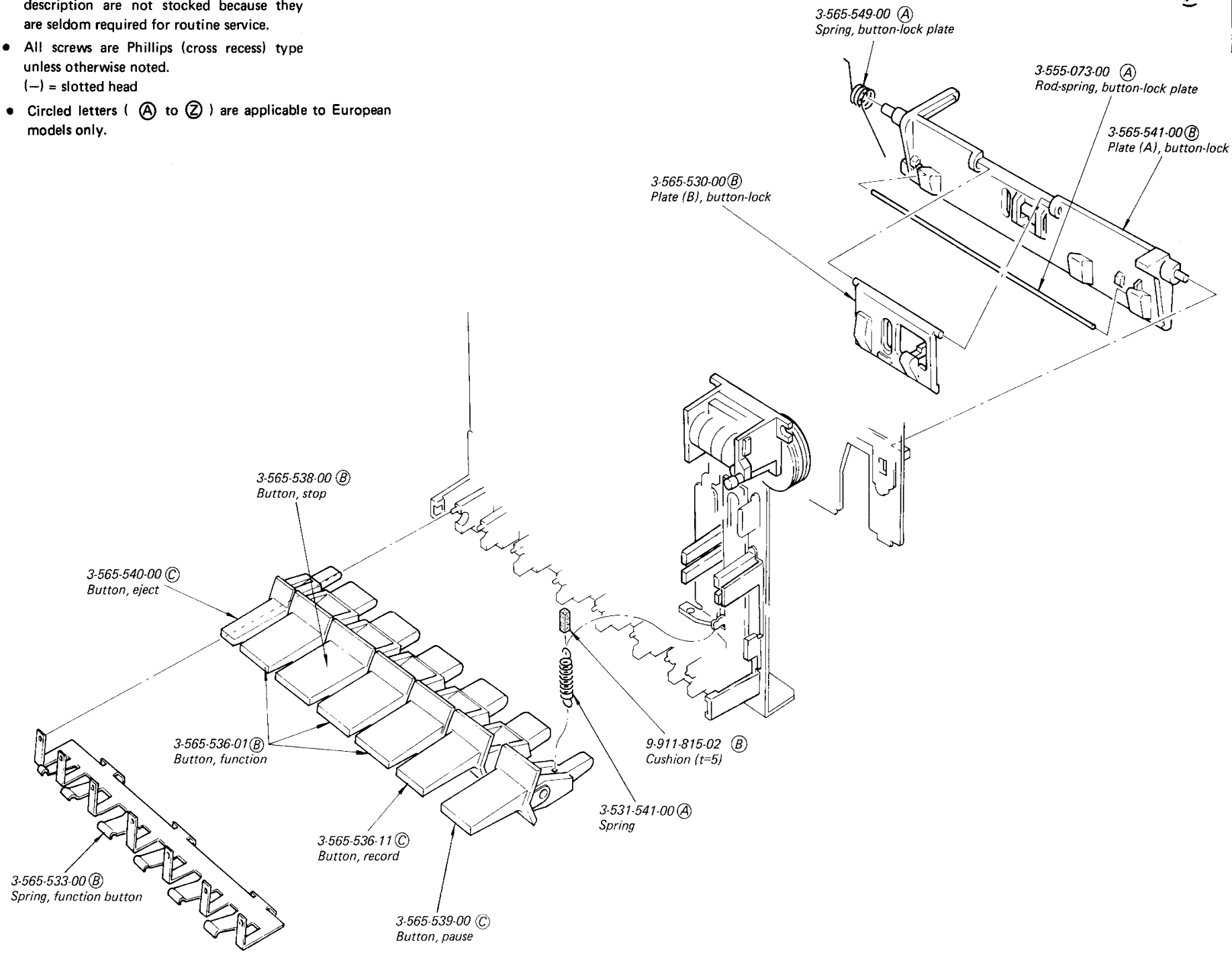
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

(3)



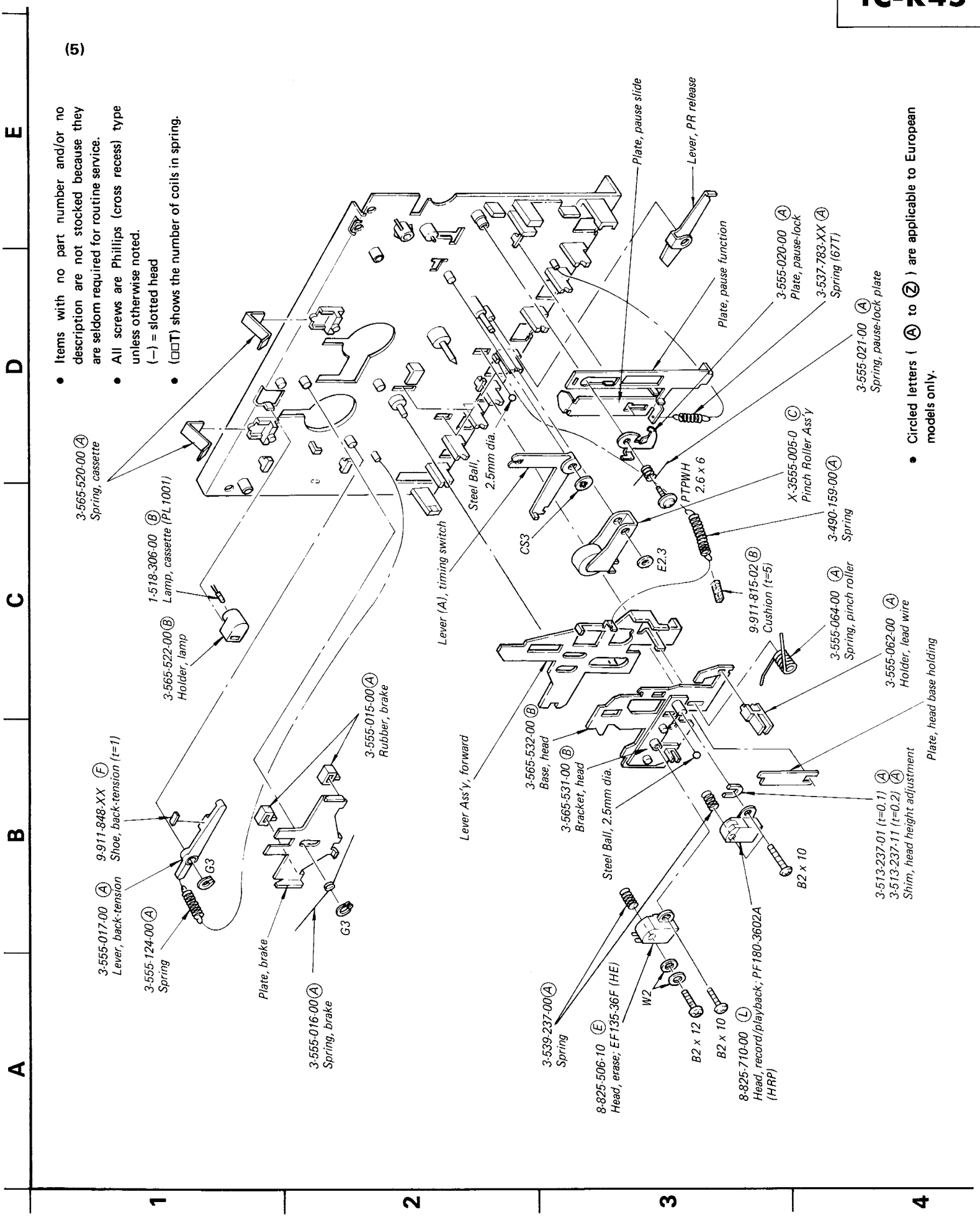
(4)

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.



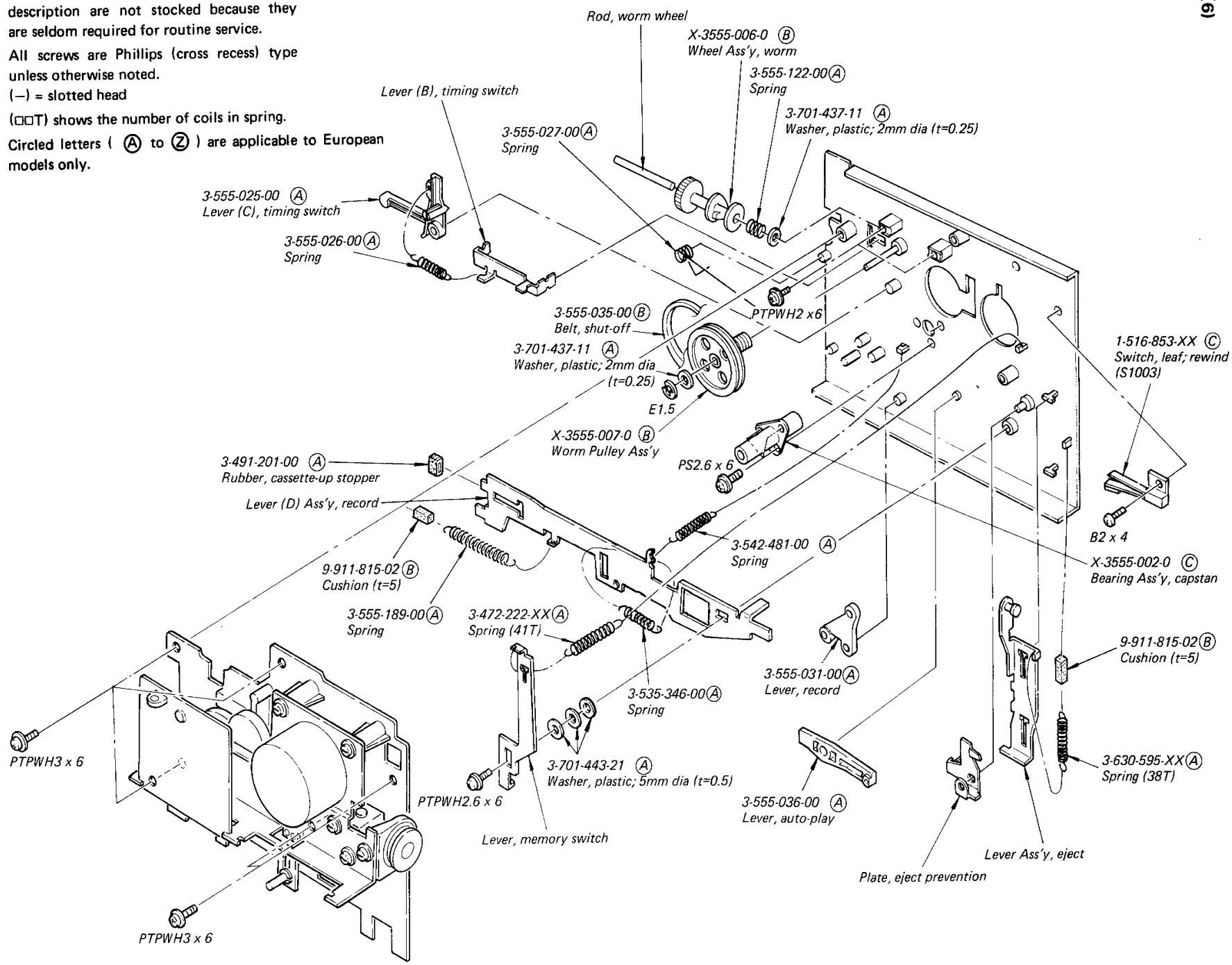
(5)

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.

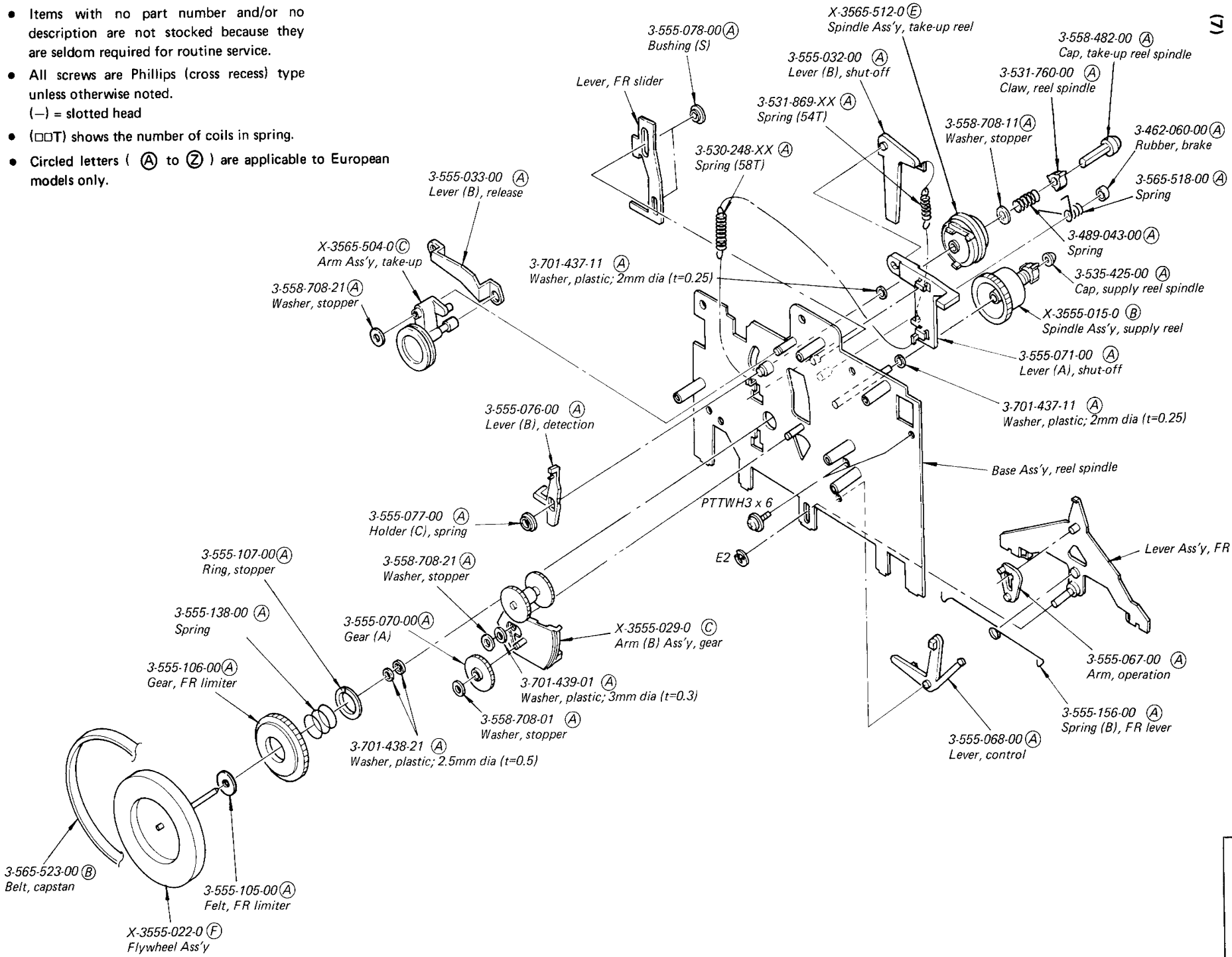


- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.



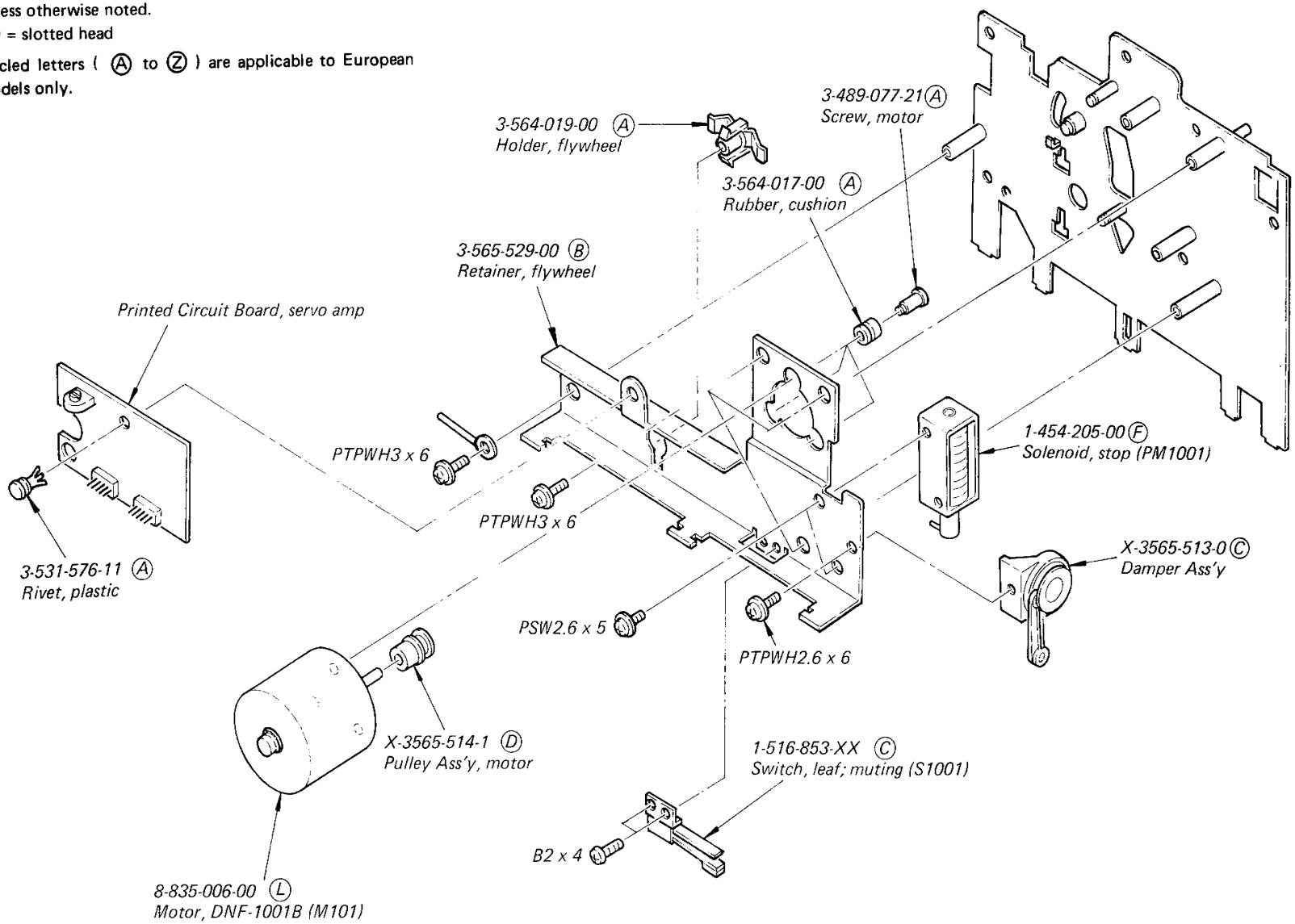
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.



A B C D E

1 2 3 4

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.



SECTION 6
ELECTRICAL PARTS LIST

• Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description
		SEMICONDUCTORS
		Transistors
Q101, 102, Q201, 202	8-729-334-58	Ⓑ 2SC1345
Q103, 203	8-729-663-47	Ⓑ 2SC1364
Q104, 204	8-729-100-13	Ⓑ 2SC2001
Q105, 205	8-729-334-58	Ⓑ 2SC1345
Q107, 207	8-729-663-47	Ⓑ 2SC1364
Q301	8-729-141-43	2SD414 (US, Canadian model)
	8-729-316-12	Ⓓ 2SC1061 (AEP, UK model)
Q302	8-729-154-83	2SB548 (US, Canadian model)
	8-729-317-12	Ⓓ 2SA671 (AEP, UK model)
Q303	8-729-663-47	Ⓑ 2SC1364
⇒ Q304	8-729-612-77	Ⓑ 2SA1027R
Q305	8-729-663-47	Ⓑ 2SC1364
⇒ Q306	8-729-612-77	Ⓑ 2SA1027R
Q307, 308	8-729-663-47	Ⓑ 2SC1364
⇒ Q309	8-729-612-77	Ⓑ 2SA1027R
Q310	8-729-663-47	Ⓑ 2SC1364
⇒ Q311	8-760-413-10	Ⓑ 2SC1475
Q401	8-729-141-43	Ⓑ 2SD414
Q402	8-729-663-47	Ⓑ 2SC1364
Q403	8-729-101-31	Ⓑ N13T1
Q404	8-729-663-47	Ⓑ 2SC1364
Q405–408	8-729-195-23	Ⓑ 2SA952
Q409	8-729-663-47	Ⓑ 2SC1364
⇒ Q410	8-729-316-12	Ⓓ 2SC1061
Q1001	8-729-141-43	Ⓑ 2SD414
		ICs
IC101, 201	8-759-745-60	Ⓑ NJM4560D
IC301	8-759-100-06	Ⓓ μPC4556C
IC302	8-759-145-57	Ⓓ μPC4557C
IC303	8-759-145-58	Ⓓ μPC4558C
IC401	8-759-993-51	Ⓗ MSL9351
IC1001	8-750-690-00	Ⓓ CX069
		Diodes
⇒ D101, 201	8-719-815-55	Ⓑ 1S1555
⇒ D102, 202	8-719-422-21	Ⓑ 1T22AM
⇒ D103, 203	8-719-815-55	Ⓑ 1S1555
D104, 105, D204, 205	8-719-815-55	Ⓑ 1S1555
⇒ D106, 206	8-719-815-55	Ⓑ 1S1555
D301–304	⚠ 8-719-200-02	Ⓑ 10E2
⇒ D305	⚠ 8-719-815-55	Ⓑ 1S1555
D307, 308	8-719-200-02	Ⓑ 10E2
⇒ D309, 310	8-719-910-65	Ⓑ HZ6B2L
⇒ D311–313	8-719-815-55	Ⓑ 1S1555
⇒ D314	8-719-130-07	Ⓑ RD3.0E
D315	8-719-200-02	Ⓑ 10E2
⇒ D316	8-719-910-65	Ⓑ HZ6B2L
⇒ D317	8-719-815-55	Ⓑ 1S1555
D318	8-719-301-03	Ⓑ SEL103R
D401, 402	⚠ 8-719-200-02	Ⓑ 10E2
D403	8-719-162-07	Ⓑ RD6.2E
D404	1-800-822-11	Ⓚ SEL8806
D405	⚠ 8-719-200-02	Ⓑ 10E2
⇒ D406	8-719-815-55	Ⓑ 1S1555
D1001	8-719-200-02	Ⓑ 10E2
		COILS
L101, 201	1-408-262-00	Ⓑ 27mH, microinductor
		TRANSFORMERS
T301	1-433-132-11	Ⓑ Osc
T302	⚠ 1-446-393-00	Ⓛ Power (AEP, UK model)
	⚠ 1-446-394-00	Power (US, Canadian model)

• ⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description		
		CAPACITORS		
		All capacitors are in μF and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics and tantalum. p : μμF, elect : electrolytic		
C101, 102, C201, 202	1-161-272-00	Ⓐ 120p		
C103, 104, C203, 204	1-161-313-00	Ⓐ 150p		
C105, 205	1-161-315-00	Ⓐ 220p		
C106, 206	1-123-050-00	Ⓑ 2.2	50V	elect
C107, 207	1-121-413-00	Ⓑ 100	6.3V	elect
C108, 109, C208, 209	1-121-352-00	Ⓐ 47	10V	elect
C110, 210	1-129-776-00	Ⓑ 0.022	100V	polyethylene
C111, 112, C211, 212	1-121-479-00	Ⓑ 22	16V	elect
C113, 213	1-161-263-00	Ⓐ 22p		
C114, 214	1-129-896-00	Ⓐ 0.012	100V	polyethylene
C115, 215	1-129-701-00	Ⓐ 0.01	100V	polyethylene
C116, 216	1-121-651-00	Ⓐ 10	16V	elect
C117, 217	1-121-414-00	Ⓑ 100	10V	elect
C118, 218	1-108-597-00	Ⓐ 0.056		mylar
C119, 219	1-108-573-00	Ⓑ 0.0056		mylar
C121, 221	1-108-565-00	Ⓑ 0.0027		mylar
C122, 222	1-123-353-00	Ⓑ 2.2	50V	elect
C123, 223	1-123-354-00	Ⓑ 3.3	50V	elect
C124, 224	1-161-383-00	Ⓐ 0.0047		
C125, 225	1-161-323-00	Ⓐ 0.001		
C126, 226	1-123-050-00	Ⓑ 2.2	50V	elect
C127, 227	1-161-323-00	Ⓐ 0.001		
C128, 228	1-123-230-00	Ⓑ 2.2	50V	elect (nonpolarized)
C129, 130, C229, 230	1-121-414-00	Ⓑ 100	10V	elect
C131, 231	1-121-726-00	Ⓐ 0.47	50V	elect
C132, 232	1-129-776-00	Ⓑ 0.022	100V	polyethylene
C133, 233	1-108-559-00	Ⓑ 0.0015		mylar
C134, 234	1-108-579-00	Ⓑ 0.01		mylar
C135, 235	1-108-585-00	Ⓑ 0.018		mylar
C136, 236	1-161-383-00	Ⓐ 0.0047		
C137, 237	1-161-272-00	Ⓐ 120p		
C138, 238	1-161-258-00	Ⓐ 8.2p		
C139, 239	1-108-597-00	Ⓐ 0.056		mylar
C140, 240	1-161-272-00	Ⓐ 120p		
C141, 241	1-161-315-00	Ⓐ 220p		
C142, 242	1-123-228-00	Ⓑ 1	50V	elect (nonpolarized)
C143, 243	1-161-271-00	Ⓐ 100p		
C144, 244	1-107-167-11	Ⓑ 75p	500V	mica
C145, 245	1-107-037-00	Ⓑ 82p	500V	silvered mica
C146, 246	1-123-320-00	Ⓑ 100	16V	elect
C147, 247	1-131-213-00	Ⓑ 0.47	35V	tantalum
C301	⚠1-121-733-00	Ⓑ 470	25V	elect
C302	⚠1-121-733-00	Ⓑ 470	25V	elect
C303, 304	1-121-245-00	Ⓑ 1000	16V	elect
C305, 306	1-121-421-00	Ⓑ 220	16V	elect
C307–310	1-121-420-00	Ⓑ 220	10V	elect
C311	1-123-316-00	Ⓑ 10	16V	elect
C312	1-123-306-00	Ⓑ 47	10V	elect
C313	1-123-328-00	Ⓑ 4.7	25V	elect
C314	1-123-322-00	Ⓑ 330	16V	elect
C315	1-123-354-00	Ⓑ 3.3	50V	elect
C316	1-131-217-00	Ⓑ 2.2	35V	tantalum
C317	1-129-701-00	Ⓐ 0.01	100V	polyethylene
C318	1-130-189-00	Ⓑ 0.018	100V	polyethylene
C319	1-129-710-00	Ⓑ 0.0047	630V	polyethylene
C320, 321	1-121-414-00	Ⓑ 100	10V	elect
C322, 323	1-123-320-00	Ⓑ 100	16V	elect
C324	1-161-323-00	Ⓐ 0.001		
C401	⚠1-121-421-00	Ⓑ 220	16V	elect
C402	1-123-295-00	Ⓑ 100	6.3V	elect
C403	1-123-296-00	Ⓑ 220	6.3V	elect
C404	1-121-651-00	Ⓐ 10	16V	elect
C405	1-123-354-00	Ⓑ 3.3	50V	elect
C406	1-108-603-00	Ⓑ 0.1		mylar

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description		
C407, 408	1-123-349-00	Ⓒ 1000	35V	elect
C409	1-123-353-00	Ⓑ 2.2	50V	elect
C1001	1-130-134-00	Ⓑ 0.082	100V	plastic
C1002	1-123-316-00	Ⓑ 10	16V	elect
C1003	1-108-583-00	Ⓐ 0.015		mylar
C1004	1-123-352-00	Ⓑ 1	50V	elect
C1006,1008	1-123-332-00	Ⓐ 47	25V	elect
C1009	1-108-244-00	Ⓐ 0.033		mylar
CT101, 201	1-141-225-00	Ⓒ Trimmer		

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on page 33 for their part numbers.
kΩ : 1000Ω, MΩ : 1000kΩ

R103, 203	1-244-897-00	Ⓐ 10k	½W	carbon
R104, 204	1-244-905-00	Ⓐ 22k	½W	carbon
R105, 205	1-244-840-00	Ⓐ 43	½W	carbon
R110, 210	1-244-873-00	Ⓐ 1k	½W	carbon
R111, 211	1-244-932-00	Ⓐ 300k	½W	carbon
R112, 113 R212, 213	1-244-873-00	Ⓐ 1k	½W	carbon
R114, 214	1-244-939-00	Ⓐ 560k	½W	carbon
R115, 215	1-244-918-00	Ⓐ 75k	½W	carbon
R116, 216	1-244-873-00	Ⓐ 1k	½W	carbon
R117, 217	1-244-855-00	Ⓐ 180	½W	carbon
R118, 218	1-244-937-00	Ⓐ 470k	½W	carbon
R119, 219	1-244-853-00	Ⓐ 150	½W	carbon
R123, 223	1-244-865-00	Ⓐ 470	½W	carbon
R124, 224	1-244-881-00	Ⓐ 2.2k	½W	carbon
R126, 226	1-244-857-00	Ⓐ 220	½W	carbon
R140, 240	1-244-881-00	Ⓐ 2.2k	½W	carbon
R141, 241	1-244-885-00	Ⓐ 3.3k	½W	carbon
R143, 243	1-244-913-00	Ⓐ 47k	½W	carbon
R144, 244	1-244-896-00	Ⓐ 9.1k	½W	carbon
R156, 256	1-244-873-00	Ⓐ 1k	½W	carbon
R170, 270	1-244-899-00	Ⓐ 12k	½W	carbon
R307, 308	1-244-877-00	Ⓐ 1.5k	½W	carbon
R309, 310	1-244-884-00	Ⓐ 3k	½W	carbon
R321	1-244-852-00	Ⓐ 130	½W	carbon
R322	⚠1-206-642-00	Ⓐ 120	2W	metal oxide (nonflammable)
R328, 329	1-244-849-00	Ⓐ 100	½W	carbon
R330, 331	1-244-852-00	Ⓐ 130	½W	carbon
R422	⚠1-206-652-00	Ⓐ 330	2W	metal oxide (nonflammable)
R427	1-244-857-00	Ⓐ 220	½W	carbon
R1001	1-214-765-00	Ⓐ 33k	¼W	metal oxide
R1008	⚠1-217-523-00	Ⓑ 10	¼W	fusible

RV101, 201	1-244-550-21	Ⓑ 220-B, adjustable; playback level
RV102, 202	1-226-223-00	Ⓔ 20k/20k-A, variable; REC LEVEL
RV103, 203	1-224-644-XX	Ⓑ 4.7k-B, adjustable; record level
RV104, 204	1-226-235-00	Ⓐ 5k-B, adjustable; meter
RV1001	1-226-431-00	Ⓑ 10k-B, adjustable; tape speed

SWITCHES

S1	1-552-521-00	Ⓒ Slide, record/playback
S2	1-552-723-00	Ⓒ Lever-slide, DOLBY NR
S3	1-552-393-00	Ⓒ Lever-slide, BIAS
S4	1-552-394-00	Ⓒ Lever-slide, EQ
S5	1-552-724-00	Ⓓ Lever-slide, INPUT SELECT
S6	1-552-271-00	Ⓒ Slide, MEMORY
S7	⚠1-552-530-00	Pushbutton, POWER (US, Canadian model)
S7	⚠1-552-903-00	Ⓓ Pushbutton, POWER (AEP, UK model)
S8		included in tape counter
S1001–1003	1-516-853-XX	Ⓒ Leaf, muting, timing, rewind

JACKS

CNJ101,201	1-507-525-00	Ⓓ MIC
CNJ102, 103 CNJ202, 203	1-507-531-00	LINE IN, LINE OUT (US, Canadian model)
CNJ102,103 CNJ202,203 CNJ301	1-536-501-21	Ⓓ LINE IN, LINE OUT, REC/PB (AEP, UK model)

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	*Part No.*	*Description*
CNJ302	1-507-553-00	Ⓒ HEADPHONES

MISCELLANEOUS

CP301	⚠1-231-326-11	Encapsulated Component (US, Canadian model)
	⚠1-130-267-00	Ⓒ Capacitor, 0.022μF 250V; film (AEP, UK model)
HE	8-825-506-10	Ⓔ Head, erase; EF135-36F
HRP	8-825-710-00	Ⓛ Head, record/playback; PF180-3602A
LPF101,201	1-231-372-00	Ⓒ Filter, low-pass
M101	8-835-006-00	Ⓛ Motor, DNF-1001B
PL1, 1001	1-518-306-00	Ⓑ Lamp, peak program meter, cassette
PM1001	1-454-205-00	Ⓕ Solenoid, stop
	⚠1-534-777-00	Ⓓ Cord, power (UK model)
	⚠1-534-817-XX	Ⓓ Cord, power (AEP model)
	⚠1-534-986-XX	Cord, power (US, Canadian model)

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ACCESSORIES & PACKING MATERIALS

Part No.	*Description*
X-3701-105-0	Ⓐ Tip Ass'y, head cleaning
1-551-734-11	Ⓓ Cord, connection; RK-74A
3-429-126-00	Bag, plastic (Canadian model)
3-561-128-00	Ⓓ Carton (US, AEP, UK model)
3-561-141-00	Carton (Canadian model)
3-561-142-00	Cushion, upper-front (Canadian model)
3-561-143-00	Cushion, upper-rear (Canadian model)
3-561-144-00	Cushion, bottom-right (Canadian model)
3-561-145-00	Cushion, bottom-left (Canadian model)
3-566-148-00	Ⓑ Cushion, upper-front (US, AEP, UK model)
3-566-149-00	Ⓑ Cushion, upper-rear (US, AEP, UK model)
3-566-150-00	Ⓑ Cushion, bottom-right (US, AEP, UK model)
3-566-151-00	Ⓑ Cushion, bottom-left (US, AEP, UK model)
3-701-630-00	Ⓐ Bag, plastic
3-770-849-11	Ⓔ Manual, instruction (AEP, UK model)
3-770-849-21	Manual, instruction (US model)
3-770-849-21 3-794-461-31)	Manual, instruction (Canadian model)
3-793-828-11	Ⓐ Caution Card, cassette
3-794-233-21	Separate Sheet, consumer products (US model)
4-818-924-00	Ⓑ Bag, plastic (US, AEP, UK model)

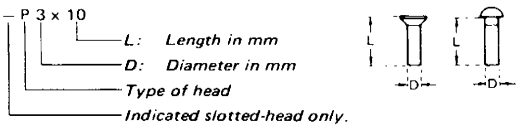
1/4 WATT CARBON RESISTORS Ⓐ

Note: Circled letter Ⓐ is applicable to European models only.

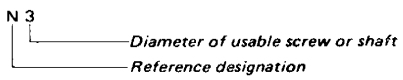
Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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