AIWA®

S/M Code No. 84-031
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SERVICE MANUAL

STEREO CASSETTE DECK

MODEL NO.
FX-R20

TYPE. Y

SPECIFICATIONS

Type	Stereo cassette tape deck	
Track format	4 tracks 2 channels	
Frequency response	METAL tape:	20—15,000 Hz
	CrO_2 tape:	20—14,000 Hz
	NORMAL tape:	20—13,000 Hz
Signal-to-noise ratio	60 dB (METAL tape DOLBY NR ON)	
Wow and flutter	According to DIN 45 500 0.2%	
	0.1% (WRMS)	
Tape speed	4.8 cm/sec. (1-7/8 ips)	
Recording system	AC bias (frequency 85 kHz)	
Erase system	AC erase	
Motor	DC Servomotor	
Heads	Record/playback head:DX head	
	Erase head: Double-gap ferrite head	
Dimensions	330 (W) ×111,5(H) ×206 (D) mm	
Weight	2,7 kg	

● Design and specifications are subject to change without notice.

Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

Follow the instructions carefully, which will allow the user to optimise the products' performance and give many years of serivce.

1. **No illegibility shall be given to the specification plate, the caution labels, the fuse labels and others.**
2. **When, on pattern sides of circuit boards, additional repair-parts have been made up, the parts shall be firmly glued to circuit boards or other components, unless the parts can be attached firmly.**
3. **The following matters shall be maintained as they are, when repairing.**
   1) Soldering of lead-wire ends
      * Care should be taken of the space distance in an a.c. primary circuit as well as soldering.
   2) Wiring and holding of lead-wires with wire-clips and binders
   3) Materials of lead-wires
      * e.g.; For UL models, lead-wires to be used shall be approved or accepted by the UL.
   4) Location of all kinds of insulators

4. **General instructions for mechanism repair**
   1) The heads, capstan and pinch roller shall be cleaned of good quality alcohol after repaired, because dirty heads shall cause distorted sounds while dirty capstan and pinch roller shall occur wow/flutter and take-up fault.
   2) When oiling, only one or two drops shall be applied so as not to run over and be dispersed. Note should be taken of the metal fitting for the capstan and rotating portions of the idlers and pinch roller, especially.
   3) E-rings and poly slider washers shall be replaced with new ones, if once those have been removed. — No re-utilization due to unreliability.
   4) Regular spare-parts shall always be used for repair, because using irregular parts and tampering with the products shall cause deterioration, mulfunction and damage.

☆ **MEMO** ☆

ELECTRICAL MAIN PART LIST

• ★-mark means less required items and availabilities may be limited.

COILS MMH: mH, UH: μH

CAPACITORS UF: μF, PF: pF

Symbol No.	Part No.	部 品 名 称
■ IC		
	87-027-953	IC HA12046
	87-020-261	IC,LA6358S
	87-020-140	IC L78M12
	87-027-952	IC,M51544
	87-027-895	IC,M5218L
	87-027-910	IC UPC1228HA
	87-027-510	IC,UPD4001
	87-027-538	IC UPD4069
■ TRANSISTOR		
	89-110-154	TRANSISTOR ,2SA1015,Y
	89-109-521	TRANSISTOR ,2SA952K
	89-318-154	TRANSISTOR ,2SC1815,Y
	89-320-011	TRANSISTOR ,2SC2001K
	89-413-023	TRANSISTOR ,2SD1302S
	89-415-090	TRANSISTOR 2SD1509
■ MAIN CIRCUIT BOARD SECTION		
PCB-A	*	MAIN CIRCUIT BOARD
C2	87-018-047	CERAMIC S 0.01Y/16
C3	87-018-047	CERAMIC S 0.01Y/16
C101	★87-015-954	LL ELECT ,10-16V
C102	★87-015-954	LL ELECT ,10-16V
C103	87-018-039	CERAMIC S 390P
C104	87-018-039	CERAMIC S 390P
C113	87-018-024	CERAMIC S 47P
C114	87-018-024	CERAMIC S 47P
C361	87-018-047	CERAMIC S 0.01Y/16
C462	★87-014-161	PP CAPACITOR ,0.0039G-100V
C561	87-018-045	CERAMIC 2200P
C562	87-018-045	CERAMIC 2200P
C564	87-018-024	CERAMIC S 47P
C565	87-018-045	CERAMIC 2200P
D101	87-027-376	DIODE ,1B4B41
D201	87-027-097	DIODE ,1S1555
D202	87-027-097	DIODE ,1S1555
D301	87-027-475	ZENER DIODE ,HZ-6B1
D561	87-027-097	DIODE ,1S1555
D562	87-027-097	DIODE ,1S1555
D563	87-020-123	DIODE DS446
D601	87-027-097	DIODE ,1S1555
D602	87-020-123	DIODE DS446
D603	87-027-097	DIODE ,1S1555
D604	87-027-097	DIODE ,1S1555
D605	87-027-097	DIODE ,1S1555
D606	87-027-097	DIODE ,1S1555
D701	87-027-097	DIODE ,1S1555
D702	87-027-097	DIODE ,1S1555
D703	87-027-097	DIODE ,1S1555
D801	87-027-097	DIODE ,1S1555
D802	87-027-097	DIODE ,1S1555
D803	87-027-097	DIODE ,1S1555
D804	87-027-097	DIODE ,1S1555
D805	87-027-097	DIODE ,1S1555
D806	87-027-475	ZENER DIODE ,HZ-6B1
D807	87-027-097	DIODE ,1S1555
D808	87-027-097	DIODE ,1S1555
D809	87-027-097	DIODE ,1S1555
D810	87-027-097	DIODE ,1S1555
D811	87-027-097	DIODE ,1S1555
L301	★87-003-069	COIL ,4.7MMH J
L302	★87-003-069	COIL ,4.7MMH J
L303	★82-135-631	FILTER TRAP 85K
L304	★82-135-631	FILTER TRAP 85K
L461	★87-003-051	CHOKE COIL 470UH
L462	★82-194-132	COIL ,OSC BIAS
R461	★87-029-089	FUSIBLE RES 1/4W4.7
SFR101	★87-021-735	SFR 220
SFR102	★87-021-735	SFR 220
SFR103	★87-021-743	SFR 22K
SFR104	★87-021-743	SFR 22K
SFR301	★87-021-743	SFR 22K
SFR302	★87-021-743	SFR 22K
SFR401	★87-021-746	SFR 100K
SFR402	★87-021-746	SFR 100K
SW101	82-139-620	SLIDE SW 1-8-2 (REC/PB)
■ SWITCH CIRTUIT BOARD SECTION		
PCB-B	*	SW CIRCUIT BOARD
SW102	87-031-839	PUSH SW 2-2-2 (DOLBY)
SW103	87-031-846	PUSH SW 2-2-2 (REC MUTE)
■ DISPLAY CIRCUIT BOARD SECTION		
PCB-C	*	DISPLAY CIRCUIT BOARD
D1	★87-027-772	LED,GL-9PR4 (RECORD)
D2	★87-027-773	LED,GL-9NG4 (DOLBY NR)
D3	★87-027-772	LED,GL-9PR4 (MT TAPE)
D4	★87-027-774	LED,GL-9HY4 (CO TAPE)
D5	★87-027-773	LED,GL-9NG4 (NOR TAPE)
D6	★87-027-773	LED,GL-9NG4 (PLAY)
D7	★87-027-773	LED,GL-9NG4 (REV PLAY)
D8	87-027-475	ZENER DIODE ,HZ-6B1
■ MISCELLANEOUS		
CP1	87-027-644	PHOTO SESOR NJL-5141EA
CON1004	82-138-610	CONNECTOR,ASSY8P,DIN
CON1005	82-138-611	CONNECTOR,ASSY3P,AC
M1	87-045-135	MOTOR DC EG
RPH	87-046-255	RPH HD 425820
SOL1	★86-513-604	SOLENOID MS
SOL2	★86-513-603	SOLENOID REV
SW1	87-031-874	LEAF SW (REC)
SW2	87-031-890	LEAF SW (FAST)
SW3	87-031-874	LEAF SW (PLAY)
SW4	87-031-890	LEAF SW (MOTOR)
SW5	86-513-602	LEAF SW (MT)
SW6	86-513-602	LEAF SW (CO)
SW7	87-031-889	LEAF SW (RVS)
SW8	87-031-874	LEAF SW (SIDE A)
SW9	87-031-890	LEAF SW (RVS CAM)
SW10	87-031-874	LEAF SW, PAUSE (91BN)

Note; Combination Circuit Board

The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will no be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 82-139-601

PCB-A 82-139-602
PCB-B 82-139-603
PCB-C 82-139-604

NOTES:

1) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals. But ( ) is with recording.
   An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.
2) Resistors with no designation have a rated power of 1/8W and a tolerance of ±5%.
3) Capacitors with no designation have a dielectric strength of less than 50WV.
4) The only capacitor tolerance indicated are ±5% (J) and ±10% (K).
5) Ceramic capacitor symbols:
   - For temperature compensation (SL)
   - High dielectric constant system (YY)
   - High dielectric constant system (YW, YP, YZ)
   - Semiconductor ceramic
   - For temperature compensation (SH)
6) Explanation of symbols
   - PP Polypropylene film capacitor
   - BP Bi-polarized capacitor
   - Fuse resistor

• This schematic diagram is subject to change without notice in the interests of improved performance.

2SA952
2SA1015
2SC1815
2SC2001
2SD1302

2SD1509

SCHEMATIC DIAGRAM (FX-R20)

A MAIN C.B

B SWITCH C.B

C DISPLAY C.B

IC901 DOLBY OFF at STOP

IC901 HA12046

SW101-1: PB REC
SW101-2: PB REC
SW101-4: PB REC
SW101-5(101-3): PB REC (NS)
SW101-8: PB REC
SW101-9: PB REC

SW102 SW103: DOLBY NR OFF, REC MUTE OFF

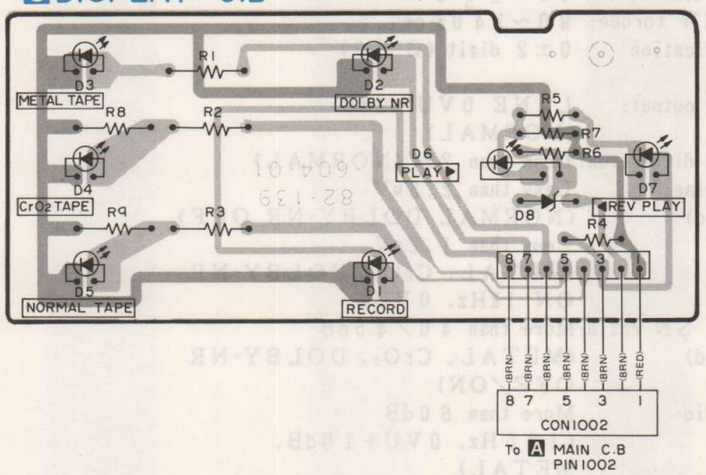
D1: RECORD
D2: DOLBY NR
D3: METAL TAPE
D4: Cr O2 TAPE
D5: NORMAL TAPE
D6: PLAY ▶
D7: ▶ REV PLAY

SW1: REC
SW2: FAST
SW3: PLAY
SW4: MOTOR
SW5: METAL
SW6: CrO2
SW7: RVS
SW8: SIDE A
SW9: RVS CAN
SW10: PAUSE
SW101: REC/PB(PB)
SW102: DOLBY(OFF)
SW103: REC MUTE(OFF)

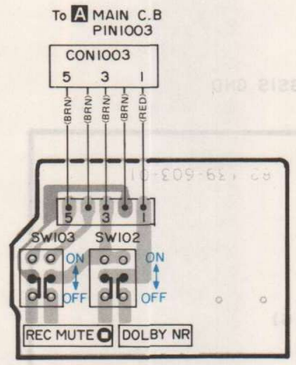
NOTES:
- B (+) power supply
- Signal path
- Rec path

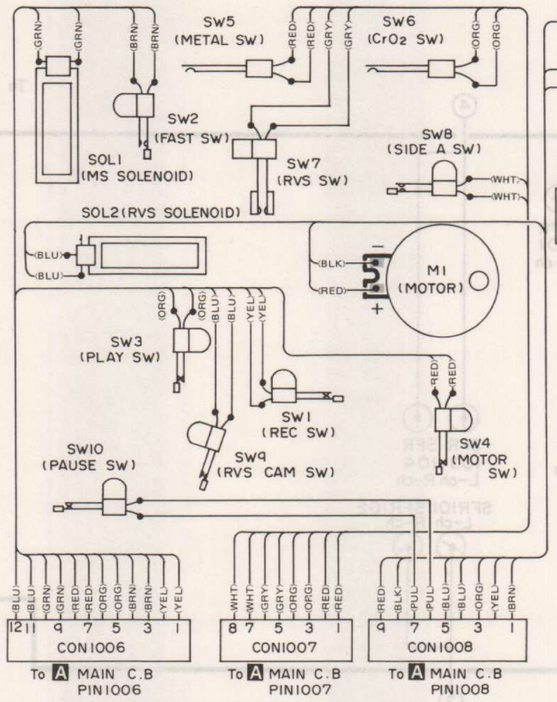
HA-12046

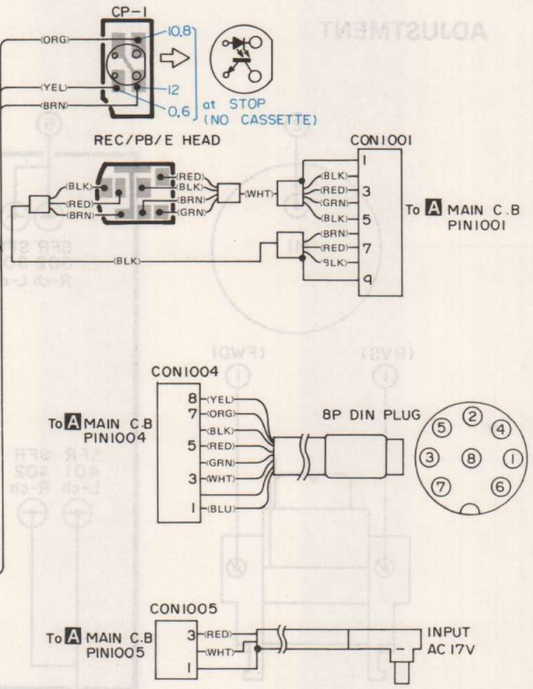
C DISPLAY C.B



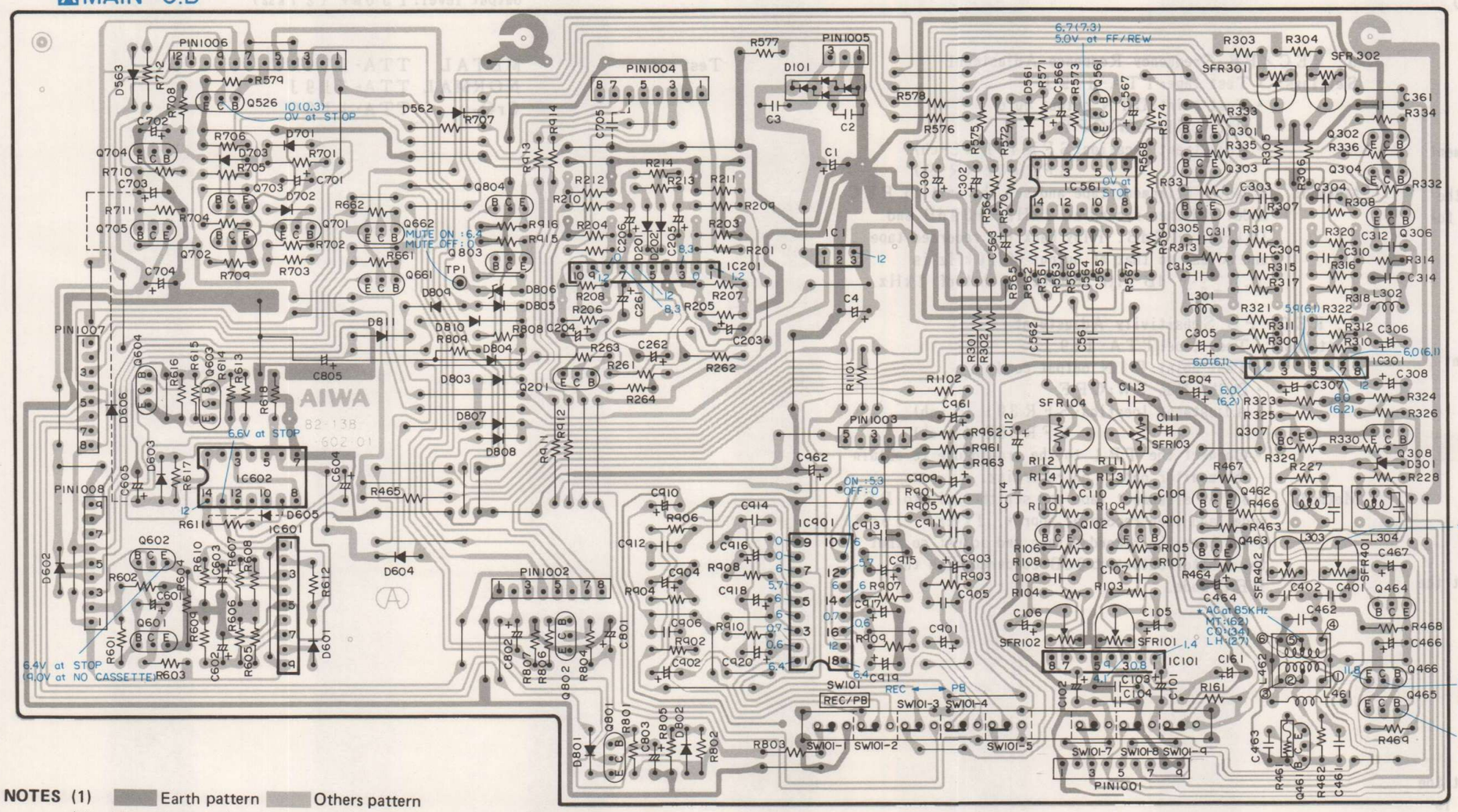
B SWITCH C.B







A MAIN C.B

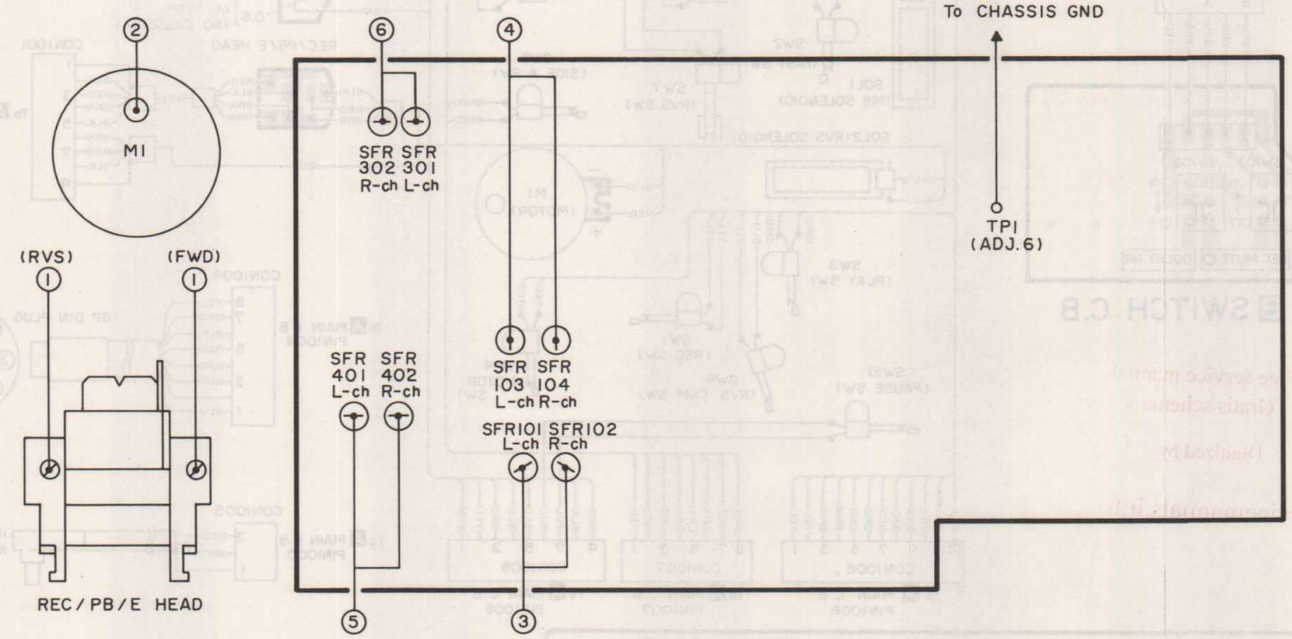


NOTES (1) Earth pattern Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals. An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.

FX-R20 Y FX-R20 Y

ADJUSTMENT



1. Head Azimuth Adjustment
Settings: • Test tape: TTA-317E
• Test point: DIN output cord
• Dolby NR SW: OFF
• Adjustment location: Head Azimuth adjustment screw
Method: Play back the test tape and adjust so that the output of 10kHz are maximum and same phase for both the L-ch and R-ch.

2. Speed Adjustment
Settings: • Test tape: TTA-111S
• Test point: DIN output cord
• Dolby NR SW: OFF
• Adjustment location: Motor speed adjustment screw
Method: Adjust for 3kHz

3. PB Sensitivity Adjustment
Settings: • Test tape: TTA-161
• Test point: DIN output cord.
• Dolby NR SW: OFF
• Adjustment location: SFR101 (L-ch)
SFR102 (R-ch)
Method: Play back the test tape, then adjust so that the output is 225±5mV.

4. PB Frequency Response Adjustment
Settings: • Test tape: TTA-317E
• Test point: DIN output cord
• Dolby NR SW: OFF
• Adjustment location: SFR103 (L-ch)
SFR104 (R-ch)
Method: Play back the test tape, then adjust so that the output difference between 1kHz and 10kHz is 1.0±0.2dB.

5. REC/PB Frequency Response Adjustment
Settings: • Test tape: TTA-119J
• Test point: DIN output cord
• Dolby NR SW: OFF
• Adjustment location: SFR401 (L-ch)
SFR402 (R-ch)
Method: Load an alignment tape and set the unit to REC mode, and then record at 1kHz, −39dB and 10kHz, −39dB. Play back the recorded tape and adjust so that an output of 10kHz is $1.0^{+0.5}_{-0}$ dB with respect to that of 1kHz.

6. REC/PB Sensitivity Adjustment
Settings: • Test tape: TTA-119J
• Test point: DIN output cord
• Dolby NR SW: OFF
• Adjustment location: SFR301 (L-ch)
SFR302 (R-ch)
• Connect the TP1 to the ground due to obtain the monitor output on recording.
Method: Load an alignment tape and set the unit to REC mode, and then record at approx. 1kHz, −19dB. Play back the recorded tape and adjust so that the monitor output ±0dB compared with the REC mode.

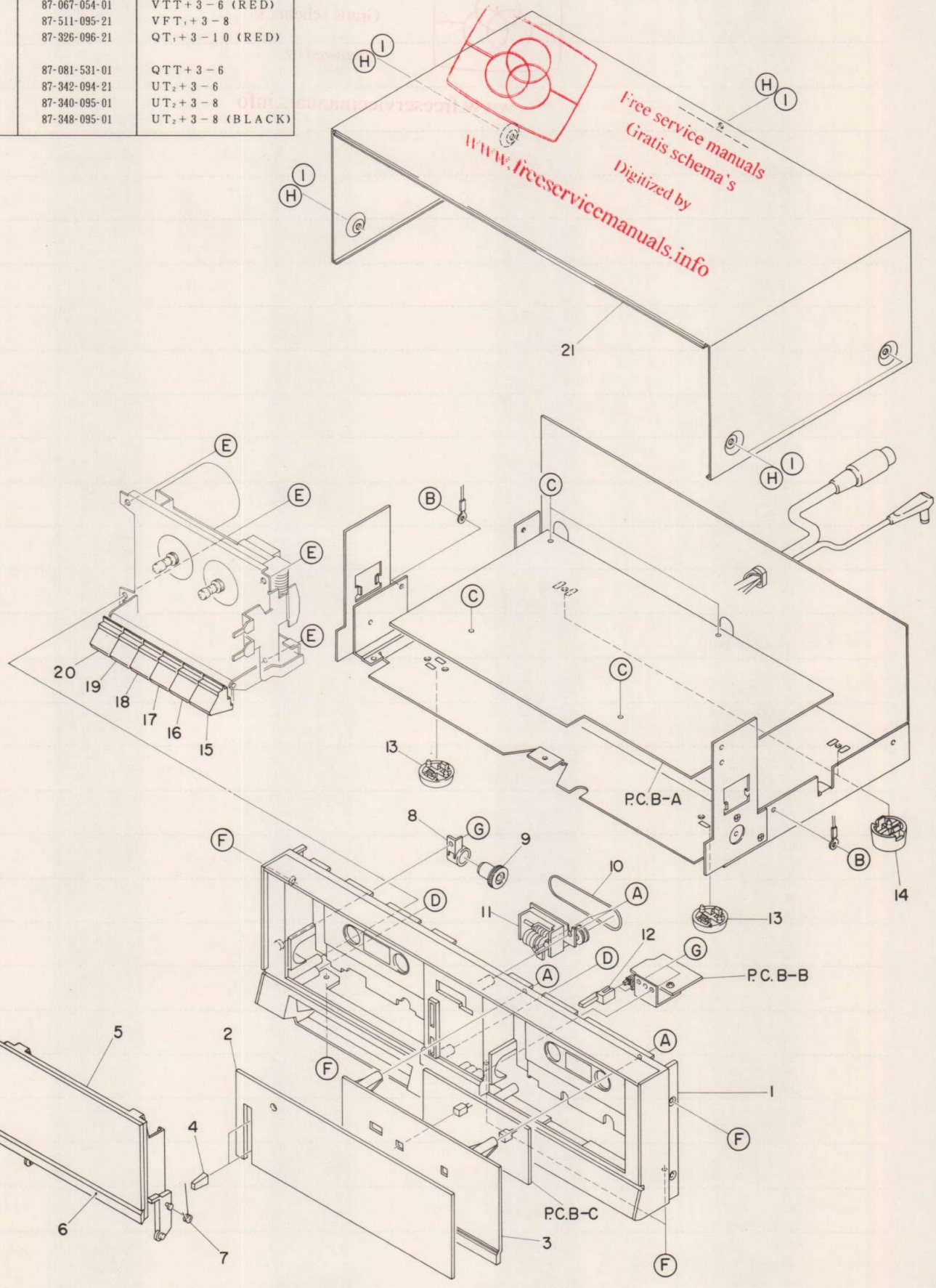
Practical Service Figure

Tape speed:	4.75cm±1.5%
Pinch roller pressure:	290±25g
Take-up torque:	40^{+10}_{-5} g-cm
FF & REW torque:	90～140g-cm
Counter indication error:	0±2 digit (C-60)
REC/PB output:	LINE 0VU±2dB (NORMAL)
REC/PB distortion:	Less than 2% (NORMAL)
Playback noise: (Unweighted)	Less than 2.5mV (NORMAL DOLBY-NR OFF) Less than 1.2mV (METAL, CrO_2, DOLBY-NR ON 1kHz, 0VU)
REC/PB SN ratio: (Unweighted)	More than 40/45dB (METAL, CrO_2, DOLBY-NR OFF/ON)
Erasing ratio:	More than 60dB (125Hz, 0VU+10dB, METAL)
Bias frequency:	85kHz
Inputs:	DIN IN: 115mV (47kΩ)
Outputs:	DIN OUT/PLAY standard output level: 150mV (27kΩ)

Test tape:	METAL TTA-119MX NORMAL TTA-119J CrO_2 TTA-119G

EXPLODED VIEW - I

Ref. No.	Part No.	Description
A	87-351-095-21	VT₁+3-8
B	87-081-511-01	VTT+3-6
C	87-067-054-01	VTT+3-6 (RED)
D	87-511-095-21	VFT₁+3-8
E	87-326-096-21	QT₁+3-10 (RED)
F	87-081-531-01	QTT+3-6
G	87-342-094-21	UT₂+3-6
H	87-340-095-01	UT₂+3-8
I	87-348-095-01	UT₂+3-8 (BLACK)



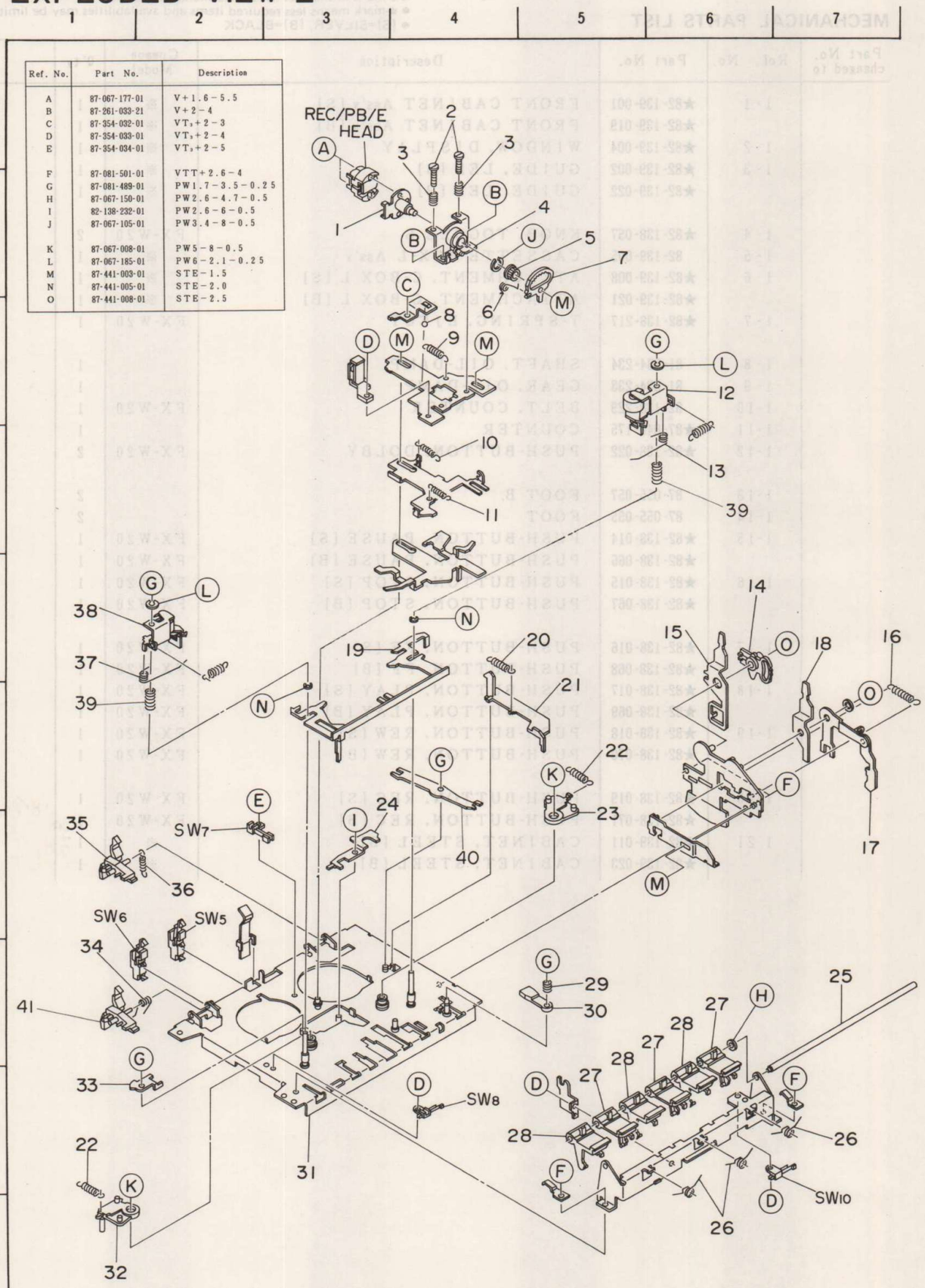
MECHANICAL PARTS LIST

- ※ mark in the part list shows exclusive part.
- ★-mark means less required items and availabilities may be limited.
- [S]=SILVER, [B]=BLACK

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
	1-1	★82-139-001	FRONT CABINET Ass'y [S]	※	1
		★82-139-019	FRONT CABINET Ass'y [B]	※	1
	1-2	★82-139-004	WINDOW, DISPLAY	※	1
	1-3	★82-139-002	GUIDE, LED [S]	※	1
		★82-139-022	GUIDE, LED [B]	※	1
	1-4	★82-138-057	KNOB, TOGGLE S	FX-W20	2
	1-5	82-139-005	CASSETTE BOX-L Ass'y	※	1
	1-6	★82-139-008	ATTACHMENT, C-BOX L [S]	※	1
		★82-139-021	ATTACHMENT, C-BOX L [B]	※	1
	1-7	★82-138-217	T-SPRING, EJECT	FX-W20	1
	1-8	81-534-234	SHAFT, OIL-DAMP		1
	1-9	81-534-233	GEAR, OIL-DAMP		1
	1-10	82-138-229	BELT, COUNTER	FX-W20	1
	1-11	★87-040-175	COUNTER		1
	1-12	★82-138-022	PUSH-BUTTON, DOLBY	FX-W20	2
	1-13	87-055-057	FOOT B.		2
	1-14	87-055-055	FOOT		2
	1-15	★82-138-014	PUSH-BUTTON, PAUSE [S]	FX-W20	1
		★82-138-066	PUSH-BUTTON, PAUSE [B]	FX-W20	1
	1-16	★82-138-015	PUSH-BUTTON, STOP [S]	FX-W20	1
		★82-138-067	PUSH-BUTTON, STOP [B]	FX-W20	1
	1-17	★82-138-016	PUSH-BUTTON, FF [S]	FX-W20	1
		★82-138-068	PUSH-BUTTON, FF [B]	FX-W20	1
	1-18	★82-138-017	PUSH-BUTTON, PLAY [S]	FX-W20	1
		★82-138-069	PUSH-BUTTON, PLAY [B]	FX-W20	1
	1-19	★82-138-018	PUSH-BUTTON, REW [S]	FX-W20	1
		★82-138-070	PUSH-BUTTON, REW [B]	FX-W20	1
	1-20	★82-138-019	PUSH-BUTTON, REC [S]	FX-W20	1
		★82-138-071	PUSH-BUTTON, REC [B]	FX-W20	1
	1-21	★82-139-011	CABINET, STEEL [S]	※	1
		★82-139-023	CABINET, STEEL [B]	※	1

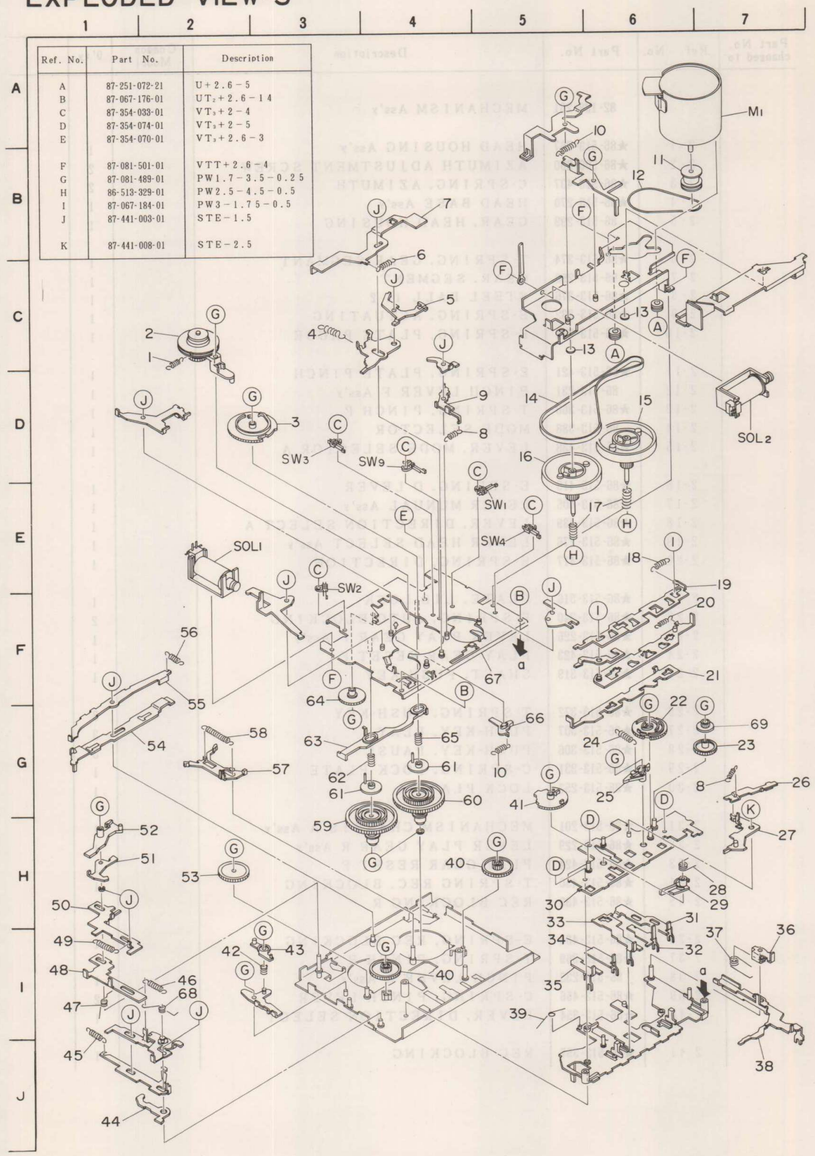
EXPLODED VIEW-2

Ref. No.	Part No.	Description
A	87-067-177-01	V+1.6-5.5
B	87-261-033-21	V+2-4
C	87-354-032-01	VT$_3$+2-3
D	87-354-033-01	VT$_3$+2-4
E	87-354-034-01	VT$_3$+2-5
F	87-081-501-01	VTT+2.6-4
G	87-081-489-01	PW1.7-3.5-0.25
H	87-067-150-01	PW2.6-4.7-0.5
I	82-138-232-01	PW2.6-6-0.5
J	87-067-105-01	PW3.4-8-0.5
K	87-067-008-01	PW5-8-0.5
L	87-067-185-01	PW6-2.1-0.25
M	87-441-003-01	STE-1.5
N	87-441-005-01	STE-2.0
O	87-441-008-01	STE-2.5



Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
		82-138-231	MECHANISM Ass'y		
	2-1	★86-513-267	HEAD HOUSING Ass'y		1
	2-2	★86-506-230	AZIMUTH ADJUSTMENT SCREW		2
	2-3	★86-513-437	C-SPRING, AZIMUTH		2
	2-4	★86-513-270	HEAD BASE Ass'y		1
	2-5	86-513-299	GEAR, HEAD HOUSING		1
	2-6	★86-513-374	T-SPRING, GEAR SEGMANT		1
	2-7	86-513-298	GEAR, SEGMENT		1
	2-8	★86-513-376	STEEL BALL 1.2		1
	2-9	★86-513-332	E-SPRING, ACTUATING		1
	2-10	★86-513-334	E-SPRING, PLATE PAUSE		1
	2-11	★86-513-421	E-SPRING, PLATE PINCH		1
	2-12	86-513-231	PINCH LEVER F Ass'y		1
	2-13	★86-513-368	T-SPRING, PINCH F		1
	2-14	86-513-388	MODE SELECTOR		1
	2-15	★86-513-438	LEVER, MODE SELECTOR A		1
	2-16	★86-513-416	E-SPRING, D LEVER		1
	2-17	★86-513-405	LEVER MUNUAL Ass'y		1
	2-18	★86-513-439	LEVER, DIRECTION SELECT A		1
	2-19	★86-513-276	LEVER HEAD SELECT Ass'y		1
	2-20	★86-513-417	E-SPRING, DIRECTION		1
	2-21	★86-513-316	PLATE, LID LOCK		1
	2-22	★86-513-340	E-SPRING, AUTO BLOCKING		2
	2-23	★86-513-226	LEVER PLAY GEAR F Ass'y		1
	2-24	★86-513-423	PLAY GEAR RESET F		1
	2-25	★86-513-319	SHAFT, PUSH-KEY		1
	2-26	★86-513-372	T-SPRING, PUSH-KEY		3
	2-27	★86-513-307	PUSH-KEY, PLAY		3
	2-28	★86-513-306	PUSH-KEY, PAUSE		3
	2-29	★86-513-331	C-SPRING, LOCK PLATE		1
	2-30	★86-513-253	LOCK PLATE A		1
	2-31	★86-513-201	MECHANISM CHASSIS A Ass'y		1
	2-32	★86-513-229	LEVER PLAY GEAR R Ass'y		1
	2-33	★86-513-424	PLAY GEAR RESET F		1
	2-34	★86-513-450	T-SPRING REC, BLOCKING		1
	2-35	★86-513-433	REC BLOCKING R		1
	2-36	★86-513-434	E-SPRING, REC BLOCKING		1
	2-37	★86-513-369	T-SPRING, PINCH R		1
	2-38	86-513-233	PINCH LEVER R Ass'y		1
	2-39	★86-513-456	C-SPRING, PINCH LEVER		2
	2-40	★86-513-354	LEVER, DIRECTION SELECT		1
	2-41	★86-513-357	REC BLOCKING		1

EXPLODED VIEW-3



Ref. No.	Part No.	Description
A	87-251-072-21	U+2.6−5
B	87-067-176-01	UT_3+2.6−14
C	87-354-033-01	VT_3+2−4
D	87-354-074-01	VT_3+2−5
E	87-354-070-01	VT_3+2.6−3
F	87-081-501-01	VTT+2.6−4
G	87-081-489-01	PW1.7−3.5−0.25
H	86-513-329-01	PW2.5−4.5−0.5
I	87-067-184-01	PW3−1.75−0.5
J	87-441-003-01	STE−1.5
K	87-441-008-01	STE−2.5

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
		82-138-231	MECHANISM Ass'y		
	3-1	★86-513-339	E-SPRING, FR LEVER		1
	3-2	86-513-246	FR PULLEY Ass'y		1
	3-3	86-513-291	GEAR CAM, PLAY		1
	3-4	★86-513-417	E-SPRING, DIRECTION		1
	3-5	★86-513-300	TRIGGER LEVER, PLAY		1
	3-6	★86-513-464	E-SPRING, DIRECTION		1
	3-7	★86-513-317	LEVER, DIRECTION		1
	3-8	★86-513-418	E-SPRING, TRIGGER REVERSE		2
	3-9	★86-513-304	TRIGGER LEVER, REVERSE		1
	3-10	★86-513-340	E-SPRING, AUTO BLOCKING		2
	3-11	86-513-290	MOTOR PULLEY		1
	3-12	86-513-326	RUBBER BELT FRB		1
	3-13	★86-513-330	THRUST BEARING		2
	3-14	86-513-470	MAIN BELT D		1
	3-15	86-513-223	FLYWHEEL Ass'y R		1
	3-16	86-513-220	FLYWHEEL Ass'y F		1
	3-17	★86-513-341	C-SPRING, FLYWHEEL		2
	3-18	★86-513-338	E-SPRING, PLATE LOCK		1
	3-19	★86-513-262	SLIDE PLATE LOCK		1
	3-20	★86-513-335	E-SPRING, PLATE MS		1
	3-21	★86-513-265	SLIDE PLATE MS		1
	3-22	86-513-293	GEAR, REVERSE CAM		1
	3-23	86-513-295	GEAR, REVERSE B		1
	3-24	★86-513-333	E-SPRING, LEVER PLAY		1
	3-25	★86-513-309	LEVER, ACTUATING RESET		1
	3-26	★86-513-258	REC LEVER A		1
	3-27	★86-513-255	LEVER PLAY Ass'y		1
	3-28	★86-513-337	T-SPRING, LEVER PAUSE		1
	3-29	★86-513-310	LEVER, PAUSE		1
	3-30	★86-513-415	MECHANISM CHASSIS C Ass'y		1
	3-31	★86-513-288	PLATE BUTTON, REWD		1
	3-32	★86-513-287	PLATE BUTTON, PLAY		1
	3-33	★86-513-286	PLATE BUTTON, FF		1
	3-34	★86-513-285	PLATE BUTTON, STOP		1
	3-35	★86-513-282	PLATE BUTTON PAUSE Ass'y		1
	3-36	★86-513-305	LEVER, REC B		1
	3-37	★86-513-373	T-SPRING, REC		1
	3-38	★86-513-289	PLATE BUTTON, REC		1
	3-39	★86-513-428	T-SPRING, FF BUTTON		1
	3-40	86-513-294	GEAR, PLAY		2
	3-41	86-513-292	GEAR, PAUSE CAM		1
	3-42	★86-513-430	C-SPRING, LEVER AUTO		1
	3-43	★86-513-314	LEVER, AUTO KICK		1
	3-44	★86-513-422	LEVER, MANUAL		1
	3-45	★86-513-402	E-SPRING, MODE B		1

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty
	3-46	★86-513-401	E-SPRING, MODE A		1
	3-47	★86-513-399	T-SPRING, REC BLOCKING C		1
	3-48	★86-513-351	SLIDE PLATE BLOCKING		1
	3-49	★86-513-400	E-SPRING, SLIDE PLATE REC		1
	3-50	★86-513-350	SLIDE PLATE, REC		1
	3-51	★86-513-387	LEVER, REC BLOCKING		1
	3-52	★86-513-365	LEVER, REC BLOCKING B		1
	3-53	86-513-296	GEAR, AUTO STOP		1
	3-54	★86-513-356	SLIDE LEVER, REC BLOCKING		1
	3-55	★86-513-355	LEVER, REC A		1
	3-56	★86-513-398	E-SPRING, REC A		1
	3-57	★86-513-308	SLIDE PLATE, BRAKE		1
	3-58	★86-513-371	E-SPRING, BRAKE		1
	3-59	86-513-239	REEL PLATFORM T Ass'y		1
	3-60	86-513-240	REEL PLATFORM S Ass'y		1
	3-61	86-513-313	SLIP DISK		2
	3-62	★86-513-453	C-SPRING, AUTO B		1
	3-63	★86-513-312	SLIDE PLATE, AUTO		1
	3-64	86-513-297	GEAR, FF		1
	3-65	★86-513-381	C-SPRING, AUTO		1
	3-66	★86-513-311	LEVER, AUTO EJECT		1
	3-67	★86-513-214	MECHANISM CHASSIS B Ass'y		1
	3-68	86-513-403	T-SPRING, LEVER SLIDE		1
	3-69	86-513-459	GEAR, REVERSE		1

■ACCESSORIES/PACKAGE LIST

Part No. changed to	Ref. No.	Part No.	Description	Common Model	Q'ty	
	1	★82-139-901	INSTRUCTION BOOKLET	※	1	

AIWA Co., Ltd. Tokyo Japan

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