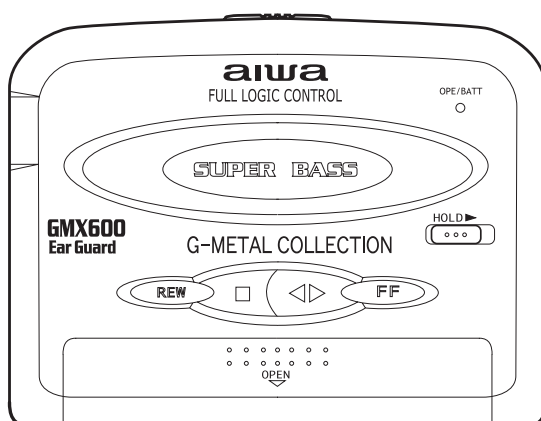




HS-GMX600 Y

HS-PX107 YU, Y



SERVICE MANUAL

STEREO CASSETTE PLAYER

BASIC TAPE MECHANISM : CL-850-5 SIL

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-99C-425-7T1)

aiwa

S/M Code No. 09-002-425-7R1

REVISION

DATA

SPECIFICATIONS

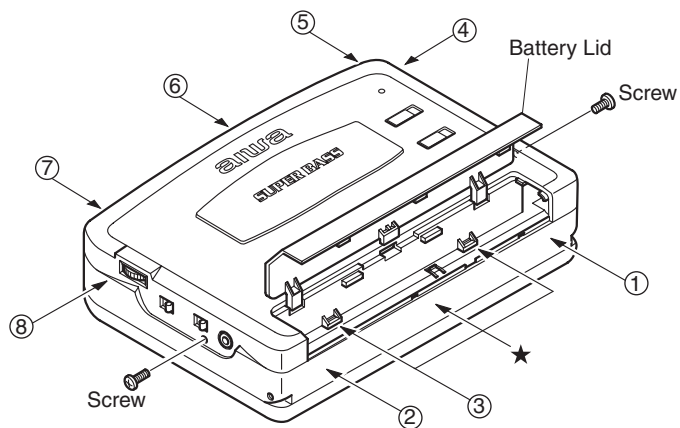
| | |
|--|--|
| Maximum output: | 4 mW + 4 mW (EIAJ 16 ohms)<Y> 5 mW + 5 mW (EIAJ 32 ohms)<YU> |
| Load impedance: | 16 – 32 ohms<Y> |
| Power source: | DC 3 V using two R6 (AA) dry cell batteries, AC house current using the optional AC adaptor AC-D302 |
| Battery life(EIAJ 1 mW output): | Aprox. 24 hours using two LR6 (AA) alkaline batteries |
| Maximum outside dimensions: | 112.9 (W) x 84 (H) x 29.3 (D) mm (excluding projecting parts and controls) (4 ¹ / ₂ x 3 ³ / ₈ x 1 ³ / ₁₆ in.) |
| Weight | Approx.124 g (4.3 oz) excluding batteries |

- Design and specifications are subject to change without notice.

DISASSEMBLY INSTRUCTION

- 1) Remove the 2 screws.
- 2) Open the battery lid.
- 3) Release the hooks in the order of ①-⑧.

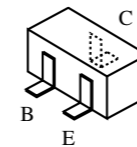
* Releasing hook 3 : After releasing hooks 1 and 2 , push the center frame (with the ★ marks) to release hook ③.



ELECTRICAL MAIN PARTS LIST

| REF.NO. | PARTNO. | KANRI NO. | DESCRIPTION | REF.NO. | PARTNO. | KANRI NO. | DESCRIPTION |
|-------------------|----------------|-----------|-------------------------------|---------|----------------|-----------|-------------------------------|
| IC | | | | | | | |
| | 87-002-677-080 | | C-IC,TA2002F | S701 | 87-A90-665-280 | | C-SW,TACT LS7A2M |
| | 87-A20-532-140 | | C-IC,LB1977M-TLM | S702 | 87-A90-665-280 | | C-SW,TACT LS7A2M |
| | 87-A21-567-040 | | C-IC,TMP47C443LDM-1B45 (EL) | S703 | 87-A90-665-280 | | C-SW,TACT LS7A2M |
| | 87-A21-566-040 | | C-IC,S-80820ANNP | S704 | 87-A90-665-280 | | C-SW,TACT LS7A2M |
| | 87-A21-565-040 | | C-IC,S-80817ANNP | S705 | 87-036-379-180 | | C-SW,SL1-1-2 SS350 |
| TRANSISTOR | | | | | | | |
| | 89-327-125-080 | | C-TR,2SC2712GR | S706 | 87-A91-365-080 | | C-SW,PUSH 1-1-1 SPVG21 |
| | 89-113-625-080 | | C-TR,2SA1362GR | SFR401 | 87-A91-653-040 | | C-SFR,K 33K H RH03AEC |
| | 87-026-581-080 | | C-TR,RN2405 | TH401 | 87-A91-675-080 | | C-THMS,NTH5G16P39B472K 07TH |
| | 87-A30-085-040 | | C-TR,CSA1362GR | VR101 | 87-A91-650-010 | | VR,RTRY 50KCX2 H XV0102G |
| | 87-026-267-080 | | C-TR,RN2407 | X701 | 87-A70-241-010 | | VIB,CER 4.000MHZ CSTS0400MG03 |
| DIODE | | | | | | | |
| | 87-A40-822-040 | | C-DIODE,CRS01 | | | | |
| MAIN C.B | | | | | | | |
| C101 | 87-012-275-080 | | C-CAP,U 1200P-50 B | | | | |
| C102 | 87-012-275-080 | | C-CAP,U 1200P-50 B | | | | |
| C103 | 87-012-275-080 | | C-CAP,U 1200P-50 B | | | | |
| C104 | 87-012-275-080 | | C-CAP,U 1200P-50 B | | | | |
| C105 | 87-012-276-080 | | C-CAP,U 1500P-50 | | | | |
| C106 | 87-012-276-080 | | C-CAP,U 1500P-50 | | | | |
| C107 | 87-010-501-010 | | CAP,E 47-4V | | | | |
| C108 | 87-010-501-010 | | CAP,E 47-4V | | | | |
| C111 | 87-015-688-010 | | CAP,E 4.7-35 | | | | |
| C112 | 87-012-142-080 | | CAP, S 0.33-16 | | | | |
| C113 | 87-010-805-080 | | CAP, S 1-16 | | | | |
| C114 | 87-012-141-080 | | C-CAP,S 0.22-16 Z F C2012 | | | | |
| C117 | 87-012-278-080 | | C-CAP,U 2200P-50 B | | | | |
| C118 | 87-012-278-080 | | C-CAP,U 2200P-50 B | | | | |
| C119 | 87-A10-263-080 | | C-CAP,U 0.1-16 Z F | | | | |
| C120 | 87-A10-263-080 | | C-CAP,U 0.1-16 Z F | | | | |
| C121 | 87-010-502-010 | | CAP,E 100-4 M KS | | | | |
| C122 | 87-010-503-010 | | CAP,E 220-4 GAS | | | | |
| C125 | 87-010-501-010 | | CAP,E 47-4V | | | | |
| C127 | 87-010-805-080 | | C-CAP,S 1-16 | | | | |
| C128 | 87-010-805-080 | | C-CAP,S 1-16 | | | | |
| C303 | 87-010-196-080 | | C-CAP,S 0.1-25 | | | | |
| C304 | 87-010-196-080 | | C-CAP,S 0.1-25 | | | | |
| C401 | 87-A10-201-080 | | C-CAP,S 0.33-16 KB | | | | |
| C403 | 87-010-805-080 | | C-CAP,U 1-16 Z F | | | | |
| C404 | 87-016-526-080 | | C-CAP,S 0.47-16 K B | | | | |
| C405 | 87-010-992-080 | | C-CAP,S 0.047-25 B | | | | |
| C406 | 87-A10-263-080 | | C-CAP,U 0.1-16 Z F | | | | |
| C407 | 87-010-992-080 | | C-CAP,S 0.047-25 B | | | | |
| C408 | 87-010-992-080 | | C-CAP,S 0.047-25 B | | | | |
| C409 | 87-010-992-080 | | C-CAP,S 0.047-25 B | | | | |
| C410 | 87-A10-263-080 | | C-CAP,U 0.1-16ZF | | | | |
| C701 | 87-A10-263-080 | | C-CAP,U 0.1-16 Z F | | | | |
| C702 | 87-012-141-080 | | C-CAP,S 0.22-16 Z F | | | | |
| C705 | 87-A10-263-080 | | C-CAP,U 0.1-16 Z F | | | | |
| C706 | 87-010-805-080 | | CAP, S 1-16 | | | | |
| C707 | 87-010-196-080 | | C-CAP,S 0.1-25 | | | | |
| C708 | 87-A10-263-080 | | C-CAP,U 0.1-16 Z F | | | | |
| C710 | 87-A10-263-080 | | C-CAP,U 0.1-16 Z F | | | | |
| C714 | 87-A10-263-080 | | C-CAP,U 0.1-16 Z F | | | | |
| C801 | 87-A10-489-010 | | CAP,E 220-4 7L SR | | | | |
| D601 | 87-A91-355-040 | | C-LED,BR1112H-TR-RED | | | | |
| J101 | 87-A60-438-010 | | JACK,3.5 BLK ST W/O SW (1537) | | | | |
| J801 | 87-A61-124-010 | | JACK,DC DIA2.75 BLK TC | | | | |
| L101 | 87-A50-581-080 | | C-COIL,S FCM2012H 252705 | | | | |
| L102 | 87-A50-581-080 | | C-COIL,S FCM2012H 252705 | | | | |
| PS501 | 87-A90-440-010 | | SNSR,PHOTO GP2S24N2-B | | | | |
| R713 | 87-022-245-080 | | C-RES U 18K-1/16W F | | | | |
| R727 | 87-A10-263-080 | | C-CAP,U 0.1-16 Z F | | | | |
| S101 | 87-A90-050-010 | | SW, SL 2-2-2 NS (BLK) | | | | |
| S301 | 87-A90-050-010 | | SW, SL 2-2-2 NS (BLK) | | | | |

TRANSISTOR ILLUSTRATION

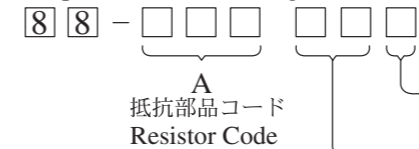


2SA1362
2SC2712
CSA1362
RN2405
RN2407

チップ抵抗部品コード/CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

Chip Resistor Part Coding

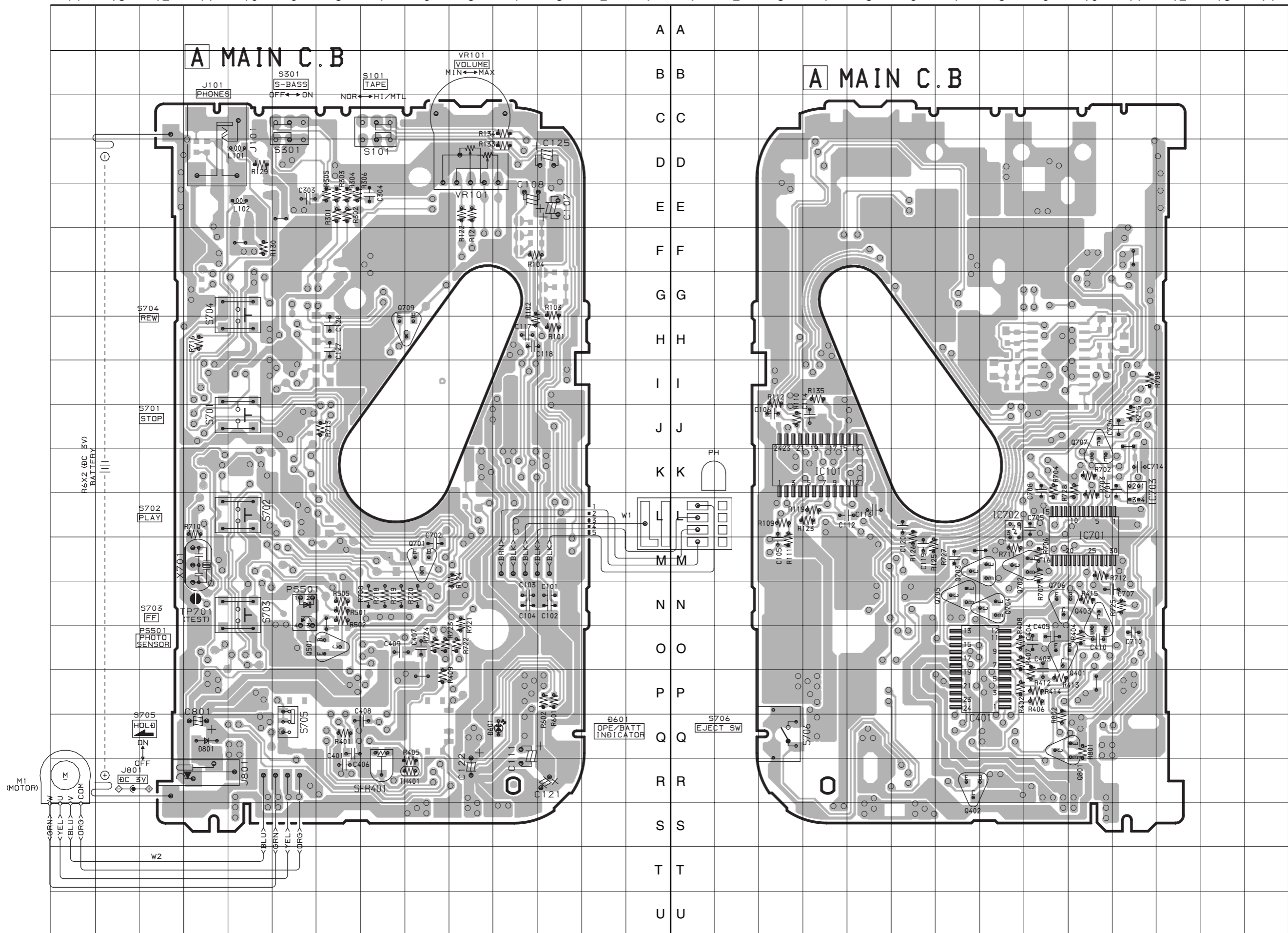


チップ抵抗 Chip resistor

| 容量 Wattage | 種類 Type | 許容誤差 Tolerance | 記号 Symbol | 寸法/Dimensions (mm) | | | 抵抗コード Resistor Code : A | |
|---------------|------------|-------------------|--------------|--------------------|-----|------|----------------------------|-----|
| | | | | 外形/Form | L | W | | t |
| 1/16W | 1005 | ± 5% | CJ | | 1.0 | 0.5 | 0.35 | 104 |
| 1/16W | 1608 | ± 5% | CJ | | 1.6 | 0.8 | 0.45 | 108 |
| 1/10W | 2125 | ± 5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1/8W | 3216 | ± 5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

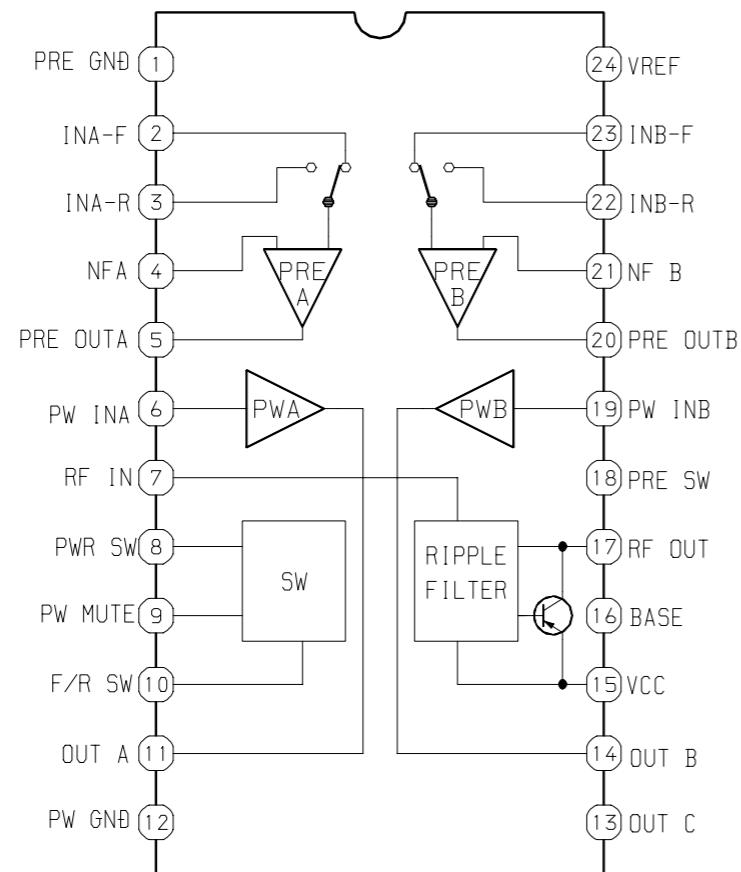
WIRING (MAIN)

14 13 12 11 10 9 8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 9 10 11 12 13 14



IC BLOCK DIAGRAM

IC, TA2002F

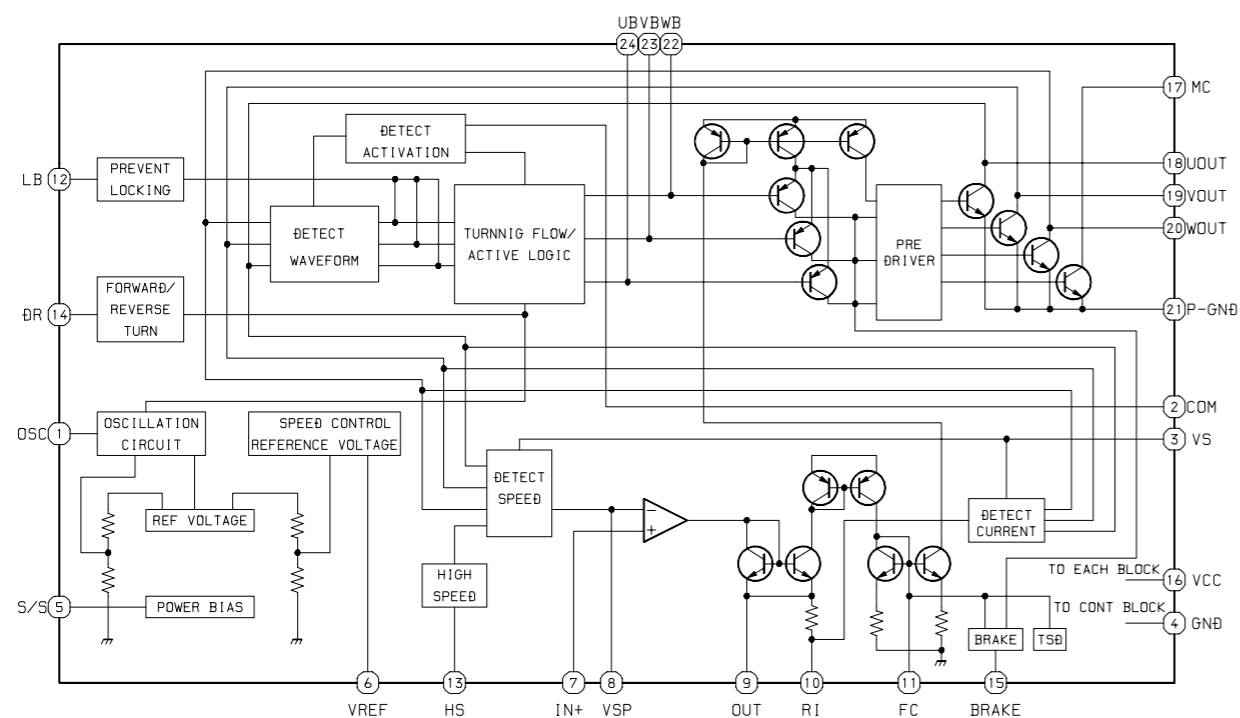


IC DESCRIPTION

IC, TMP47C443LDM-1B45(EL)

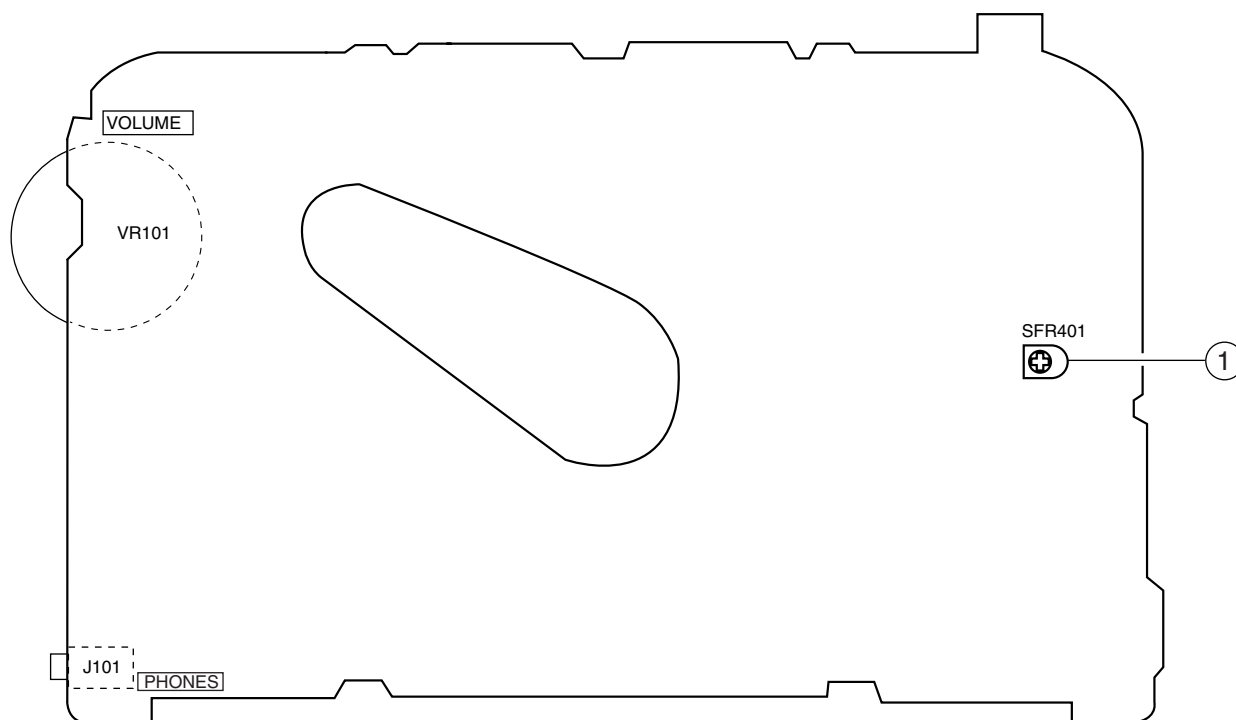
| Pin No. | Pin Name | I/O | Description |
|---------|-----------|-----|---|
| 1 | XOUT | O | Connected to 4MHz crystal oscillator. |
| 2 | XIN | I | |
| 3 | RESET | I | Input reset signal. |
| 4 | EJECT SW | I | Input EJECT SW. "H": OFF, "L": ON. |
| 5 | BUZR | O | Output buzzer sound. |
| 6 | TEST | I | Input test mode. "H": Test ON. (connected to GND) |
| 7 | HOLD | I | Input HOLD SW. "H": OFF, "L": ON. |
| 8 | NC | - | Connected to GND. |
| 9 | L.V.STOP | I | Input reducing voltage detection. "L": Mecha STOP. |
| 10 | MAIN IN | I | Input key from main unit(A/D). |
| 11 | REMOTE IN | I | Input key from remote controller(A/D). |
| 12 ~ 13 | NC | - | Not connected. |
| 14 | POWER ON | O | Output power for audio circuit. "L": ON. |
| 15 | GND | - | Connected to GND. |
| 16 | PHOTO OUT | O | Microcomputer detection P-SNSR level output pin. |
| 17 | LOAD CTL | O | Output for voltage supply checking. "L": Check. |
| 18 | MOT ON | O | Output motor activation. "L": ON. |
| 19 | MOT DIR | O | Output motor rotating direction. "L": Counterclockwise. |
| 20 | BRAKE | O | Output motor brake. "L": ON. |
| 21 | MOT HI | O | Output motor hi-speed activation. "L": ON. |
| 22 | MOT CH | I | Input motor activation detection. |
| 23 | NC | - | Connected to GND. |
| 24 | P-SNSR | I | Input sensor waveform. |
| 25 | C-SW | I | Input cassette tape detection. "H": Not exist, "L": Exist. (connected to GND) |
| 26 | AUTO SW | I | Input AUTO SW. "H": AUTO operation, "L": NO AUTO operation. |
| 27 | F/R CTRL | O | Output FWD, REV control. "L": REV. |
| 28 | MUTE | O | Output muting. "L": ON. |
| 29 | WAKE UP | I | Input micro-computer OSC ON. |
| 30 | VDD | - | Power supply (+3V) |

IC, LB1977M-TLM



ADJUSTMENT

A MAIN C.B



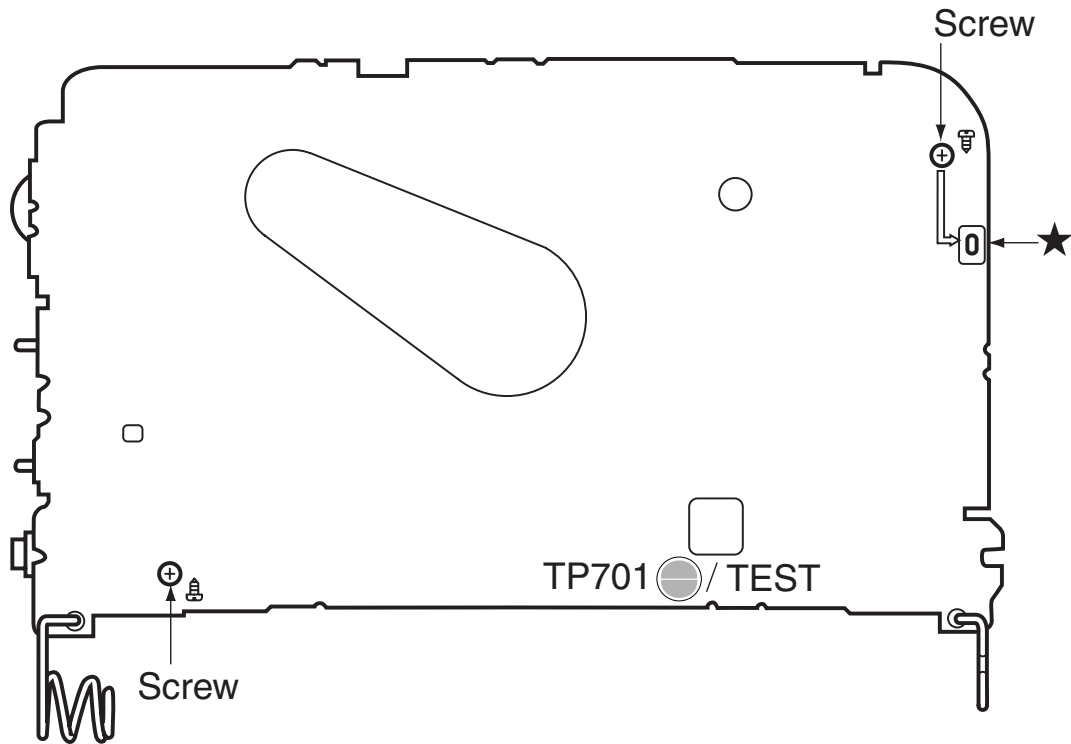
1. Tape Speed Adjustment

- Settings :
- Test tape : TTA – 100 (Tape center)
 - Test point : Phones Jack (J101)
 - Adjustment location : SFR401
 - Super Bass : OFF
 - Direction : FWD
 - Tape selector : NORM
 - Volume : MAX

Method : Play back the test tape and adjust SFR401 so that the frequency becomes $3015\text{Hz} \pm 10\text{Hz}$. Then confirm WOW is less than 0.52%.

TEST MODE

This model has a test mode function in the disassembled condition.



1. How to use the test mode:

- Short the test land in the MAIN C.B.
- Auto-stop function is not detected by micro-computer while test mode is active.

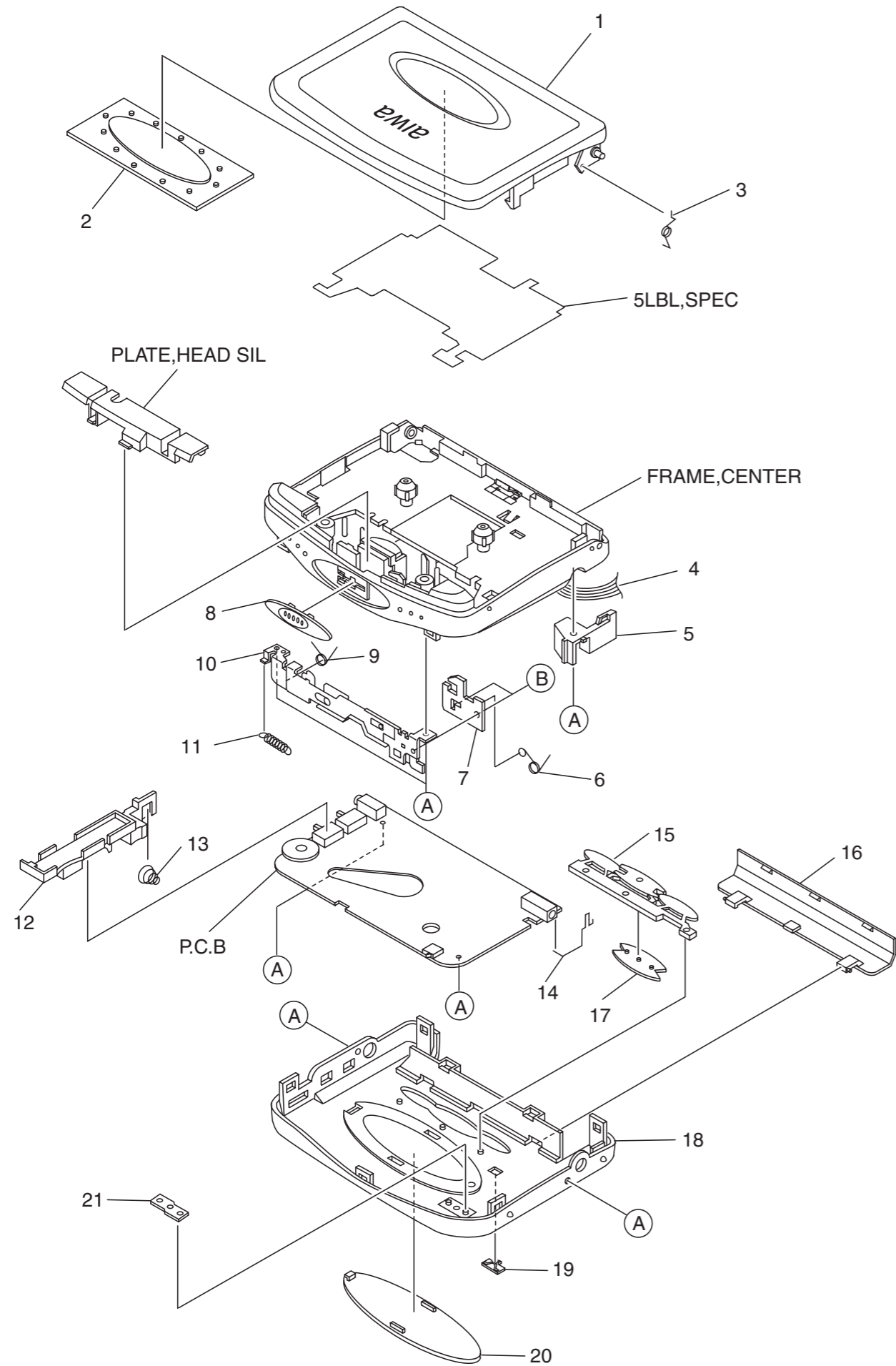
Note: Make sure that the test land is opened after the test mode is de-activated.

(Auto-stop function is not available with shorted land condition.)

2. How to disassemble the circuit board.

- Removes the soldering part in the MAIN C.B .
- Removes two screws.

MECHANICAL EXPLODED VIEW 1/1



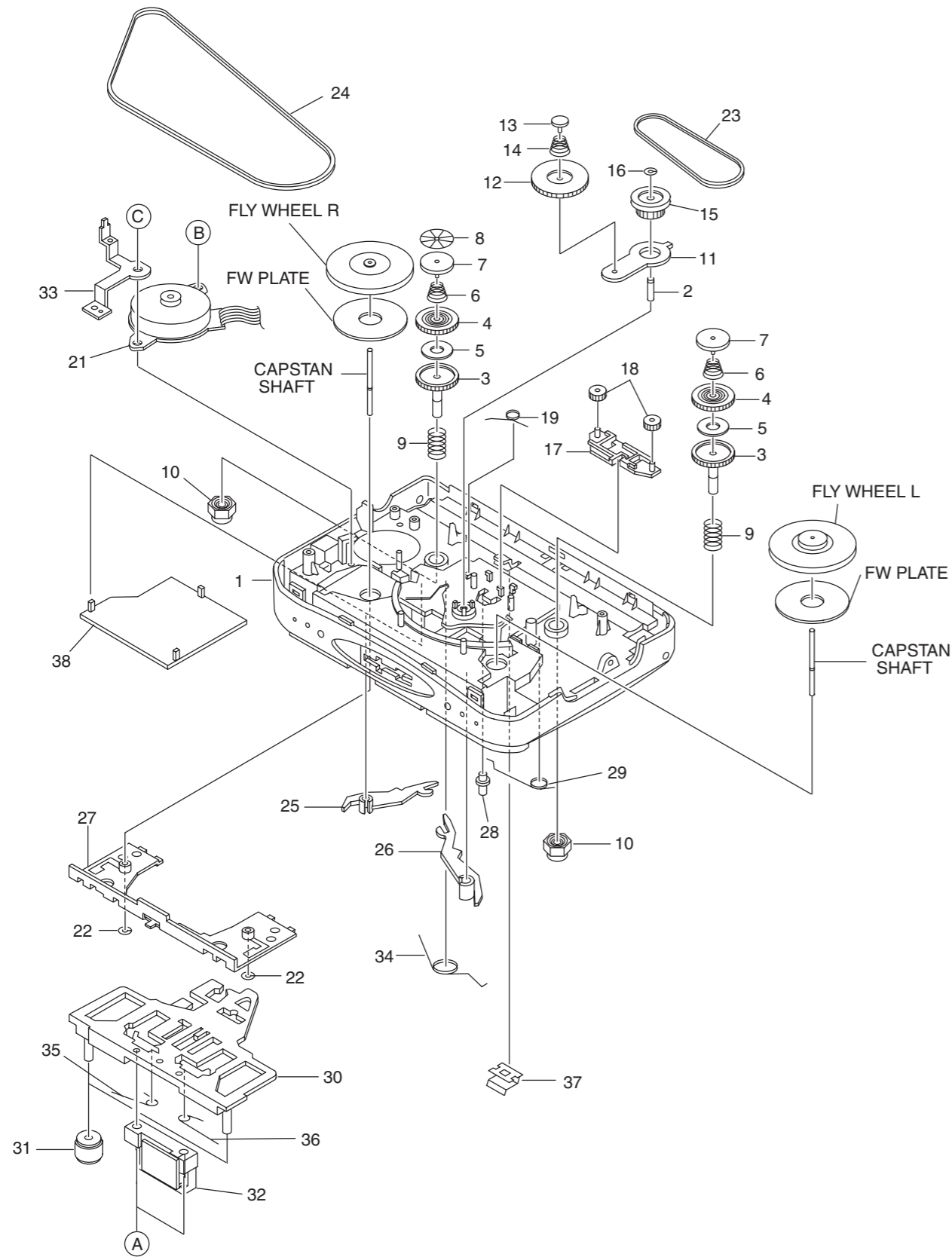
MECHANICAL PARTS LIST 1/1

| REF. NO. | PARTNO. | KANRI NO. | DESCRIPTION |
|----------|----------------|-----------|---|
| 1 | 8A-HKG-013-010 | | LID,CASS P L-BLU EG<[LM]107Y, [LM]600Y> |
| 1 | 8A-HKF-001-010 | | LID,CASS P SIL<YU> |
| 1 | 8A-HKF-018-010 | | LID,CASS P SIL EG<[S]107Y, [S]600Y> |
| 2 | 8A-HR8-002-010 | | WINDOW,CASS |
| 3 | 8A-HR8-213-010 | | SPR-T,CASS |
| 4 | 8A-HR8-603-010 | | RBN-CORD,4P MOTOR |
| 5 | 8A-HR8-216-010 | | HLDR,DC |
| 6 | 8A-HR8-210-010 | | SPR-T,LOCK |
| 7 | 8A-HR8-208-010 | | PLATE,LOCK |
| 8 | 8A-HR8-005-010 | | KNOB,SL OPEN |
| 9 | 8A-HR8-211-010 | | SPR-T,RTRY |
| 10 | 8A-HR8-201-010 | | LEVER,ASSY REV |
| 11 | 8A-HR8-212-010 | | SPR-E,EJECT |
| 12 | 8A-HR8-215-010 | | HLDR,HP |
| 13 | 8A-HR8-218-010 | | BAT-CONTACT,M |
| 14 | 8A-HR8-217-010 | | BAT-CONTACT,P |
| 15 | 8A-HR9-004-010 | | KEY,CONT |
| 16 | 8A-HKG-011-010 | | LID,BAT L-BLU<[LM]107Y, [LM]600Y, [LM]107Y> |
| 16 | 8A-HR8-008-010 | | LID,BAT SIL<[S]107Y, YU, [S]600Y> |
| 17 | 8A-HKG-003-010 | | CAP, CONT RV |
| 18 | 8A-HKG-010-010 | | CABI,REAR 107 L-BLU EG<[LM]107Y> |
| 18 | 8A-HKG-001-010 | | CABI,REAR 107 SIL<YU> |
| 18 | 8A-HKG-004-010 | | CABI,REAR 107 SIL EG<[S]107Y> |
| 18 | 8A-HKG-014-010 | | CABI,REAR GMX600 L-BLU<[LM]600Y> |
| 18 | 8A-HKG-005-010 | | CABI,REAR GMX600 SIL<[S]600Y> |
| 19 | 8A-HR8-011-010 | | KNOB,SL<[S]107Y, YU, [S]600Y, [S]107Y> |
| 19 | 8A-HKG-012-010 | | KNOB,SL L-BLU<[LM]107Y, [LM]600Y> |
| 20 | 8A-HKG-002-010 | | PANEL,REAR |
| 21 | 8A-HKF-004-010 | | LENS,LED P |
| A | 87-067-535-010 | | SCREW VT+1.4-3.5 |
| B | 87-067-388-010 | | SCREW |

COLOR NAME TABLE

| Basic color symbol | Color | Basic color symbol | Color | Basic color symbol | Color |
|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|
| B | Black | C | Cream | D | Orange |
| G | Green | H | Gray | L | Blue |
| LT | Transparent Blue | N | Gold | P | Pink |
| R | Red | S | Silver | ST | Titan Silver |
| T | Brown | V | Violet | W | White |
| WT | Transparent White | Y | Yellow | YT | Transparent Yellow |
| LM | Metallic Blue | LL | Light Blue | GT | Transparent Green |
| LD | Dark Blue | DT | Transparent Orange | GM | Metallic Green |
| YM | Metallic Yellow | DM | Metallic Orange | | |

TAPE MECHANISM EXPLODED VIEW 1 / 1



TAPE MECHANISM PARTS LIST 1/1

| REF. NO. | PARTNO. | KANRI NO. | DESCRIPTION |
|----------|----------------|-----------|---------------------|
| 1 | S8-HR8-003-010 | | FRAME CENTER |
| 2 | S8-505-240-000 | | GEAR SHAFT |
| 3 | S8-505-070-000 | | REEL GEAR T |
| 4 | S8-505-080-000 | | CLUTCH GEAR |
| 5 | S8-505-300-000 | | FELT |
| 6 | S8-505-200-000 | | CLUTCH SP |
| 7 | S8-505-120-000 | | REEL GEAR BUSH |
| 8 | S8-505-290-000 | | REFLECTING PLATE |
| 9 | S8-505-210-000 | | BRACK TENSION SP |
| 10 | S8-000-100-000 | | REEL CAP |
| 11 | S8-505-090-000 | | FWD GEAR PLATE |
| 12 | S8-505-060-000 | | FWD GEAR |
| 13 | S8-505-250-000 | | GEAR PLATE PIN |
| 14 | S8-505-220-000 | | FWD GEAR SP |
| 15 | S8-505-050-000 | | CENTER GEAR |
| 16 | S1-2X2-5X0-25L | | L CUT W |
| 17 | S8-505-320-000 | | FF GEAR HOLDER |
| 18 | S8-505-330-000 | | FF GEAR |
| 19 | S8-505-310-000 | | GEAR HOLDER SP |
| 21 | S8-7A9-156-310 | | MOTOR (IBIGB02) |
| 22 | S1-2X2-5X0-11C | | L CUT W |
| 23 | SV-500-000-000 | | SUB BELT |
| 24 | SV-190-000-000 | | MAIN BELT |
| 25 | S8-505-100-000 | | FWD ARM |
| 26 | S8-505-110-000 | | REV ARM |
| 27 | S8-505-260-000 | | SUB CHASSIS |
| 28 | S8-505-160-000 | | REV SELECT |
| 29 | S8-505-190-000 | | SELECT SP |
| 30 | S8-505-020-000 | | HEAD BASE |
| 31 | S7-000-080-000 | | PINCH ROLLER |
| 32 | S8-7A9-119-100 | | HEAD ASSY (PH8ZM-3) |
| 33 | 8A-HR8-219-010 | | PLATE EARTH MOT |
| 34 | S8-300-160-000 | | HEAD BASE SP |
| 35 | S8-300-170-000 | | PINCH SP FWD |
| 36 | S8-500-090-000 | | PINCH SP REV |
| 37 | 8A-HR8-214-010 | | SPR-P CASS |
| 38 | S8-505-130-000 | | COVER |
| A | S1-PB1-7X5-500 | | SCREW 1.7-5.5 |
| B | S3-PY1-7X2-500 | | SCREW 1.7-2.5 |
| C | S3-PB1-7X3-000 | | SCREW |

ACCESSORIES / PACKAGE LIST

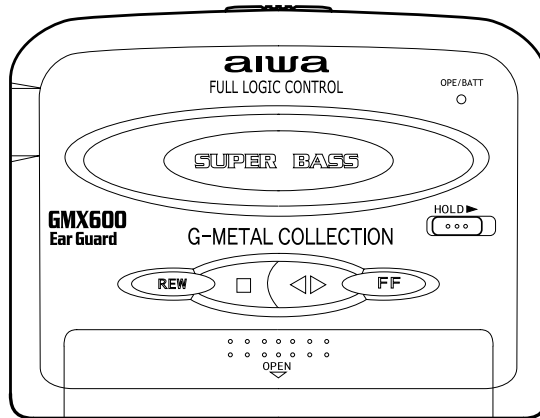
| REF. NO. | PARTNO. | KANRI NO. | DESCRIPTION |
|----------|----------------|-----------|--|
| 1 | 8A-HKG-901-010 | | IB, YU (ESF) F<YU> |
| 1 | 8A-HKG-905-010 | | IB, Y (EGFSI) F<Y> |
| 1 | 8A-HKG-906-010 | | IB, Y (EDCPH) F<Y> |
| 2 | 87-B30-081-110 | | HEADPHONE, HP-M009 (S) <YU> |
| 2 | 87-B30-255-010 | | HEADPHONE, HP-M007B (S) <EXCEPT YU, [LM] 600Y> |
| 2 | 87-B30-155-010 | | HEADPHONE, HP-M006BLC < [LM] 600Y> |

アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03 (3827) 3111



HS-GMX600 Y

HS-PX107 YU, Y



SERVICE MANUAL

STEREO CASSETTE PLAYER

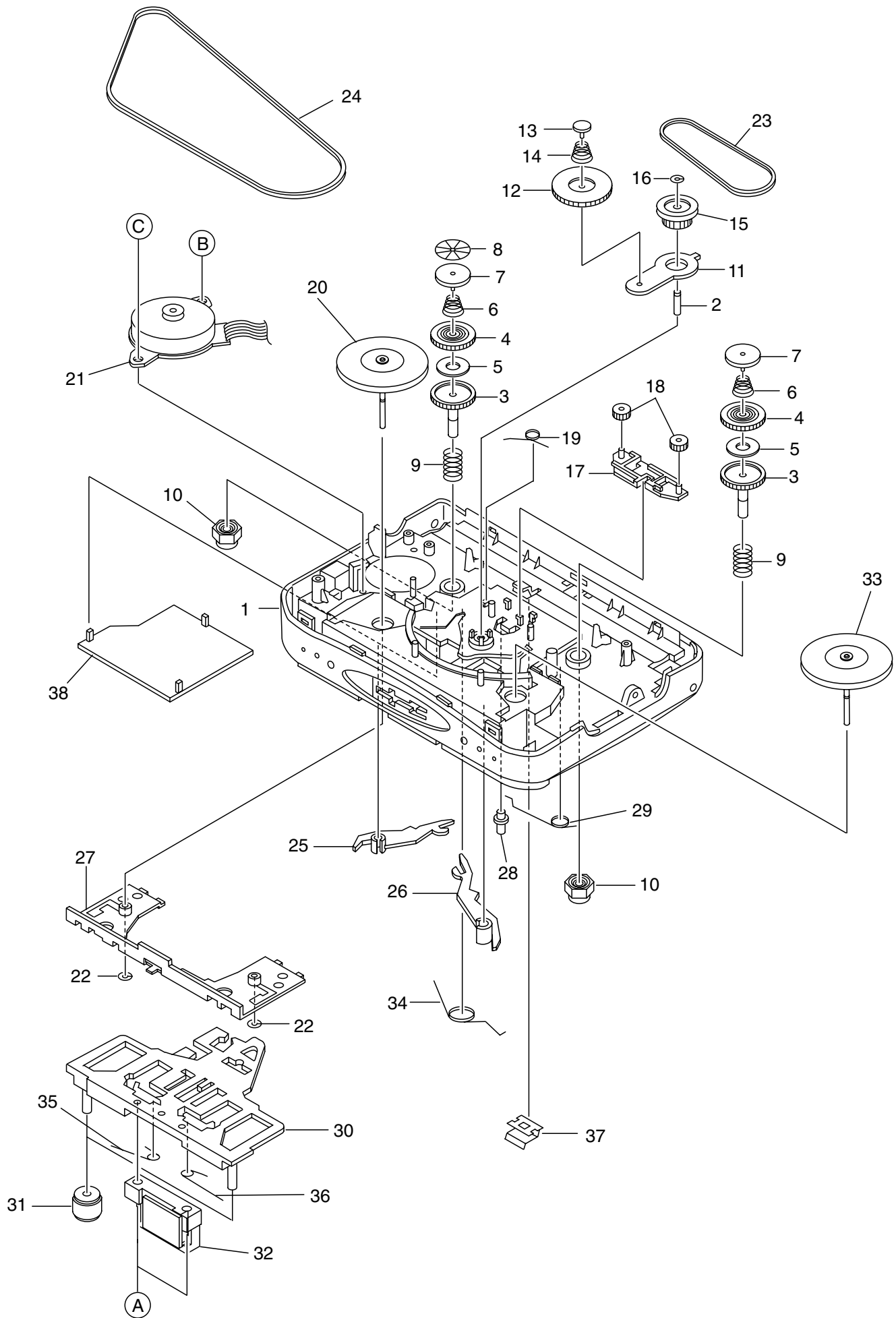
BASIC TAPE MECHANISM : CL-850-5 SIL

- This Correction Service Manual is issued because of some errors in Service Manual of Model Name HS-GMX600 (Y) / PX107 (YU, Y), (S/M Code No. 09-002-425-7R1)

aiwa
S/M Code No. 09-003-425-7C1

CORRECTION
DATA

TAPE MECHANISM PARTS LIST 1 / 1



TAPE MECHANISM PARTS LIST 1 / 1

| REF.NO. | PARTNO. | KANRI NO. | DESCRIPTION | REF.NO. | PARTNO. | KANRI NO. | DESCRIPTION |
|---------|----------------|--------------|------------------|---------|----------------|--------------|---------------------|
| 1 | 8A-HR8-003-010 | | FRAME CENTER | 26 | S8-505-110-000 | | REV ARM |
| 2 | S8-505-240-000 | | GEAR SHAFT | 27 | S8-505-260-000 | | SUB CHASSIS |
| 3 | S8-505-070-000 | | REEL GEAR T | 28 | S8-505-160-000 | | REV SELECT |
| 4 | S8-505-080-000 | | CLUTCH GEAR | 29 | S8-505-190-000 | | SELECT SP |
| 5 | S8-505-300-000 | | FELT | 30 | S8-505-020-000 | | HEAD BASE |
| 6 | S8-505-200-000 | | CLUTCH SP | 31 | S7-000-080-000 | | PINCH ROLLER |
| 7 | S8-505-120-000 | | REEL GEAR BUSH | 32 | 87-A91-019-010 | | HEAD ASSY (PH8ZM-3) |
| 8 | S8-505-290-000 | | REFLECTING PLATE | 33 | S8-550-4K0-000 | | FLYWHEEL L ASSY |
| 9 | S8-505-210-000 | | BRACK TENSION SP | 34 | S8-300-160-000 | | HEAD BASE SP |
| 10 | S8-000-100-000 | | REEL CAP | 35 | S8-300-170-000 | | PINCH SP FWD |
| 11 | S8-505-090-000 | | FWD GEAR PLATE | 36 | S8-500-090-000 | | PINCH SP REV |
| 12 | S8-505-060-000 | | FWD GEAR | 37 | 8A-HR8-214-010 | | SPR-P CASS |
| 13 | S8-505-250-000 | | GEAR PLATE PIN | 38 | S8-505-130-000 | | COVER |
| 14 | S8-505-220-000 | | FWD GEAR SP | A | S1-PB1-7X5-500 | | SCREW 1.7-5.5 |
| 15 | S8-505-050-000 | | CENTER GEAR | B | S3-PY1-7X2-500 | | SCREW 1.7-2.5 |
| 16 | S1-2X2-5X0-25L | | L CUT W | C | S3-PB1-7X3-000 | | SCREW |
| 17 | S8-505-320-000 | | FF GEAR HOLDER | | | | |
| 18 | S8-505-330-000 | | FF GEAR | | | | |
| 19 | S8-505-310-000 | | GEAR HOLDER SP | | | | |
| 20 | S8-550-3K0-000 | | FLYWHEEL R ASSY | | | | |
| 21 | 87-A91-563-010 | | MOTOR (IBIGB02) | | | | |
| 22 | S1-2X2-5X0-11C | | L CUT W | | | | |
| 23 | SV-500-000-000 | | SUB BELT | | | | |
| 24 | SV-190-000-000 | | MAIN BELT | | | | |
| 25 | S8-505-100-000 | | FWD ARM | | | | |

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