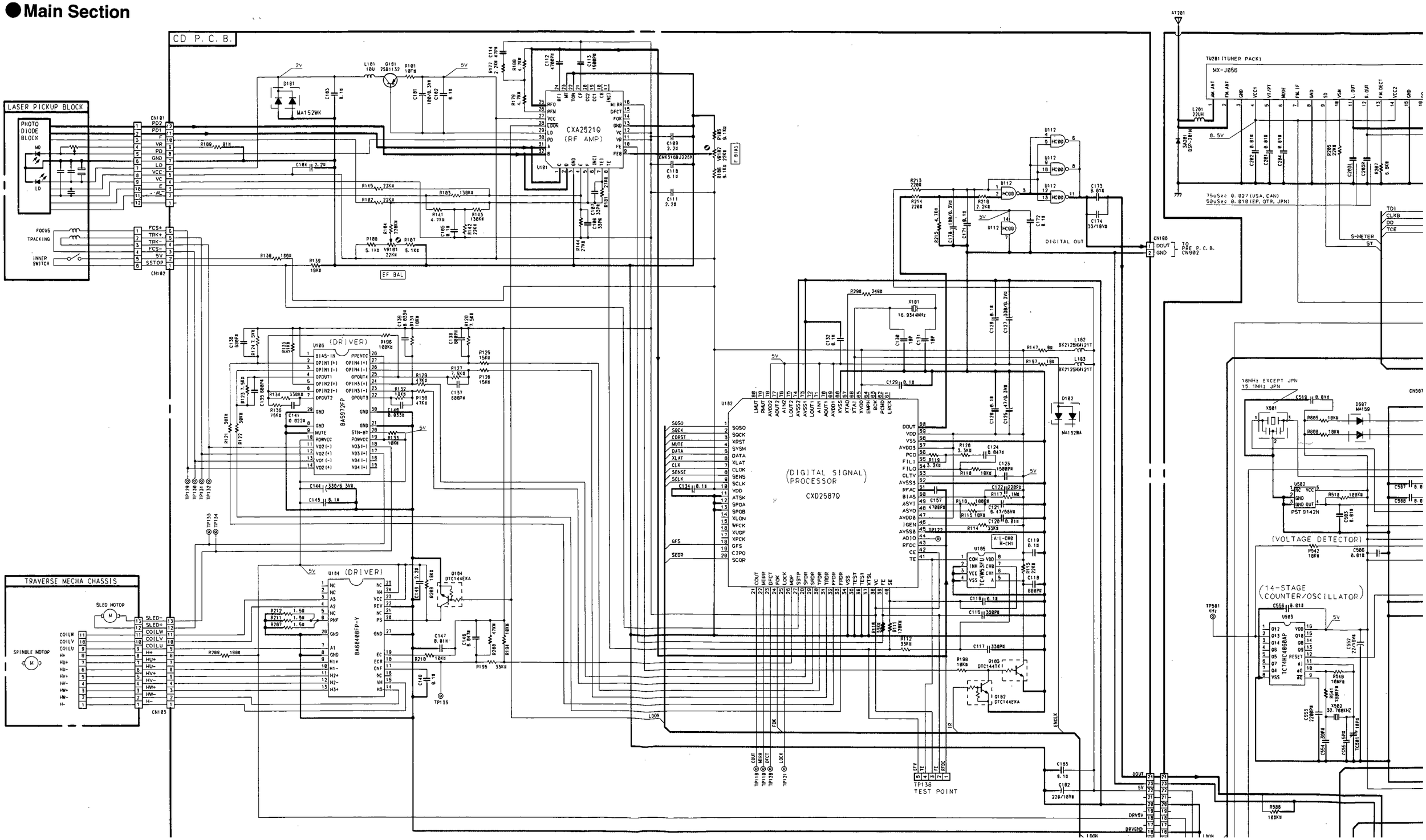
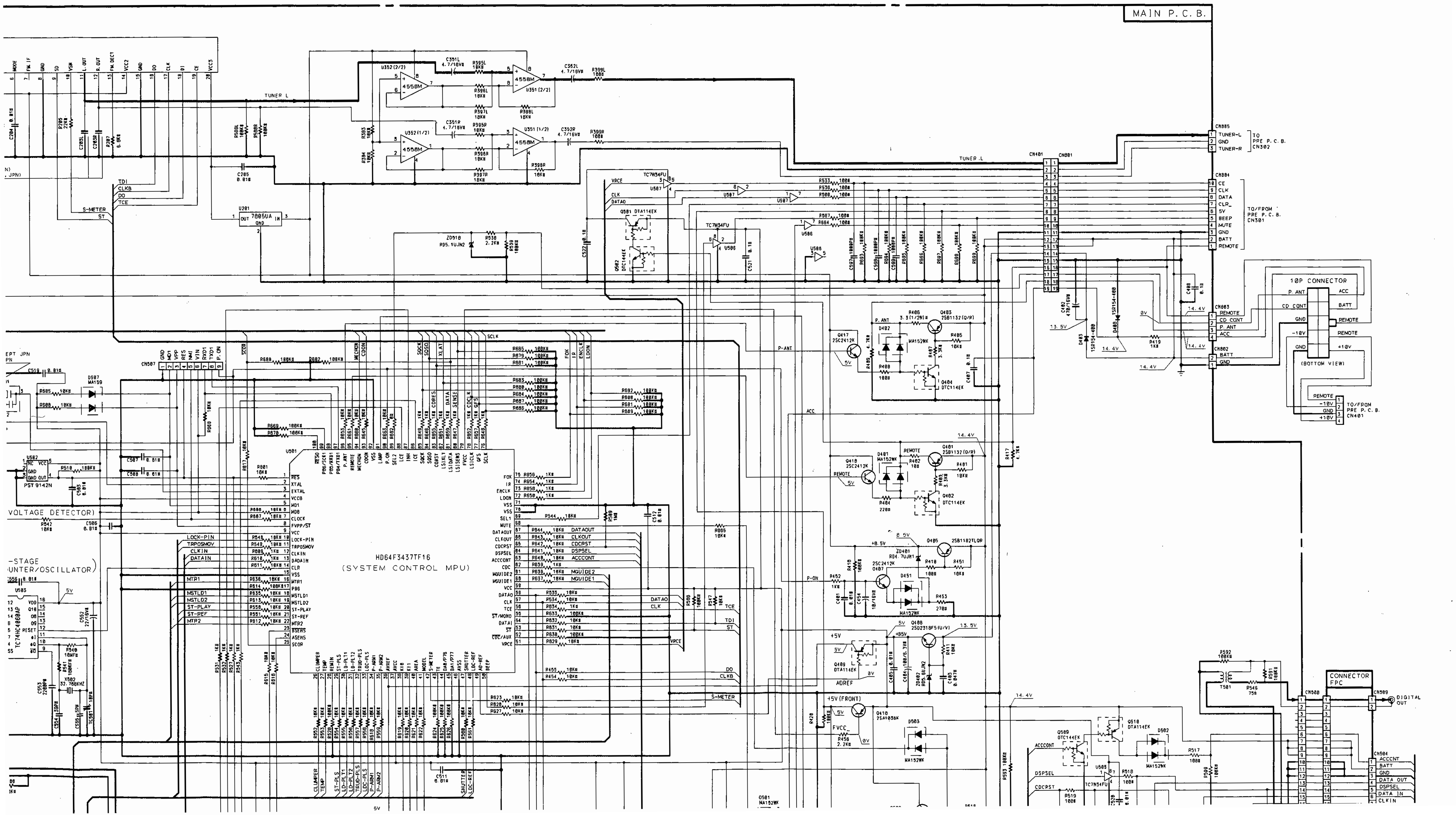
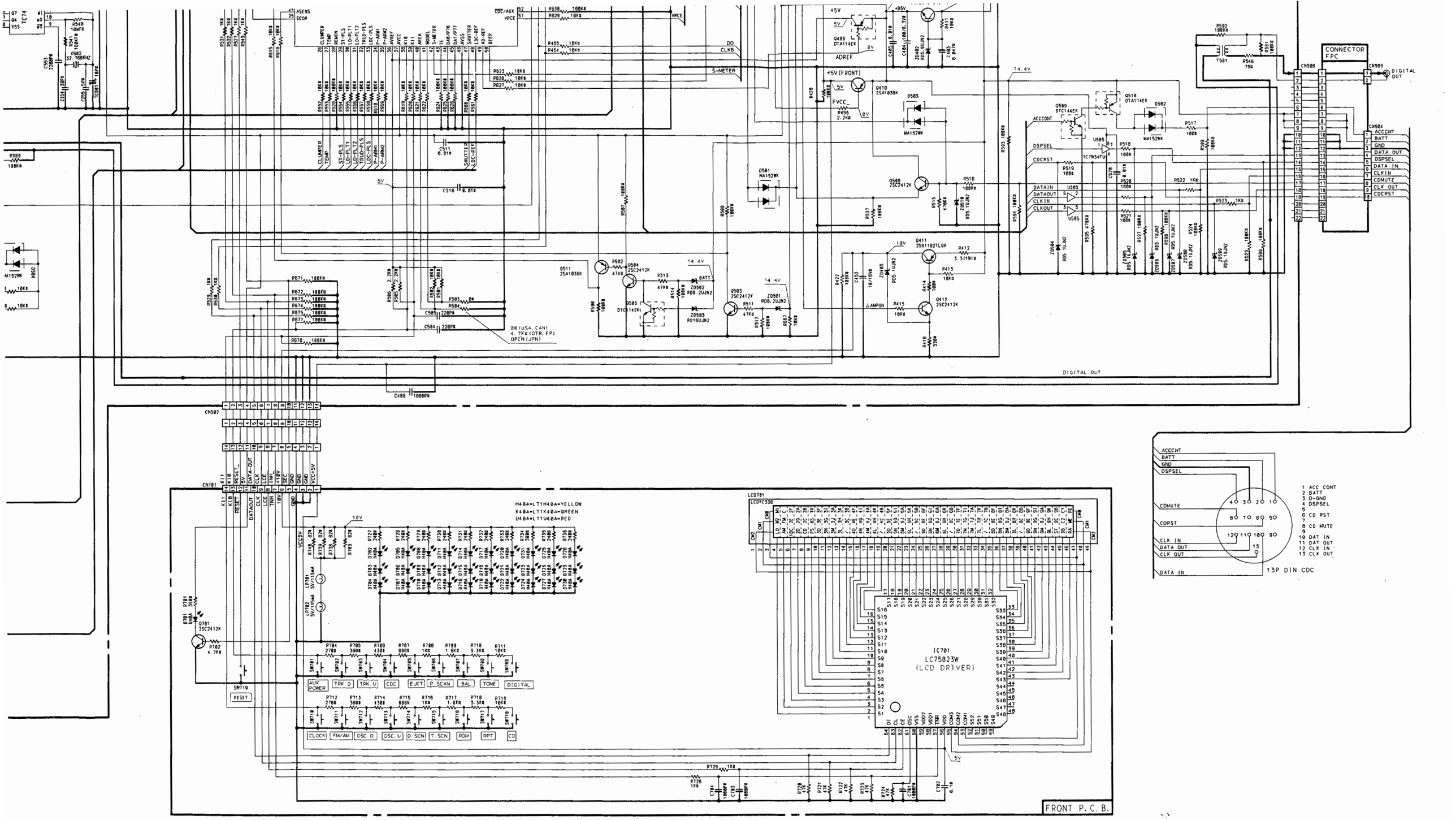
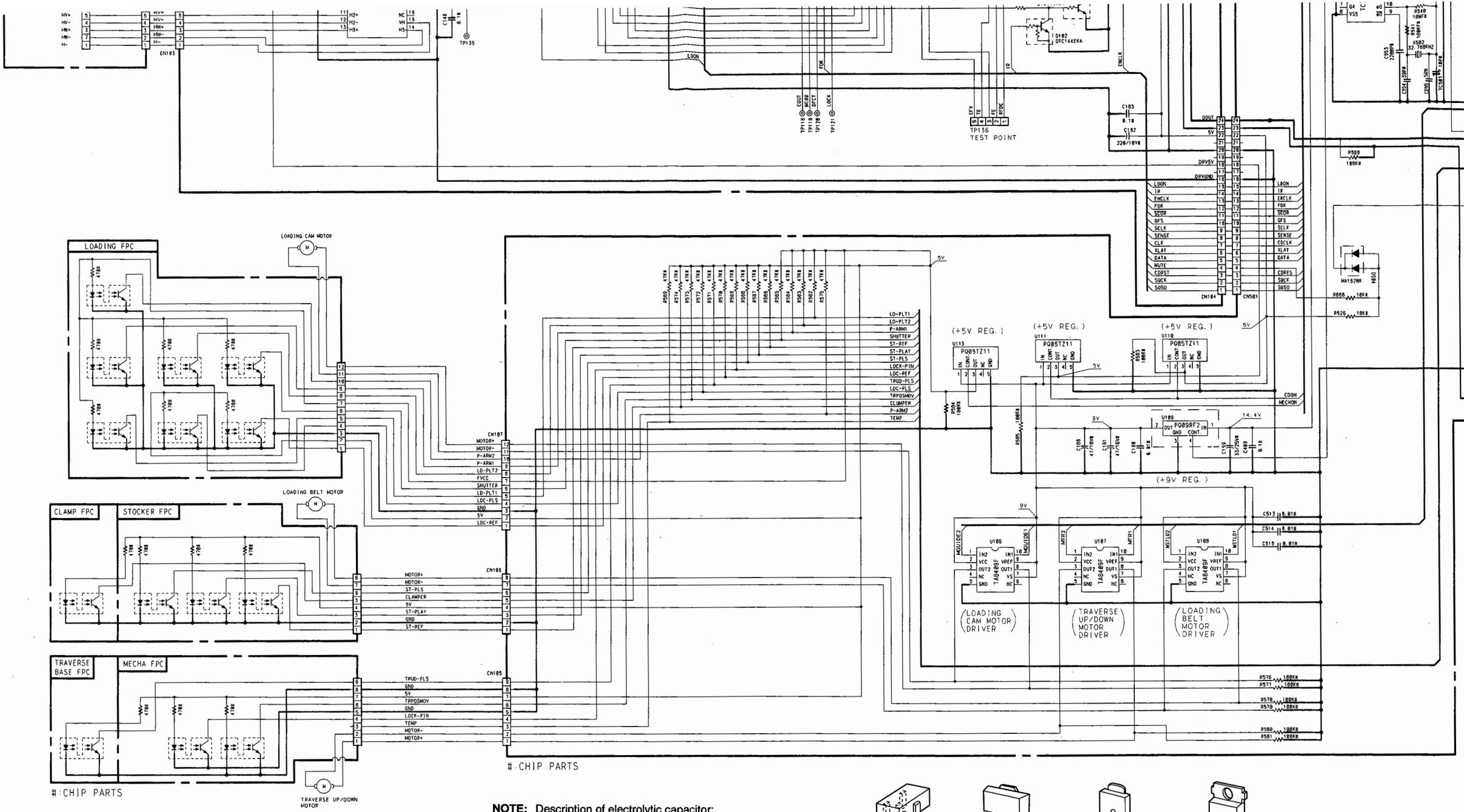
● Main Section

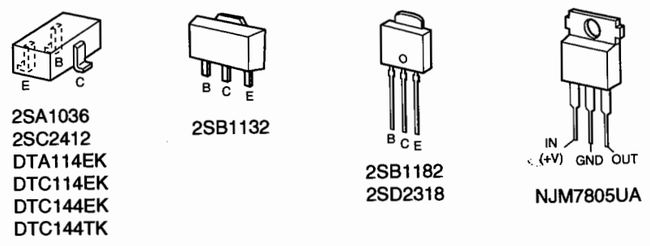



MAIN P. C. B.
HD64F3437TF16
(SYSTEM CONTROL MPU)
VOLTAGE DETECTOR)
-STAGE
UNTER/OSCILLATOR)
TUNER L
TUNER-L
GND
TUNER-R
TO PRE P. C. B. CN302
CE
CLK
DATA
CLR_
5V
BEEP
MUTE
GND
BATT
REMOTE
TO/FROM PRE P. C. B. CN301
10P CONNECTOR
P.ANT
ACC
CD CONT
BATT
GND
REMOTE
-10V
+10V
(BOTTOM VIEW)
TO/FROM PRE P. C. B. CN401
CONNECTOR FPC
DIGITAL OUT
ACCCNT
DATA OUT
DSPSEL
DATA IN
CLKIN
+5V (FRONT)
S-METER

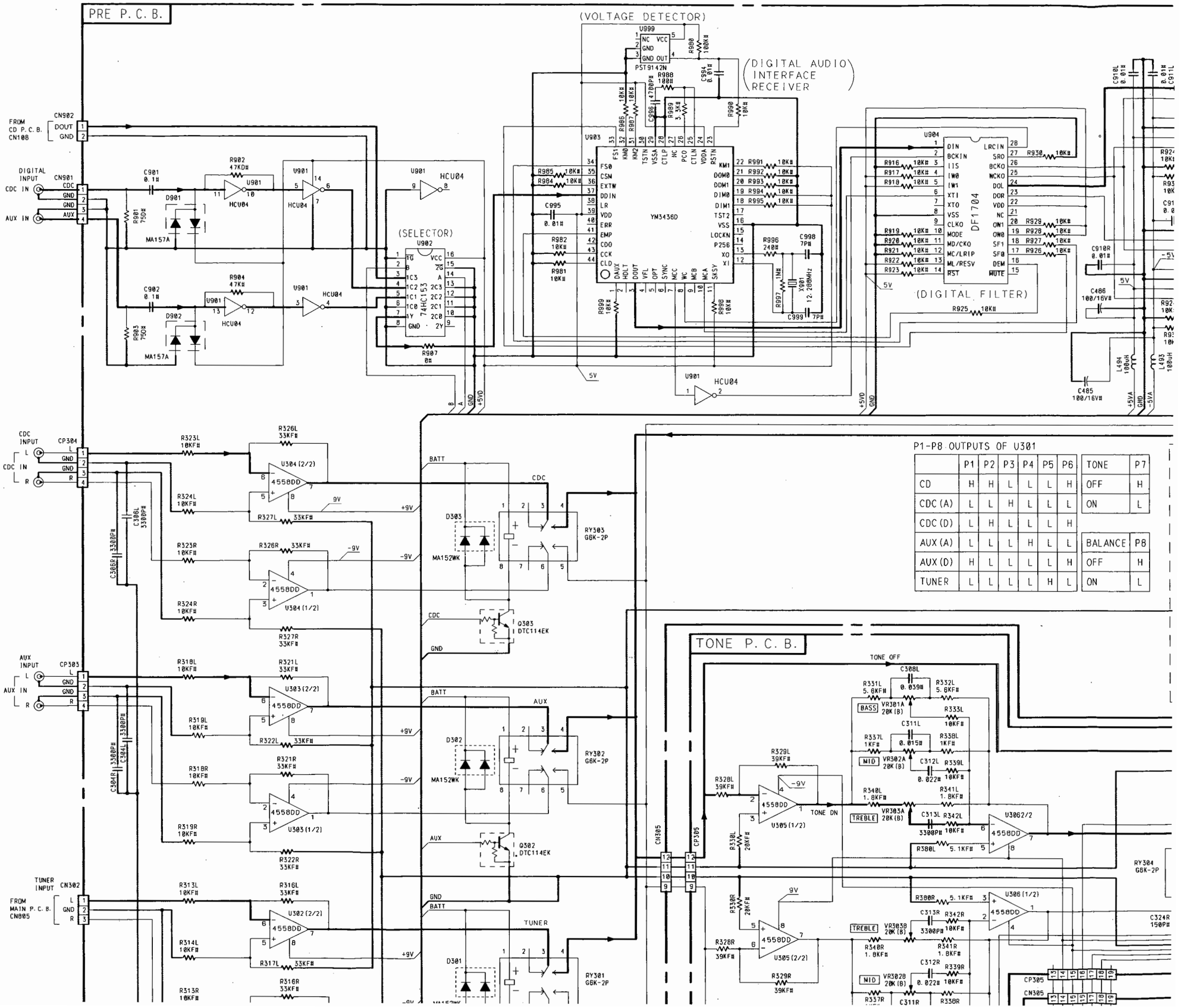

CONNECTOR FPC
CN508
CN509
DIGITAL OUT
CN504
ACCCNT
BATT
GND
DATA OUT
DSPSEL
DATA IN
CLKIN
CDMUTE
CLK OUT
CDCRST
CN507
CN781
LCD781
IC701
LC75823W
(LCD DRIVER)
AUX POWER
TRK D
TRK U
CDC
EJECT
P SCAN
BAL
TONE
DIGITAL
RESET
CLOCK
FM/AM
DSC D
DSC U
D SCN
T SCN
ROM
RPT
CD
H4@A=LT1H4@A=YELLOW
K4@A=LT1K4@A=GREEN
U4@A=LT1U4@A=RED
FRONT P.C.B.
1 ACC CONT
2 BATT
3 D-GND
4 DSPSEL
5
6 CD RST
7
8 CD MUTE
9
10 DAT IN
11 DAT OUT
12 CLK IN
13 CLK OUT
13P DIN CDC



NOTE: Description of electrolytic capacitor:
100/16V = 100μ 16V



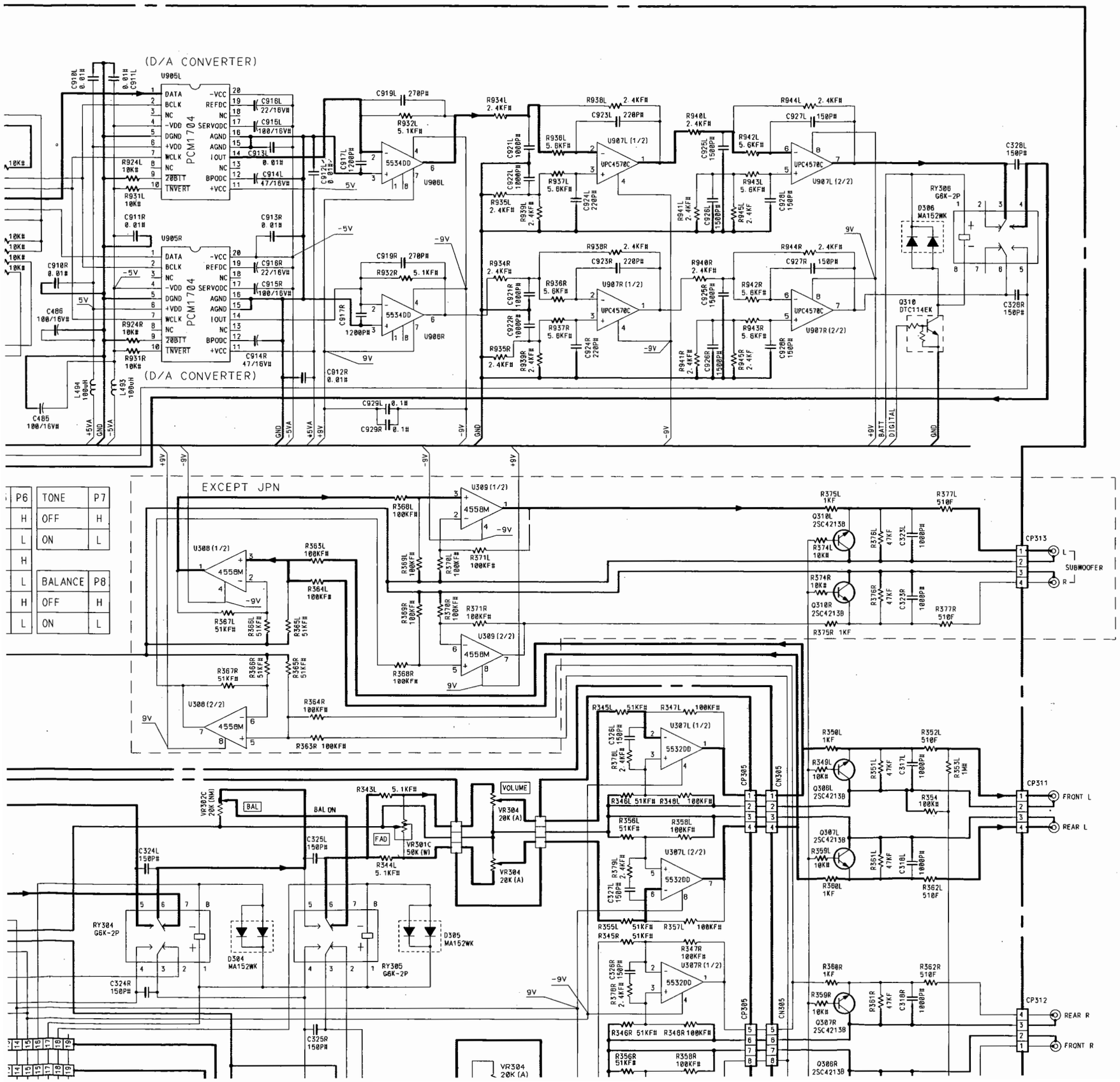
●Preamp. & Tone Control Section

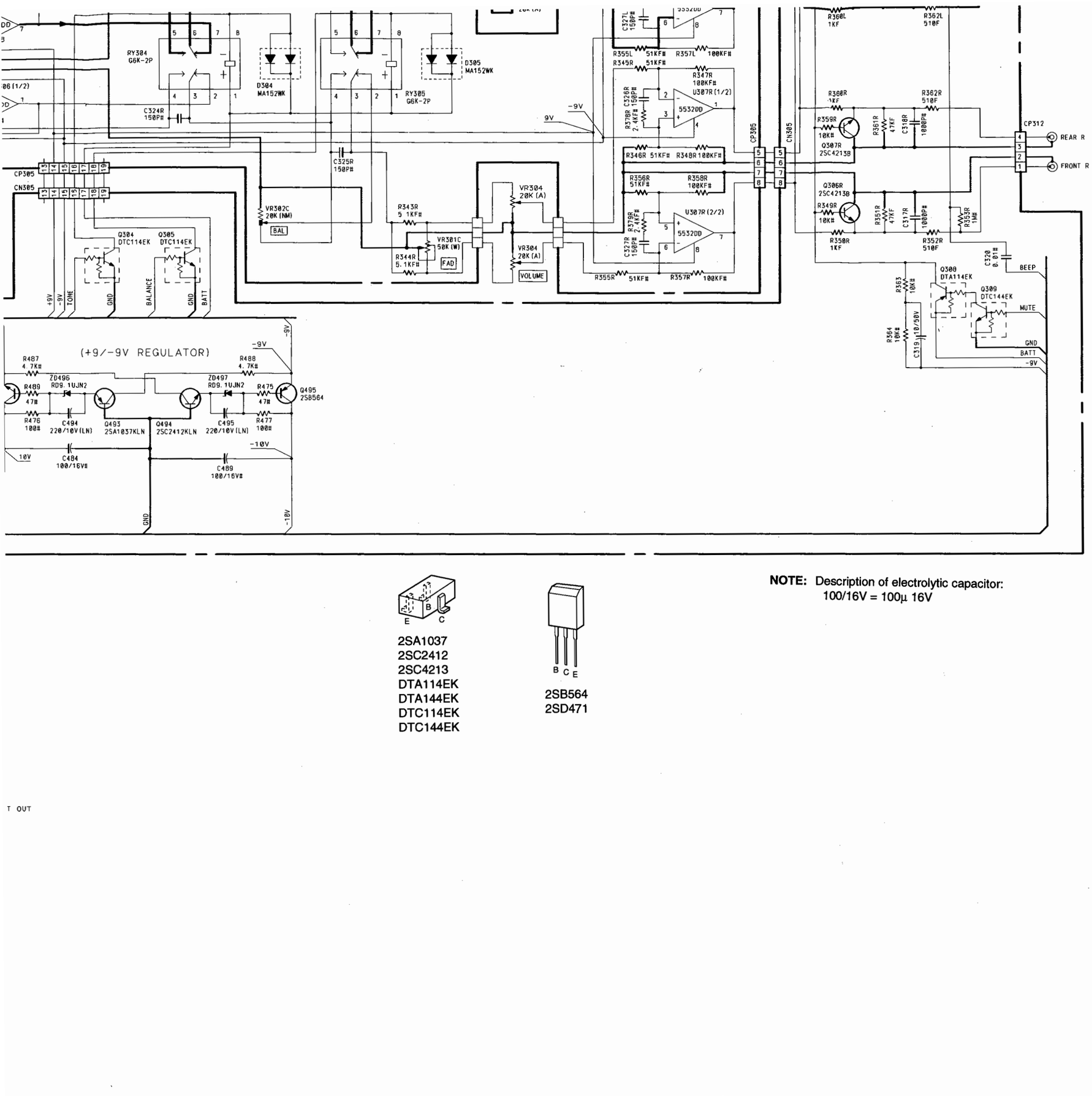


	P1	P2	P3	P4	P5	P6
CD	H	H	L	L	L	H
CDC (A)	L	L	H	L	L	L
CDC (D)	L	H	L	L	L	H
AUX (A)	L	L	L	H	L	L
AUX (D)	H	L	L	L	L	H
TUNER	L	L	L	L	H	L

TONE	P7
OFF	H
ON	L

BALANCE	P8
OFF	H
ON	L


(D/A CONVERTER)
U905L
U905R
PCM1704
U906L
U906R
5534DD
U907L (1/2)
U907L (2/2)
U907R (1/2)
U907R (2/2)
UPC4570C
RY306 G6K-2P
D306 MA152WK
Q310 DTC114EK
EXCEPT JPN
U309 (1/2)
U309 (2/2)
4558M
U308 (1/2)
U308 (2/2)
P6 TONE P7
H OFF H
L ON L
BALANCE P8
H OFF H
L ON L
VR302C 20K (DM)
BAL
BAL ON
VR301C 50K (W)
FAD
VOLUME
VR304 20K (A)
RY304 G6K-2P
RY305 G6K-2P
D304 MA152WK
D305 MA152WK
U305 (1/2)
U305 (2/2)
U306 (1/2)
U306 (2/2)
5532DD
CP305
CN305
CP313
SUBWOOFER
CP311
FRONT L
REAR L
CP312
REAR R
FRONT R
+5VA
GND
-5VA
+9V
-9V
BATT
DIGITAL



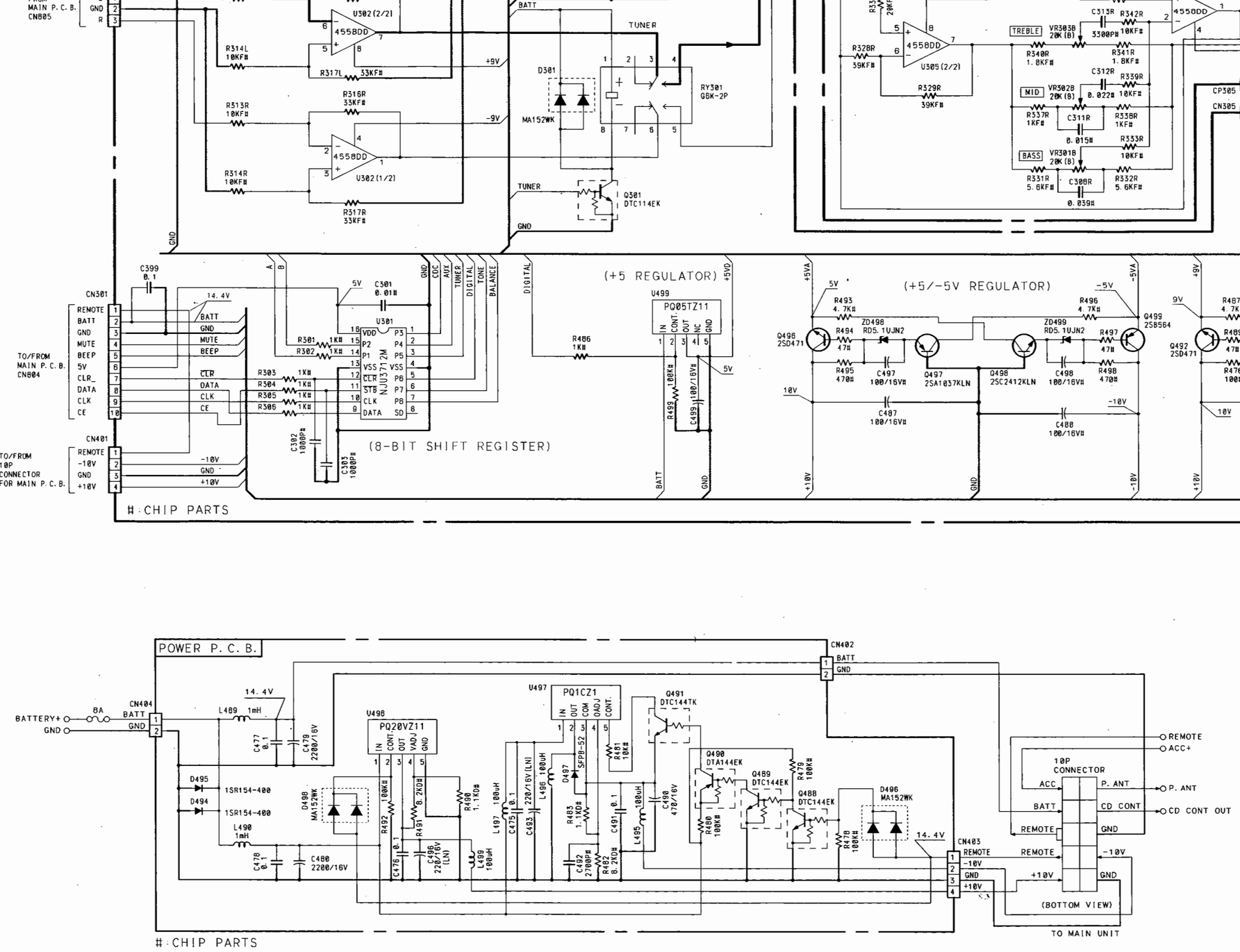
2SA1037
2SC2412
2SC4213
DTA114EK
DTA144EK
DTC114EK
DTC144EK

2SB564
2SD471

NOTE: Description of electrolytic capacitor:
100/16V = 100μ 16V

T OUT

● Power Box


POWER P. C. B.
CN404
BATTERY+
GND
8A
BATT
GND
14.4V
L489 1mH
C477 0.1
C479 2200/16V
U498
PQ20VZ11
IN CONT. OUT VADJ GND
U497
PQ1CZ1
IN OUT COM ADJ CONT.
Q491 DTC144TK
Q490 DTA144EK
Q489 DTC144EK
Q488 DTC144EK
D495 1SR154-400
D494 1SR154-400
L490 1mH
D498 MA152WK
D497 SFPB-52
D496 MA152WK
R492 100K#
R491 8.2KΩ#
R490 1.1KΩ#
R483 1.1KΩ#
R481 10K#
R480 100K#
R479 100K#
R478 100K#
C476 0.1
C478 0.1
C480 2200/16V
C496 220/16V (LN)
C492 2700P#
C491 0.1
C498 470/16V
L497 100uH
L496 100uH
L495 100uH
L499 100uH
C475 0.1
C493 220/16V(LN)
R482 8.2KΩ#
CN402
BATT
GND
CN403
REMOTE
-10V
GND
+10V
14.4V
10P CONNECTOR
ACC
BATT
REMOTE
REMOTE
GND
+10V
P. ANT
CD CONT
GND
-10V
(BOTTOM VIEW)
REMOTE
ACC+
P. ANT
CD CONT OUT
TO MAIN UNIT
#:CHIP PARTS

CD-700RDS HEAD UNIT

MECHANISM

COMPACT DISC

SPDL MOTOR

LASER PICKUP

SLED MOTOR

P-ARM2

P-ARM1

LD-PLT2

SHUTTER

LD-PLT1

LDC-PLS

LDC-REF

ST-PLS

CLAMPER

TRUD-PLS

LOADING OPEN/CLOSE, CLAMP AND CLUTCH

DISC LOAD/EJECT

TRAVERSE UP/DOWN

PCB A'Y CD

APC DRIVER

U101 CXA2521Q

APC CIRCUIT

LDON

MIRROR CIRCUIT

RF AMP

FOCUS ERROR AMP

TRACKING ERROR AMP

A

B

C

D

E

F

U104 BA6840BFP

MOTOR DRIVER

U103 BA5972FP

FOCUS COIL DRIVER

TRACKING COIL DRIVER

SLED MOTOR DRIVER

LOW PASS

LOW PASS

U105 TC4W53FU

SW

U102 CXD2587Q

RFAC

DATA PROCESSING CIRCUIT AND 32K RAM

RFDC

FE

SE

TE

OPAMP ANALOG SWITCH

A/D CONVERTER

4fs DIGITAL FILTER + 1BIT DAC

LPF

LPF

CLK

XLAT

DATA

CPU INTERFACE SERVO AUTO SEQUENCER

CLV PROCESSOR

PWM GENERATOR

FOCUS PWM GENERATOR

TRACKING PWM GENERATOR

SLED PWM GENERATOR

SERVO DSP

FOCUS SERVO

TRACKING SERVO

SLED SERVO

DOUT

FOK

SCOR

GFS

SCLK

SENSE

MUTE

CDRST

SQCK

SQSO

OSC 16.93MHz

CD-700 POWER BOX

FILTER(L,C)

BATT

AUDIO

10V

AUDIO

-10V

FILTER(L,C)

PCB A'Y MAIN

MECANISM MOTOR DRIVER

9V

REMOTE

REMOTE

MECANISM PHOTO SENSOR

5V

CD PICK UP COIL MOTOR DRIVER

5V

P. ANT

P. ANT

CD AUDIO DSP

5V

TUNER

5V

8.5V

LED AND LUMP

10V

SYSTEM

KEY REFERENCE

LCD AND SECURITY

5V

ACC

CD. CONT

U106 TA8409F

MOTOR DRIVER

U108 TA8409F

MOTOR DRIVER

U107 TA8409F

MOTOR DRIVER

U503 TC74HC4060AP

OSC FOR WATCH 4Hz

OSC 16MHz

U501 HD64F2148UTE20

PWM

PWM

PWM

P-ARM2

P-ARM1

LD-PLT2

SHUTTER

LD-PLT1

LDC-PLS

LDC-REF

ST-PLS

CLAMPER

ST-PLAY

ST-REF

TRUD-PLS

TRPOSMOV

LOCK-PIN

CLK

XLAT

DATA

FOK

SCOR

GFS

SCLK

SENSE

MUTE

CDRST

SQCK

SQSO

BSENS

ASENS

REMOTE

P. ANT

CD. CONT

SEC

KI0

KI1

MUTE

BEEP

DSP-SEL

CDCRST

DATA OUT

DATA IN

CLK OUT

CLK IN

ST

S-METER

DATA IN

DAVN

SDA

SCL

MPTH

PSWN

DATA OUT

CLK OUT

CE

TO RCA

CD DIGITAL_OUT

TO DIN

ACC CONT

BATT

GND

DSP-SEL

CDCRST

MUTE

DATA OUT

DATA IN

CLK OUT

CLK IN

ANTENNA

TU201 MX-E056

FM AM TUNER PACK

FMDET

VSM

RDS

U201 SAA6588T

PCB A'Y FRONT

LED (RED)

KEY X 9

KEY X 9

IC701 LC75824W

LCD DRIVER

LED X 30 (AMBER)

LCD BACK LAMP X 2

LCD701 DLC-1649P

PCB A'Y PRE

TO RCA

CDC DIGITAL_IN

TO RCA

AUX DIGITAL_IN

TO RCA

CDC IN LCH

CDC IN RCH

TO RCA

AUX IN LCH

AUX IN RCH

U902 TC74HC153

Switch (OR)

Switch (ON/OFF)

Switch (ON/OFF)

U903 YM3436D

DIGITAL INTERFACE

U904 DF1704

DIGITAL FILTER

I/V+4rd BESSEL FILTER

U905L,R PCM1704

24BIT DAC

24BIT DAC

LPF

LPF

Switch (ON/OFF)

U301 NJU3712M

8BIT SERIAL PALALLEL CONVERTER

NON FADER PRE OUT

TUNER IN LCH

TUNER IN RCH

Switch (ON/OFF)

PCB A'Y TONE

TONE

Switch (OR)

BALANCE

Switch (OR)

FADER

VOLUME

PRE OUT SUB LCH

PRE OUT SUB RCH

TO RCA

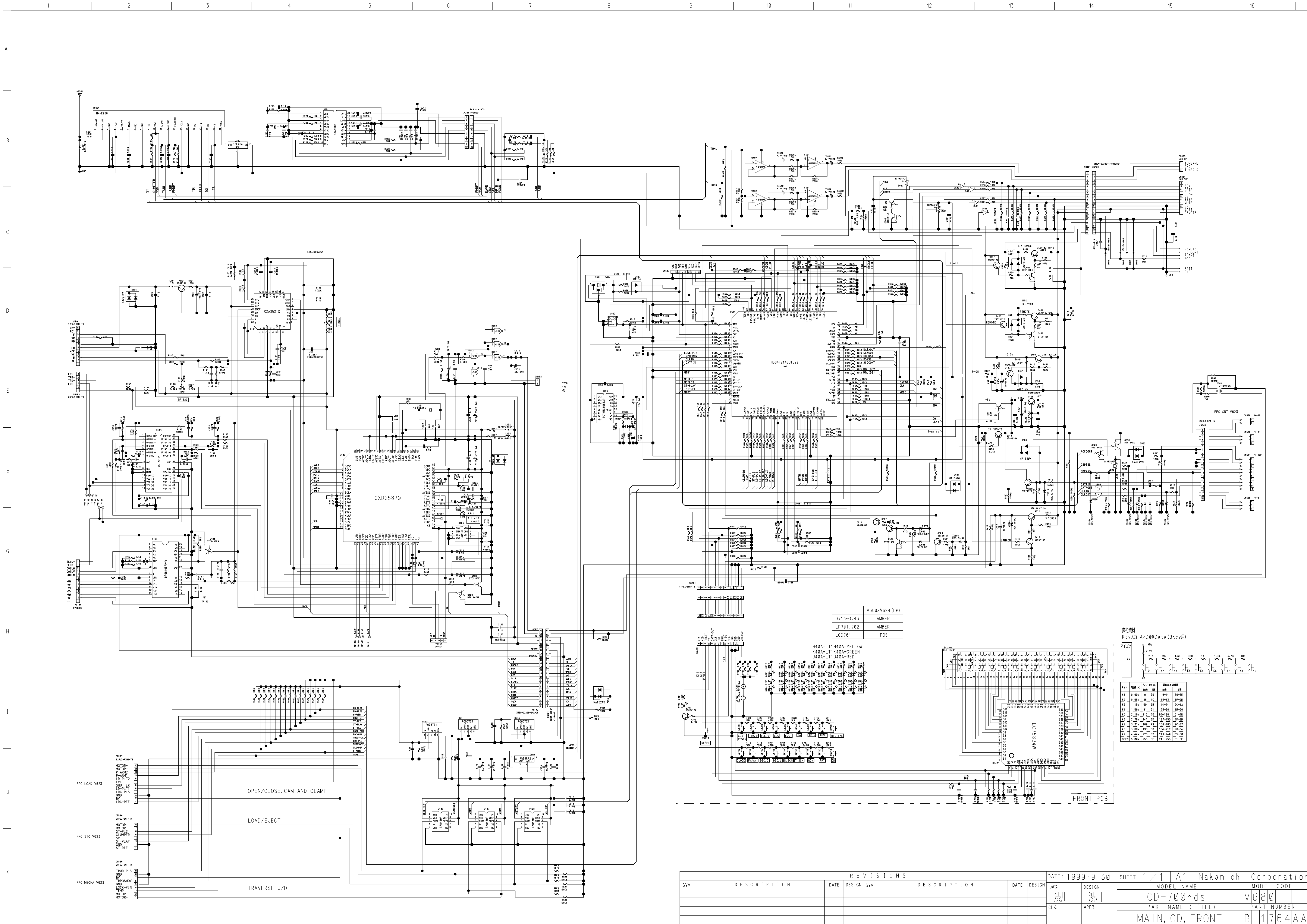
PRE OUT FRONT LCH

PRE OUT FRONT RCH

PRE OUT REAR LCH

PRE OUT REAR RCH

TO RCA

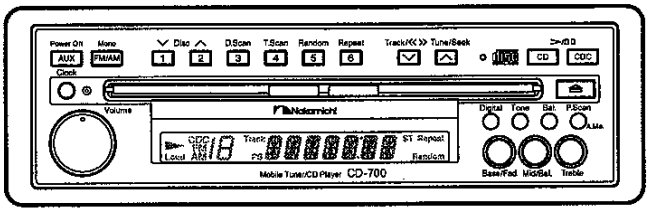


HD64F2148UTE20
CXD2587Q
CXA2521Q
LC75824W
BA6848FP-Y
FPC CNT V623
FPC LOAD V623
FPC STC V623
FPC MECHA V623
OPEN/CLOSE,CAM AND CLAMP
LOAD/EJECT
TRAVERSE U/D
FRONT PCB
V680/V694(EP)
D713~D743 AMBER
LP701,702 AMBER
LCD701 POS
H40A=LT1H40A=YELLOW
K40A=LT1K40A=GREEN
U40A=LT1U40A=RED
参考資料
Key入力 A/D変換Data(9Key用)
REVISIONS
SYM DESCRIPTION DATE DESIGN
DATE 1999・9・30
SHEET 1/1 A1 Nakamichi Corporation
DWG. 渋川
DESIGN. 渋川
CHK.
APPR.
MODEL NAME CD-700rds
MODEL CODE V680
PART NAME (TITLE) MAIN,CD,FRONT
PART NUMBER BL1764AA

Service Manual

Mobile Tuner / CD Player

CD-700



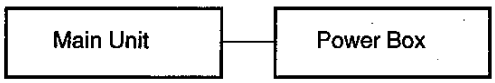
Nakamichi

CONTENTS

GENERAL

1.1. Configuration of CD-700

CD-700 consists of the following units.



1.2. Destinations

USA, CAN, OTR, EP, JPN

Abbreviations for Destinations:

USA	— U.S.A.	EP	— Europe
CAN	— Canada	JPN	— Japan
OTR	— Other		

1.3. Cautions/Warnings

(1) Protection of Eyes from Laser Beam

To protect eyes from invisible laser beam during servicing,
DO NOT LOOK AT THE LASER BEAM.

- Laser Diode Properties

Material:	GaAs+GaAlAs
Laser output:	0.4mW Max.
Wavelength:	760 - 800 nm
Emission duration:	Continuous

(2) Laser Caution

CAUTION

Adjusting the knobs, switches, and controls, etc. or taking actions not specified herein may result in a harmful emission of laser beams. This CD Player must be adjusted and repaired only by qualified service personnel.

OBSERVERA!

Sådana inställningar av rattarna, omkopplarna eller övriga kontrollknappar som inte är beskriva i bruksanvisningen kan resultera i farlig laserutstrålning. Justering eller reparation av denna kompaktskivspelare skall endast utföras av kvalificerad servicepersonal.

OBS!

Indstilling af knapper, cmskiftere og øvrige kontrolknapper, som ikke følger den i brugsanvisningen beskrevne måde, kan resultere i farlig laserudstråling. Justering eller reparation af denno CD-afspiller må kun udføres af kvalificeret servicepersonale.

OBS!

Justering av ratt, brytere og kontroller andre enn de som er beskrevet her, kan resultere i farlig laserbestråling. Justering eller reparasjon av denne kompaktdiskspilleren ma bare utføres av kvalifiserte fagfolk.

HUOMAUTUS

Jos nuppeja, kytkimiä ja säätimiä ym, säädetään tai laitetta käytetään toisella tavalla kuin on selostettu, tuloksena saattaa olla vaarallista lasersäteiden vuotoa. CD-soittimen säätö ja korjaus on jätettävä aina asiantuntevan huoltoteknikon tehtäväksi.

ADVERSEL: USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSAETTELSE FOR STRÅLING.

VARO!: AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

VARNING —OSYNLIG LASERSTRÅLNING NAR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.

CLASS 1
LASER PRODUCT

THIS COMPACT DISC PLAYER IS CLASSIFIED AS A CLASS 1 LASER PRODUCT.
THE CLASS 1 LASER PRODUCT LABEL IS LOCATED ON THE REAR EXTERIOR.

1.4. Handling the Laser Pickup

In case of repair or replacement of the Laser Pickup, pay attention to the following handling instructions since the laser diode in the Laser Pickup is not resistant to static electricity.

(1) Grounding

When you repair a Laser Pickup, first ground the human body, as well as the measuring instruments and other tools (with particular caution to soldering iron). What's more, your workbench and floor should desirably be grounded using conductive sheet or copper plate. See Fig. 1.1.

NOTE: Be careful so as not to let your clothes touch the Laser Pickup, as static electricity on the clothes will not be released even if your body is grounded.

(2) Discharge of Electricity

Be sure to discharge electricity from objects brought into contact with the Laser Pickup (i.e., soldering iron, tweezers, probes, volt-ohm-meter probes, etc.) before starting work by contacting them with the body chassis. Besides, never touch the Laser Pickup while power is applied.

(3) Soldering Iron to be Used

The soldering iron for use in repair work should be: (1) a ceramic soldering iron, (2) a soldering iron with its metal part grounded, or (3) a soldering iron whose insulation resistance after five minutes of power application is 10 M-ohm or more at 500 VDC. Soldering should be completed promptly, at a soldering iron temperature of 320° max (39 W). A soldering iron heated above this temperature can break down the laser diode.

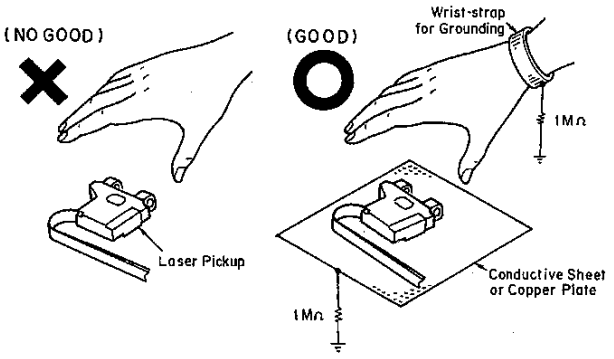


Fig. 1.1 Handling the Laser Pickup

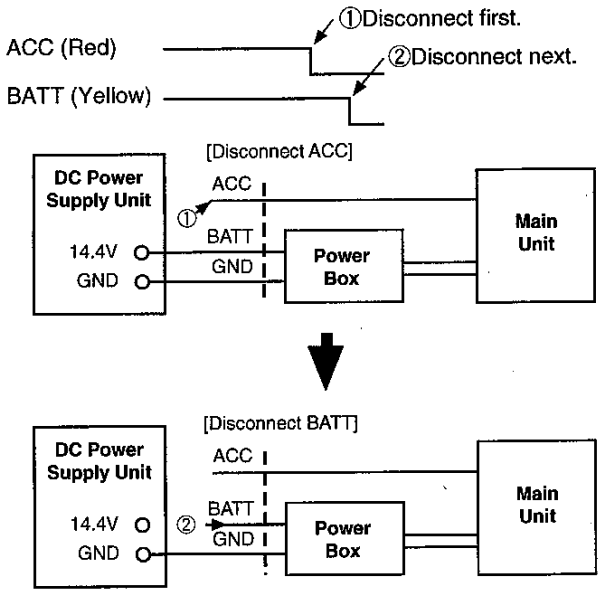
1.5. Shipping Procedure after Service Work

Always follow the steps below before returning the Unit.

START

Disconnect the ACC line first, and then BATT line.

Turn OFF the Unit in the same order when the Unit is used in the car. Namely, disconnect the ACC line first (①) and then the BATT line (②).



To fix the Clamper Ass'y, insert the Clamp Arm Stopper.

1. Insert the Clamp Arm Stopper to lock the Clamper Ass'y.
   NOTE: If it cannot be correctly inserted into the Unit, do not force to insert it.
   You should correctly follow the above step again after turning on the power.
2. Cover the Clamp Arm Stopper with a tape.

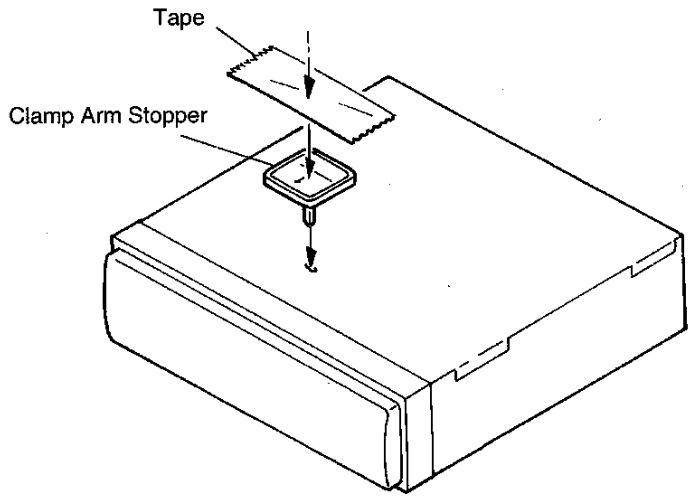


Fig. 1.2 Shipping Form

END

1.6. Package and Accessory Ass'y

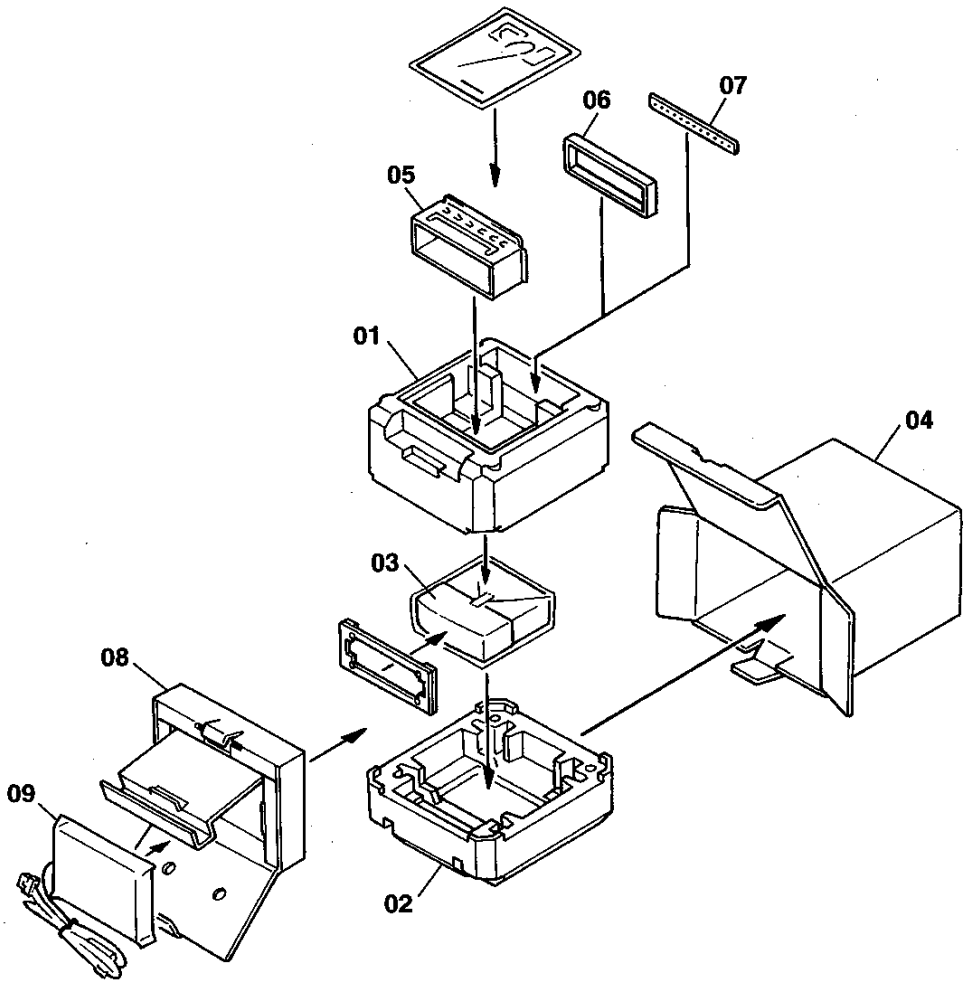


Fig. 1.3

Schematic Ref. No.	Part No.	Description	Q'ty
	—	**Package and Accessory Ass'y**	
01	0F05341A	Package Top	1
02	0F05342A	Package Bottom	1
03	0F05381A	Soft Sheet (for Front Panel)	1
04	0F05446A	Inner Carton (JPN)	1
05	HG07456B	Sleeve Ass'y (Except JPN)	1
06	0H08291A	Panel Frame L	1
07	0J07417A	Metal Stay (Except JPN)	1
08	0F05388A	Pre Amp. Box	1
09	HA07887A	Power Box Ass'y	1
—	0B90359A	Masking Tape	4
—	0B90877A	Fuse 250V 8A	1
—	0D07142B	Owner's Manual (Japanese)	1
—	0D07143B	Owner's Manual (English)	1
—	0D07189A	Owner's Manual (French/S)	1
—	0D07200A	Owner's Manual (German/S)	1
—	0J07428A	Rubber Cap (Except JPN)	1
—	DG05271A	Screw Kit	1
—	JG04899A	Bolt Ass'y	1

2. REMOVAL PROCEDURES

WARNING:

Before starting disassembly, be sure to disconnect the power supply lines from a power source.

CAUTIONS:

- Before turning on the power, be sure that there is no abnormality.
- Be careful not to leave parts such as screws and washers unattached or loose inside the Unit.
- Be careful not to damage the flexible cable during service work.
- Do not excessively tighten screws.
- Do not reuse E-rings.
- Assembly should be performed in the reverse order of disassembly unless otherwise specified. However, be sure to follow the notes or procedures if written.
- Before returning the Unit, follow 1.5 "Shipping Procedure after Service Work" on page 4.

General Maintenance Tools:

- Philips screwdriver
- Tweezers
- Cutting Nippers
- Soldering Iron (Ceramic one or whose metal part is grounded)

Removal Procedures:

2.1. Top Cover Ass'y

Refer to Fig. 2.1.

(1) Remove the screws F01 (2 pcs.) and detach F02 (Lock Plate, 2 pcs.).

(2) Detach F03 (Top Cover Ass'y).

NOTE: Do not apply excessive force to the Top Cover Ass'y as it can be deformed.

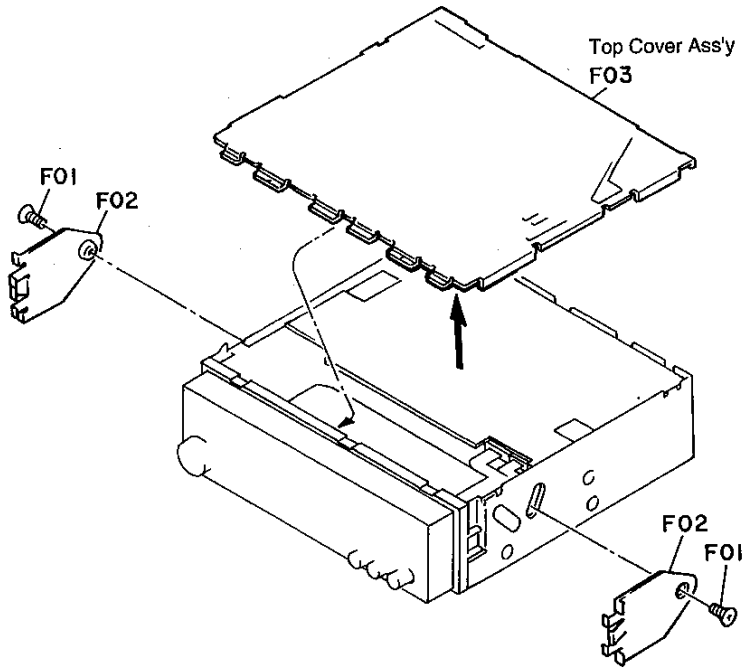


Fig. 2.1

2.2. Main P.C.B. Ass'y (Accessing) and Front Panel Block

Refer to Figs. 2.2.1 and 2.2.2.

(1) Remove the Top Cover Ass'y. See item 2.1.

(2) Remove the screws F01 (M2x1.8 + Pan, 5 pcs.), F02 (M2.6x8 + Pan, 1 pce.) and F03 (M3x3 + Binding, 1 pce.). Refer to Fig. 2.2.1.

(3) Gently lift the CN-501 part (the right front part) of F09 (Main P.C.B. Ass'y) to disconnect CN-501 from the CD P.C.B. Ass'y on the Mechanism Ass'y. Refer to Fig. 2.2.2.

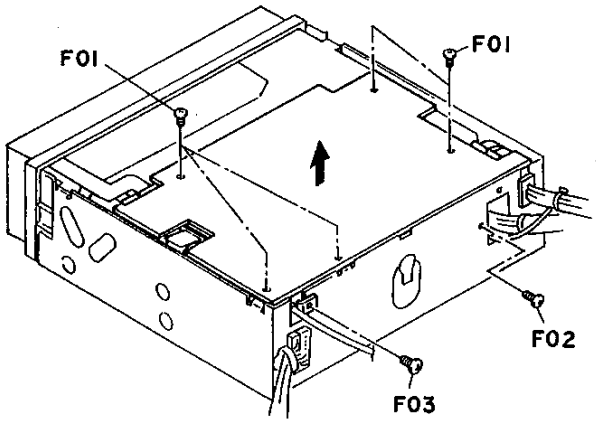
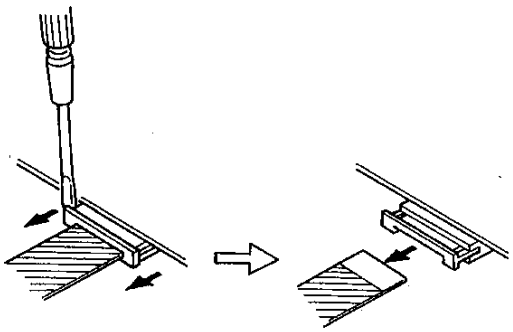


Fig. 2.2.1

(4) While lifting F09 (Main P.C.B. Ass'y) a little, disconnect the five flexible cables F04 to F08 from CN-106, CN-105, CN-508, CN-107, and CN-502 on F09 (Main P.C.B. Ass'y).

NOTE: To disconnect the flexible cable, unlock the connector lock as shown below before disconnecting it.



(5) Remove the rear left cable of F09 (Main P.C.B. Ass'y) upwardly and turn over F09 (Main P.C.B. Ass'y) toward the rear of the Unit.

NOTE: F09 (Main P.C.B. Ass'y) cannot be removed until its cables are disconnected from the Pre P.C.B. Ass'y inside the Mechanism Ass'y. To replace F09 (Main P.C.B. Ass'y), refer to item 2.4 "Main P.C.B. Ass'y and Pre P.C.B. Ass'y".

(6) Remove the screws F10 (M3x3 + Binding, 2 pcs.) and detach F11 (Front Panel Block).

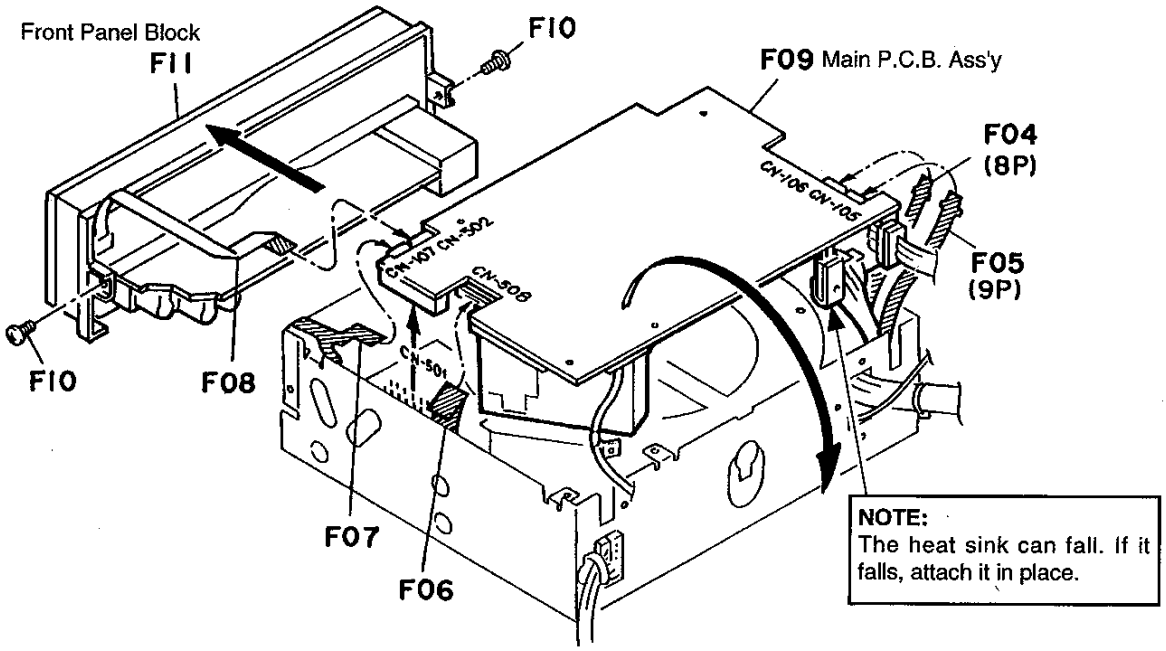


Fig. 2.2.2

2.3. Loading Ass'y

2.3.1. Removing the Loading Ass'y

Refer to Fig. 2.3.1.

(1) Detach the Main P.C.B. Ass'y. See 2.2 "Main P.C.B. Ass'y (Accessing) and Front Panel Block".
(2) Remove the screws F01 (M1.7x2 + Pan (Black), 4 pcs.) and F02 (M2x2 Countersunk (Black), 2 pcs.).
(3) Gently draw the Pre P.C.B. Ass'y toward you (①) until the shafts of F03 (Loading Ass'y) come off the Pre P.C.B. Ass'y as shown in the figure.
(4) Remove F03 (Loading Ass'y) as follow:
    1) Shift the right front of the F03 (Loading Ass'y) toward you (②).
    2) Lift the right side of the F03 (Loading Ass'y) (③).
    3) Remove F03 (Loading Ass'y) (④).

NOTE: When removing, do not damage the flexible cables and other parts.

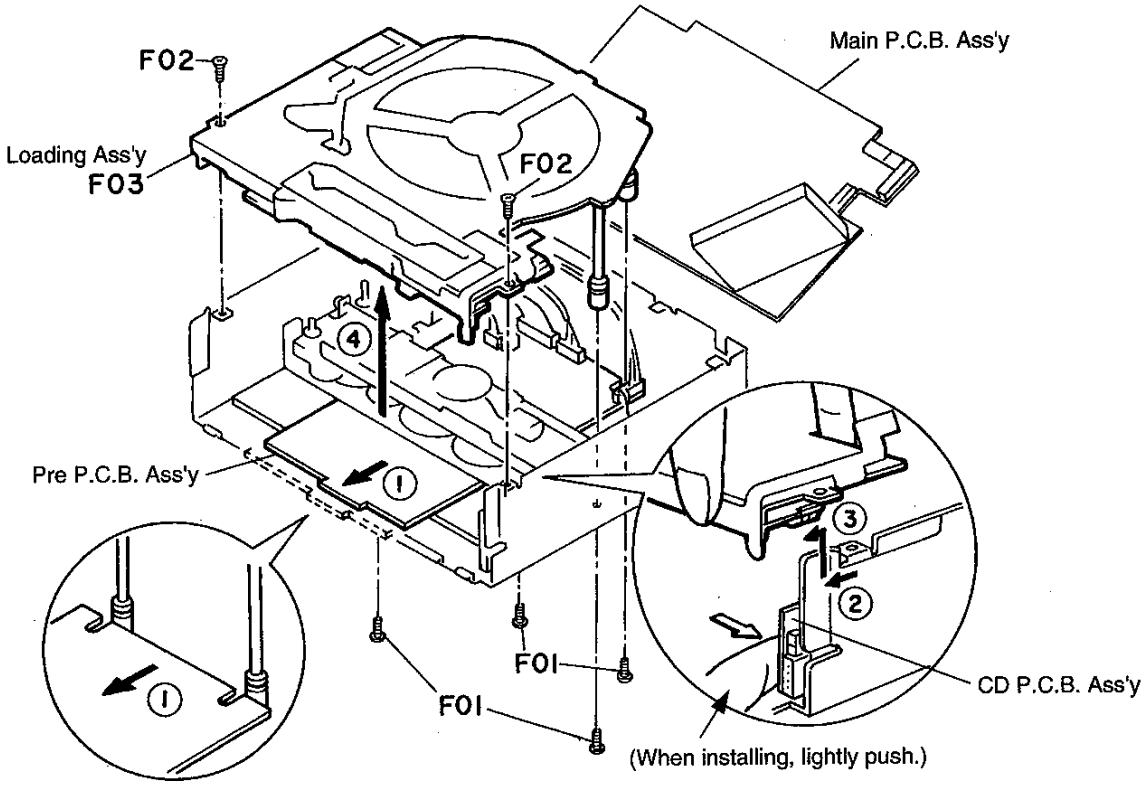


Fig. 2.3.1

2.3.2. Installing the Loading Ass'y

Install the Loading Ass'y by reversing the removal procedure. However, pay attention to the following points.

- Run each cable as shown in Fig. 2.3.2. The cable "A" (part of the Main P.C.B. Ass'y) and cable "B" must run behind the shafts of the Loading Ass'y.
- While seating the right front side of the Loading Ass'y, lightly push the CD P.C.B. Ass'y to the right as shown in Fig. 2.3.1, since the Loading Ass'y will come in contact with the CD P.C.B. Ass'y.

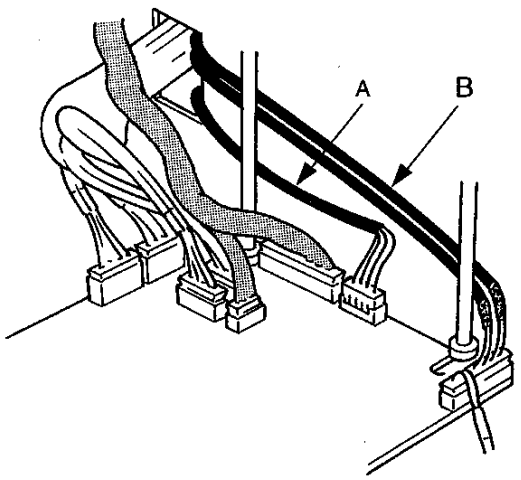


Fig. 2.3.2 When installing

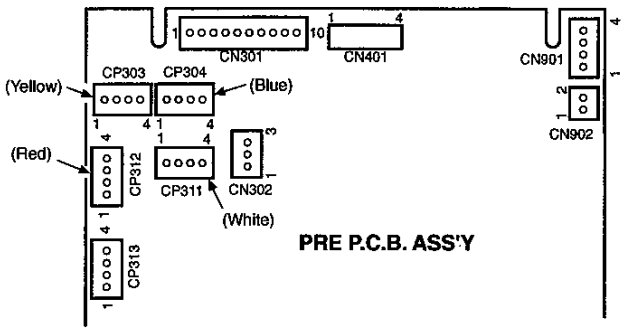
2.4. Main P.C.B. Ass'y and Pre P.C.B. Ass'y

Refer to Fig. 2.4.

(1) Remove the Loading Ass'y. See 2.3 "Loading Ass'y".
(2) Disconnect 3 connectors and remove F01 (Main P.C.B. Ass'y).
(3) Disconnect other connectors and remove F02 (Pre P.C.B. Ass'y) by gently drawing toward the front.

Notes when connecting the connectors:

1. Firstly insert the cable "A" (part of the Main P.C.B. Ass'y) into the square hole so that it will be in the lowest position.
2. Correctly connect the cable connectors. Meet the color of the cable connector and the color of the connector on the Pre P.C.B. Ass'y.



(Connector location and connector colors)

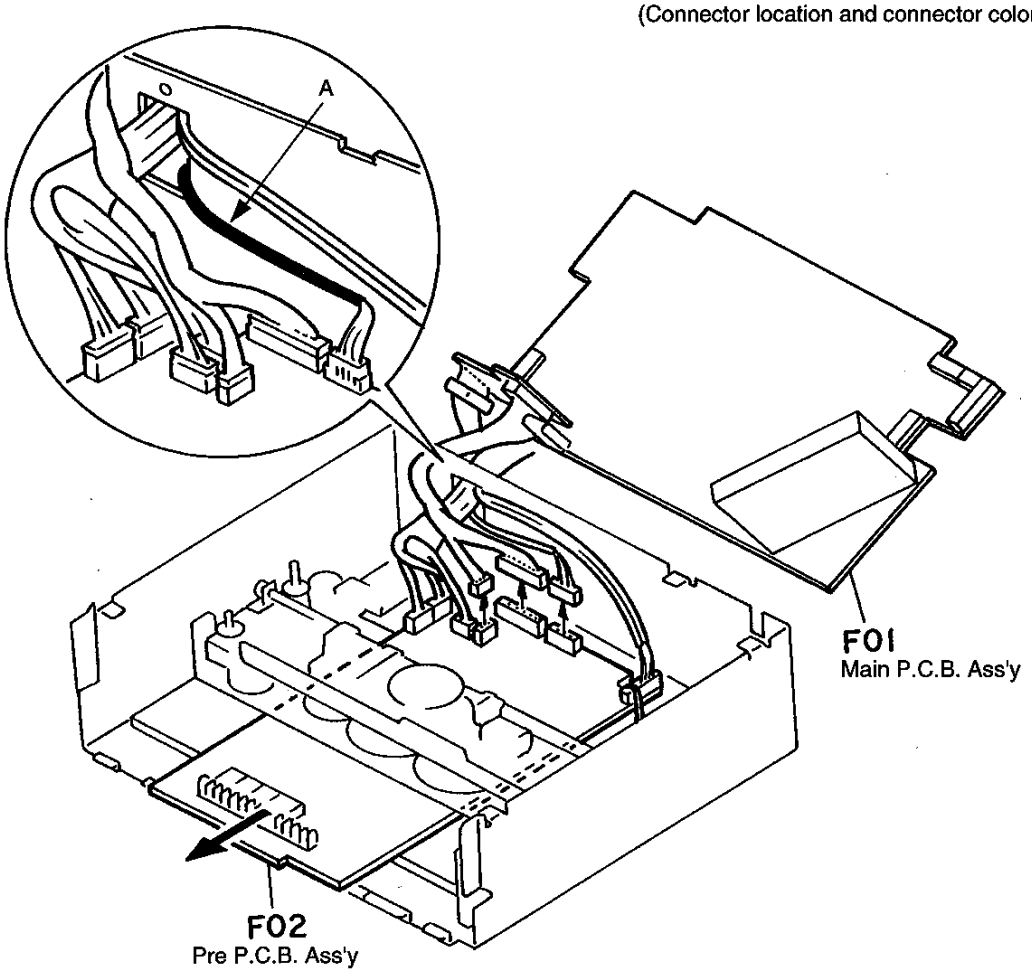


Fig. 2.4

2.5. CD P.C.B. Ass'y

2.5.1. Removing the CD P.C.B. Ass'y

(1) Remove the Loading Ass'y. See 2.3 "Loading Ass'y".
(2) Remove the screws F01 (M2.6x3 + Pan (Black), 2 pcs.). Refer to Fig. 2.5.1.
(3) Lift F02 (CD P.C.B. Ass'y) and disconnect the flexible cables F03 and F04 from F02 (CD P.C.B. Ass'y).
(4) Short the laser diode shorting lands "A" on the flexible cable F05. Refer to Fig. 2.5.2.
(5) Disconnect the flexible cable F05 from F02 (CD P.C.B. Ass'y).

2.5.2. Installing the CD P.C.B. Ass'y

Install the CD P.C.B. Ass'y by reversing the removal procedure.

NOTE: Do not forget to unsolder the laser diode shorting lands "A" with the soldering iron after connecting F05 (flexible cable of the pickup) to F02 (CD P.C.B. Ass'y).
To unsolder, use the ceramic soldering iron or the soldering iron whose metal part is grounded.

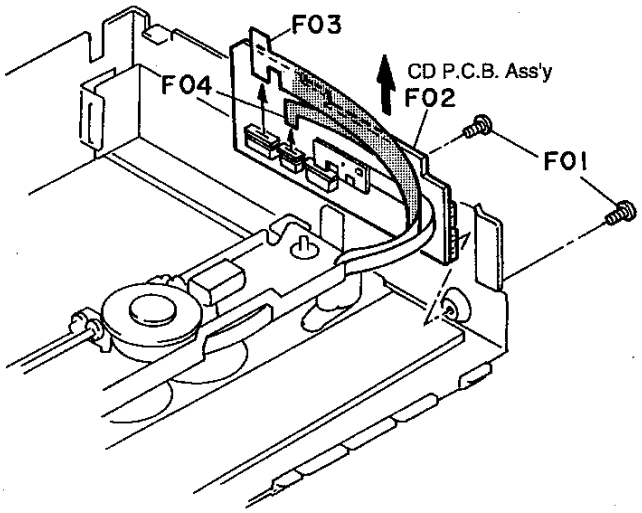


Fig. 2.5.1

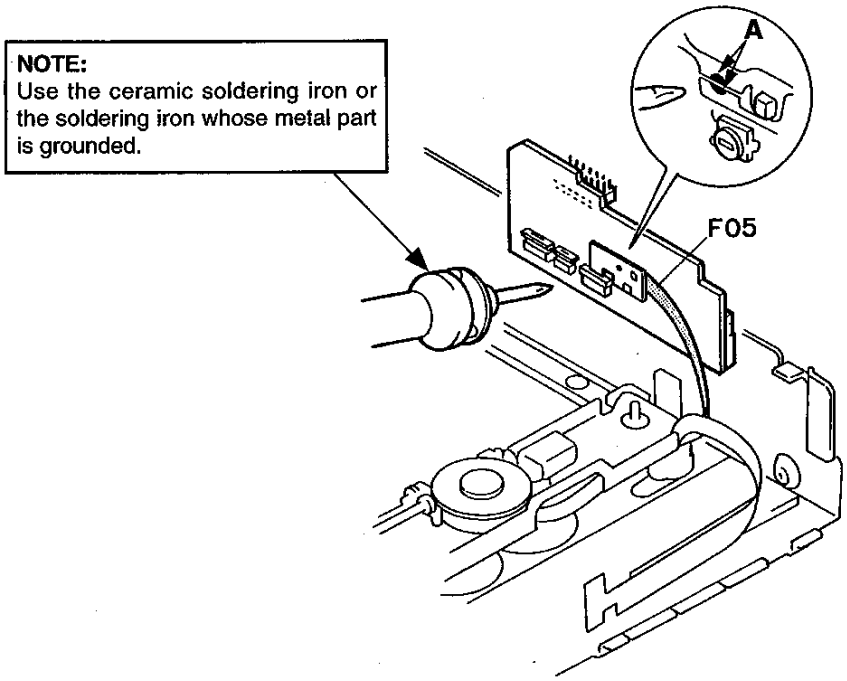


Fig. 2.5.2

2.6. Traverse Mecha Chassis Ass'y

2.6.1. Removing the Traverse Mecha Chassis Ass'y

Refer to Fig. 2.6.

(1) Remove the CD P.C.B. Ass'y. See 2.5 "CD P.C.B. Ass'y".

(2) Remove the screws F01 (M1.7x1.6 + Pan (Black), 2 pcs.) and detach F02 (Guide PL Block).

(3) Remove the C-ring F03 (1 pce.), washers F04 (Washer 2.6x5x0.5, 2 pcs.), F05 (Thrust Ring, 3 pcs.), and F06 (Lock Guide Top, 3 pcs.).

(4) Remove F07 (Traverse Mecha Chassis Ass'y) from the dampers of the main body.
The four springs F08-F10 will come off.

NOTE: Be sure which spring should be mounted on which damper as there are three kinds of springs.

2.6.2. Installing the Traverse Mecha Chassis Ass'y

Install the Traverse Mecha Chassis Ass'y by reversing the removal procedure. However, pay attention to the following points.

- Mount the correct spring on each damper.

- Securely insert the Traverse Mecha Chassis Ass'y into the four dampers.

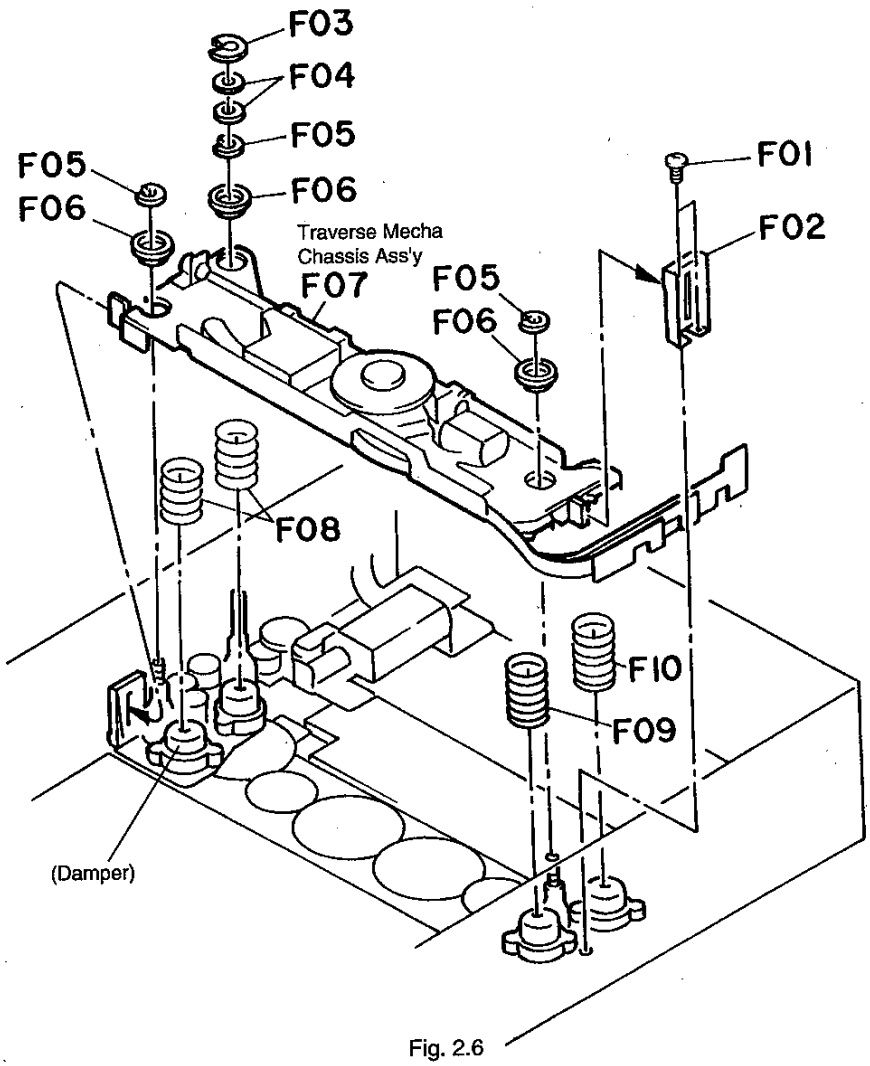


Fig. 2.6

2.7. Laser Pickup

2.7.1. Removing the Laser Pickup

Refer to Fig. 2.7.

(1) Remove the Traverse Mecha Chassis Ass'y. See 2.6 "Traverse Mecha Chassis Ass'y".
(2) Remove the screws F01 (M1.7x1.8 Countersunk , 3 pcs.) and detach F02 (Spindle Motor Ass'y).
(3) Remove the screws F03 (M1x1.5 + Pan (Black), 2 pcs.) and the washers F04 (Plastic Washer 1.3x3.3x0.3).
(4) Remove the screws F05 (M1.4x1.4 + Pan (Black), 2 pcs.) and detach F06 (Thrust Bracket Block).
(5) Remove the cut washer F07 (Cut Washer 1.6x3.5x0.5) and detach F08 (Pickup Block).
(6) Remove the screws F09 (M1.7x1.6 + Pan (Black), 2 pcs.) and F10 (Pickup Feed Spring) and pull out F11 (Pickup Feed Shaft Ass'y) from F12 (Pickup).

2.7.2. Installing a Laser Pickup

Install the Pickup by reversing the removal procedure.

NOTES: 1. As a Laser Pickup is packed in a conductive pack, do not take it out of the pack until you need it.
2. Do not unsolder the shorting lands on the flexible cable of the pickup in this stage. It should be removed after inserting the flexible cable into the CD P.C.B. Ass'y as described in 2.5.2 "Installing the CD P.C.B. Ass'y".

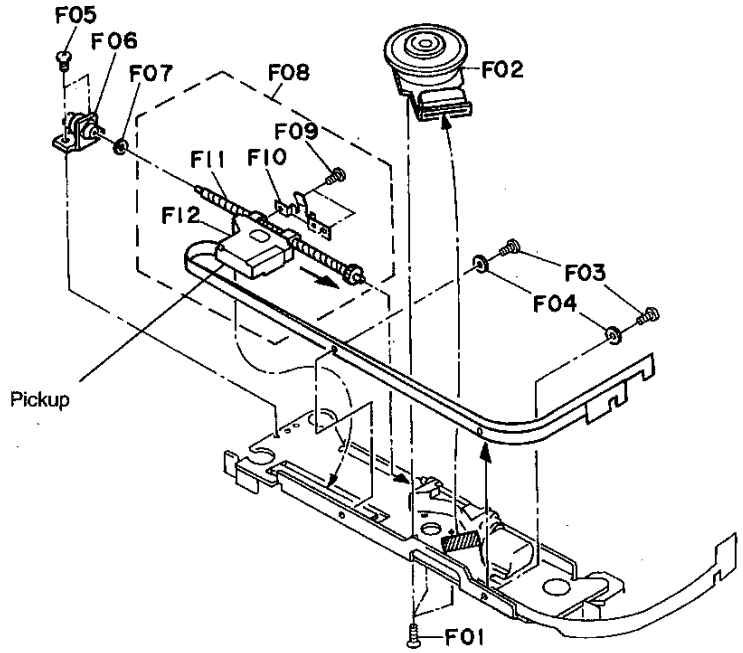


Fig. 2.7

2.8. Sled Motor Ass'y

Refer to Fig. 2.8.

(1) Remove the Traverse Mecha Chassis Ass'y. See 2.6 "Traverse Mecha Chassis Ass'y".
(2) Remove the screws F01 (M1.7x1.8 Countersunk , 3 pcs.) and detach F02 (Spindle Motor Ass'y).
(3) Remove the screws F03 (M2x1.8 + Countersunk, 2 pcs.), F04 (M1x1.5 + Pan (Black), 1 pce.), and the washer F05 (Plastic Washer 1.3x3.3x0.3).
(4) Remove F06 (Sled Motor Ass'y) and F07 (Sled Belt, 2 pcs.)

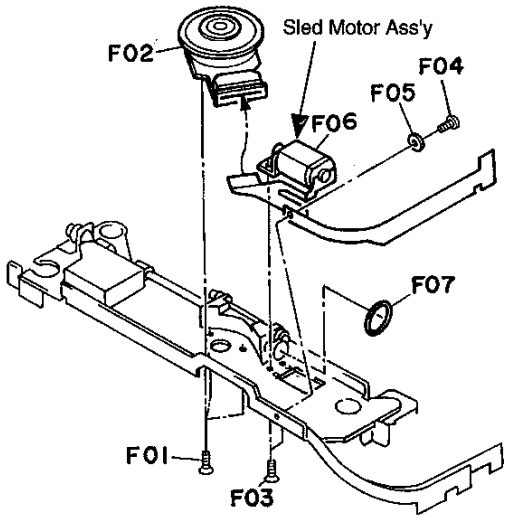


Fig. 2.8

2.9. Traverse Motor Sub Ass'y

Refer to Fig. 2.9.

(1) Remove the Loading Ass'y. See 2.3 "Loading Ass'y".
(2) Remove the screw F01 (1 pce.).
(3) Remove F02 (Traverse Motor Sub Ass'y) and unsolder the two wires (Red and Black) from the motor terminals. F03 can be removed.

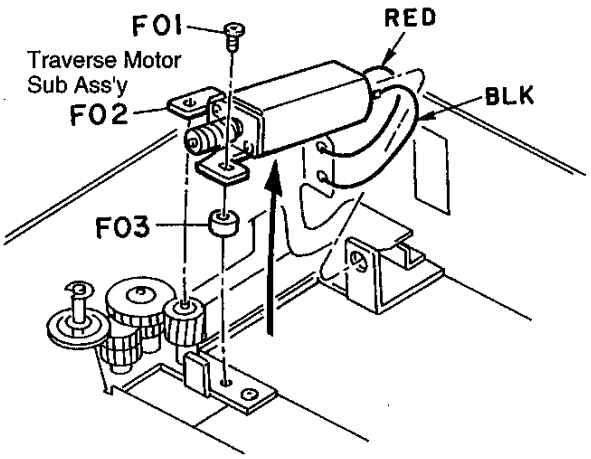


Fig. 2.9

2.10. Shut Arm Block and Loading FPC Ass'y

Refer to Fig. 2.10.

2.10.1. Removing the Shut Arm Block and Loading FPC Ass'y

(1) Remove the Loading Ass'y. See 2.3 "Loading Ass'y".
(2) Remove the screws F01 (M2x1.8 + Pan (Black), 3 pcs.) and detach F02 (Shut Arm Block) by shifting it to the right in Fig. 2.10.
(3) Remove the screws F03 (M2x1.8 + Pan (Black), 1 pce.) and F04 (M2x2.5 + Pan, 1 pce.) that fasten F05 (Loading FPC Ass'y).
(The Loading FPC Ass'y are soldered to the motor terminals.)

2.10.2. Installing the Shut Arm Block and Loading FPC Ass'y

(1) Fasten F05 (Loading FPC Ass'y) with the screws in the following order.
   1) Fasten the center screw F04 and then right and left screws F03 and F01.
   2) Loosen the center screw F04 once and then refasten it.
(2) Shift the Shut Arm Block to the right in Fig. 2.10. Then, assemble it to the Shut Arm Rack of the Loading Ass'y. In this case, assemble it so that 3 teeth of the Shut Arm Rack comes out as shown when the Shut Arm is set free (set vertically).

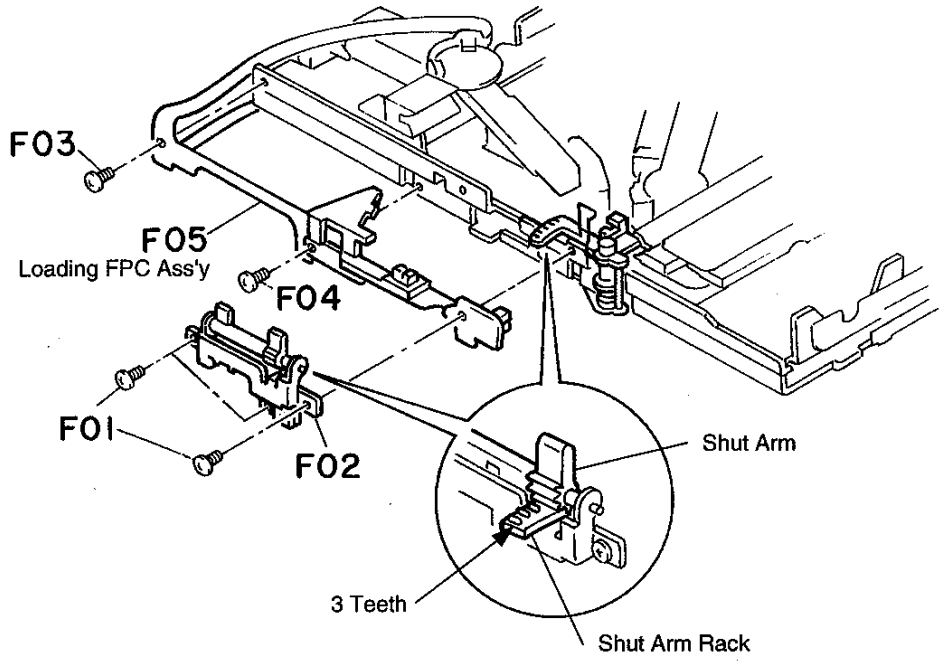


Fig. 2.10

2.11. Loading Guide Ass'y

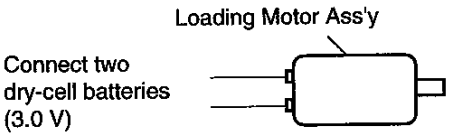
2.11.1. Preparation Before Removing the Loading Guide Ass'y

It is required to position the Clamper Ass'y of the Loading Ass'y in the clamp (chucking) position before removing the Loading Guide Ass'y. Otherwise, the Loading Guide Ass'y cannot be installed to the Loading Chassis Ass'y.

To position the Clamper Ass'y to the clamp (chucking) position, follow the steps below:

(1) Check if the Clamper Ass'y is in the clamp (chucking) position as shown in Fig. 2.11.1.
If not, proceed to step (2).

(2) Connect two batteries (3.0 V) between the terminals of the Loading Motor Ass'y. As you apply the voltage to the Loading Motor Ass'y, the loading mechanism will move. So, set the Clamper Ass'y to the clamp (chucking) position or near position.



[Connecting battery to turn the Loading Motor Ass'y]

2.11.2. Removing the Loading Guide Ass'y

Refer to Fig. 2.11.1.

(1) Remove the Shut Arm Block and Loading FPC Ass'y. See 2.10 "Shut Arm Block and Loading FPC Ass'y".

(2) Remove the cut washer F01 (Cut Washer 2.1x5x0.125) and pull out F02 (Gear TBL 2).

(3) Remove the screw F03 (M2x2.5 + Pan) and detach F04 (P Arm Guide).

(4) Remove the screws F05 (M2x3 + Pan (Black), 5 pcs), disengage F06 (Cut Washer 1.2x3x 0.125), and detach F07 (Loading Guide Ass'y) by lifting it upward.
To separate F07 (Loading Guide Ass'y) from the Loading Chassis Ass'y, it is required to unsolder the flexible cable from the Loading Motor Ass'y.

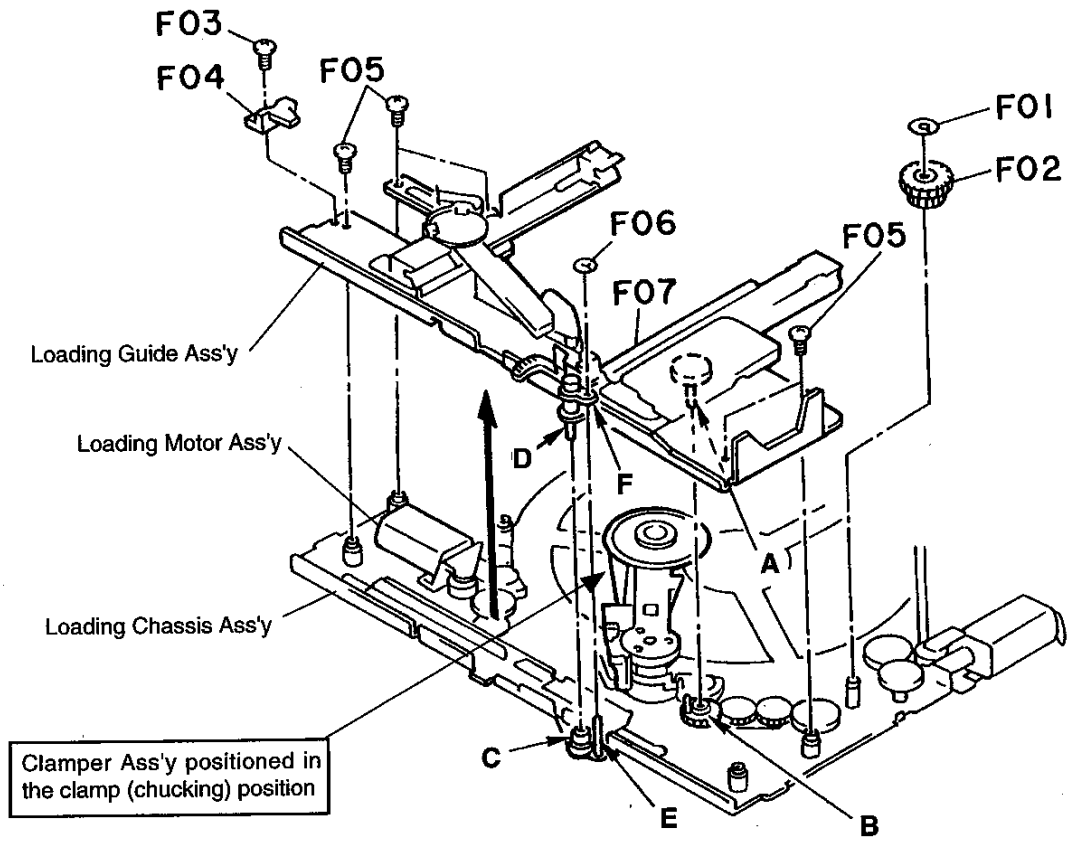


Fig. 2.11.1

2.11.3. Installing the Loading Guide Ass'y

When installing the Loading Guide Ass'y in the Loading Chassis Ass'y, follow the steps below:
Note that the 3 places "A"-"B", "C"-"D" and "E"-"F" (see Figs. 2.11.1 and 2.12.2) must be correctly positioned.

(1) First, temporarily mount the Plate LG R of the Loading Guide Ass'y on the Loading Chassis Ass'y with two screws "G", as it can move freely and come in contact with other parts. Refer to Fig. 2.11.2.
(2) Turn the movable Plate PLS Sub Ass'y "H" to bring it to the position shown in Fig. 2.11.2.
(3) Insert the shaft "A" of the Loading Guide Ass'y into the hole "B" of the gear train on the Loading Chassis Ass'y. (The Loading Guide Ass'y will not fully seated to the Loading Chassis Ass'y and float a little.)
(4) While opening the Loading Guide L outward, align the hole "C" of the Plate PLS Sub Ass'y with the pin "D" of the Loading Guide Ass'y and, at the same time, align the pin "E" of the Plate PLS Sub Ass'y with the hole "F" of the Loading Guide Ass'y. Then, engage them each other.
(5) Move the part "I" in the direction shown by the arrow. Then, be sure that the Loading Guide Ass'y is securely seated to the Loading Chassis Ass'y.
(6) Fasten the cut washer F06 and 5 screws F05 to mount the Loading Guide Ass'y.

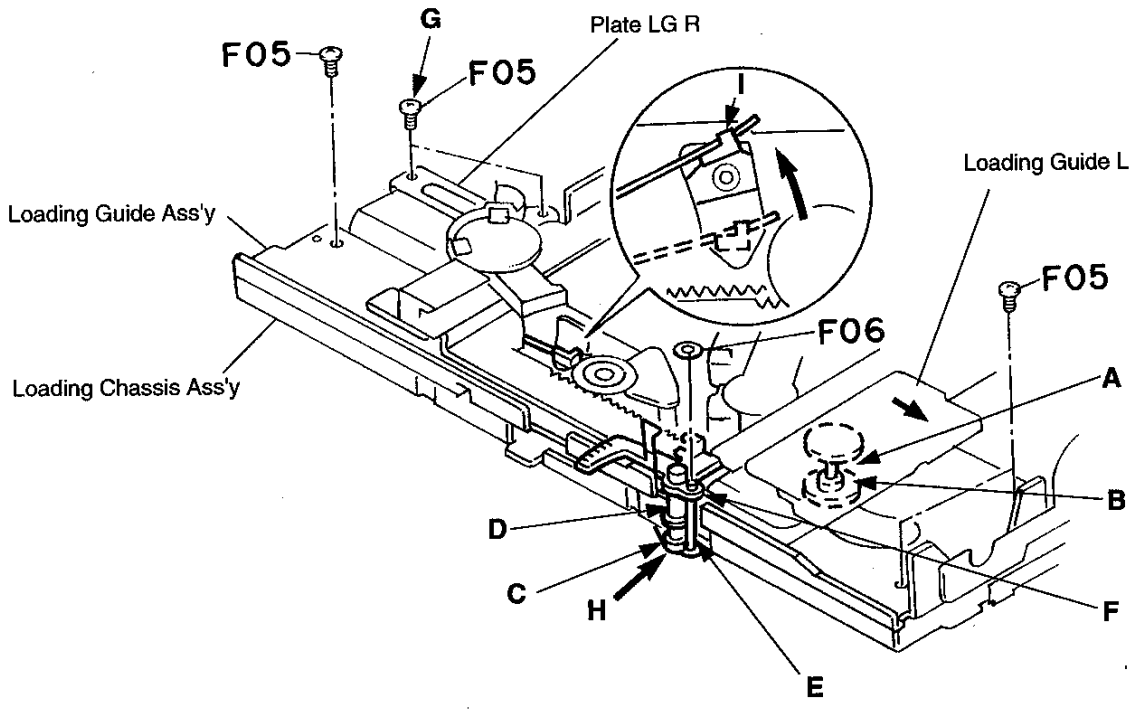


Fig. 2.11.2

3. MECHANICAL ADJUSTMENTS

3.1. Loading Guide R B Positioning

Install the Loading Guide R B so that its gear is engaged with the P Arm Gear as shown in Fig. 3.1.
In this case, be sure that the Loading Guide R B is fully pushed against the Loading Plate R Sub Ass'y.

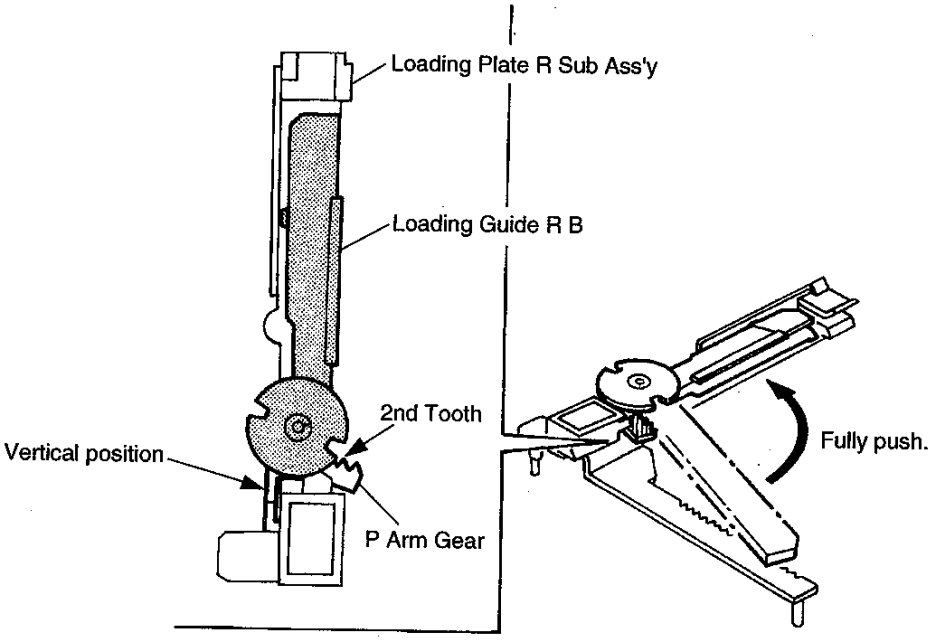


Fig. 3.1

4. MEASUREMENT INSTRUMENTS AND JIGS

(1) Oscilloscope (40 MHz or more)
(2) DC Power Supply Unit (+14.4 V DC)
(3) DC Power Supply Unit (+5 V DC)
(4) ABEX Test Disc TCD-725A (DA09193A)
(5) ABEX Test Disc TCD-784 (DA09195A)
(6) CD-ROM Test Unit (DA09190A)
(7) Test Unit Cable (DA05322A)
(8) Tracking Offset Meter LTM-9055 or LE 9055A (Leader Electronics Corp.)

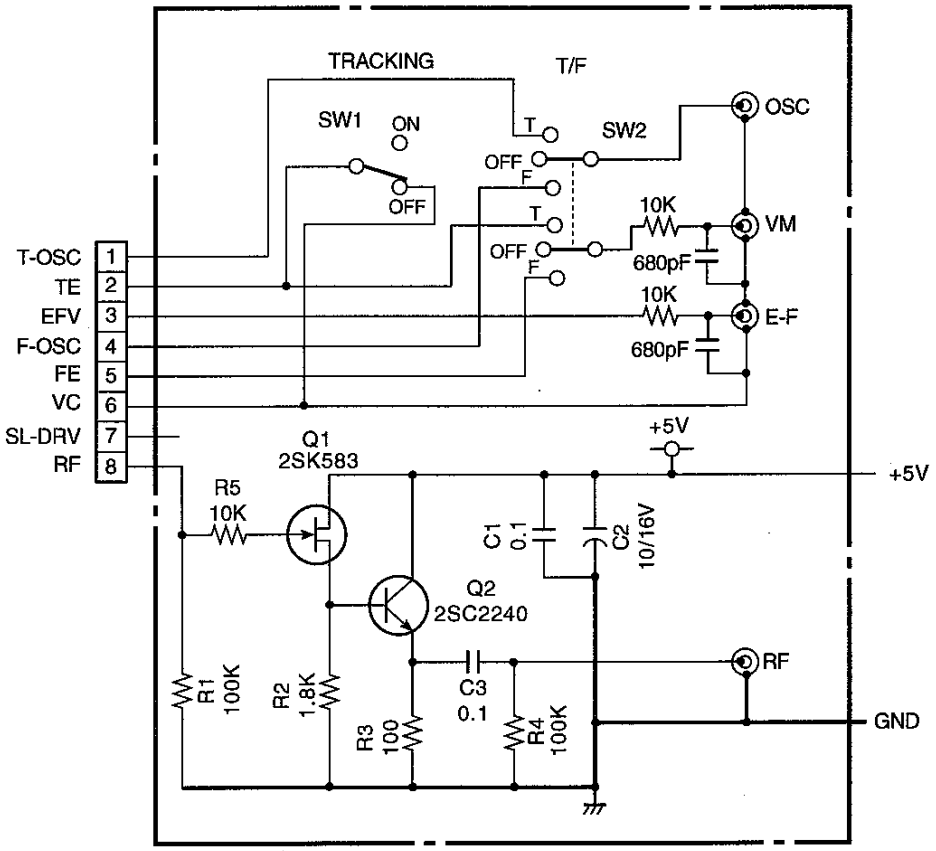


Fig. 4.1 CD-ROM Test Unit

5. ELECTRICAL ADJUSTMENTS

NOTES:

1. Preset position of the semi-fixed volumes:
   When the CD P.C.B. Ass'y or semi-fixed volume VR101 or VR102 is replaced with new one, preset the semi-fixed volumes to their mechanical center positions before starting adjustment.

2. Connecting Measurement Instruments:
   Connect measurement instruments to the CD P.C.B. Ass'y as shown in Fig. 5.1. Fig. 5.1 also shows the parts location for adjustment.

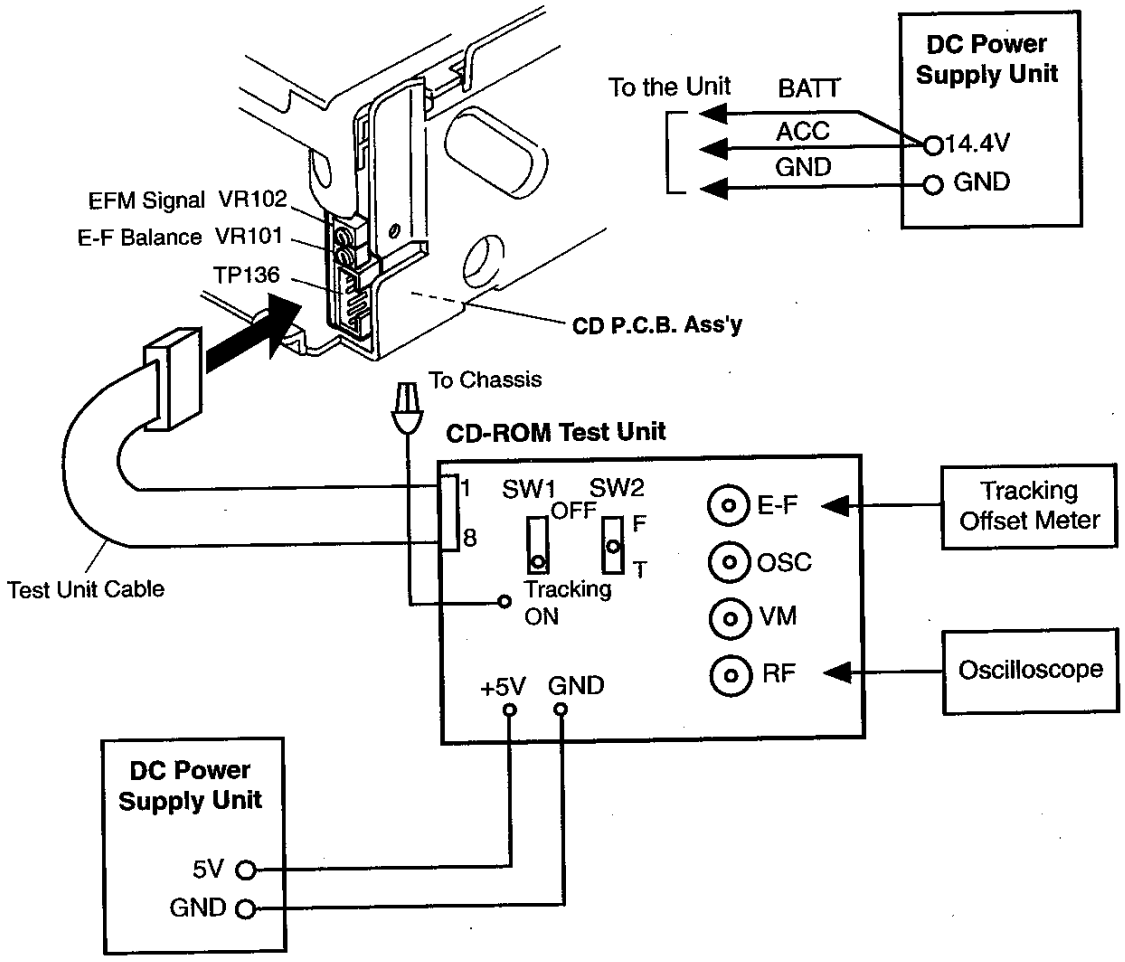
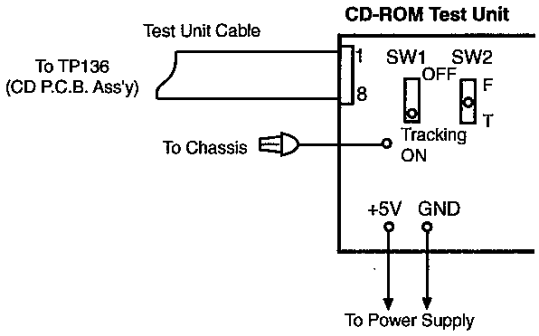
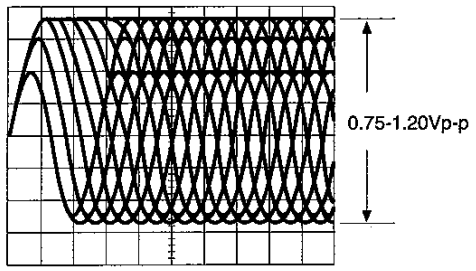
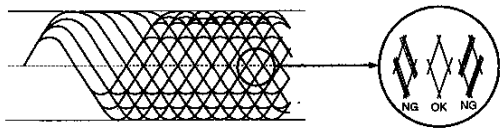
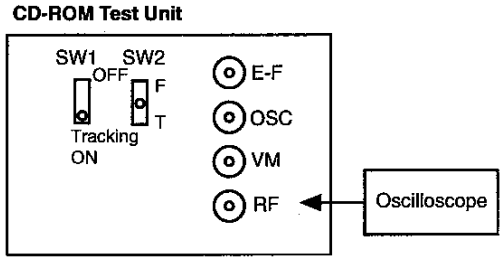
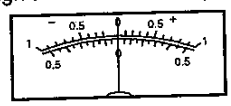
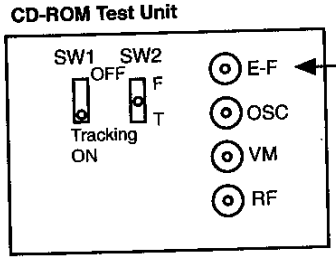
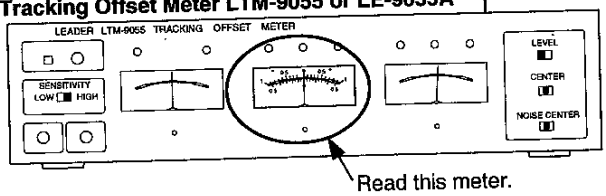


Fig. 5.1 Measurement Instrument Connecting Diagram

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
1	Preparation		See Fig. 5.1.		1. To access to the semi-fixed volumes on the CD P.C.B. Ass'y, remove the Front Panel Block and then carefully place it on the Unit. (See item 2.2.) 2. Disconnect the original 8P cable from the CD-ROM Test Unit. 3. Connect one end of the additional Test Unit Cable to the 8P connector of the CD-ROM Test Unit. 4. Connect the other end of the additional Test Unit Cable to the TP136 connector on the CD P.C.B. Ass'y. 5. Connect the Ground Wire with Clip of the CD-ROM Test Unit to the chassis of the Unit. 6. Connect +5V and GND wires of the CD-ROM Test Unit to a +5V DC power supply unit. 7. Supply +14.4V DC to the ACC and BATT lines of the Unit.
					
2	EFM Signal Adjustment	ABEX Test Disc TCD-784	Oscilloscope to RF Connector of the CD-ROM Test Unit	CD P.C.B. VR102	1. Set **SW1** of the CD-ROM Test Unit to **Tracking ON** position and **SW2** to **OFF (center)** position. 2. Play back the first track of the test disc (within 1 minute). 3. Adjust **VR102** until waveform amplitude becomes maximum and the waveform becomes clear (not thick) as shown below:  Oscilloscope Setting: AC Mode, 0.2 V/div, 0.5 µs/div  4. Stop the test disc.
	SW1: TRACKING ON SW2: OFF  Connecting Diagram				

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
3	E-F Balance Adjustment	ABEX Test Disc TCD-784	Tracking Offset Meter to E-F Connector of the CD-ROM Test Unit	CD P.C.B. VR101	1. Set **SW1** of the CD-ROM Test Unit to **Tracking ON** position and **SW2** to **OFF (center)** position. 2. Connect a tracking offset meter to the E-F connector of the CD-ROM Test Unit, and set the switches of the meter as follows: • Sensitivity switch: HIGH (right side) • Level switch: MEASURE (left side) • Center switch: MEASURE (center position) 3. Set **SW1** of the CD-ROM Test Unit to **Tracking OFF** position and play back the first track of the test disc. Then, within several seconds, adjust **VR101** to obtain **0V ± 50mV DC** on the meter located in the center of the Tracking Offset Meter. (After several seconds, the sound output will be stopped though the test disc turns.)  4. Set **SW1** of the CD-ROM Test Unit to **ON** position and repeat from step 3 until adjustment is completed. 5. After adjustment, perform "EFM Signal Adjustment" in step 2. 6. Stop the test disc.
	SW1: TRACKING ON SW2: OFF **CD-ROM Test Unit**  **Tracking Offset Meter LTM-9055 or LE-9055A**  Connecting Diagram				
4	Operation Check	ABEX Test Disc TCD-725A			Make sure that no noise nor track-jumping is found in the following programs of the test disc. To select the desired program, press **FWD. Skip (>>)** button or **REV. Skip (<<)** button of the Control Button Unit. • Interruption 600 µm: 4th program • Black dot 500 µm: 8th program • Simulated fingerprint: 13th program

Before Returning the Unit:
Before returning the Unit, insert the Clamp Arm Stopper to lock the Clamper Arm in the Mechanism Ass'y.
For details, see 1.5 "Shipping Procedure after Service Work" on page 4.

6. MECHANISM ASS'Y AND PARTS LIST

6.1. Synthesis

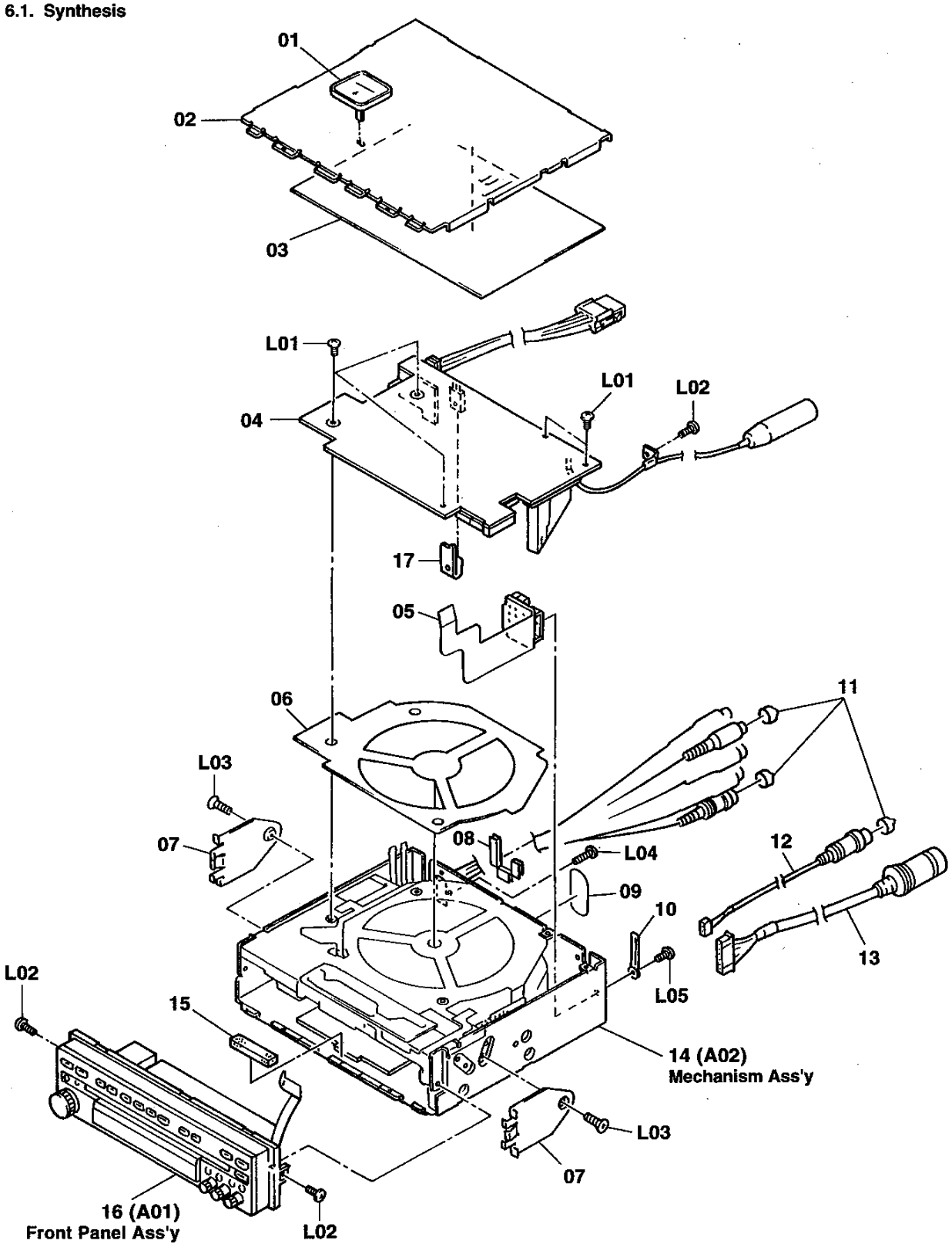


Fig. 6.1

6.2. Front Panel Ass'y (A01)

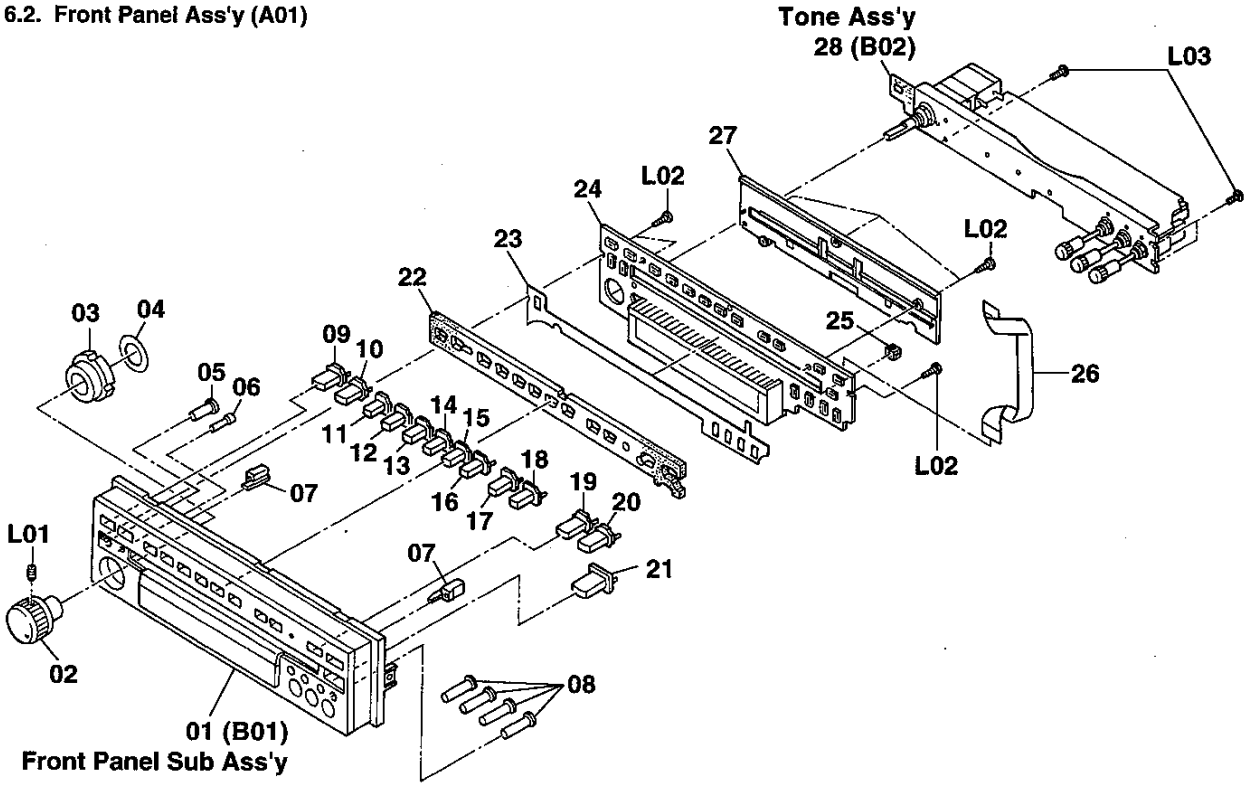


Fig. 6.2

6.1. Synthesis

Schematic Ref. No.	Part No.	Description	Q'ty
	—	**Synthesis**	
01	0C20480D	Clamp Arm Stopper	1
02	0C20487C	Top Cover	1
03	0J08184A	Insulator Main A	1
04	BA09970A	Main P.C.B. Ass'y (USA, CAN)	1
	BA10090A	Main P.C.B. Ass'y (EP)	1
	BA09971A	Main P.C.B. Ass'y (OTR)	1
	BA09969A	Main P.C.B. Ass'y (JPN)	1
05	BA09859A	Connector FPC Ass'y	1
06	0J08185A	Insulator Main B	1
07	0J07968B	Lock Plate (Except JPN)	2
08	0J08349A	Edge Protector	1
09	0J08196A	Label Protector	1
10	0J06068A	Clip	1
11	0B84524A	Cap	11
12	0B84926B	Digital Out Ass'y	1
13	0B84912A	13P DIN Ass'y	1
14	CA10174A	Mechanism Ass'y CD700C (Except JPN)	1
	CA10161A	Mechanism Ass'y CD700 (JPN)	1
15	0J08309A	Cushion Pre P.C.B.	1
16	HA07892A	Front Panel Ass'y (Except JPN)	1
	HA07882A	Front Panel Ass'y (JPN)	1
17	0J08175C	Heat Sink Power	1
L01	0E04109A	M2x1.8 + Pan #0 Type 2	
L02	0E04047A	M3x3 + Binding	
L03	0E04057A	M5x6 + Countersunk (Except JPN)	
L04	0E04036A	M2.6x8 + Pan #0 Type 3	
L05	0E04076A	M2.6x3 + Pan #0 Type 1 (Black)	

6.2 Front Panel Ass'y (A01)

Schematic Ref. No.	Part No.	Description	Q'ty
A01	**HA07892A**	**Front Panel Ass'y (Except JPN)**	**1**
	HA07882A	**Front Panel Ass'y (JPN)**	**1**
01	—	Front Panel Sub Ass'y	1
02	0H08282A	VR Knob Master	1
03	0H08286A	Lens Master Volume	1
04	0H08288A	LED Filter M Volume	1
05	0H08280A	Button E Mute	1
06	0H08281A	Button F Reset	1
07	0H08287A	Lens Disc	2
08	0H08279A	Button D Select	4
09	0H08268B	Button A AUX	1
10	0H08267B	Button A FM/AM	1
11	0H08270C	Button B 1	1
12	0H08271B	Button B 2	1
13	0H08272B	Button B 3	1
14	0H08273B	Button B 4	1
15	0H08274B	Button B 5	1
16	0H08275B	Button B 6	1
17	0H08276B	Button B Down	1
18	0H08277B	Button B Up	1
19	0H08266C	Button A CD	1
20	0H08269B	Button A CDC	1
21	0H08278C	Button C Eject	1
22	0J08301A	Cushion Knob	1
23	0H08289A	LED Filter Select	1
24	BA09982A	Front P.C.B. Ass'y	1
25	0J08308A	Cushion F P.C.B.	1
26	0B84918A	Wire Flex 14P	1
27	HG07635B	Disc Guide Ass'y	1
28	—	Tone Ass'y	1
L01	0E04167A	M2.6x5 Headless	
L02	0E03814A	PT2x8 + Binding (Black)	
L03	0E00801A	M2x5 + Pan #0 Type 1 (Black)	

6.3. Front Panel Sub Ass'y (B01)

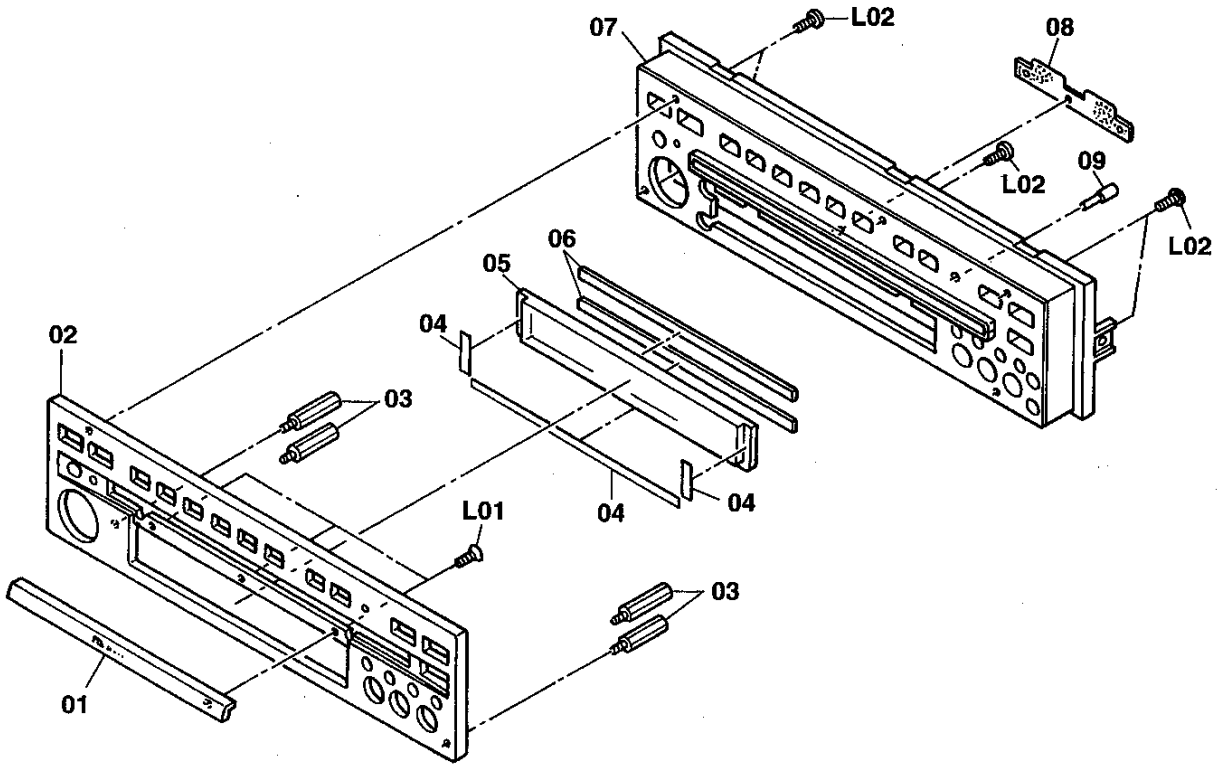


Fig. 6.3

6.4. Tone Ass'y (B02)

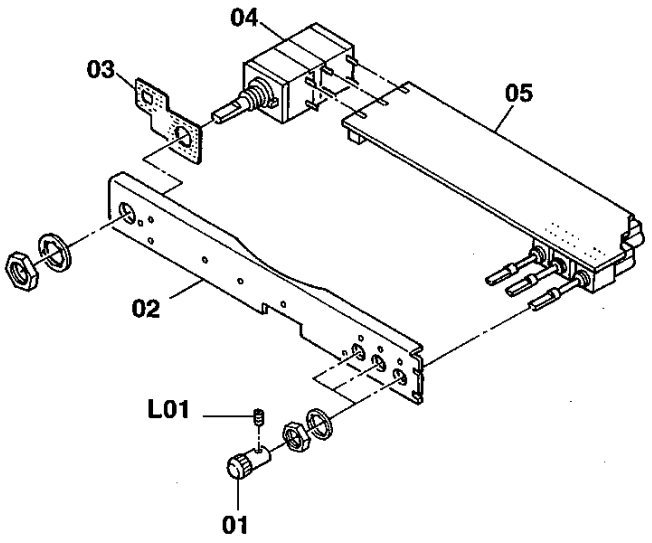


Fig. 6.4

6.3. Front Panel Sub Ass'y (B01)

Schematic Ref. No.	Part No.	Description	Q'ty
B01	—	**Front Panel Sub Ass'y**	**1**
01	0H08265A	Dress Plate	1
02	0H08298A	Front Plate (Except JPN)	1
	0H08264B	Front Plate (JPN)	1
03	0J08300B	Volume Plate Stud	4
04	0J08310A	W Face Display	1
05	0H08284B	Display Window	1
06	0J08334A	Cushion D Window	2
07	0H08263A	Escutcheon	1
08	0H08297A	CD Protector Sub	1
09	0H08285A	Lens Security	1
L01	0E03648A	M2x5 + Countersunk #0 Type 1	
L02	0E03261A	M2x5 + Pan #0 Type 3 (Black)	

6.4. Tone Ass'y (B02)

Schematic Ref. No.	Part No.	Description	Q'ty
B02	—	**Tone Ass'y**	**1**
01	0H08283A	VR Knob Sub	3
02	0J08299A	Volume Plate	1
03	0J08311A	Conductor Sheet	1
04	0B30216A	VR 20KAx4 [VR304]	1
05	BA09981A	Tone P.C.B. Ass'y	1
L01	0E04168A	M2x2.5 Headless	

6.5. Mechanism Ass'y (A02)

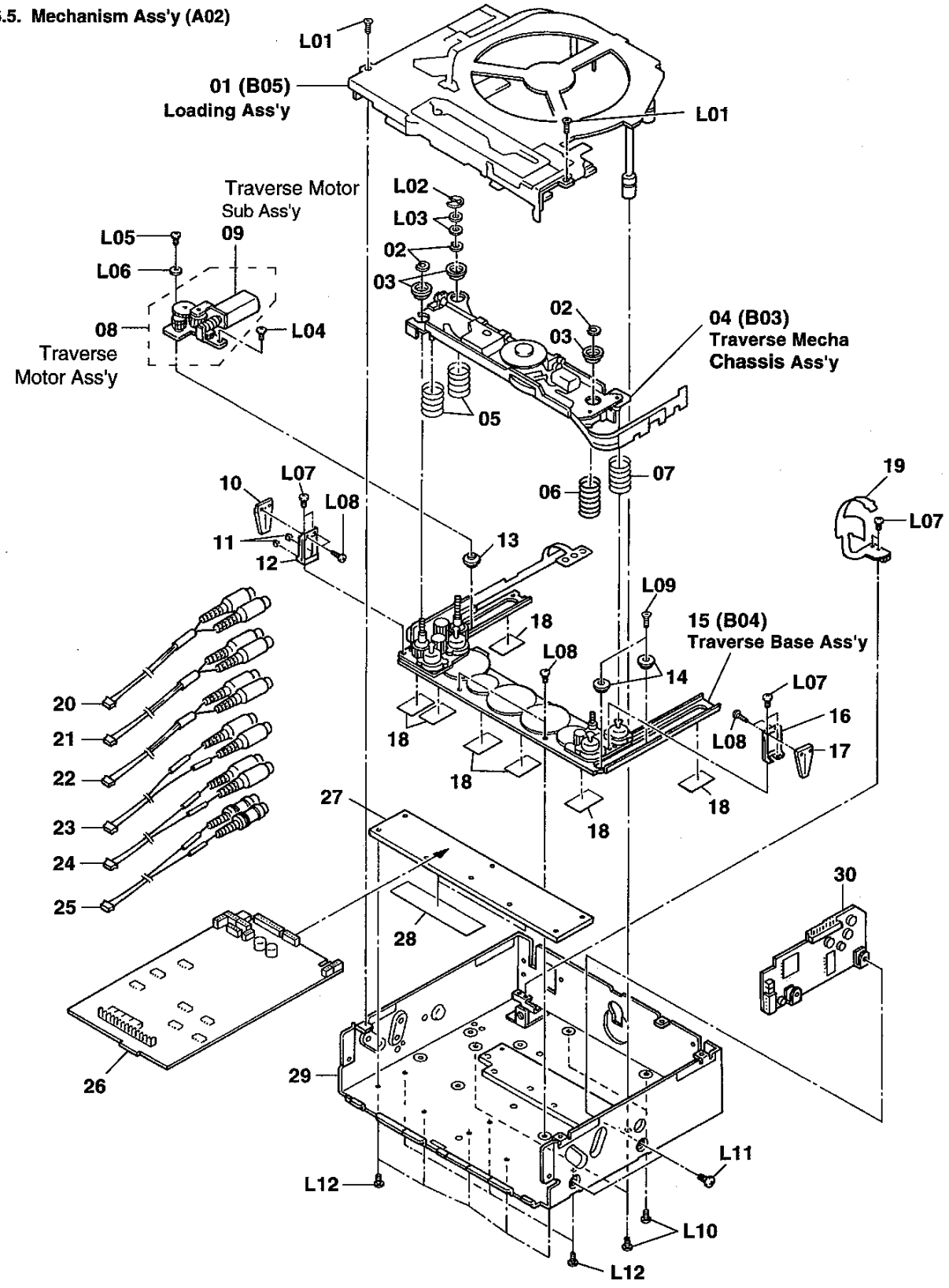


Fig. 6.5

6.5. Mechanism Ass'y (A02)

Schematic Ref. No.	Part No.	Description	Q'ty
A02	**CA10174A**	**Mechanism Ass'y CD700 (Except JPN)**	**1**
	CA10161A	**Mechanism Ass'y CD700 (JPN)**	**1**
01	CA10164A	Loading Ass'y	1
02	0C20357A	Thrust Ring	3
03	0C20170A	Lock Guide Top	3
04	CA10173A	Traverse Mecha Chassis Ass'y	1
05	0C20393A	Damper Spring B	2
06	0C20394B	Damper Spring C	1
07	0C20392B	Damper Spring A	1
08	CA10168A	Traverse Motor Ass'y	1
09	CA10177A	Traverse Motor Sub Ass'y	1
10	0C20376A	Guide PL L	1
11	0C20486A	Guide Spring Sheet	2
12	0C20374A	Guide Spring L	1
13	0C20497A	Traverse Base Collar Z	1
14	0C20496A	Traverse Base Collar Y	2
15	CA10163A	Traverse Base Ass'y	1
16	0C20372A	Guide Spring 2	1
17	0C20375A	Guide PL	1
18	0C20518A	Traverse Base Sheet	7
19	BA10031A	FPC Ass'y	1
20	0B85251A	RCA Ass'y AUX	1
21	0B85252A	RCA Ass'y CDC	1
22	0B85255A	RCA Ass'y W-OUT (Except JPN)	1
23	0B85253A	RCA Ass'y L-OUT	1
24	0B85254A	RCA Ass'y R-OUT	1
25	0B85256A	RCA Ass'y D. IN	1
26	BA10057A	Pre P.C.B. Ass'y (Except JPN)	1
	BA09979A	Pre P.C.B. Ass'y (JPN)	1
27	0C20499A	Plate S A	1
28	0C20520A	Plate S Sheet	2
29	CA10162A	Main Chassis Ass'y	1
30	BA09983A	CD P.C.B. Ass'y	1
L01	0E03499A	M2x2 Countersunk #0 Type 1 (Black)	
L02	0E04120A	C-Ring	
L03	0E04124A	Washer 2.6x5x0.5	
L04	0E04163A	BT2x3 + Pan	
L05	0E04169A	M2x5 + Pan	
L06	0E00117A	Washer 2x4.3x0.4	
L07	0E04067A	M1.7x1.6 + Pan #0 Type 1 (Black)	
L08	0E04060A	BT1.4x2 + Pan #0 Type 1 (Black)	
L09	0E04099A	M2x2.5 + Pan #0 Type 1	
L10	0E00919A	M1.7x2 + Pan #0 Type 1 (Black)	
L11	0E04076A	M2.6x3 + Pan #0 Type 1 (Black)	
L12	0E04095A	BT2x3.5 + Coutersunk #0 Type 1 (Black)	

6.6. Traverse Mecha Chassis Ass'y (B03)

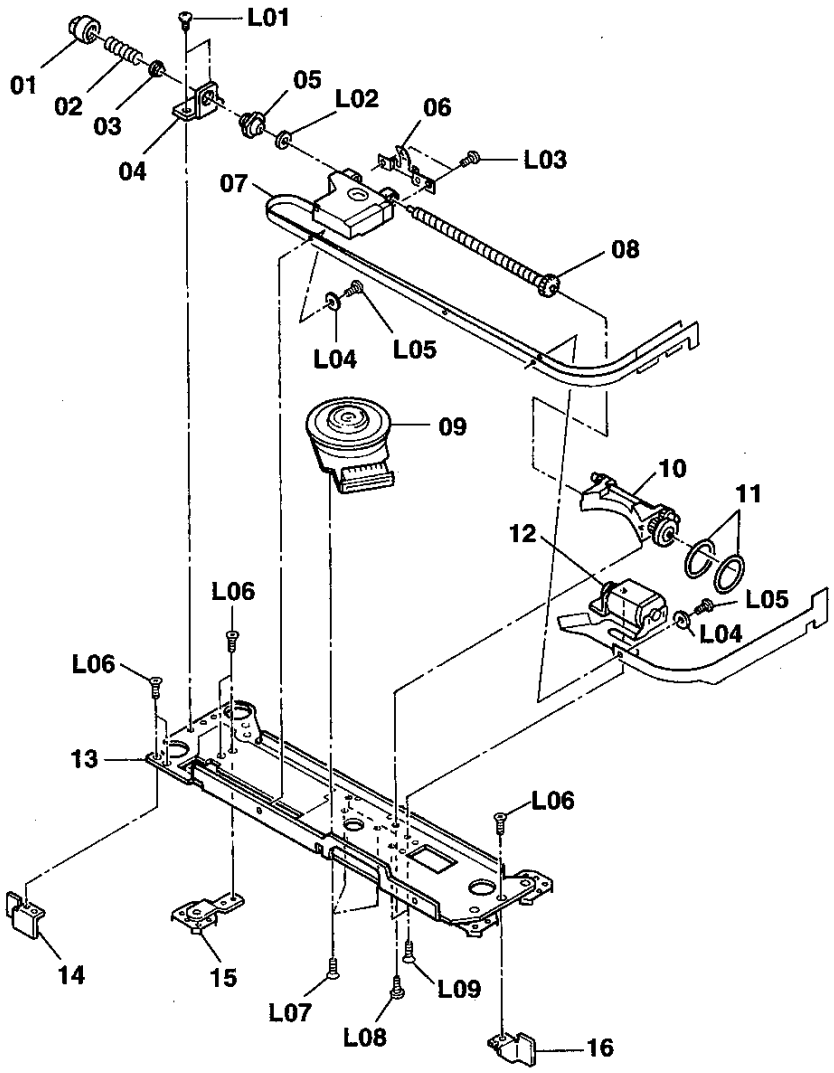


Fig. 6.6

6.6. Traverse Mecha Chassis Ass'y (B03)

Schematic Ref. No.	Part No.	Description	Q'ty
B03	**CA10173A**	**Traverse Mecha Chassis Ass'y**	**1**
01	0C20181B	Thrust Cap	1
02	0C20183A	Thrust Spring	1
03	0C20182A	Thrust Washer	1
04	0C20179B	Thrust Bracket	1
05	0C20180A	Thrust Body	1
06	0C20448E	Pick up Feed Spring	1
07	0B90789B	Pickup KSS602A	1
08	CA10155A	Pickup Feed Shaft Ass'y	1
09	CA10152A	Spindle Motor Ass'y	1
10	CA10154A	Drive Shaft Guide Ass'y	1
11	0C20483A	Sled Belt	2
12	CA10156A	Sled Motor Ass'y	1
13	CG10139C	Traverse Mecha Chassis Sub Ass'y	1
14	0C20368B	Vertical Guide L	1
15	CG10114B	Damper Plate L Sub Ass'y	1
16	0C20369C	Vertical Guide R	1
L01	0E04064A	M1.4x1.4 + Pan #0 Type 1 (Black)	
L02	0E04091A	Cut Washer 1.6x3.5x0.5	
L03	0E04067A	M1.7x1.6 + Pan #0 Type 1 (Black)	
L04	0E03245A	Plastic Washer 1.3x3.3x0.3	
L05	0E04049A	M1x1.5 + Pan #0 Type 1 (Black)	
L06	0E04079A	M1.7x2 + Countersunk #0 Type 1 (Black)	
L07	0E03783A	M1.7x1.8 #0 Type 1 (Black)	
L08	0E04093A	BT2x2.8 + Countersunk #0 Type 1 (Black)	
L09	0E04129A	M2x1.8 + Countersunk #0 Type 1 (Black)	

6.7. Traverse Base Ass'y (B04)

Schematic Ref. No.	Part No.	Description	Q'ty
B04	**CA10163A**	**Traverse Base Ass'y**	**1**
01	0C20362B	Stocker Clutch Cam	1
02	BA09875A	Traverse Base FPC Ass'y	1
03	0C20172B	Traverse Move WPG	1
04	0C20173B	Traverse Move PG	1
05	0C20441B	Traverse Move PG Spring	1
06	0C20502A	Lock Guide Gear	3
07	CG10170A	L Guide Plate L Sub Ass'y	1
08	0C20163A	Traverse Damper	4

6.7. Traverse Base Ass'y (B04)

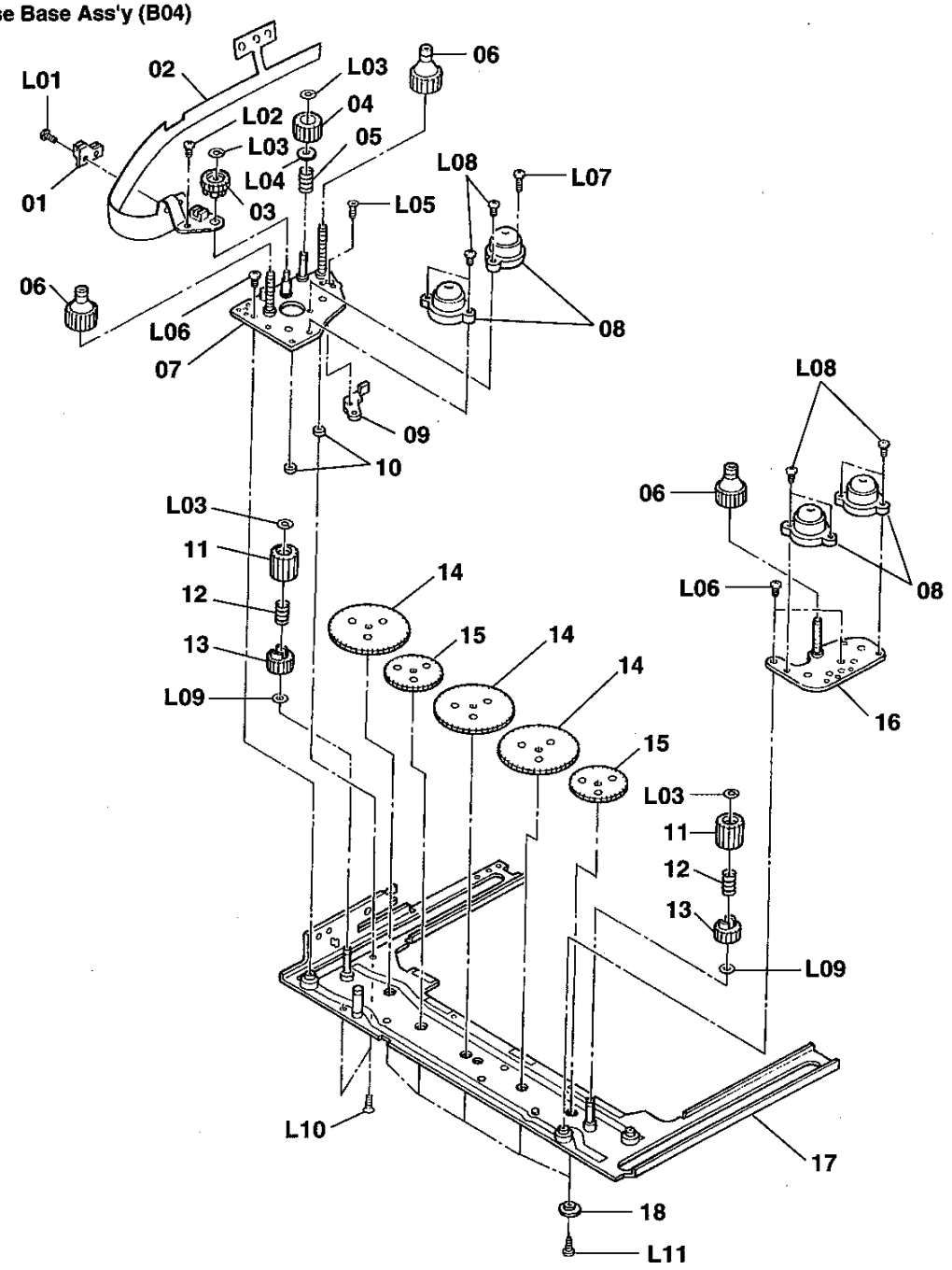


Fig. 6.7

Schematic Ref. No.	Part No.	Description	Q'ty
09	0C20317B	P Plate Sensor Block	1
10	0C20176A	Lock Plate Spacer B	2
11	0C20171B	Traverse Move Gear	2
12	0C20442B	Traverse Move Gear Spring	2
13	0C20360A	Traverse Move Gear A	2
14	0C20167B	Lock Gear L	3
15	0C20168B	Lock Gear S	2
16	CG10171A	L Guide Plate R Sub Ass'y	1
17	CG10166B	Traverse Base Chassis Sub Ass'y	1
18	0C20454A	Lock Gear Stopper	5
L01	0E04074A	M2x2.2 + Pan #0 Type 1 (Black)	
L02	0E04072A	M2x1.8 + Pan #0 Type 1 (Black)	
L03	0E04087A	Cut Washer 1.6x3.5x0.125	

Schematic Ref. No.	Part No.	Description	Q'ty
L04	0E03235A	Washer 2x5x0.25	
L05	0E04077A	BT1.7x2.2 + Coutersunk #0 Type 1 (Black)	
L06	0E03243A	M2x2.5 + Pan #0 Type 3	
L07	0E03943A	BT1.7x5 + Pan #0 Type 3 (Black)	
L08	0E00887A	M1.7x4 + Pan #0 Type 3 (Black)	
L09	0E04101A	Cut Washer 2.1x3.5x0.125	
L10	0E04082A	M2x3.5 + Countersunk #0 Type 1 (Black)	
L11	0E04096A	BT1.7x1.6 + Pan #0 Type 1 (Black)	

6.8. Loading Ass'y (B05)

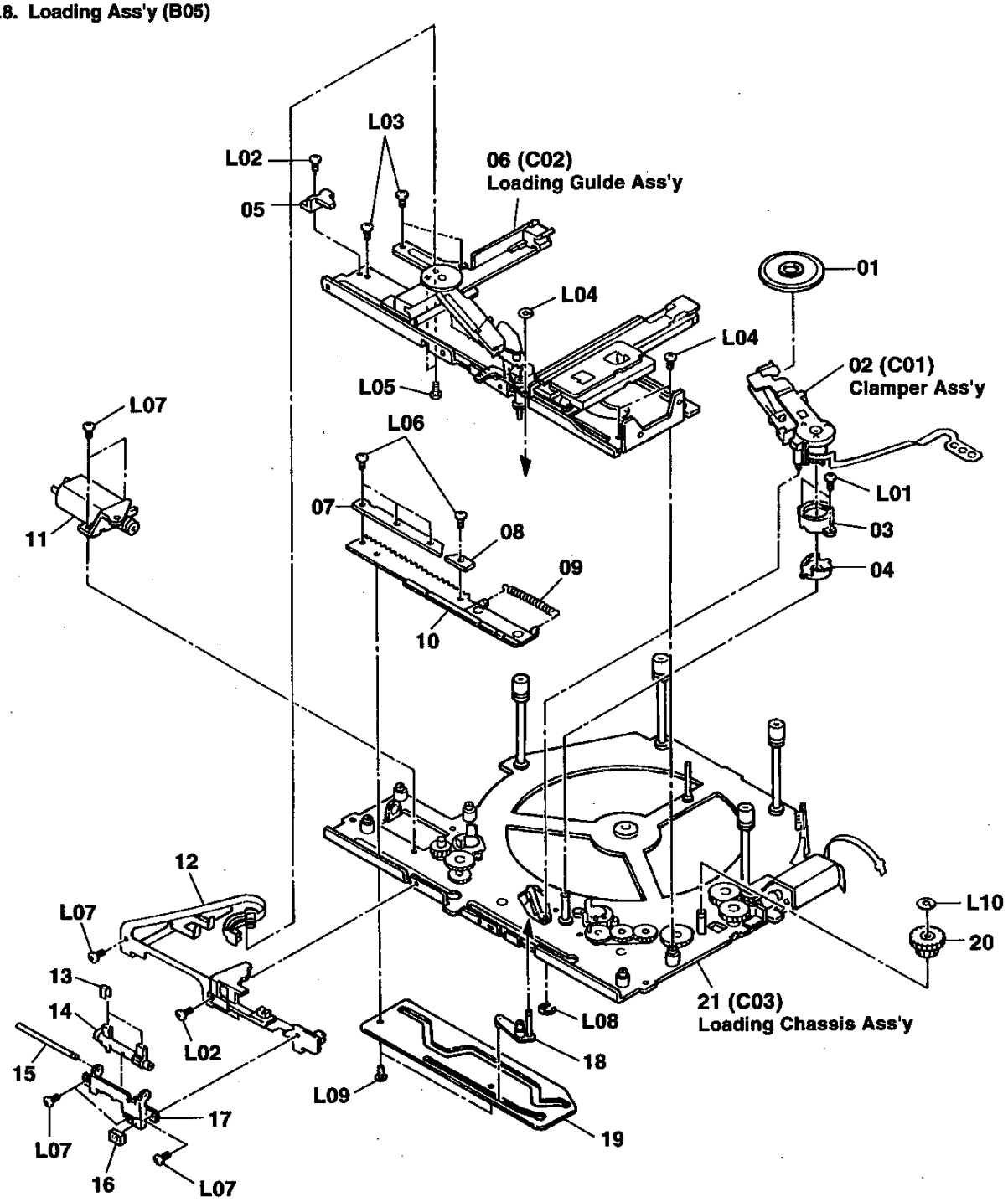


Fig. 6.8

6.9. Clamper Ass'y (C01)

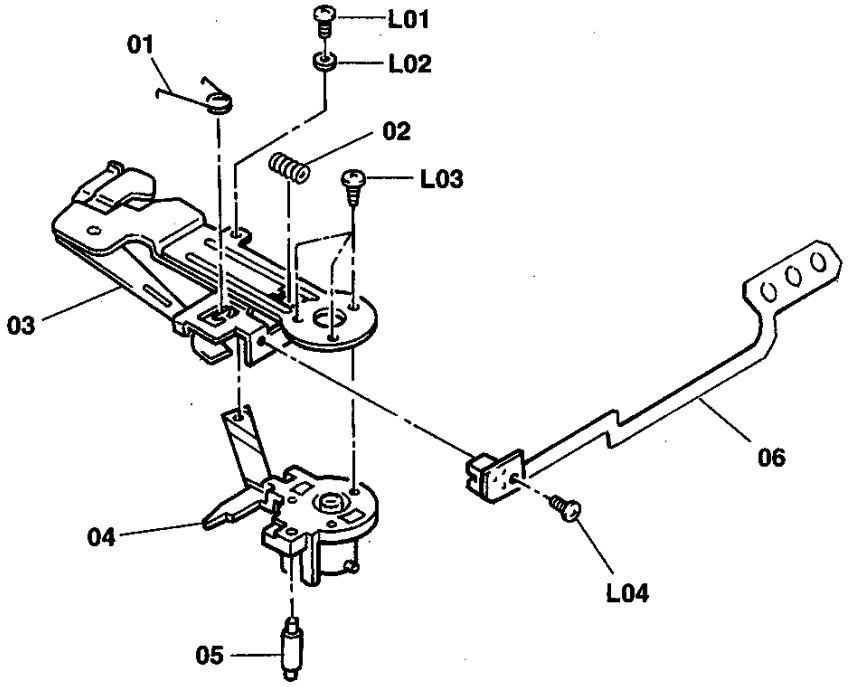


Fig. 6.9

6.8. Loading Ass'y (B05)

Schematic Ref. No.	Part No.	Description	Q'ty
B05	**CA10164A**	**Loading Ass'y**	**1**
01	CG10140B	Clamp Plate Sub Ass'y	1
02	CA10106A	Clamper Ass'y	1
03	0C20429A	Clamper Cam B	1
04	0C20428A	Clamper Cam A	1
05	0C20378E	P Arm Guide	1
06	—	Loading Guide Ass'y	1
07	0C20350D	Pre Arm Cam S	1
08	0C20349B	Pre Arm Cam	1
09	0C20293B	Spring L OP	1
10	CG10136C	Rack Loading Cam Sub Ass'y	1
11	CA10150A	Loading Motor Ass'y	1
12	BA09870A	Loading FPC Ass'y	1
13	0C10255A	Shutter Arm Cushion SL	2
14	0C20268B	Shut Arm	1
15	0C20269A	Shut Arm Shaft	1
16	0J08191A	Panel Spacer	1
17	0C20266D	Shut Arm Plate	1
18	CG10137A	Plate PLS Sub Ass'y	1
19	0C20401C	Loading Cam Plate	1
20	0C20218A	Gear TBL 2	1
21	—	Loading Chassis Ass'y	1
L01	0E04066A	M1.4x1.8 + Pan 0# type 1 (Black)	
L02	0E04099A	M2x2.5 + Pan #0 Type 1	
L03	0E00922A	M2x3 + Pan #0 Type 3 (Black)	
L04	0E04086A	Cut Washer 1.2x3x0.125	
L05	0E04061A	BT1.4x2.5 + Pan #0 Type 1 (Black)	
L06	0E04064A	M1.4x1.4 + Pan #0 Type 1 (Black)	
L07	0E04072A	M2x1.8 + Pan #0 Type 1 (Black)	
L08	0E00165A	E-Ring 1.2mm	
L09	0E03215A	M1.4x2.5 + Pan #0 Type 1 (Black)	
L10	0E04089A	Cut Washer 2.1x5x0.125	

6.9. Clamper Ass'y (C01)

Schematic Ref. No.	Part No.	Description	Q'ty
C01	**CA10106A**	**Clamper Ass'y**	**1**
01	0C20439B	Clamp Lock Spring	1
02	0C20440B	Clamp Arm Spring	1
03	CG10141C	Clamp Arm Sub Ass'y	1
04	0C20430D	Clamp Cam M	1
05	0C20431A	Shaft LC	1
06	BA09874A	Clamp FPC Ass'y	1
L01	0E04049A	M1x1.5 + Pan #0 Type 1 (Black)	
L02	0E04115A	Washer 1.1x2.5x0.2	
L03	0E04127A	1.4x2.2 + Pan #0 Type 1	
L04	0E04064A	M1.4x1.4+ Pan #0 Type 1 (Black)	

6.10. Loading Guide Ass'y (C02)

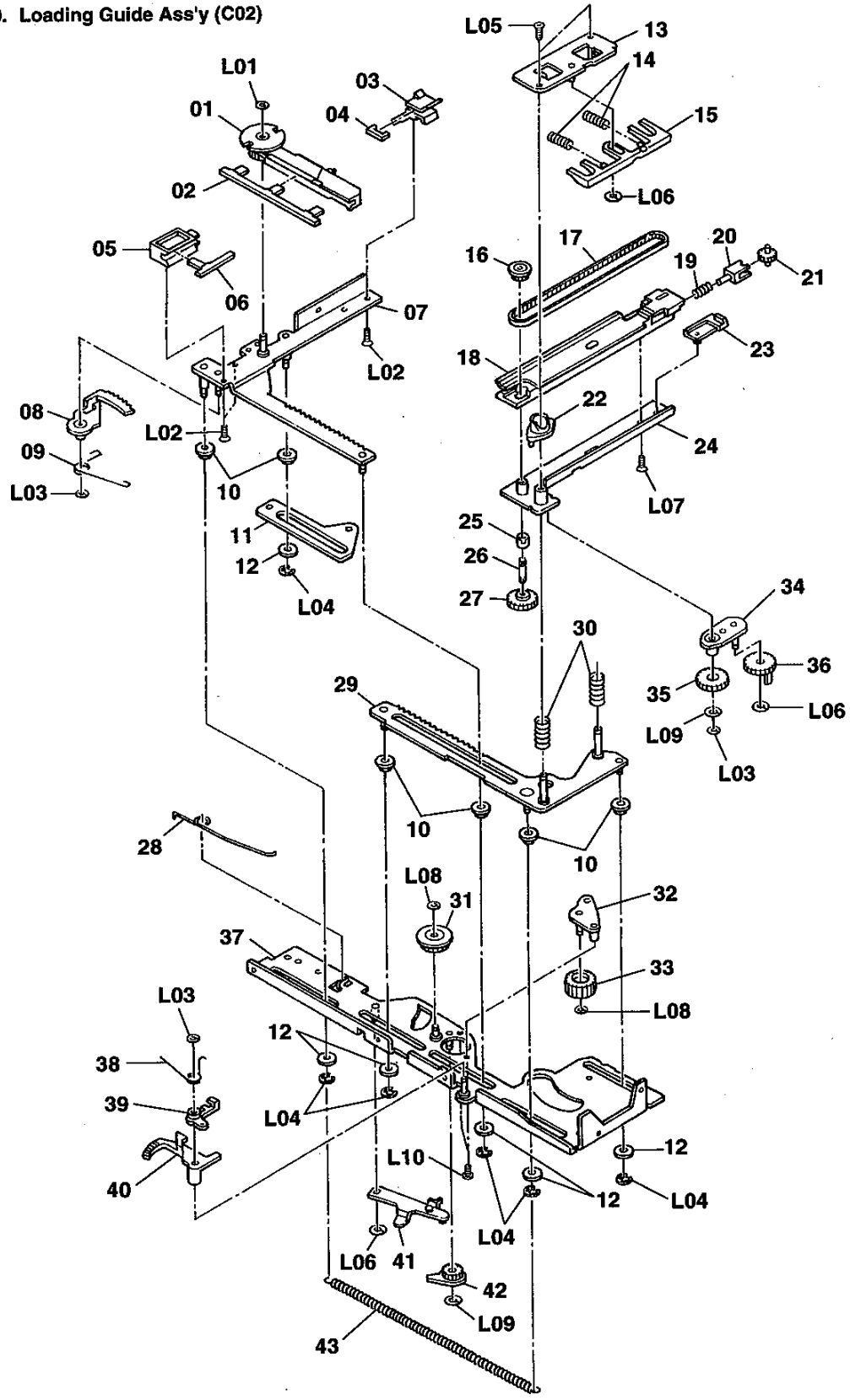


Fig. 6.10

6.10. Loading Guide Ass'y (C02)

Schematic Ref. No.	Part No.	Description	Q'ty
C02	—	**Loading Guide Ass'y**	**1**
01	0C20416E	Loading Guide R B	1
02	0C20420C	Guide Rubber D B	1
03	0C20417C	Loading Guide R C	1
04	0C20421B	Guide Rubber D C	1
05	0C20415B	Loading Guide R A	1
06	0C20419C	Guide Rubber D A	1
07	CG10119B	Loading Plate R Sub Ass'y	1
08	0C20273C	P Arm Gear	1
09	0C20422B	P Arm Spring	1
10	0C20237C	Loading Roller L	6
11	0C20402A	Plate LG R	1
12	0C20284A	Loading Roller LU	6
13	CG10118A	Lower Plate Sub Ass'y	1
14	0C20240B	Wedge Return Spring	2
15	0C20239E	Cam Wedge	1
16	0C20250A	Timing Gear	1
17	0C20249A	Timing Belt TN10-170	1
18	0C20245E	Loading Guide L	1
19	0C20414A	T Pulley Spring	1
20	0C20247A	Pulley Fork P	1
21	0C20246A	Timing Pulley P	1
22	0C20252C	Wedge Sleeve	1
23	0C20413A	Guide L Sub	1
24	CG10121D	Loading LM Plate Sub Ass'y	1
25	0C20283A	Journal TDR	1
26	0C20251A	Timing Gear Shaft	1
27	0C20253A	Timing Drive Gear	1
28	0C20423B	Pre Load Spring	1
29	CG10117B	Loading Plate STC Sub Ass'y	1
30	0C20359B	Spring L UD	2
31	0C20232A	Gear L CEN R	1
32	CG10120A	Gear Cen Plate Sub Ass'y	1
33	0C20233A	Gear L SEN L	1
34	CG10123C	TI Arm S Plate Sub Ass'y	1
35	0C20254A	Timing Idle Gear	1
36	0C20263A	Timing AM R Gear	1
37	CG10122C	Loading Guide Plate Sub Ass'y	1
38	0C20427B	Shut Arm Spring	1
39	0C20403B	Shut Sub Arm	1
40	0C20267E	Shut Arm Rack	1
41	0C20212D	Pre Lord Arm	1
42	0C20371B	Pre Load Gear	1
43	0C20294B	Bias Spring	1
L01	0E04126A	Cut Washer 1.6x3.5x0.2	
L02	0E04078A	BT2x2.5+ Countersunk #0 Type 1 (Black)	
L03	0E04086A	Cut Washer 1.2x3x0.125	
L04	0E00042A	E-Ring 1.5mm	
L05	0E04073A	M2x2 + Pan #0 Type 1 (Black)	
L06	0E04089A	Cut Washer 2.1x5x0.125	
L07	0E03447A	BT2x3 + Countersunk #0 Type 1 (Black)	
L08	0E04087A	Cut Washer 1.6x3.5x0.125	
L09	0E04090A	Cut Washer 2.6x5x0.125	
L10	0E00919A	M1.7x2 + Pan #0 Type 1 (Black)	

6.11. Loading Chassis Ass'y (C03)

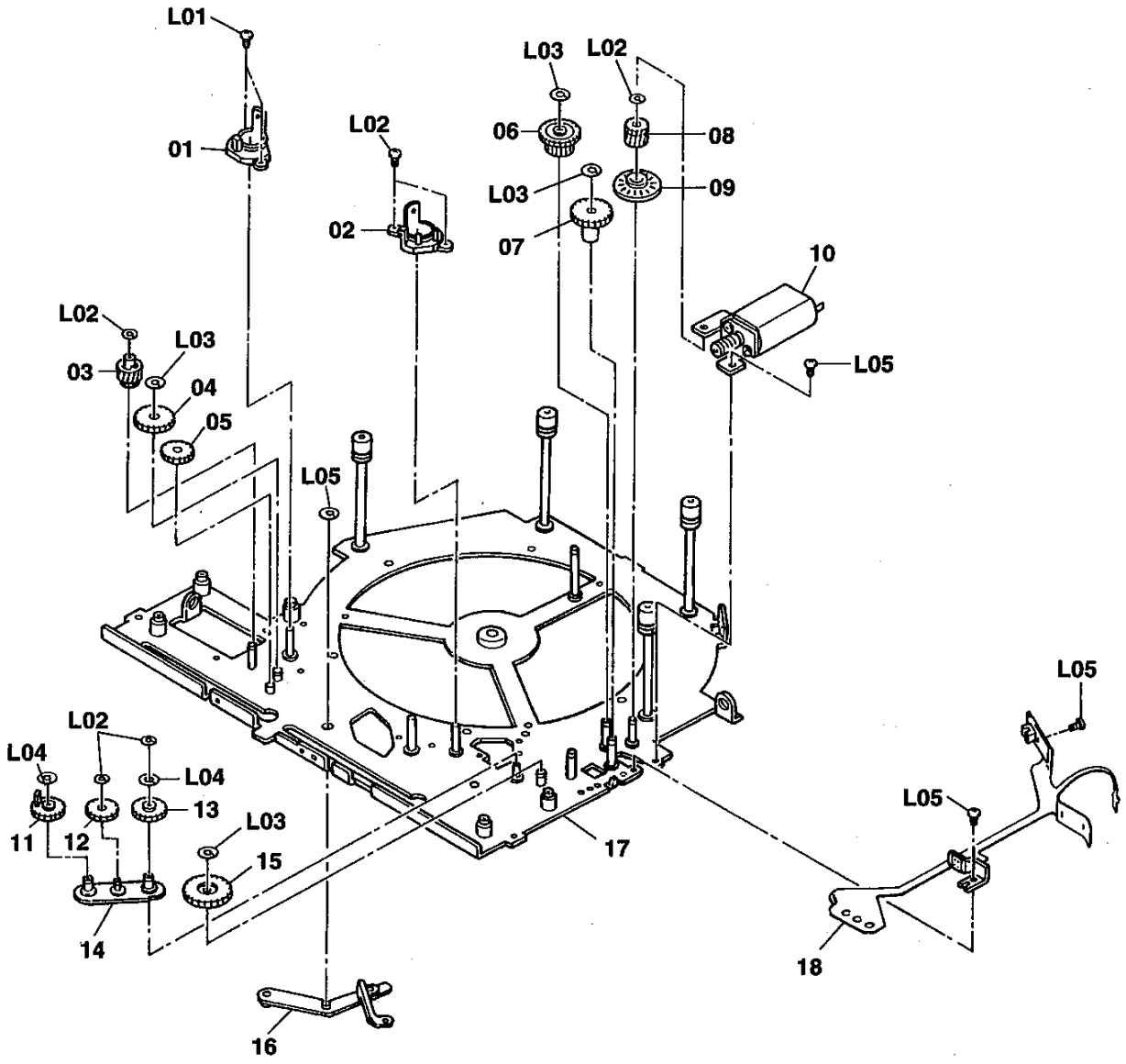


Fig. 6.11

6.11. Loading Chassis Ass'y (C03)

Schematic Ref. No..	Part No.	Description	Q'ty
C03	—	**Loading Chassis Ass'y**	**1**
01	0C20407A	Disc L Cam R	1
02	0C20406A	Disc L Cam	1
03	0C20225B	Worm Wheel Loading	1
04	0C20226B	Loading Cam Gear S	1
05	0C20227F	LDC P Gear	1
06	0C20216A	Gear STDL 1	1
07	0C20217A	Gear TBL 1	1
08	0C20214A	Worm Wheel STL	1
09	0C20215A	Gear PULS Gw	1
10	CA10151A	W FF Motor Ass'y	1
11	0C20264A	Timing AM R2 Gear	1
12	0C20265A	Link Timing I Gear	1

Schematic Ref. No.	Part No.	Description	Q'ty
13	0C20262A	Timing AM Gear	1
14	CG10124B	TI Arm Plate Sub Ass'y	1
15	0C20222A	Gear TBL 3	1
16	CG10125A	Link Clamper B Sub Ass'y	1
17	CA10165A	Loading Stocker Chassis Sub Ass'y	1
18	BA10032Z	Stocker FPC Ass'y	1
L01	0E04130A	M1.4x2.2 + Pan #0 Type 1 (Black)	4
L02	0E04087A	Cut Washer 1.6x3.5x0.125	4
L03	0E04089A	Cut Washer 2.1x5x0.125	4
L04	0E04090A	Cut Washer 2.6x5x0.125	3
L05	0E04072A	M2x1.8 + Pan #0 Type 1 (Black)	3

7. MOUNTING DIAGRAMS AND PARTS LIST

(+) Polarity of Capacitor (–)

6.12. Power Box Ass'y

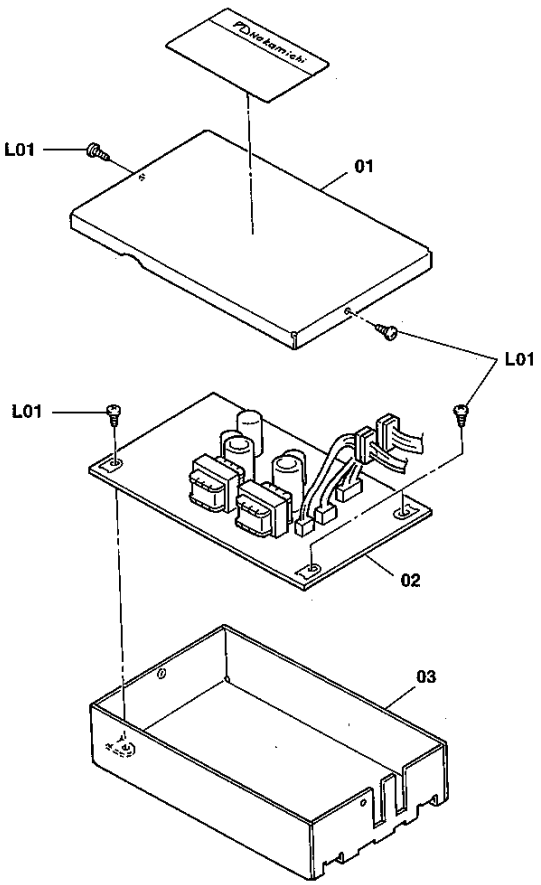


Fig. 6.12

6.12. Power Box Ass'y

Schematic Ref. No.	Part No.	Description	Q'ty
	HA07887A	**Power Box Ass'y**	1
01	0H08295A	Top Cover	1
02	BA10039A	Power P.C.B. Ass'y	1
03	0H08296B	Bottom Cover	1
L01	0E00857A	BT3x6 + Binding	5

7.1. Power P.C.B. Ass'y (Power Box Ass'y)

BZ 10133+ AKT

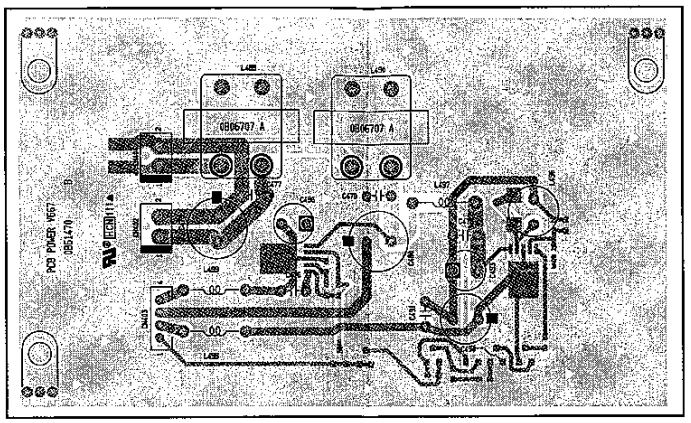


Fig. 7.1.1 Component Side View

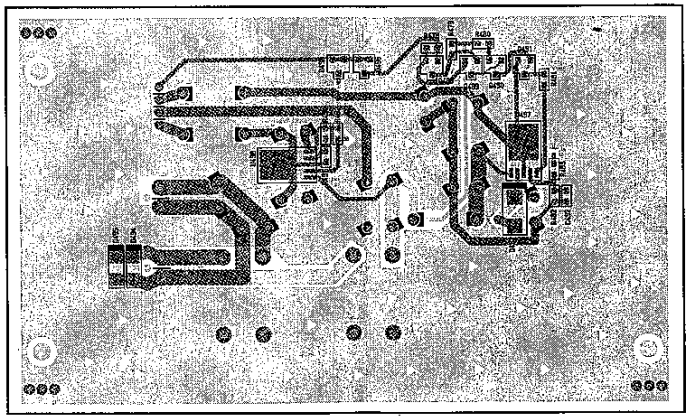


Fig. 7.1.2 Dip Side View

7.2. Main P.C.B. Ass'y

7.2.1. Main P.C.B. Ass'y — Power Supply Section

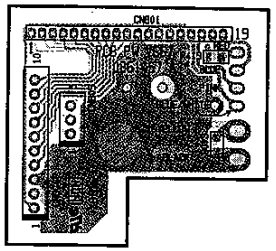


Fig. 7.2.1.1 Power Supply Section-Component Side View

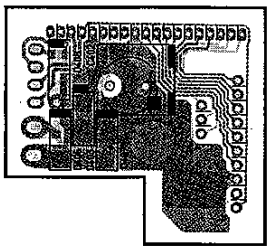


Fig. 7.2.1.2 Power Supply Section-Dip Side View

7.2.2. Main P.C.B. Ass'y — Tuner Section

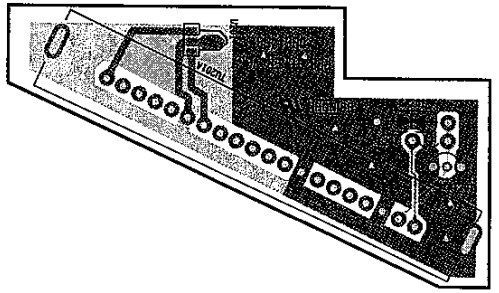


Fig. 7.2.2 Tuner Section-Component Side View

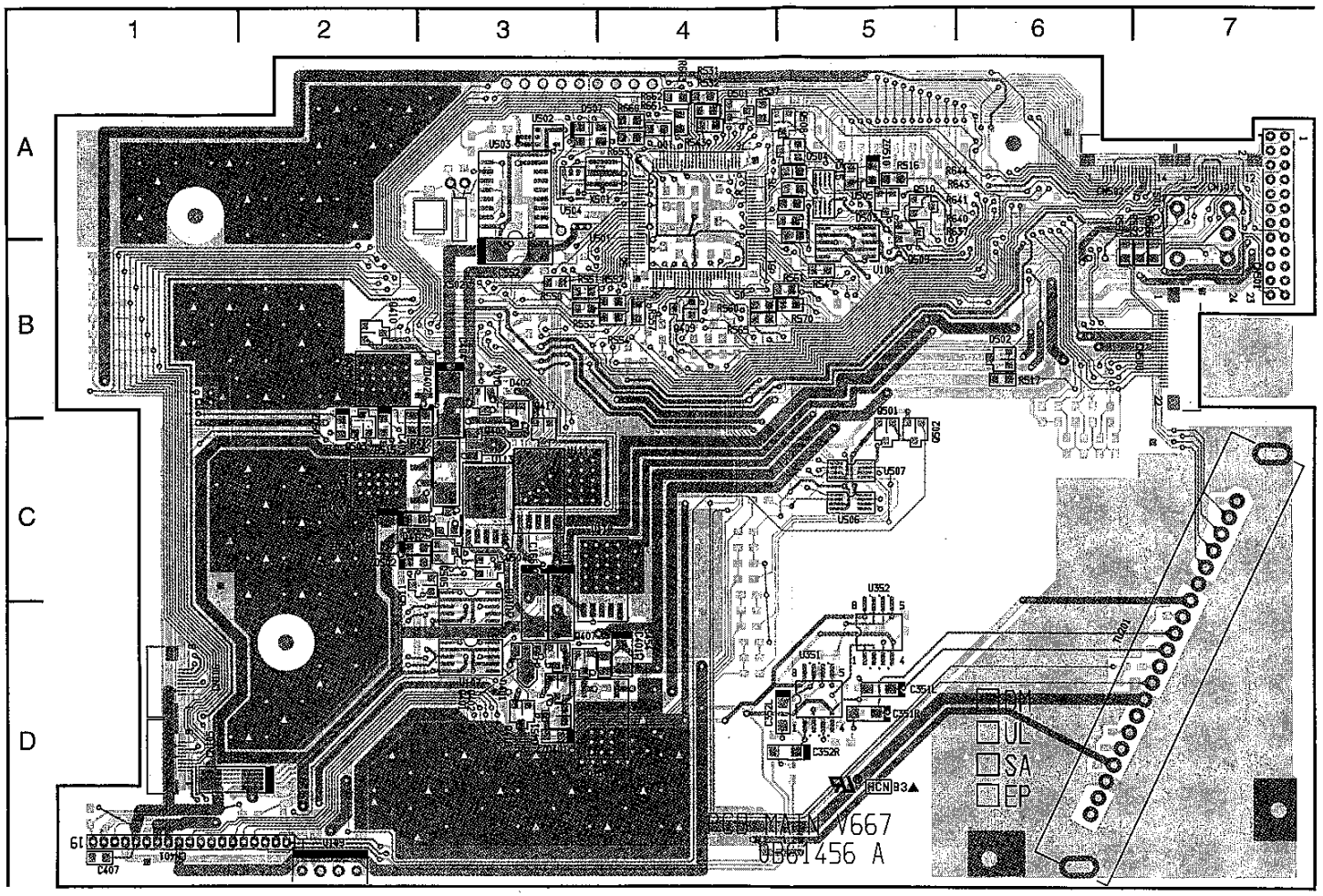


Fig. 7.2.3.1 Main Section-Component Side View

•Semiconductor Location

Ref. No.	Location
U106	B-5
U107	D-3
U108	C-3
U109	D-2
U110	C-3
U111	C-3
U113	C-3
U351	D-5
U352	D-5
U501	A-4
U502	A-3
U503	A-3
U505	A-5
U506	C-5
U507	C-5
Q401	D-3
Q402	D-3
Q403	C-3
Q404	B-3
Q405	D-3
Q407	D-3
Q408	B-2
Q409	B-4
Q410	B-2
Q411	C-2
Q412	C-2
Q417	C-3
Q418	D-3
Q501	C-5
Q502	C-5
Q503	C-2
Q504	C-3
Q505	C-3
Q508	A-5
Q509	A-5
Q510	A-5
Q511	C-2
ZD401	D-3
ZD402	B-3
ZD403	C-2
ZD501	C-2
ZD502	C-2
ZD503	C-2
ZD510	A-5
D401	D-3
D402	B-3
D451	D-3
D501	A-4
D502	B-6
D503	A-5
D504	A-4
D507	A-3

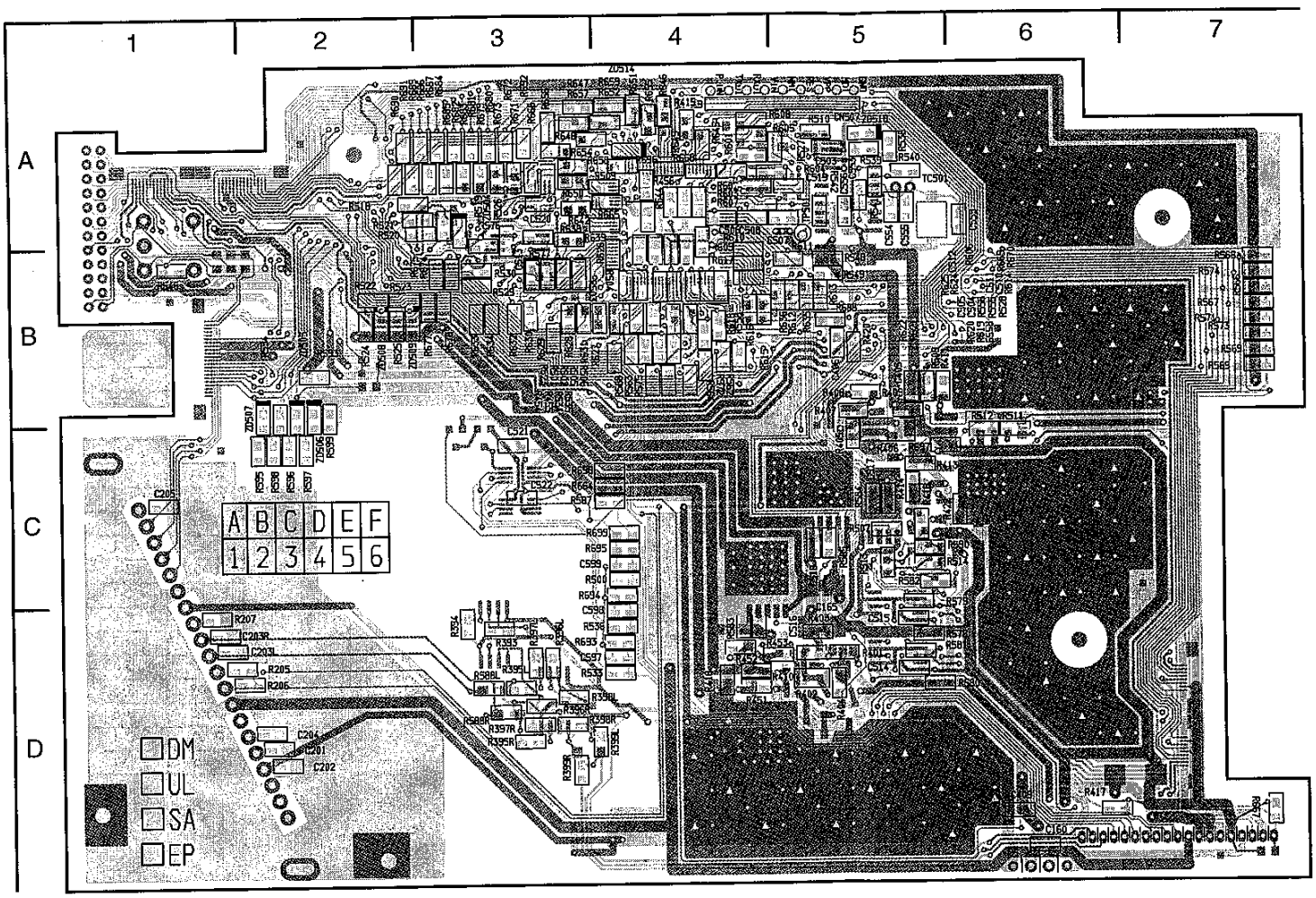


Fig. 7.2.3.2 Main Section-Dip Side View

•Semiconductor Location

Ref. No.	Location
ZD504	A-3
ZD505	B-2
ZD506	B-2
ZD507	B-2
ZD508	B-2
ZD509	B-2
ZD518	A-8

7.3. Pre P.C.B. Ass'y

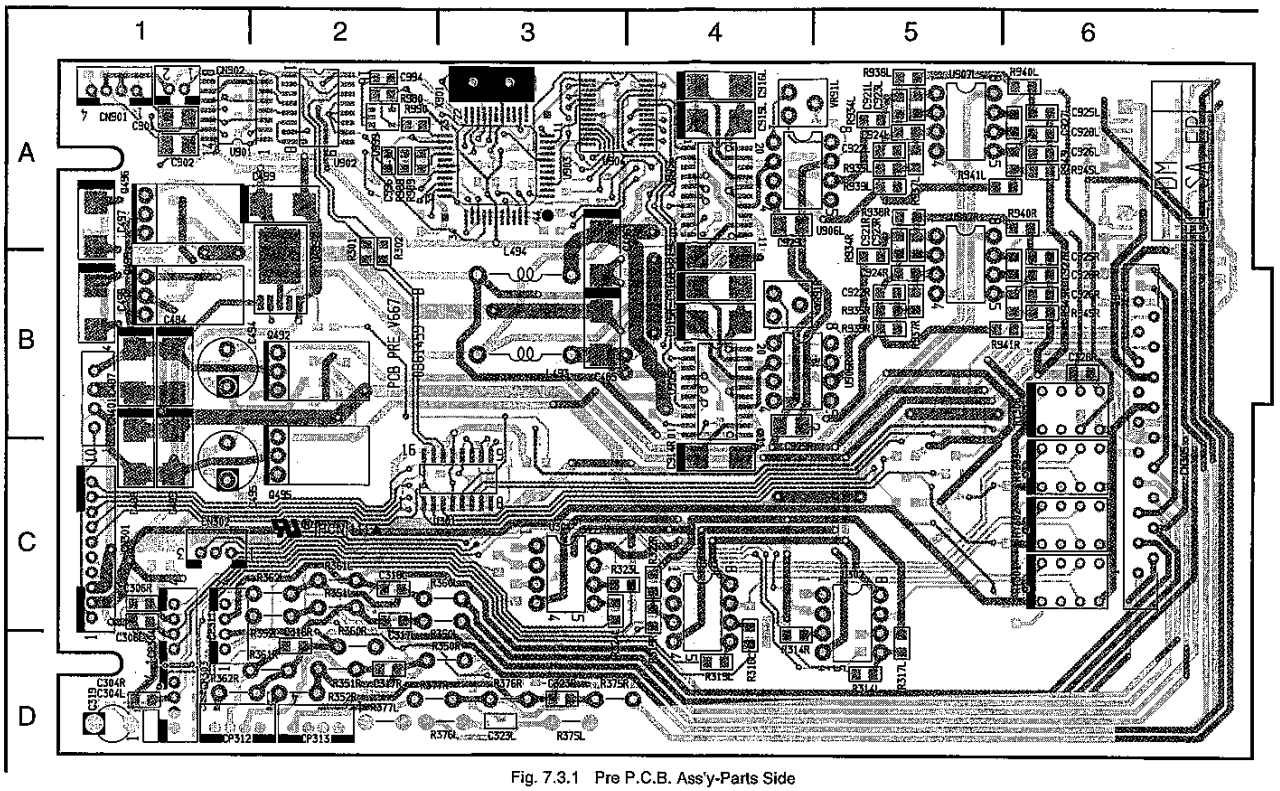


Fig. 7.3.1 Pre P.C.B. Ass'y-Parts Side

•Semiconductor Location

Ref. No.	Location
U308	C-6
U309	D-6
Q301	B-5
Q302	B-5
Q303	B-5
Q304	B-5
Q305	B-5
Q306L	A-2
Q306R	A-2
Q307L	A-2
Q307R	A-2
Q308	A-1
Q309	A-1
Q310	B-3
Q310L	A-3
Q310R	A-3
Q493	B-2
Q494	B-2
Q497	C-1
Q498	C-1
ZD496	B-1
ZD497	B-1
ZD498	C-1
ZD499	C-1
D301	A-5
D302	B-5
D303	B-5
D306	B-5
D901	D-1
D902	D-1

7.4. Tone P.C.B. Ass'y

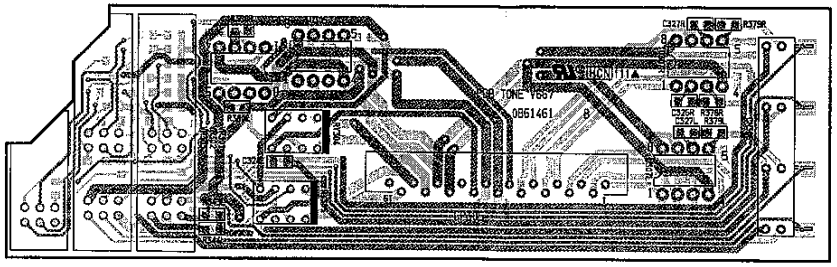


Fig. 7.4.1 Tone P.C.B. Ass'y-Parts Side

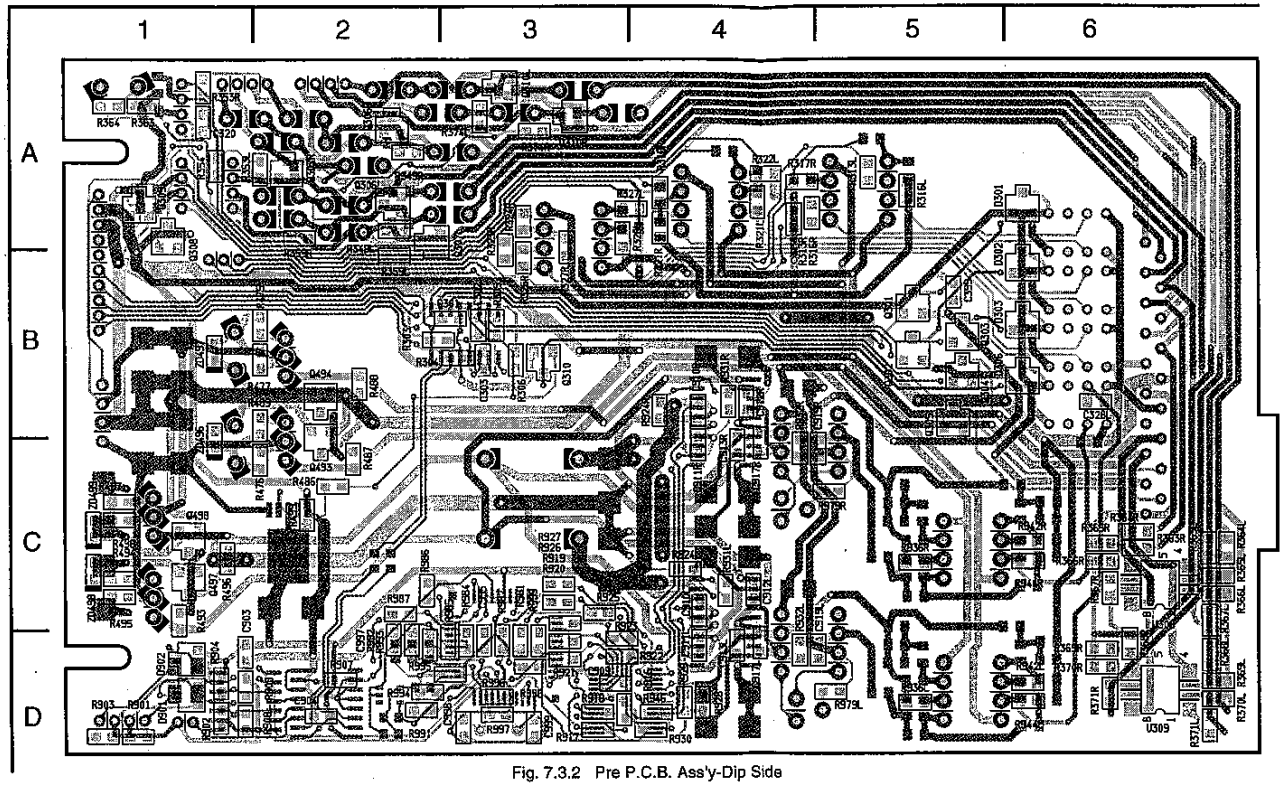


Fig. 7.3.2 Pre P.C.B. Ass'y-Dip Side

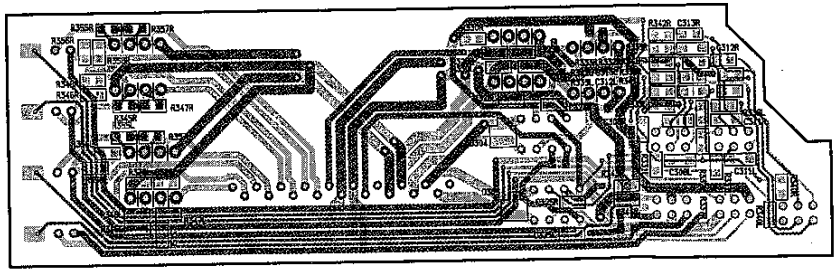
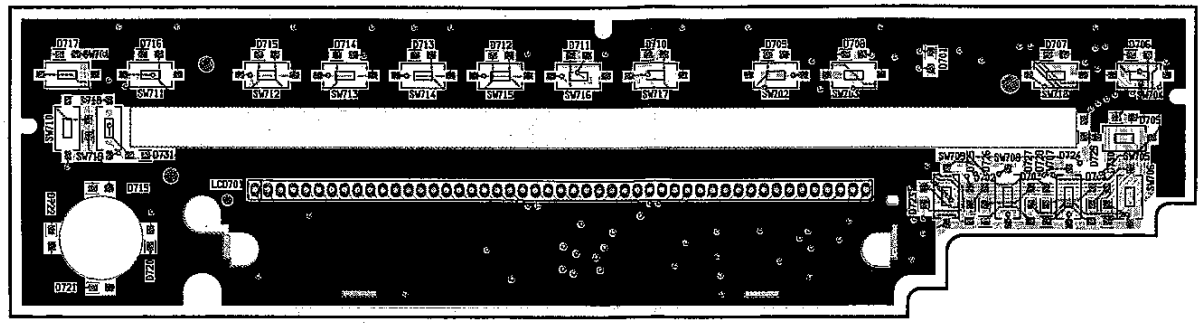


Fig. 7.4.2 Tone P.C.B. Ass'y-Dip Side

•Semiconductor Location

Ref. No.	Location
U301	C-2
U302	C-5
U303	C-4
U304	C-3
U499	B-2
U901	A-1
U902	A-2
U903	A-3
U904	A-3
U905L	A-4
U905R	B-4
U906L	A-4
U906R	B-4
U907L	A-5
U907R	A-5
U999	A-2
Q492	B-2
Q495	C-2
Q496	A-1
Q499	B-1

7.5. Front P.C.B. Ass'y



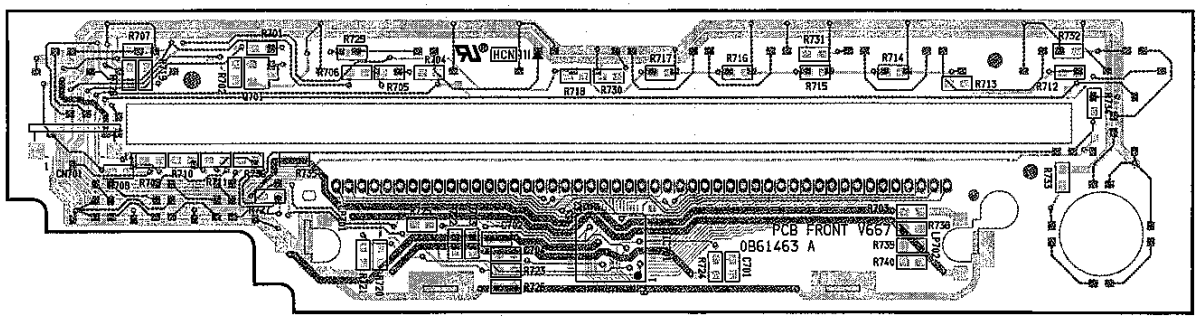


Fig. 7.5.2 Dip Side View

7.6. CD P.C.B. Ass'y

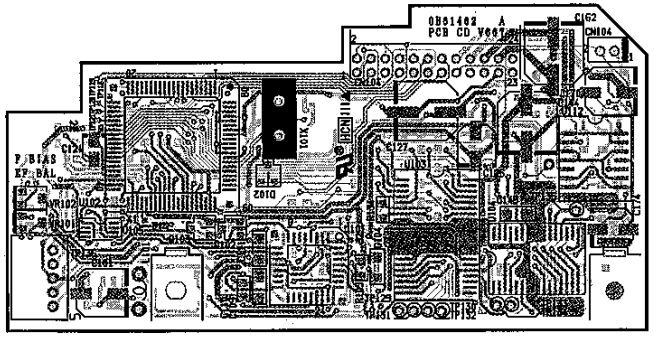


Fig. 7.6.1 Component Side View

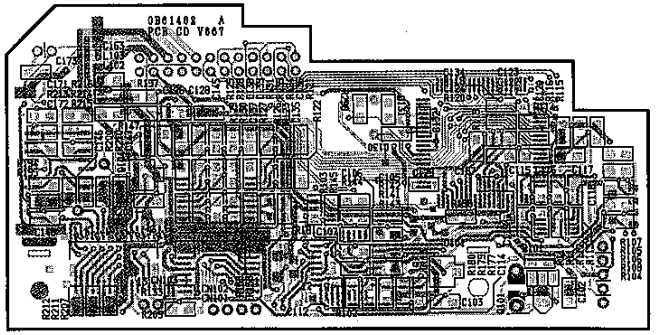


Fig. 7.6.2 Dip Side View

NOT

7.1. P

Scher
Ref. N

U497
U498
Q488,
Q490
Q491
D494,
D496
D497
D498
L489,
L495
L496
L497
L499
R478,
R480
R481
R482
R483
R490
R491
R492
C475,
C477,
C479,
C490
C491
C492
C493
C496

7.2. M

Scher
Ref. N

U106,
U108
U109
U110,
U113
U351,
U501
U502
U503
U505,
U507
Q401

NOTES: 1. Abbreviations
TR – Transistor, SID – Silicon Diode, ZD – Zener Diode, Varicap – Variable Capacitance Diode
RK – Carbon Resistor, RM – Metal Film Resistor, RF – Fail Safe Type Resistor, RC – Cement Resistor
CE – Electrolytic Capacitor, CML – Mylar Capacitor, CC – Ceramic Capacitor, CPP – PP Capacitor,
CMM – Metalized Mylar Capacitor, CSP – Polystyrene Capacitor, C – Mica Capacitor,
CT – Tantalum Capacitor
2. Description of capacitor: 10 16V = 10μ 16V
3. Parts marked with* show chip parts.

7.1. Power P.C.B. Ass'y (Power Box Ass'y)

Schematic Ref. No.	Part No.	Description
	BA10039A	**Power P.C.B. Ass'y**
U497	0B12782A	IC PQ1CZ1T*
U498	0B12791A	IC PQ20VZ1U*
Q488,489	0B14013A	TR DTC144EK*
Q490	0B14004A	TR DTA144EK*
Q491	0B10652A	TR DTC144TK*
D494,495	0B10946A	D 1SR154-400*
D496	0B10539A	SID MA152WK*
D497	0B12784A	SID SFPB-52V*
D498	0B10539A	SID MA152WK*
L489,490	0B06707A	Choke Coil 1mH
L495	0B51183A	Inductor 100uH
L496	0B51363A	Coil 100uH
L497	0B51183A	Inductor 100uH
L499	0B51183A	Inductor 100uH
R478,479	0B25587A	RK 100K 1/10W J*
R480	0B25587A	RK 100K 1/10W J*
R481	0B25563A	RK 10K 1/10W J*
R482	0B21391A	RM 8.2K 1/10W D*
R483	0B21370A	RM 1.1K 1/10W D*
R490	0B21370A	RM 1.1K 1/10W D*
R491	0B21391A	RM 8.2K 1/10W D*
R492	0B25587A	RK 100K 1/10W J*
C475,476	0B41298A	CML 0.1 50V J
C477,478	0B41298A	CML 0.1 50V J
C479,480	0B42623A	CE 2200 16V
C490	0B42843A	CE 470 16V
C491	0B41298A	CML 0.1 50V J
C492	0B43226A	CC 2700P 50V K*
C493	0B40769A	CE 220 16V (LN)
C496	0B40769A	CE 220 16V (LN)
	0B80673A	Earth Terminal (3)
	0B85273B	2P Wire Ass'y (1)
	0B85275B	10P Wire Ass'y (1)

7.2. Main P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA09970A	**Main P.C.B. Ass'y (USA, CAN)**
	BA10090A	**Main P.C.B. Ass'y (EP)**
	BA09971A	**Main P.C.B. Ass'y (OTR)**
	BA09969A	**Main P.C.B. Ass'y (JPN)**
	— Main —	
U106,107	0B10719A	IC TA8409F*
U108	0B10719A	IC TA8409F*
U109	0B10572A	IC PQ09RF2
U110,111	0B10951A	IC PQ05TZ11*
U113	0B10951A	IC PQ05TZ11*
U351,352	0B11001A	IC NJM4558M
U501	0B10949A	IC HD64F3437TF16*
U502	0B10907A	IC PST9142NR*
U503	0B10654A	IC TC4060AF*
U505,506	0B10973A	IC TC7W34FU*
U507	0B10973A	IC TC7W34FU*
Q401	0B10731A	TR 2SB1132*
Q402	0B14011A	TR DTC114EK*
Q403	0B10731A	TR 2SB1132*
Q404	0B14011A	TR DTC114EK*
Q405	0B10792A	TR 2SB1182QR*
Q407	0B14167A	TR 2SC2412K*
Q408	0B10957A	TR 2SD2318F5(U/V)*
Q409	0B14002A	TR DTA114EK*
Q410	0K10030A	TR 2SA1036K*
Q411	0B10792A	TR 2SB1182QR*
Q412	0B14167A	TR 2SC2412K*
Q417,418	0B14167A	TR 2SC2412K*
Q501	0B14002A	TR DTA114EK*
Q502	0B14013A	TR DTC144EK*
Q503,504	0B14167A	TR 2SC2412K*
Q505	0B14011A	TR DTC114EK*
Q508	0B14167A	TR 2SC2412K*
Q509	0B14013A	TR DTC144EK*
Q510	0B14002A	TR DTA114EK*
Q511	0K10030A	TR 2SA1036K*
ZD401	0B10478A	ZD RD4.7UJN1-T1*
ZD402	0B10485A	ZD RD5.6UJN2*
ZD403	0B10482A	ZD RD5.1UJN2-T1*
ZD501,502	0B10497A	ZD RD8.2UJN2*
ZD503	0B10960A	ZD RD16UJN2*
ZD504,505	0B10482A	ZD RD5.1UJN2-T1*
ZD506,507	0B10482A	ZD RD5.1UJN2-T1*
ZD508,509	0B10482A	ZD RD5.1UJN2-T1*
ZD510	0B10482A	ZD RD5.1UJN2-T1*
ZD518	0B10482A	ZD RD5.1UJN2-T1*
D401,402	0B10539A	SID MA152WK*
D451	0B10539A	SID MA152WK*
D501,502	0B10539A	SID MA152WK*
D503,504	0B10539A	SID MA152WK*
D507	0B10730A	SID MA159A*
X501	0B90795A	Resonator 16.00M* (Except JPN)
	0B90801A	Resonator 15.10M* Cstcv (JPN)
X502	0B90693A	X'tal 32.768KHz
T501	0B51303A	Mini Transformer
R205	0B25571A	RK 22K 1/10W J*
R207	0B25559A	RK 6.8K 1/10W J*
R393,394	0B25563A	RK 10K 1/10W J*
R395L,R	0B25563A	RK 10K 1/10W J*
R396L,R	0B25563A	RK 10K 1/10W J*
R397L,R	0B25569A	RK 18K 1/10W J*
R398L,R	0B25569A	RK 18K 1/10W J*
R399L,R	0B25515A	RK 100 1/10W J*
R401	0B25563A	RK 10K 1/10W J*
R402	0B21631A	RK 10 1/4W*
R403	0B25551A	RK 3.3K 1/10W J*
R404	0B25523A	RK 220 1/10W J*
R405	0B25563A	RK 10K 1/10W J*
R406	0B21632A	RK 3.3 1/2W*
R407	0B25551A	RK 3.3K 1/10W J*
R408	0B25515A	RK 100 1/10W J*
R409	0B25555A	RK 4.7K 1/10W J*
R410	0B25515A	RK 100 1/10W J*
R411	0B25563A	RK 10K 1/10W J*
R412	0B21633A	RK 3.3 1W*
R413	0B25563A	RK 10K 1/10W J*
R414	0B25515A	RK 100 1/10W J*
R415	0B25563A	RK 10K 1/10W
R416	0B25527A	RK 330 1/10W
R417	0B25555A	RK 4.7K 1/10W
R418	0B25587A	RK 100K 1/10W
R420	0B25587A	RK 100K 1/10W
R422	0B25587A	RK 100K 1/10W
R451	0B25563A	RK 10K 1/10W
R452	0B25539A	RK 1K 1/10W
R453	0B25525A	RK 270 1/10W
R454,455	0B25563A	RK 10K 1/10W
R456	0B25547A	RK 2.2K 1/10W
R500	0B25515A	RK 100 1/10W
R501,502	0B25563A	RK 10K 1/10W
R503	0B25612A	RK 0 1/10W
R504	0B25555A	RK 4.7K 1/10W (EP, OTR)
	0B25612A	RK 0 1/10W (USA, CAN)
R505,506	0B25547A	RK 2.2K 1/10W
R507,508	0B25587A	RK 100K 1/10W
R509	0B25611A	RK 1M 1/10W
R510	0B25587A	RK 100K 1/10W
R511	0B25579A	RK 47K 1/10W
R512	0B25587A	RK 100K 1/10W
R513	0B25579A	RK 47K 1/10W
R514	0B25587A	RK 100K 1/10W
R515	0B25603A	RK 470K 1/10W
R516	0B25587A	RK 100K 1/10W
R517,518	0B25515A	RK 100 1/10W
R519,520	0B25515A	RK 100 1/10W
R521	0B25515A	RK 100 1/10W
R522,523	0B25539A	RK 1K 1/10W
R524,525	0B25587A	RK 100K 1/10W
R526	0B25563A	RK 10K 1/10W
R527	0B25539A	RK 1K 1/10W
R528	0B25587A	RK 100K 1/10W
R529,530	0B25539A	RK 1K 1/10W
R531,532	0B25539A	RK 1K 1/10W
R533	0B25515A	RK 100 1/10W
R534,535	0B25563A	RK 10K 1/10W
R536	0B25515A	RK 100 1/10W
R537	0B25587A	RK 100K 1/10W
R538	0B25547A	RK 2.2K 1/10W
R539	0B25587A	RK 100K 1/10W
R540	0B21444A	RM 10M 1/10W
R541	0B21445A	RM 180K 1/10W
R542	0B25563A	RK 10K 1/10W
R543	0B25539A	RK 1K 1/10W
R544	0B25563A	RK 10K 1/10W
R546	0B25512A	RK 75 1/10W
R547,548	0B25563A	RK 10K 1/10W
R549,550	0B25563A	RK 10K 1/10W
R551,552	0B25563A	RK 10K 1/10W
R553,554	0B25563A	RK 10K 1/10W
R555,556	0B25563A	RK 10K 1/10W
R557,558	0B25563A	RK 10K 1/10W
R559,560	0B25563A	RK 10K 1/10W
R561	0B25563A	RK 10K 1/10W
R562,563	0B25579A	RK 47K 1/10W
R564,565	0B25579A	RK 47K 1/10W
R566,567	0B25579A	RK 47K 1/10W
R568,569	0B25579A	RK 47K 1/10W

Schematic Ref. No.	Part No.	Description			
R570,571	0B25579A	RK	47K	1/10W J*	
R572,573	0B25579A	RK	47K	1/10W J*	
R574,575	0B25579A	RK	47K	1/10W J*	
R576,577	0B25587A	RK	100K	1/10W J*	
R578,579	0B25587A	RK	100K	1/10W J*	
R580,581	0B25587A	RK	100K	1/10W J*	
R582	0B25579A	RK	47K	1/10W J*	
R583,584	0B25587A	RK	100K	1/10W J*	
R585,586	0B25587A	RK	100K	1/10W J*	
R587	0B25515A	RK	100	1/10W J*	
R588	0B25587A	RK	100K	1/10W J*	
R588L,R	0B25587A	RK	100K	1/10W J*	
R589	0B25579A	RK	47K	1/10W J*	
R590,591	0B25587A	RK	100K	1/10W J*	
R592,593	0B25587A	RK	100K	1/10W J*	
R594	0B25587A	RK	100K	1/10W J*	
R595	0B25603A	RK	470K	1/10W J*	
R596,597	0B25587A	RK	100K	1/10W J*	
R598,599	0B25587A	RK	100K	1/10W J*	
R601	0B25563A	RK	10K	1/10W J*	
R605,606	0B25563A	RK	10K	1/10W J*	
R607,608	0B25563A	RK	10K	1/10W J*	
R609,610	0B25539A	RK	1K	1/10W J*	
R611,612	0B25563A	RK	10K	1/10W J*	
R613	0B25563A	RK	10K	1/10W J*	
R614	0B25587A	RK	100K	1/10W J*	
R615,616	0B25563A	RK	10K	1/10W J*	
R617,618	0B25563A	RK	10K	1/10W J*	
R619,620	0B25563A	RK	10K	1/10W J*	
R621,622	0B25563A	RK	10K	1/10W J*	
R623	0B25563A	RK	10K	1/10W J*	
R624,625	0B25587A	RK	100K	1/10W J*	
R626	0B25587A	RK	100K	1/10W J*	
R627,628	0B25563A	RK	10K	1/10W J*	
R629	0B25563A	RK	10K	1/10W J*	
R630	0B25587A	RK	100K	1/10W J*	
R631,632	0B25563A	RK	10K	1/10W J*	
R633	0B25587A	RK	100K	1/10W J*	
R634	0B25539A	RK	1K	1/10W J*	
R635,636	0B25563A	RK	10K	1/10W J*	
R637,638	0B25563A	RK	10K	1/10W J*	
R639	0B25539A	RK	1K	1/10W J*	
R640,641	0B25563A	RK	10K	1/10W J*	
R642,643	0B25563A	RK	10K	1/10W J*	
R644,645	0B25563A	RK	10K	1/10W J*	
R646,647	0B25539A	RK	1K	1/10W J*	
R648,649	0B25539A	RK	1K	1/10W J*	
R650,651	0B25539A	RK	1K	1/10W J*	
R652	0B25539A	RK	1K	1/10W J*	
R653	0B25563A	RK	10K	1/10W J*	
R654,655	0B25539A	RK	1K	1/10W J*	
R656,657	0B25539A	RK	1K	1/10W J*	
R658,659	0B25539A	RK	1K	1/10W J*	
R660,661	0B25563A	RK	10K	1/10W J*	
R662	0B25612A	RK	0	1/10W J*	
R663	0B25563A	RK	10K	1/10W J*	
R664	0B25515A	RK	100	1/10W J*	
R665,666	0B25563A	RK	10K	1/10W J*	
R667,668	0B25563A	RK	10K	1/10W J*	
R669,670	0B25587A	RK	100K	1/10W J*	
R671,672	0B25587A	RK	100K	1/10W J*	
R673,674	0B25587A	RK	100K	1/10W J*	
R675	0B25587A	RK	100K	1/10W J*	
R677,678	0B25587A	RK	100K	1/10W J*	
R679,680	0B25587A	RK	100K	1/10W J*	
R681,682	0B25587A	RK	100K	1/10W J*	
R683,684	0B25587A	RK	100K	1/10W J*	
R685,686	0B25587A	RK	100K	1/10W J*	
R687,688	0B25587A	RK	100K	1/10W J*	
R689,690	0B25587A	RK	100K	1/10W J*	
R691,692	0B25587A	RK	100K	1/10W J*	
R693,694	0B25587A	RK	100K	1/10W J*	
R695,696	0B25587A	RK	100K	1/10W J*	
R697,698	0B25587A	RK	100K	1/10W J*	
R699	0B25587A	RK	100K	1/10W J*	

Schematic Ref. No.	Part No.	Description		
TC501	0B42787A	Trimmer 10P*		
C159	0B42814A	CE	33 25V*	
C160	0B43064A	CC	0.01 50V J*	
C161	0B42789A	CE	47 16V*	
C166	0B42789A	CE	47 16V*	
C201,202	0B43064A	CC	0.01 50V J*	
C203L,R	0B42791A	CML	0.027 25V* (USA, CAN)	
C203L,R	0B43235A	CC	0.018 50V K* (EP, OTR, JPN)	
C204,205	0B43064A	CC	0.01 50V J*	
C351L,R	0B42785A	CE	4.7 16V*	
C352L,R	0B42785A	CE	4.7 16V*	
C401	0B43064A	CC	0.01 50V J*	
C403	0B43221A	CC	0.047 25V K*	
C404	0B42790A	CE	100 6.3V*	
C405	0B43064A	CC	0.01 50V J*	
C406	0B43063A	CC	1000P 50V J*	
C407	0B43092A	CC	0.1 25V Z*	
C409	0B43092A	CC	0.1 25V Z*	
C453,454	0B42781A	CE	10 16V*	
C503	0B43064A	CC	0.01 50V J*	
C504,505	0B43200A	CC	220P 50V J*	
C506,507	0B43064A	CC	0.01 50V J*	
C508	0B43064A	CC	0.01 50V J*	
C510,511	0B43064A	CC	0.01 50V J*	
C512,513	0B43064A	CC	0.01 50V J*	
C514,515	0B43064A	CC	0.01 50V J*	
C519,520	0B43064A	CC	0.01 50V J*	
C521,522	0B43092A	CC	0.1 25V Z*	
C552	0B42783A	CE	22 16V*	
C553	0B43078A	CC	2200P 50V K*	
C554	0B43117A	CC	39P 50V J*	
C555	0B43115A	CC	5P 50V D*	
C556	0B43064A	CC	0.01 50V J*	
C597,598	0B43063A	CC	1000P 50V J*	
C599	0B43063A	CC	1000P 50V J*	
CN105	0B84906A	9P F Connector*		
CN106	0B84902A	8P F Connector*		
CN107	0B84903A	12P F Connector*		
CN501	0B84871A	24P Connector Socket		
CN502	0B84907A	14P F Connector*		
CN508	0B84879A	22P F Connector*		
		— Power —		
D403	0B10946A	SID	1SR154-400*	
D408	0B10946A	SID	1SR154-400*	
R419	0B25539A	RK	1K	1/10W J*
C402	0B42786A	CE	470 16V*	
C408	0B43277A	CML	0.1 16V J*	
CN801	0B85260A	19P Connector Header		
CN804	0B84986A	10P Connector Ass'y		
CN805	0B84987A	3P Connector Ass'y		
	0B85274B	10P Wire Ass'y Plug (1)		
	0J08241A	Power P.C.B. Spacer (2)		
		— Tuner —		
U201	0B12839A	IC	NJM7805UA*	
SA201	0B12655A	SID	DSP-201M	
L201	0B50332A	Coil 33uH		
TU201	0B90879A	Tuner Pack MX-J056 (JPN)		
	0B90880A	Tuner Pack MX-A056 (USA, CAN, OTR)		
	0B90891A	Tuner Pack MX-E056 (EP)		
	0B84892A	Antenna Jack (1)		

7.3. Pre P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description		
	BA10057A	**Pre P.C.B. Ass'y (Except JPN)**		
	BA09979A	**Pre P.C.B. Ass'y (JPN)**		
U301	0B10809A	IC	NJU3712M*	
U302,303	0B06146A	IC	NJM4558DD	
U304	0B06146A	IC	NJM4558DD	
U308,309	0B11001A	IC	NJM4558M (Except JPN)	
U499	0B10951A	IC	PQ05TZ11*	
U901	0B11603A	IC	TC74HCU04AF	
U902	0B10833A	IC	TC74HC153AF*	
U903	0B10819A	IC	YM3436D* DIF	
U904	0B12828A	IC	DF1704E*	
U905L,R	0B12829A	IC	PCM1704U*	
U906L,R	0B11577A	IC	NJM5534DD	
U907L,R	0B11713A	IC	uPC4570C	
U999	0B10907A	IC	PST9142NR*	
Q301,302	0B14011A	TR	DTC114EK*	
Q303,304	0B14011A	TR	DTC114EK*	
Q305	0B14011A	TR	DTC114EK*	
Q306L,R	0B14186A	TR	2SC4213 B*	
Q307L,R	0B14186A	TR	2SC4213 B*	
Q308	0B14002A	TR	DTA114EK*	
Q309	0B14013A	TR	DTC144EK*	
Q310	0B14011A	TR	DTC114EK*	
Q310L,R	0B14186A	TR	2SC4213 B* (Except JPN)	
Q492	0B06066A	TR	2SD471	
Q493	0B14166A	TR	2SA1037K*	
Q494	0B10716A	TR	2SC2412KLN*	
Q495	0B06069A	TR	2SB564	
Q496	0B06066A	TR	2SD471	
Q497	0B14166A	TR	2SA1037K*	
Q498	0B10716A	TR	2SC2412KLN*	
Q499	0B06069A	TR	2SB564	
ZD496,497	0B10500A	ZD	RD9.1UJN2-T1*	
ZD498,499	0B10482A	ZD	RD5.1UJN2-T1*	
D301,302	0B10539A	SID	MA152WK*	
D303	0B10539A	SID	MA152WK*	
D306	0B10539A	SID	MA152WK*	
D901,902	0B10560A	SID	MA157A TX*	
X901	0B90755A	X'tal 12.288MHz		
L493,494	0B51183A	Inductor 100uH		
R301,302	0B25539A	RK	1K	1/10W J*
R303,304	0B25539A	RK	1K	1/10W J*
R305,306	0B25539A	RK	1K	1/10W J*
R313L,R	0B26151A	RM	10K	1/8W F*
R314L,R	0B26151A	RM	10K	1/8W F*
R316L,R	0B26163A	RM	33K	1/8W F*
R317L,R	0B26163A	RM	33K	1/8W F*
R318L,R	0B26151A	RM	10K	1/8W F*
R319L,R	0B26151A	RM	10K	1/8W F*
R321L,R	0B26163A	RM	33K	1/8W F*
R322L,R	0B26163A	RM	33K	1/8W F*
R323L,R	0B26151A	RM	10K	1/8W F*
R324L,R	0B26151A	RM	10K	1/8W F*
R326L,R	0B26163A	RM	33K	1/8W F*
R327L,R	0B26163A	RM	33K	1/8W F*
R349L,R	0B25563A	RK	10K	1/10W J*
R350L,R	0B25195A	RM	1K	1/4W F
R351L,R	0B25687A	RM	47K	1/4W F
R352L,R	0B25652A	RM	510	1/4W F
R353L,R	0B25611A	RK	1M	1/10W J*
R354	0B25587A	RK	100K	1/10W J*
R359L,R	0B25563A	RK	10K	1/10W J*
R360L,R	0B25195A	RM	1K	1/4W F
R361L,R	0B25687A	RM	47K	1/4W F
R362L,R	0B25652A	RM	510	1/4W F
R363	0B25563A	RK	10K	1/10W J*
R363L,R	0B26175A	RM	100K	1/8W F* (Except JPN)

Schematic Ref. No.	Part No.	Description
R364	0B25563A	RK 10K 1/10W J*
R364L,R	0B26175A	RM 100K 1/8W F* (Except JPN)
R365L,R	0B26168A	RM 51K 1/8W F* (Except JPN)
R366L,R	0B26168A	RM 51K 1/8W F* (Except JPN)
R367L,R	0B26168A	RM 51K 1/8W F* (Except JPN)
R368L,R	0B26175A	RM 100K 1/8W F* (Except JPN)
R369L,R	0B26175A	RM 100K 1/8W F* (Except JPN)
R370L,R	0B26175A	RM 100K 1/8W F* (Except JPN)
R371L,R	0B26175A	RM 100K 1/8W F* (Except JPN)
R374L,R	0B25563A	RK 10K 1/10W J* (Except JPN)
R375L,R	0B25195A	RM 1K 1/4W F (Except JPN)
R376L,R	0B25687A	RM 47K 1/4W F (Except JPN)
R377L,R	0B25652A	RM 510 1/4W F (Except JPN)
R475	0B25507A	RK 47 1/10W J*
R476,477	0B25515A	RK 100 1/10W J*
R486	0B25539A	RK 1K 1/10W J*
R487,488	0B25555A	RK 4.7K 1/10W J*
R489	0B25507A	RK 47 1/10W J*
R493	0B25555A	RK 4.7K 1/10W J*
R494	0B25507A	RK 47 1/10W J*
R495	0B25531A	RK 470 1/10W J*
R496	0B25555A	RK 4.7K 1/10W J*
R497	0B25507A	RK 47 1/10W J*
R498	0B25531A	RK 470 1/10W J*
R499	0B25587A	RK 100K 1/10W J*
R901	0B21342A	RM 75 1/10W D*
R902	0B21409A	RM 47K 1/10W D*
R903	0B21342A	RM 75 1/10W D*
R904	0B21409A	RM 47K 1/10W D*
R907	0B25612A	RK 0 1/10W J*
R916,917	0B25563A	RK 10K 1/10W J*
R918,919	0B25563A	RK 10K 1/10W J*
R920,921	0B25563A	RK 10K 1/10W J*
R922,923	0B25563A	RK 10K 1/10W J*
R924L,R	0B25563A	RK 10K 1/10W J*
R925,926	0B25563A	RK 10K 1/10W J*
R927,928	0B25563A	RK 10K 1/10W J*
R929,930	0B25563A	RK 10K 1/10W J*
R931L,R	0B25563A	RK 10K 1/10W J*
R932L,R	0B26144A	RM 5.1K 1/8W F*
R934L,R	0B26136A	RM 2.4K 1/8W F*
R935L,R	0B26136A	RM 2.4K 1/8W F*
R936L,R	0B26145A	RM 5.6K 1/8W F*
R937L,R	0B26145A	RM 5.6K 1/8W F*
R938L,R	0B26136A	RM 2.4K 1/8W F*
R939L,R	0B26136A	RM 2.4K 1/8W F*
R940L,R	0B26136A	RM 2.4K 1/8W F*
R941L,R	0B26136A	RM 2.4K 1/8W F*
R942L,R	0B26145A	RM 5.6K 1/8W F*
R943L,R	0B26145A	RM 5.6K 1/8W F*
R944L,R	0B26136A	RM 2.4K 1/8W F*
R945L,R	0B26136A	RM 2.4K 1/8W F*
R980	0B25587A	RK 100K 1/10W J*
R981,982	0B25563A	RK 10K 1/10W J*
R984,985	0B25563A	RK 10K 1/10W J*
R986,987	0B25563A	RK 10K 1/10W J*
R988	0B25515A	RK 100 1/10W J*
R989	0B25551A	RK 3.3K 1/10W J*
R990,991	0B25563A	RK 10K 1/10W J*
R992,993	0B25563A	RK 10K 1/10W J*
R994,995	0B25563A	RK 10K 1/10W J*
R996	0B25524A	RK 240 1/10W J*
R997	0B25611A	RK 1M 1/10W J*
R998,999	0B25563A	RK 10K 1/10W J*
C301	0B43064A	CC 0.01 50V J*
C302,303	0B43063A	CC 1000P 50V J*
C304L,R	0B43259A	CML 3300P 16V J
C306L,R	0B43259A	CML 3300P 16V J
C317L,R	0B43253A	CML 1000P 50V J*
C318L,R	0B43253A	CML 1000P 50V J*
C319	0B40177A	CE 10 50V
C320	0B43064A	CC 0.01 50V J*
C323L,R	0B43253A	CML 1000P 50V J* (Except JPN)
C328L,R	0B43243A	CML 150P 50V J*
C399	0B43092A	CC 0.1 25V Z*
C484,485	0B42803A	CE 100 16V*
C486,487	0B42803A	CE 100 16V*
C488,489	0B42803A	CE 100 16V*
C494,495	0B42048A	CE 220 10V (LN)
C497,498	0B42803A	CE 100 16V*
C499	0B42803A	CE 100 16V*
C901,902	0B43277A	CML 0.1 16V J*
C910L,R	0B43265A	CML 0.01 16V J*
C911L,R	0B43265A	CML 0.01 16V J*
C912L,R	0B43265A	CML 0.01 16V J*
C913L,R	0B43265A	CML 0.01 16V J*
C914L,R	0B42789A	CE 47 16V*
C915L,R	0B42803A	CE 100 16V*
C916L,R	0B42783A	CE 22 16V*
C917L,R	0B43254A	CML 1200P 50V J*
C919L,R	0B43246A	CML 270P 50V J*
C921L,R	0B43253A	CML 1000P 50V J*
C922L,R	0B43253A	CML 1000P 50V J*
C923L,R	0B43245A	CML 220P 50V J*
C924L,R	0B43245A	CML 220P 50V J*
C925L,R	0B43255A	CML 1500P 50V J*
C926L,R	0B43255A	CML 1500P 50V J*
C927L,R	0B43243A	CML 150P 50V J*
C928L,R	0B43243A	CML 150P 50V J*
C929L,R	0B43277A	CML 0.1 16V J*
C994,995	0B43064A	CC 0.01 50V J*
C996	0B43080A	CC 4700P 50V K*
C998,999	0B43112A	CC 7P 50V D*
RY301,302	0B90881A	Relay DC12V
RY303	0B90881A	Relay DC12V
RY306	0B90881A	Relay DC12V
CN301	0B84085A	10P T-Post
CN302	0B81460A	3P T-Post
CN305	0B85257A	19P Connector
CN401	0B81636A	4P T-Post
CN901	0B81461A	4P T-Post
CN902	0B81459A	2P T-Post
CP303	0B84283A	4P T-Post YEL
CP304	0B85265A	4P T-Post BLU
CP311	0B81461A	4P T-Post
CP312	0B84282A	4P T-Post RED
CP313	0B84284A	4P T-Post BLK (Except JPN)

7.4. Tone P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA09981A	**Tone P.C.B. Ass'y**
U305,306	0B06146A	IC NJM4558DD
U307L,R	0B11204A	IC NJM5532DD
D304,305	0B10539A	SID MA152WK*
VR301	0B30217A	VR 20KB50KW
VR302	0B30219A	VR 20KB/NM
VR303	0B30218A	VR
R328L,R	0B26165A	RM 39K 1/8W F*
R329L,R	0B26165A	RM 39K 1/8W F*
R330L,R	0B26158A	RM 20K 1/8W F*
R331L,R	0B26145A	RM 5.6K 1/8W F*
R332L,R	0B26145A	RM 5.6K 1/8W F*
R333L,R	0B26151A	RM 10K 1/8W F*
R337L,R	0B26127A	RM 1K 1/8W F*
R338L,R	0B26127A	RM 1K 1/8W F*
R339L,R	0B26151A	RM 10K 1/8W F*
R340L,R	0B26133A	RM 1.8K 1/8W F*
R341L,R	0B26133A	RM 1.8K 1/8W F*
R342L,R	0B26151A	RM 10K 1/8W F*
R343L,R	0B26144A	RM 5.1K 1/8W F*
R344L,R	0B26144A	RM 5.1K 1/8W F*
R345L,R	0B26168A	RM 51K 1/10W F*
R346L,R	0B26168A	RM 51K 1/10W F*
R347L,R	0B26175A	RM 100K 1/8W F*
R348L,R	0B26175A	RM 100K 1/8W F*
R355L,R	0B26168A	RM 51K 1/10W F*
R356L,R	0B26168A	RM 51K 1/10W F*
R357L,R	0B26175A	RM 100K 1/8W F*
R358L,R	0B26175A	RM 100K 1/8W F*
R378L,R	0B26136A	RM 2.4K 1/8W F*
R379L,R	0B26136A	RM 2.4K 1/8W F*
R380L,R	0B26144A	RM 5.1K 1/8W F*
C308L,R	0B42829A	CML 0.039 16V J*
C311L,R	0B42837A	CML 0.015 16V J*
C312L,R	0B42831A	CML 0.022 16V J*
C313L,R	0B43259A	CML 3300P 16V J
C324L,R	0B43243A	CML 150P 50V J*
C325L,R	0B43243A	CML 150P 50V J*
C326L,R	0B43243A	CML 150P 50V J*
C327L,R	0B43243A	CML 150P 50V J*
RY304,305	0B90881A	Relay DC12V
CN306	0B85259A	8P Connector Header
CP305	0B85258A	19P Connector

7.5. Front P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA09982A	**Front P.C.B. Ass'y**
IC701	0B10950A	IC LC75823W*
Q701	0B14167A	TR 2SC2412K*
D701	0B12840A	LED LT1U40A*
D702,703	0B10974A	LED LT1H40A*
D704,705	0B10974A	LED LT1H40A*
D706,707	0B10974A	LED LT1H40A*
D708,709	0B10974A	LED LT1H40A*
D710,711	0B10974A	LED LT1H40A*
D712,713	0B10974A	LED LT1H40A*
D714,715	0B10974A	LED LT1H40A*
D716,717	0B10974A	LED LT1H40A*
D718,719	0B10974A	LED LT1H40A*
D720,721	0B10974A	LED LT1H40A*
D722,723	0B10974A	LED LT1H40A*
D724,725	0B10974A	LED LT1H40A*
D726,727	0B10974A	LED LT1H40A*
D728,729	0B10974A	LED LT1H40A*
D730,731	0B10974A	LED LT1H40A*
LCD701	0B90806A	LCD DLC-1976P
R701	0B25529A	RK 390 1/10W J*
R702	0B25555A	RK 4.7K 1/10W J*
R703	0B25513A	RK 82 1/10W J*
R704	0B25525A	RK 270 1/10W J*
R705	0B25529A	RK 390 1/10W J*
R706	0B25530A	RK 430 1/10W J*
R707	0B25535A	RK 680 1/10W J*
R708	0B25539A	RK 1K 1/10W J*
R709	0B25544A	RK 1.6K 1/10W J*
R710	0B25551A	RK 3.3K 1/10W J*
R711	0B25563A	RK 10K 1/10W J*
R712	0B25525A	RK 270 1/10W J*
R713	0B25529A	RK 390 1/10W J*
R714	0B25530A	RK 430 1/10W J*
R715	0B25535A	RK 680 1/10W J*
R716	0B25539A	RK 1K 1/10W J*
R717	0B25544A	RK 1.6K 1/10W J*

Schematic Ref. No.	Part No.	Description
R718	0B25551A	RK 3.3K 1/10W J*
R719	0B25563A	RK 10K 1/10W J*
R720,721	0B25579A	RK 47K 1/10W J*
R722,723	0B25579A	RK 47K 1/10W J*
R724	0B25579A	RK 47K 1/10W J*
R725,726	0B25539A	RK 1K 1/10W J*
R727,728	0B25524A	RK 240 1/10W J*
R729,730	0B25524A	RK 240 1/10W J*
R731,732	0B25524A	RK 240 1/10W J*
R733,734	0B25524A	RK 240 1/10W J*
R735,736	0B25524A	RK 240 1/10W J*
R738,739	0B25513A	RK 82 1/10W J*
R740	0B25513A	RK 82 1/10W J*
C701	0B43063A	CC 1000P 50V J*
C702	0B43092A	CC 0.1 25V Z*
C703,704	0B43063A	CC 1000P 50V J*
CN702	0B84907A	14P F Connector*
LP701,702	0B90887A	Lamp 115mA 5V
SW701,702	0B70271A	Tact Switch
SW703,704	0B70271A	Tact Switch
SW705,706	0B70271A	Tact Switch
SW707,708	0B70271A	Tact Switch
SW709,710	0B70271A	Tact Switch
SW711,712	0B70271A	Tact Switch
SW713,714	0B70271A	Tact Switch
SW715,716	0B70271A	Tact Switch
SW717,718	0B70271A	Tact Switch
SW719	0B70271A	Tact Switch
	0J07985B	Illuminator Sheet (1)
	0J07986B	LCD Holder (1)
	0J07988A	LCD Reflector (1)
	0J08193A	Conductor Sheet A (1)
	0J08200A	W Face Lcd (1)
	0J08265A	LCD Lens (1)

7.6. CD P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BA09983A	**CD P.C.B. Ass'y**
U101	0B10691A	IC CXA2521Q*
U102	0B10948A	IC CXD2587Q*
U103	0B10947A	IC BA5972FP*
U104	0B10942A	IC BA6840BFP*
U105	0B10953A	IC TC4W53FU*
U112	0B11613A	IC TC74HC00AF
Q101	0B10731A	TR 2SB1132*
Q102	0B14013A	TR DTC144EK*
Q103	0B10652A	TR DTC144TK*
Q104	0B14013A	TR DTC144EK*
X101	0B92063A	X'tal 16.9344MHz
D101	0B10539A	SID MA152WK*
D102	0B10540A	SID MA152WA*
L101	0B51300A	Inductor 10uH
L102,103	0B50287A	Coil 120uH*
VR101,102	0B30212A	Semi-VR 22K* SIDE
R101	0B21321A	RM 10 1/10W F*
R102	0B25571A	RK 22K 1/10W J*
R103	0B25590A	RK 130K 1/10W J*
R104	0B25595A	RK 220K 1/10W J*
R105,106	0B25562A	RK 9.1K 1/10W J*
R107,108	0B25556A	RK 5.1K 1/10W J*
R109	0B25514A	RK 91 1/10W J*
R110	0B25575A	RK 33K 1/10W J*
R111	0B25589A	RK 120K 1/10W J*
R112	0B25575A	RK 33K 1/10W J*
R113	0B25571A	RK 22K 1/10W J*
R114	0B25575A	RK 33K 1/10W J*
R115	0B25563A	RK 10K 1/10W J*
R116	0B25587A	RK 100K 1/10W J*
R117	0B25611A	RK 1M 1/10W J*
R118	0B25563A	RK 10K 1/10W J*
R119,120	0B25551A	RK 3.3K 1/10W J*
R121,122	0B25574A	RK 30K 1/10W J*
R123,124	0B25560A	RK 7.5K 1/10W J*
R125,126	0B25567A	RK 15K 1/10W J*
R127,128	0B25560A	RK 7.5K 1/10W J*
R129,130	0B25579A	RK 47K 1/10W J*
R131,132	0B25569A	RK 18K 1/10W J*
R133	0B25563A	RK 10K 1/10W J*
R134	0B25599A	RK 330K 1/10W J*
R135	0B25580A	RK 51K 1/10W J*
R136	0B25584A	RK 75K 1/10W J*
R138	0B25515A	RK 100 1/10W J*
R139	0B25563A	RK 10K 1/10W J*
R141	0B25555A	RK 4.7K 1/10W J*
R142	0B25571A	RK 22K 1/10W J*
R143	0B25590A	RK 130K 1/10W J*
R144	0B25573A	RK 27K 1/10W J*
R145	0B25571A	RK 22K 1/10W J*
R147	0B25612A	RK 0 1/10W J*
R177	0B25547A	RK 2.2K 1/10W J*
R179,180	0B25555A	RK 4.7K 1/10W J*
R181	0B25573A	RK 27K 1/10W J*
R194	0B25563A	RK 10K 1/10W J*
R195	0B25575A	RK 33K 1/10W J*
R196	0B25587A	RK 100K 1/10W J*
R197	0B21321A	RM 10 1/10W F*
R198	0B25563A	RK 10K 1/10W J*
R200	0B25579A	RK 47K 1/10W J*
R207	0B20673A	RK 1.5 1/10W*
R208	0B25563A	RK 10K 1/10W J*
R209	0B25515A	RK 100 1/10W J*
R210	0B25563A	RK 10K 1/10W J*
R211,212	0B20673A	RK 1.5 1/10W*
R213,214	0B25523A	RK 220 1/10W J*
R215	0B25555A	RK 4.7K 1/10W J*
R216	0B25547A	RK 2.2K 1/10W J*
R298	0B25524A	RK 240 1/10W J*
C101	0B42794A	CE 100 6.3V*
C102,103	0B43092A	CC 0.1 25V Z*
C104	0B42500A	CC 2.2 16V*
C105	0B43092A	CC 0.1 25V Z*
C106,107	0B43066A	CC 33P 50V J*
C109	0B42622A	CC 2.2 16V J*
C110	0B43092A	CC 0.1 25V Z*
C111	0B42622A	CC 2.2 16V J*
C112	0B43080A	CC 4700P 50V K*
C113	0B43224A	CC 1500P 50V K*
C114	0B43090A	CC 47P 50V J*
C115	0B43216A	CC 330P 50V J*
C116	0B43092A	CC 0.1 25V Z*
C117	0B43216A	CC 330P 50V J*
C118	0B43207A	CC 680P 50V J*
C119	0B43092A	CC 0.1 25V Z*
C120	0B43064A	CC 0.01 50V J*
C121	0B42793A	CE 0.47 50V*
C122	0B43200A	CC 220P 50V J*
C123	0B43224A	CC 1500P 50V K*
C124	0B43221A	CC 0.047 25V K*
C125	0B42792A	CE 47 6.3V*
C126	0B43092A	CC 0.1 25V Z*
C127	0B42798A	CE 330 6.3V*
C128,129	0B43092A	CC 0.1 25V Z*
C130,131	0B43060A	CC 18P 50V J*
C132	0B43092A	CC 0.1 25V Z*
C134	0B43092A	CC 0.1 25V Z*
C135,136	0B43207A	CC 680P 50V J*
C137,138	0B43207A	CC 680P 50V J*
C139,140	0B43084A	CC 0.033 50V K*
C141	0B43083A	CC 0.022 50V K*
C144	0B42798A	CE 330 6.3V*
C145	0B43092A	CC 0.1 25V Z*
C146	0B43221A	CC 0.047 25V K*
C147	0B43064A	CC 0.01 50V J*
C148	0B43092A	CC 0.1 25V Z*
C149	0B42500A	CC 2.2 16V*
C157	0B43080A	CC 4700P 50V K*
C162	0B42796A	CE 220 10V*
C163	0B43092A	CC 0.1 25V Z*
C170	0B42794A	CE 100 6.3V*
C171,172	0B43092A	CC 0.1 25V Z*
C173	0B43064A	CC 0.01 50V J*
C174	0B42797A	CE 33 10V*
CN101	0B84872A	12P F Connector*
CN102	0B84874A	6P F Connector*
CN103	0B84908A	13P F Connector*
CN104	0B84870A	24P Connector Header
TP136	0B81469A	5P S-Post
	0B84988A	2P Connector Ass'y (1)
	0E04046A	M2.6x3 + Pan (2)
	0J08127B	P.C.B. Holder A (2)

8. IC BLOCK DIAGRAMS

U501 HD64F3437TF16 (System Control MPU)

Pin No.	Pin Name	Signal Name	I/O	Function
1	$\overline{RES}$	$\overline{RESET}$	I	System reset signal.
2	XTAL	XTAL	—	System clock (16 MHz).
3	EXTAL	EXTAL	—	System clock (16 MHz).
4	VCCB	VCCB	—	+5V.
5	MD1	MD1	I	MPU mode select signal-1.
6	MD0	MD0	I	MPU mode select signal-2.
7	CLOCK	CLOCK	I	Clock pulse for counting the "Clock".
8	FVPP/$\overline{ST}$	FVPP/$\overline{ST}$	I	VPP (+5V) signal.
9	VCC	VCC	—	+5V.
10	LOCK-PIN	LOCK-PIN	I	(Not used.)
11	TRPOSMOV	TRPOSMOV	I	(Not used.)
12	CLKIN	CLKIN	I	Clock pulse from CDC.
13	DATAIN	DATAIN	I	Data signal from CDC.
14	CLR	CLR	O	Reset signal to clock IC.
15	VSS	VSS	—	GND.
16	MTR1	MTR1	O	Traverse mechanism motor drive signal-1.
17	P96	P96	I	(Not used.)
18	MSTLD1	MSTLD1	O	Loading belt/stocker motor drive signal-1.
19	MSTLD2	MSTLD2	O	Loading belt/stocker motor drive signal-2.
20	ST-PLAY	ST-PLAY	I	Stocker play position signal.
21	ST-REF	ST-REF	I	Stocker home position signal. H: Home position.
22	MTR2	MTR2	O	Traverse mechanism motor drive signal-2.
23	$\overline{BSENS}$	$\overline{BSENS}$	I	Battery voltage sensing signal.
24	ASENS	ASENS	I	ACC voltage sensing signal.
25	SCOR	SCOR	I	Sub-Q interrupt signal from DSP (Digital Signal Processor) IC.
26	CLAMPER	CLAMPER	I	Clamper plate clamping signal. H: Clamping
27	TEMP	TEMP	I	(Not used.)
28	REMIN	REMIN	I	Remote control signal.
29	ST-PLS	ST-PLS	I	Stocker pulse.
30	LD-PLT1	LD-PLT1	I	Loading cam plate position signal-1.
31	LD-PLT2	LD-PLT2	I	Loading cam plate position signal-2.
32	TRUD-PLS	TRUD-PLS	I	Traverse up/down pulse.
33	LDC-PLS	LDC-PLS	I	Loading belt/stocker motor turning pulse.
34	P-ARM1	P-ARM1	I	Loading guide position signal-1.
35	P-ARM2	P-ARM2	I	Loading guide position signal-2. L: No disc
36	AVREF	AVREF	—	+5V.
37	AVCC	AVCC	—	+5V.
38	KI0	KI0	I	Key input signal-0. (Analog port)
39	KI1	KI1	I	Key input signal-1. (Analog port)

Pin No.	Pin Name	Signal Name	I/O	Function
40	AREA	AREA	I	Area setting signal. (Analog port)
41	MODEL	MODEL	I	Model setting signal. (Analog port)
42	S-METER	S-METER	I	Reception signal level. (Analog port)
43	TE	TE	I	(Not used.)
44	DA0	DA0	I	(Not used.)
45	DA1	DA1	I	(Not used)
46	AVSS	AVSS	—	GND.
47	SHUTTER	SHUTTER	I	Shutter ON/OFF signal.
48	LDC-REF	LDC-REF	I	Loading cam reference position detecting pulse.
49	AD-REF	AD-REF	O	+5V ON/OFF signal for A/D conversion circuit.
50	BEEP	BEEP	O	Beep sound signal.
51	VRCE	VRCE	O	Chip enable signal for electronic volume IC in the preamp.
52	$\overline{\text{CDC}}$/AUX	$\overline{\text{CDC}}$/AUX	O	CDC/AUX source select signal. (Set to "L (CDC)".)
53	$\overline{\text{ST}}$	$\overline{\text{ST}}$	I	Stereo signal from tuner circuit.
54	DATAI	DATAI	I	Serial data from tuner circuit.
55	$\overline{\text{ST}}$/MONO	$\overline{\text{ST}}$/MONO	O	Forcible monaural signal. (Set to "L (Stereo)".)
56	TCE	TCE	O	Chip enable signal for tuner circuit.
57	CLK	CLK	O	Clock to tuner, electronic volume and display circuits.
58	DATAO	DATAO	O	Serial data to tuner circuit, dispaly circuit, and Pre P.C.B. Ass'y.
59	VCC	VCC	—	+5V.
60	MGUIDE1	MGUIDE1	O	Loading cam motor drive signal-1.
61	MGUIDE2	MGUIDE2	O	Loading cam motor drive signal-2.
62	CDC	CDC	O	CD changer mute enable signal.
63	ACCCONT	ACCCONT	O	ACC control signal.
64	DSPSEL	DSPSEL	O	DSP IC select signal.
65	CDCRST	CDCRST	I/O	CDC reset signal.
66	CLKOUT	CLKOUT	O	Clock to CDC.
67	DATAOUT	DATAOUT	O	Serial data to CDC.
68	MUTE	MUTE	O	Audio mute signal.
69	SEL1	SLEL1	O	Clear signal for IC in Pre P.C.B. Ass'y.
70	VSS	VSS	—	GND.
71	VSS	VSS	—	GND.
72	LDON	LDON	O	Laser ON signal.
73	ENCLK	ENCLK	O	DSP IC enable clock.
74	IR	IR	O	IR ON signal.
75	FOK	FOK	I	Focus OK signal.
76	SCLK	SCLK	O	Clock to read servo parameter from DSP IC.
77	GFS	GFS	I	GFS OK signal from DSP IC.
78	LSICLK	CDCLK	O	Clock for reading DSP command.
79	FVCC	FVCC	O	+5V ON/OFF signal for front panel circuit.

Pin No.	Pin Name	Signal Name	I/O	Function
80	LSISENS	SENSE	I	DSP IC sensing signal.
81	LSIDATA	DATA	O	DSP command data.
82	LSIXLT	XLAT	O	DSP command latch pulse.
83	CDRST	CDRES	O	DSP IC reset signal.
84	SQSO	SQSO	I	Sub-Q data from DSP IC.
85	SQCK	SQCK	O	Sub-Q clock to DSP IC.
86	ICE	ICE	O	Security LED drive signal.
87	INH	INH	O	LCD display inhibit signal.
88	LCE	LCE	O	Chip enable signal for LCD driver IC.
89	SEL2	SEL2	O	CD control signal.
90	P.ON	P.ON	O	Amp. circuit/driver circuit power ON/OFF control signal.
91	LAMP	LAMP	O	Front panel lamp power ON/OFF control signal.
92	VSS	VSS	—	GND.
93	CDON	CDON	O	CD Servo circuit power ON/OFF control signal.
94	MECHON	MECHON	O	Mechanism sensor circuit power ON/OFF control signal.
95	REMOTE	REMOTE	O	Power amp. remote control signal.
96	P.ANT	P.ANT	O	Power antenna control signal.
97	TXD1	TXD1	I	(Not used.)
98	RXD1	RXD1	I	(Not used.)
99	SCK1	SCK1	I	(Not used.)
100	$\overline{\text{RESO}}$	$\overline{\text{RESO}}$	—	(Not used.)

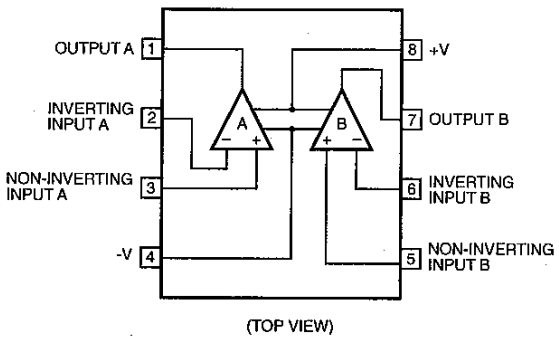


Fig. 8.1 Operational Amp. NJM4558, NJM5532, μPC4570

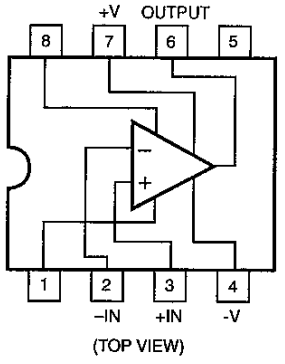


Fig. 8.3 Operational Amp. NJM5534 (U906L/R)

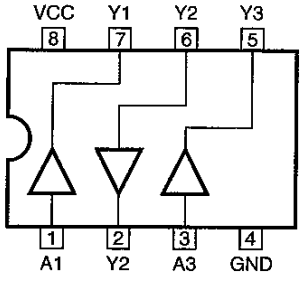


Fig. 8.2 Buffer TC7W34FU (U505, 506, 507)

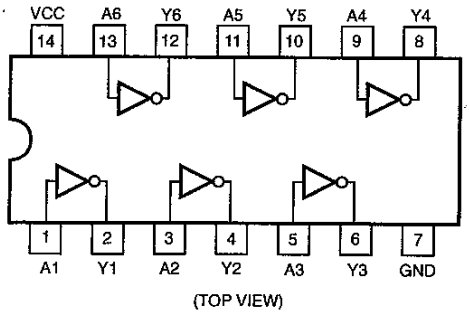


Fig. 8.4 Inverter TC74HCU04AF (U901)

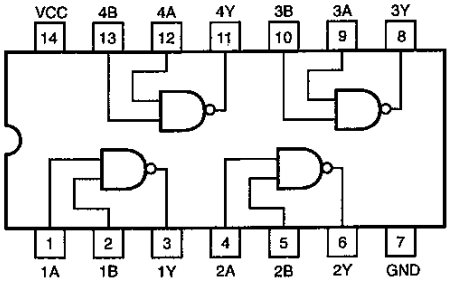


Fig. 8.5 NAND Gate TC74HC00AF (U112)

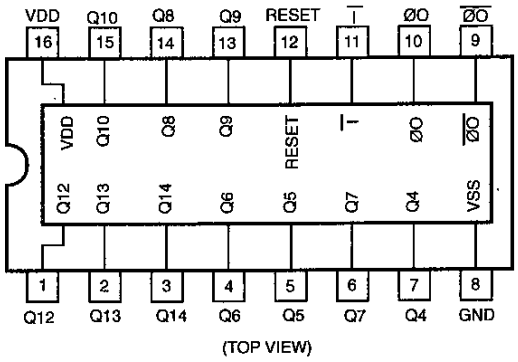


Fig. 8.6 14-Stage Counter/Oscillator TC4060AF (U503)

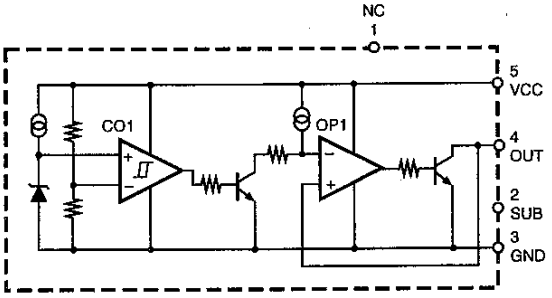


Fig. 8.7 Voltage Detector PST9142NR (U502, U999)

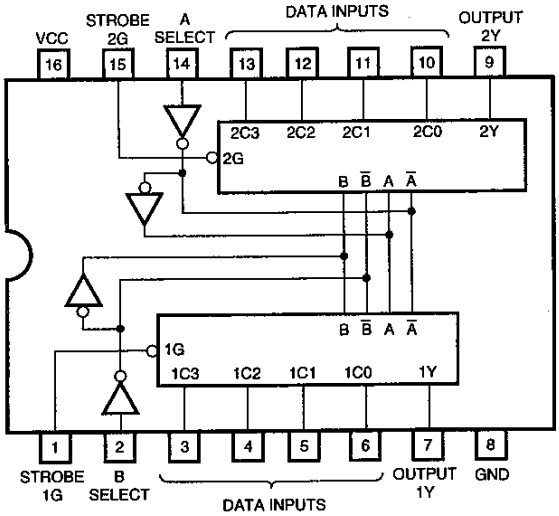


Fig. 8.8 Selector TC74HC153AF (U902)

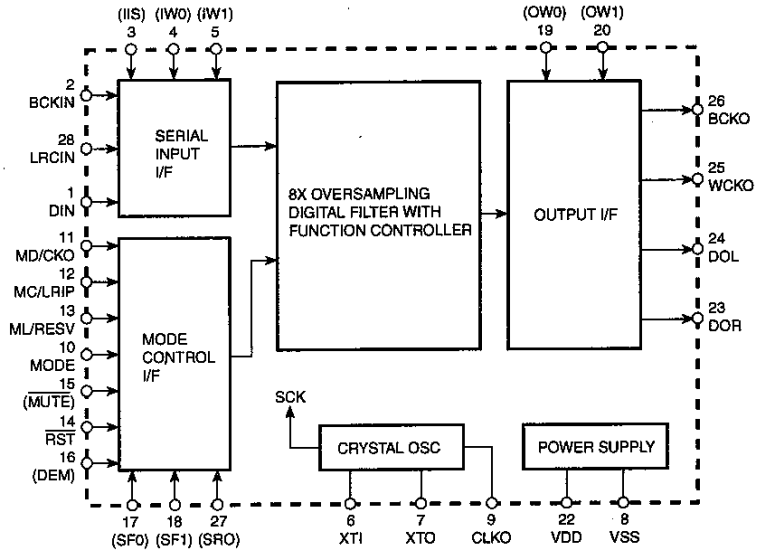


Fig. 8.9 Digital Filter DF1704E (U904)

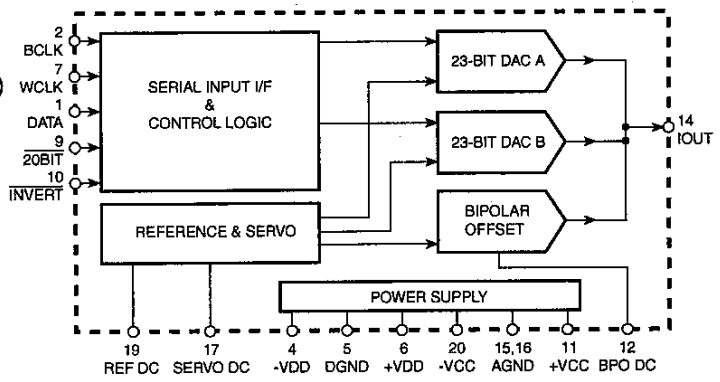
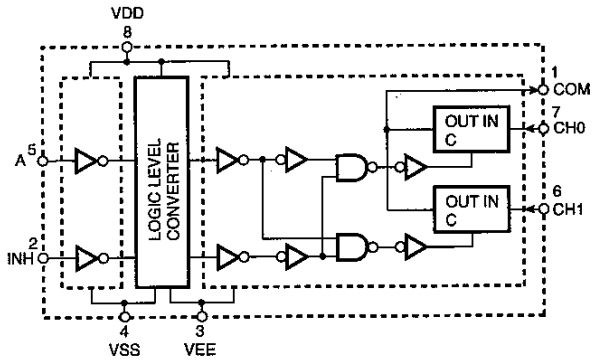


Fig. 8.10 DA Converter PCM1704U (U905L/R)



INH	A	COM
L	L	CH0
L	H	CH1
H	*	NONE

*: Don't Care

Fig. 8.11 Selector TC4W53FU (U105)

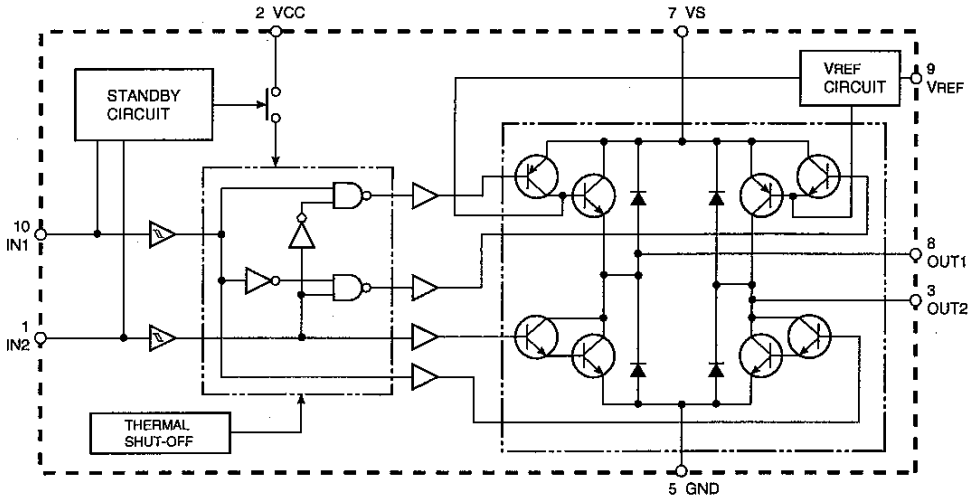


Fig. 8.12 Motor Driver TA8409F (U106, 107, 108)

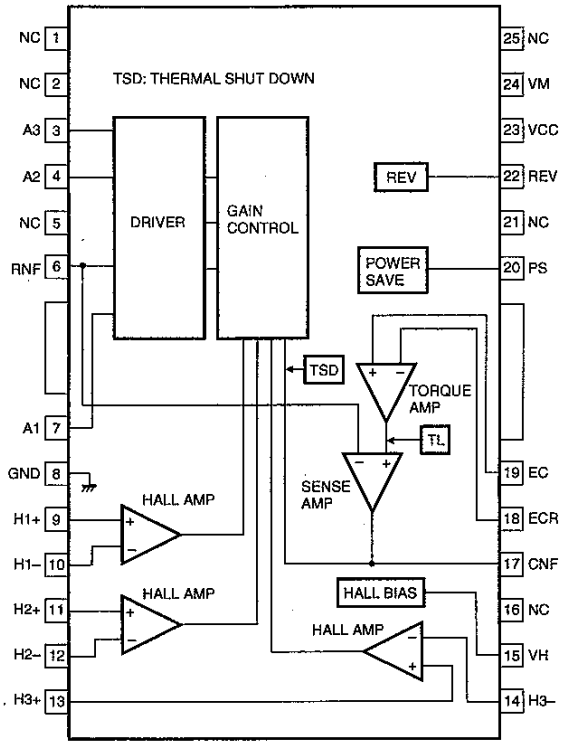


Fig. 8.13 Motor Driver BA6840BFP (U104)

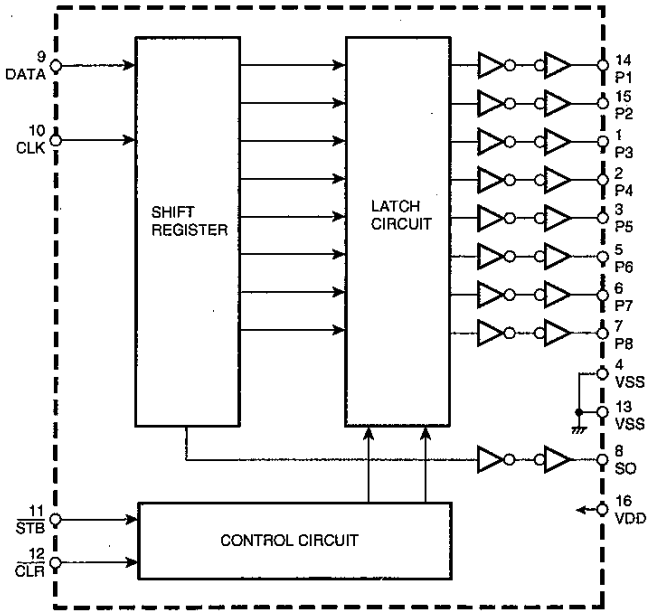


Fig. 8.14 8-Bit Serial-To-Parallel Converter NJU3712M (U301)

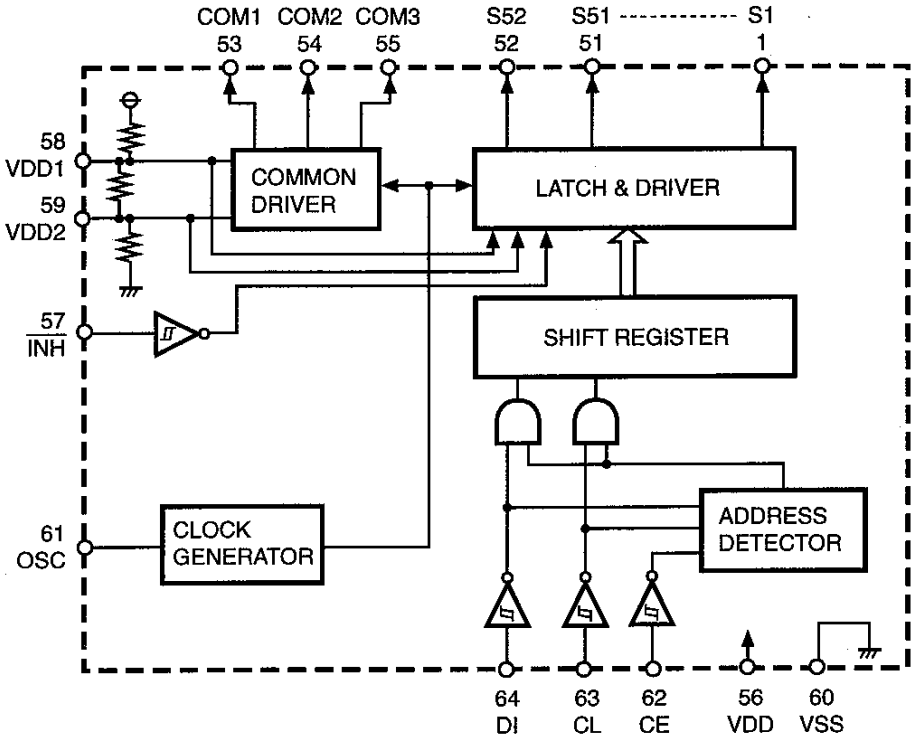


Fig. 8.15 LCD Driver LC75823W (IC701)

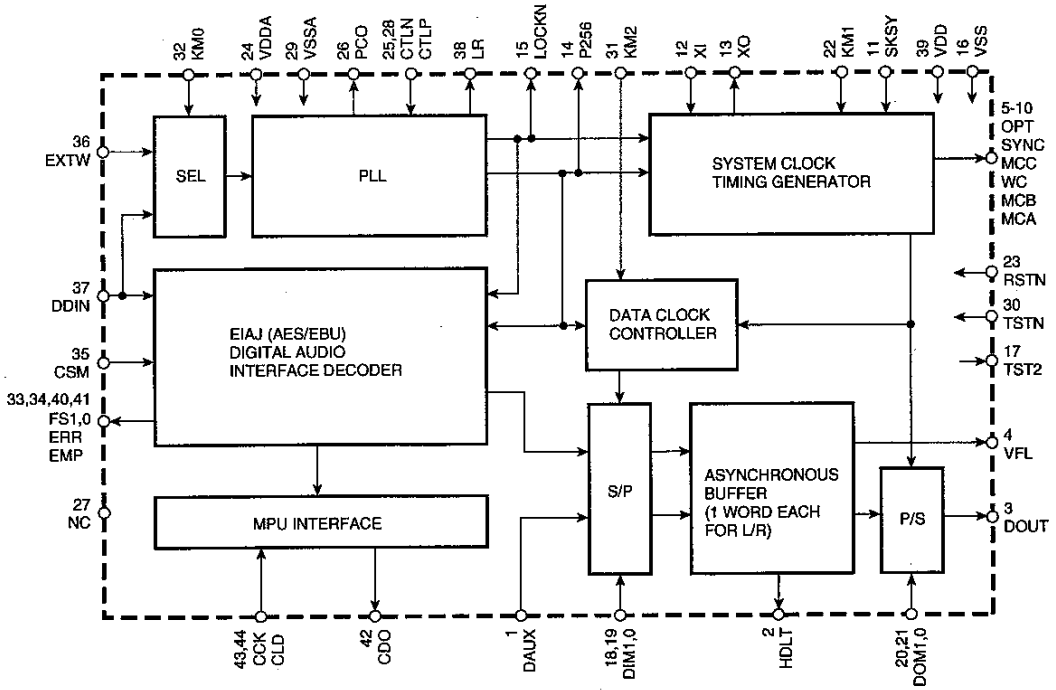


Fig. 8.16 Digital Audio Interface Receiver YM3436D (U903)

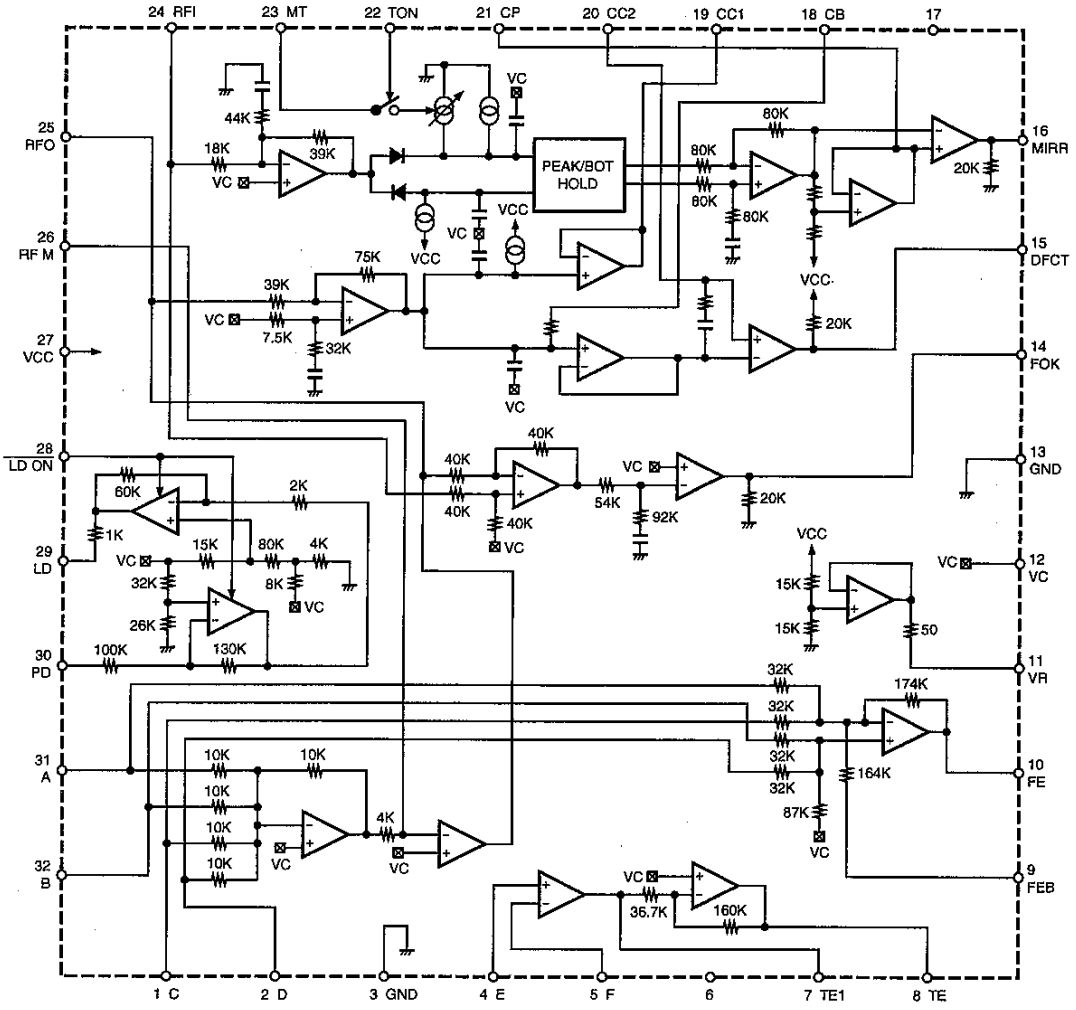


Fig. 8.17 RF Amp. CXA2521Q (U101)

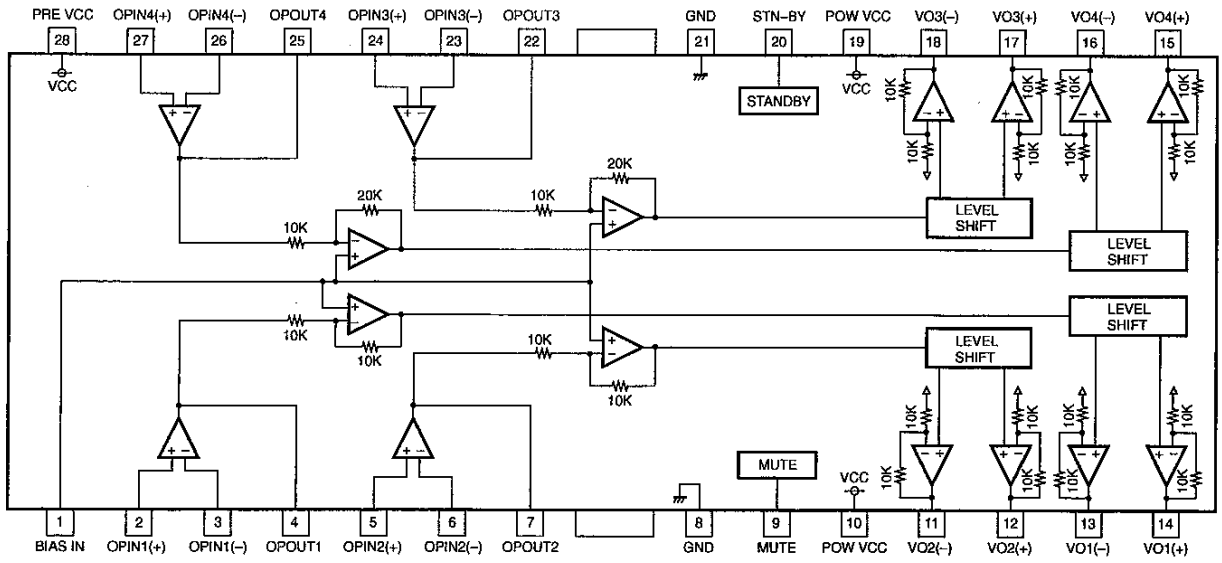


Fig. 8.18 Driver BA5972FP (U103)

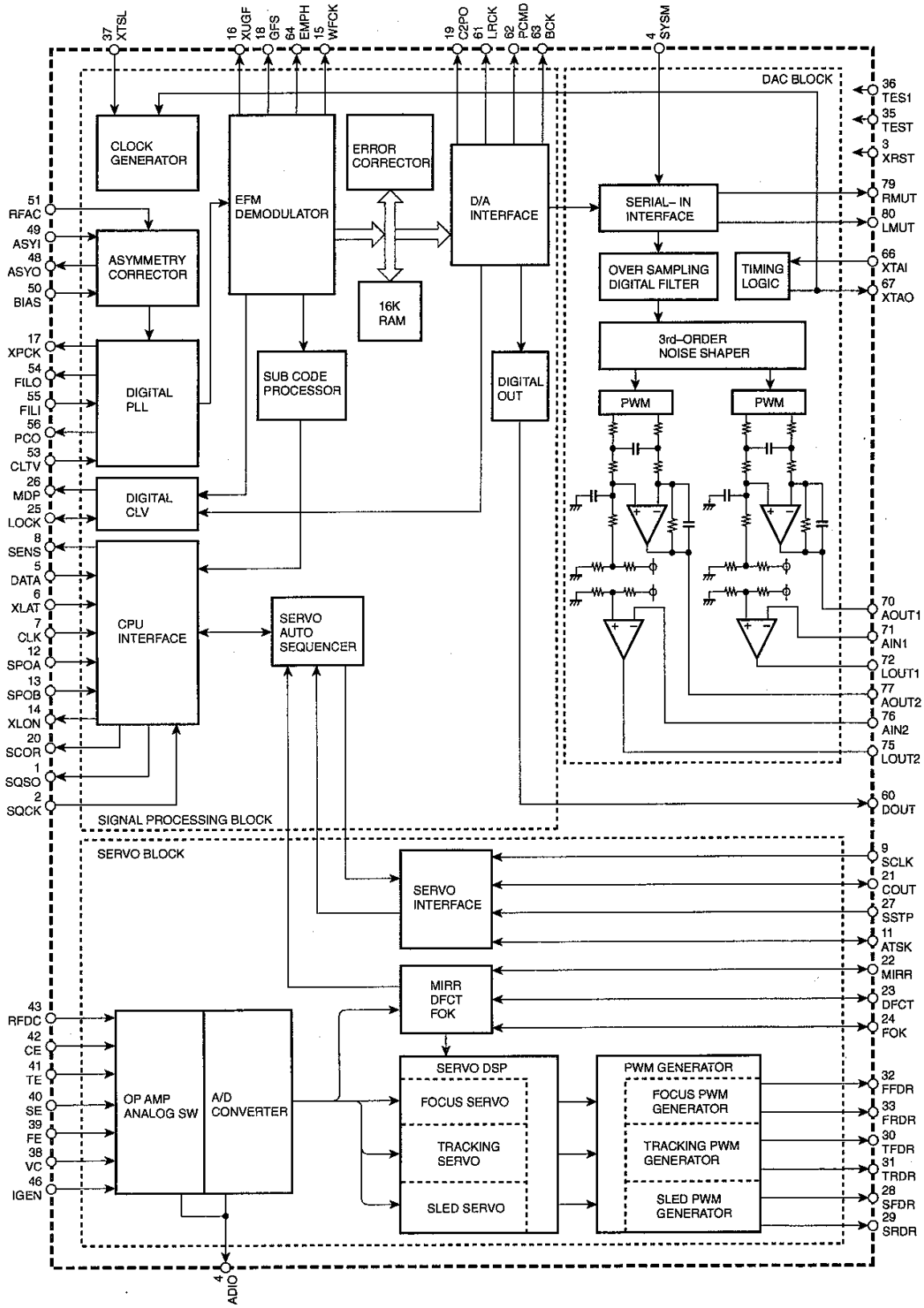


Fig. 8.19 Digital Signal Processor CXD2587Q (U102)

9. BLOCK DIAGRAM

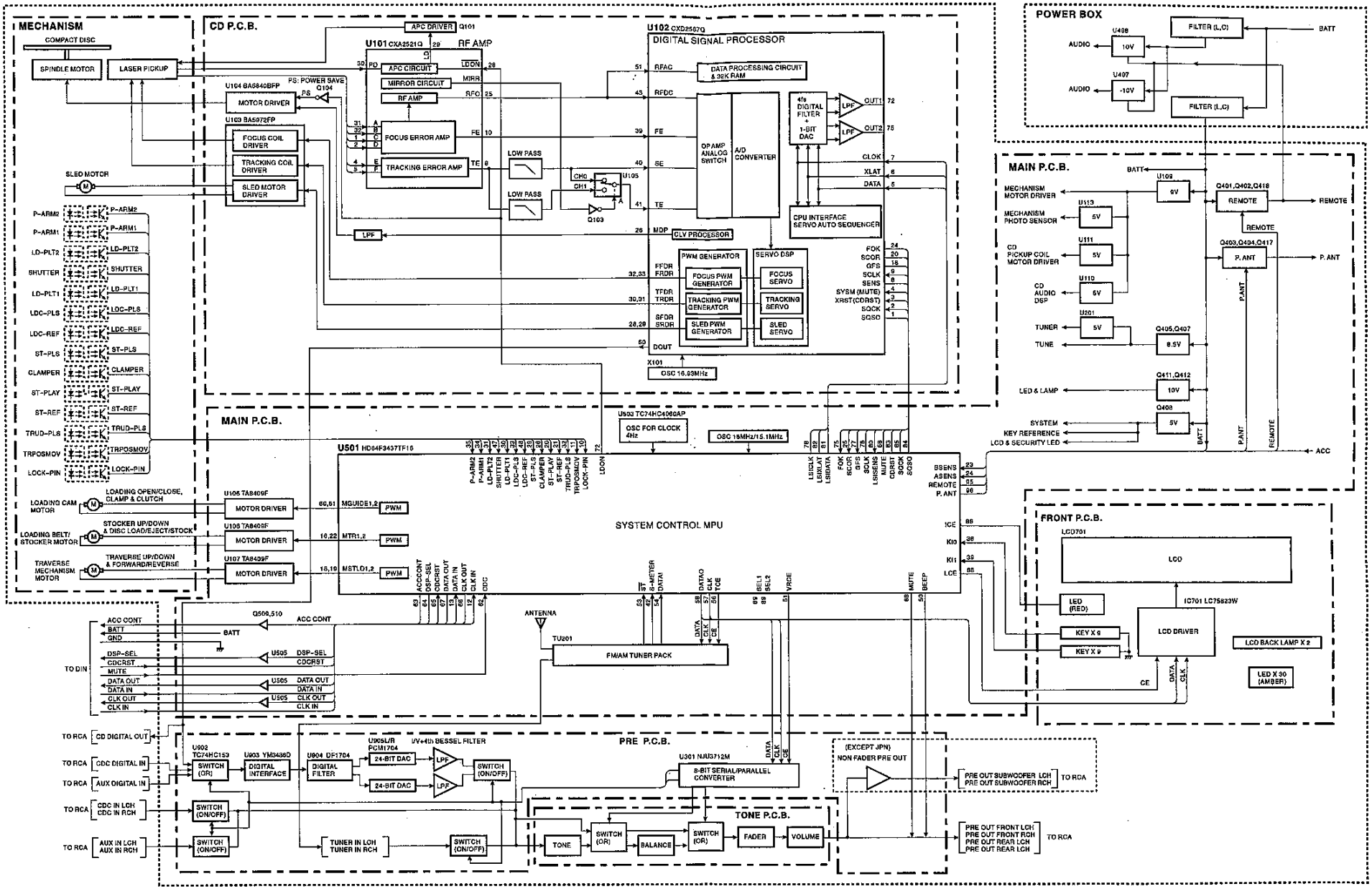
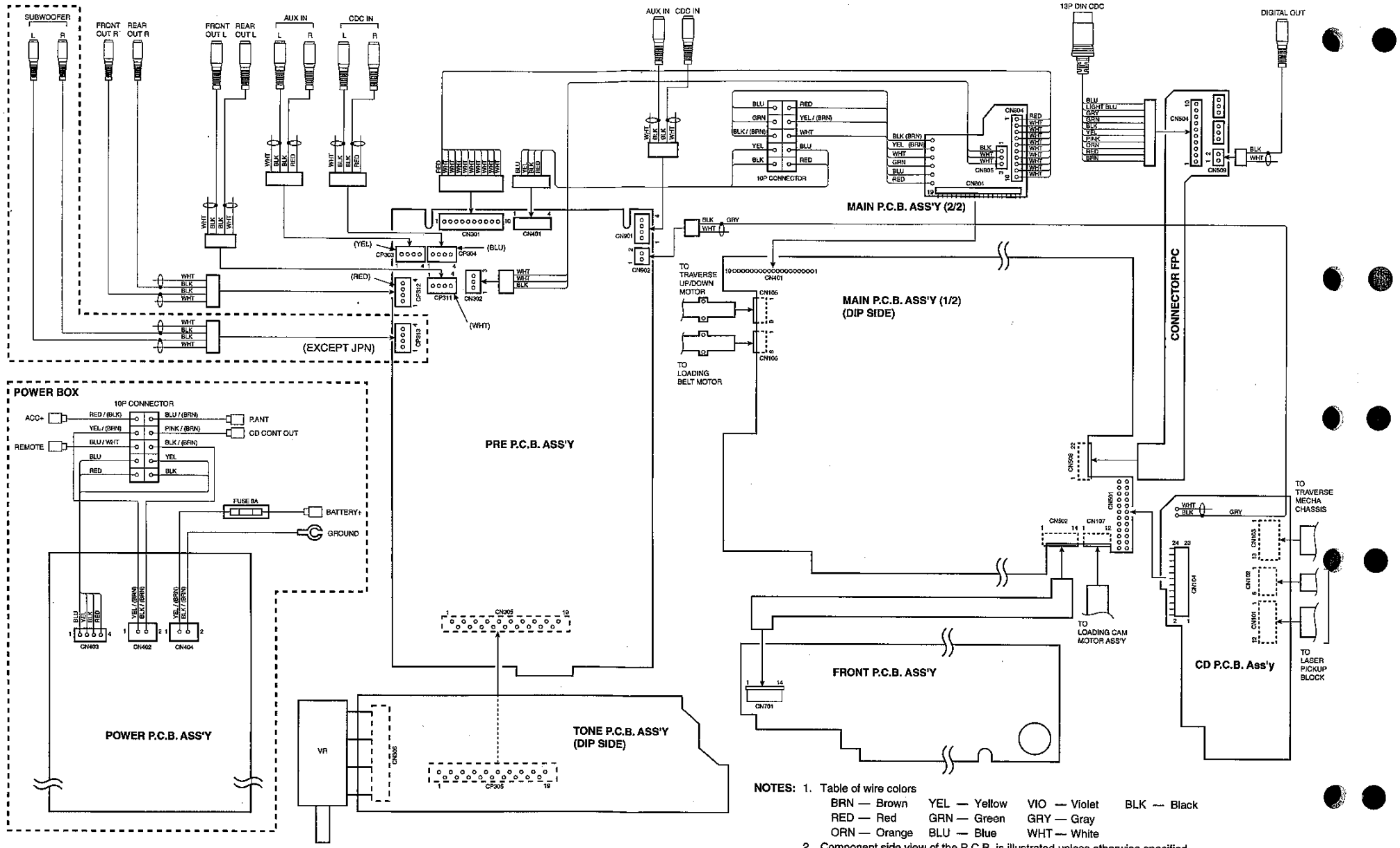


Fig. 9

10. WIRING DIAGRAM



NOTES: 1. Table of wire colors

BRN — Brown	YEL — Yellow	VIO — Violet	BLK — Black
RED — Red	GRN — Green	GRY — Gray	
ORN — Orange	BLU — Blue	WHT — White	

2. Component side view of the P.C.B. is illustrated unless otherwise specified.

Fig. 10

SPECIFICATIONS

• Preamplifier Section

Frequency Response	15 - 30,000 Hz ±1 dB (AUX to Pre Out)
Total Harmonic Distortion	0.001% (1 kHz)
AUX Input Level/Impedance	1 V/ 10 kohms
CDC Input Level/Impedance	1 V/ 10 kohms
Output Level	5.0 V
Tone Controls	
Bass	20 Hz ±12 dB
Mid	1 kHz ± 9 dB
Treble	20 kHz ± 6 dB

• FM Tuner Section

Frequency Range	
U.S.A. and Canada	87.5 - 107.9 MHz in 100-kHz steps
Other Area	87.5 - 108.0 MHz in 50-kHz steps
Sensitivity	15 dBf (IHF)
Signal-to-Noise Ratio	60 dB (Mono)
Stereo Separation	35 dB
Antenna Input	75 ohms (Unbalanced)

• AM Tuner Section

Frequency Range	
U.S.A. and Canada	530 - 1,710 kHz in 10-kHz steps
Other Area	531 - 1,602 kHz in 9-kHz steps
Sensitivity	32 dBμ
Signal-to-Noise Ratio	45 dB

• CD Player Section

System	Compact Disc digital audio
Error Correction	CIRC Principle
Sampling Frequency	44.1 kHz
D/A Converter Type	24-bit D/A converter with 8-times oversampling digital filter
Frequency Response	20 - 20,000 Hz ± 1 dB
Signal-to-Noise Ratio	Better than 105 dB
Dynamic Range	Better than 100 dB
Total Harmonic Distortion	0.003% (1 kHz)

• General

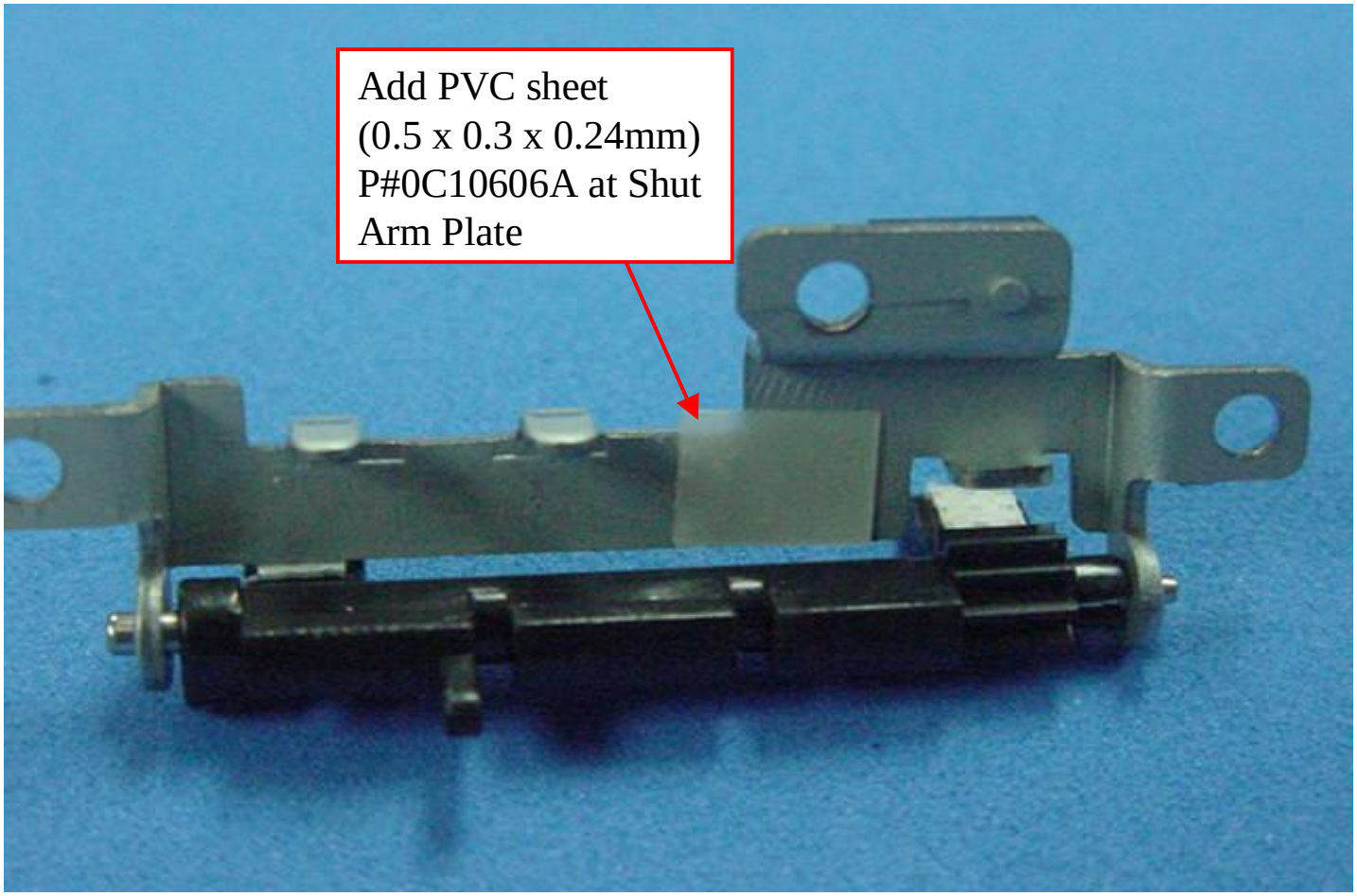
Power Source	14.4 VDC, negative ground (10.8 - 15.6 V allowable)
Current Consumption	2.5A
Installation Dimensions (W x H x D)	
Main Unit	178 (W) x 50 (H) x 159.5 (D) mm
	7 (W) x 1-15/16 (H) x 6-1/4 (D) inches
Outer Dimensions* (W x H x D)	
Main Unit	178 (W) x 46 *(H) x 177.8 (D) mm
	7 (W) x 1-15/16* (H) x 7 (D) inches
Power Supply Unit	137 (W) x 31.2 (H) x 85 (D) mm
	5-3/8 (W) x 1-1/4 (H) x 3-3/8 (D) inches

Nakamichi

Improvements of 6 Disc & CD-700 / CD-700II Mechanism

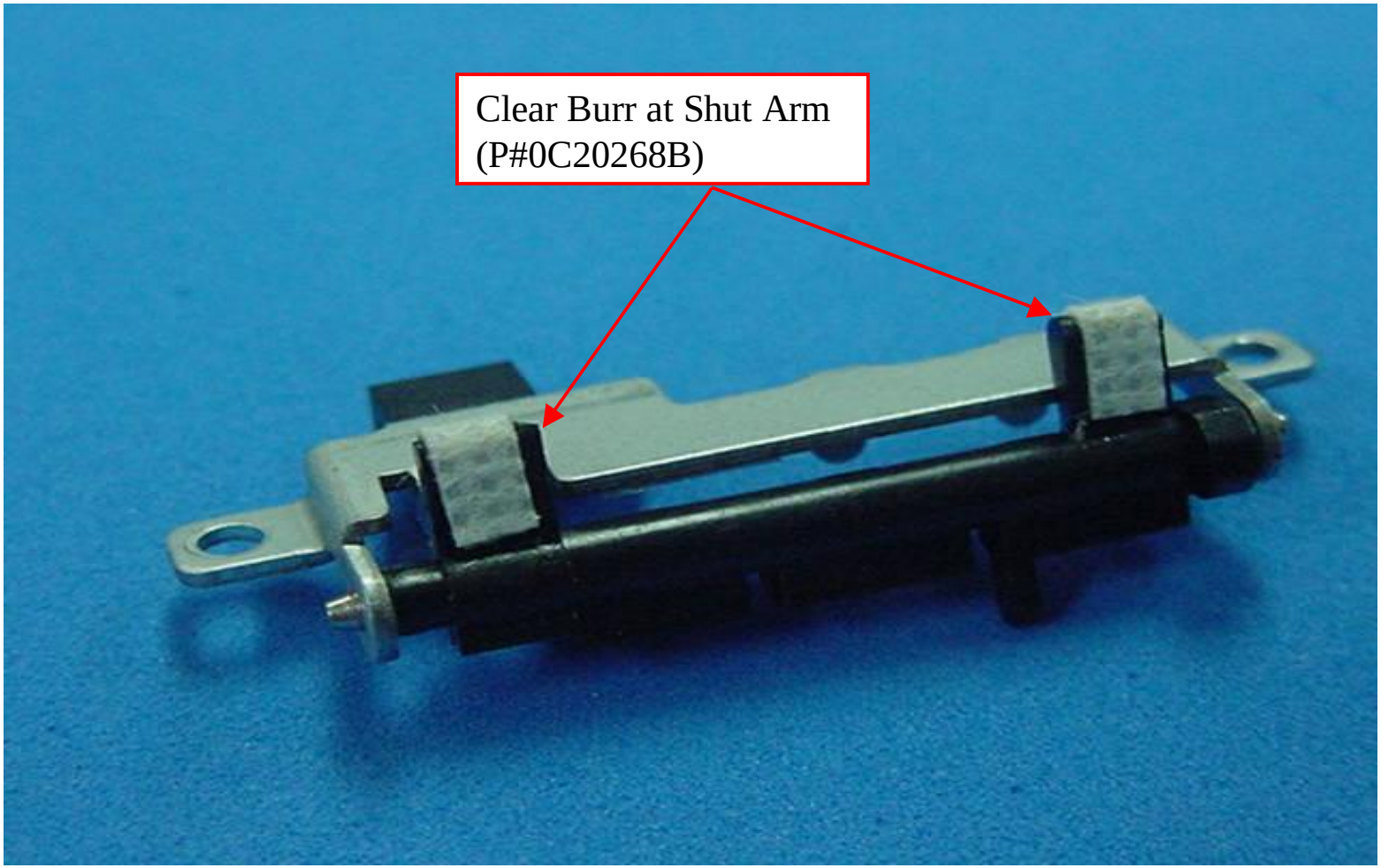
Nakamichi

1(i) Prevent CD Auto Eject: Shutter sensor is not activated properly (Loading Ass'y)



Nakamichi

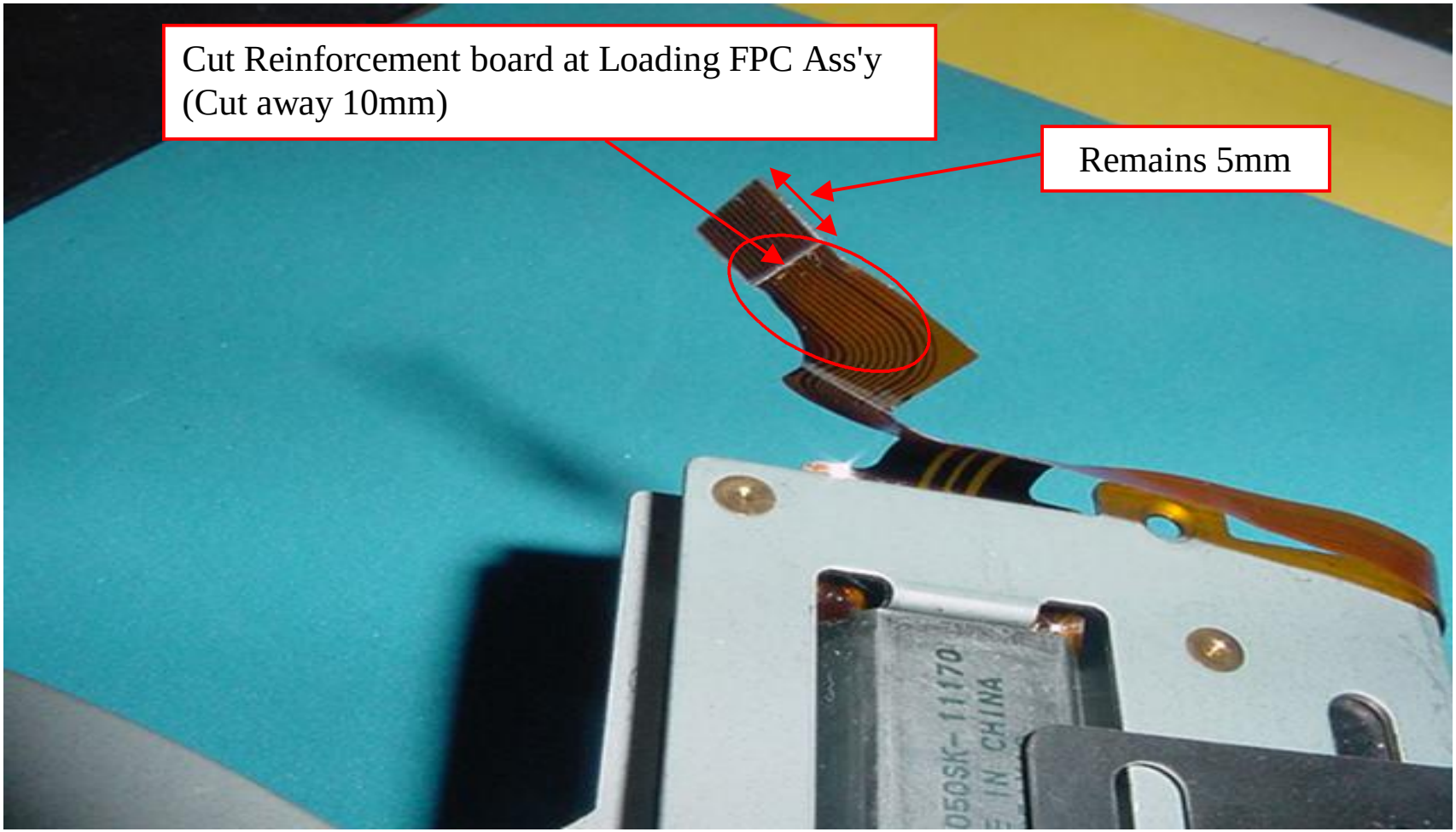
1(ii) Prevent CD Auto Eject: Shutter sensor is not activated properly (Loading Ass'y)



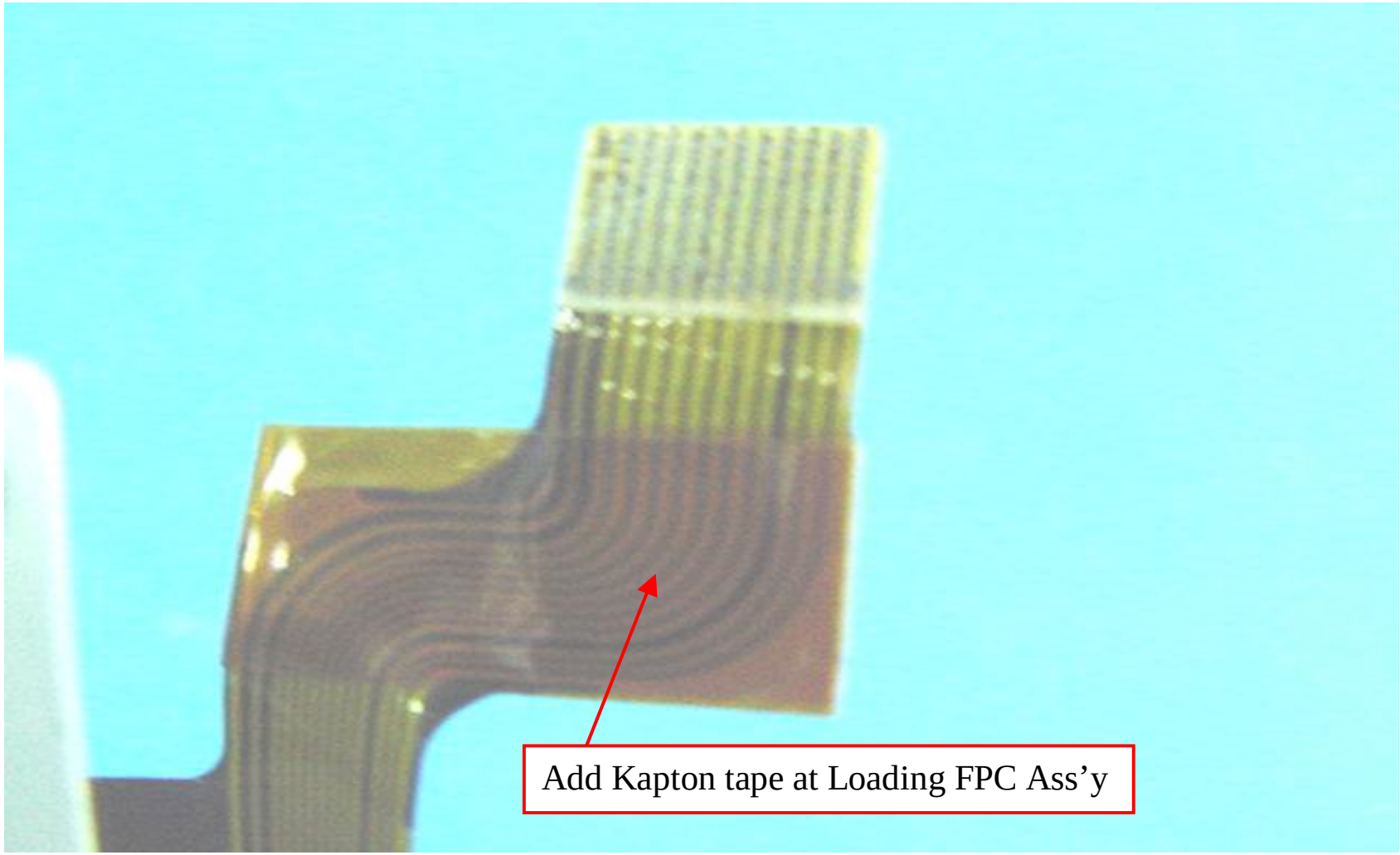
Nakamichi

2(i) Prevent E-mecha: bad solder joint due to insertion force at CN107 (Main PCB Ass'y)

Resolder or replace CN107 for repair



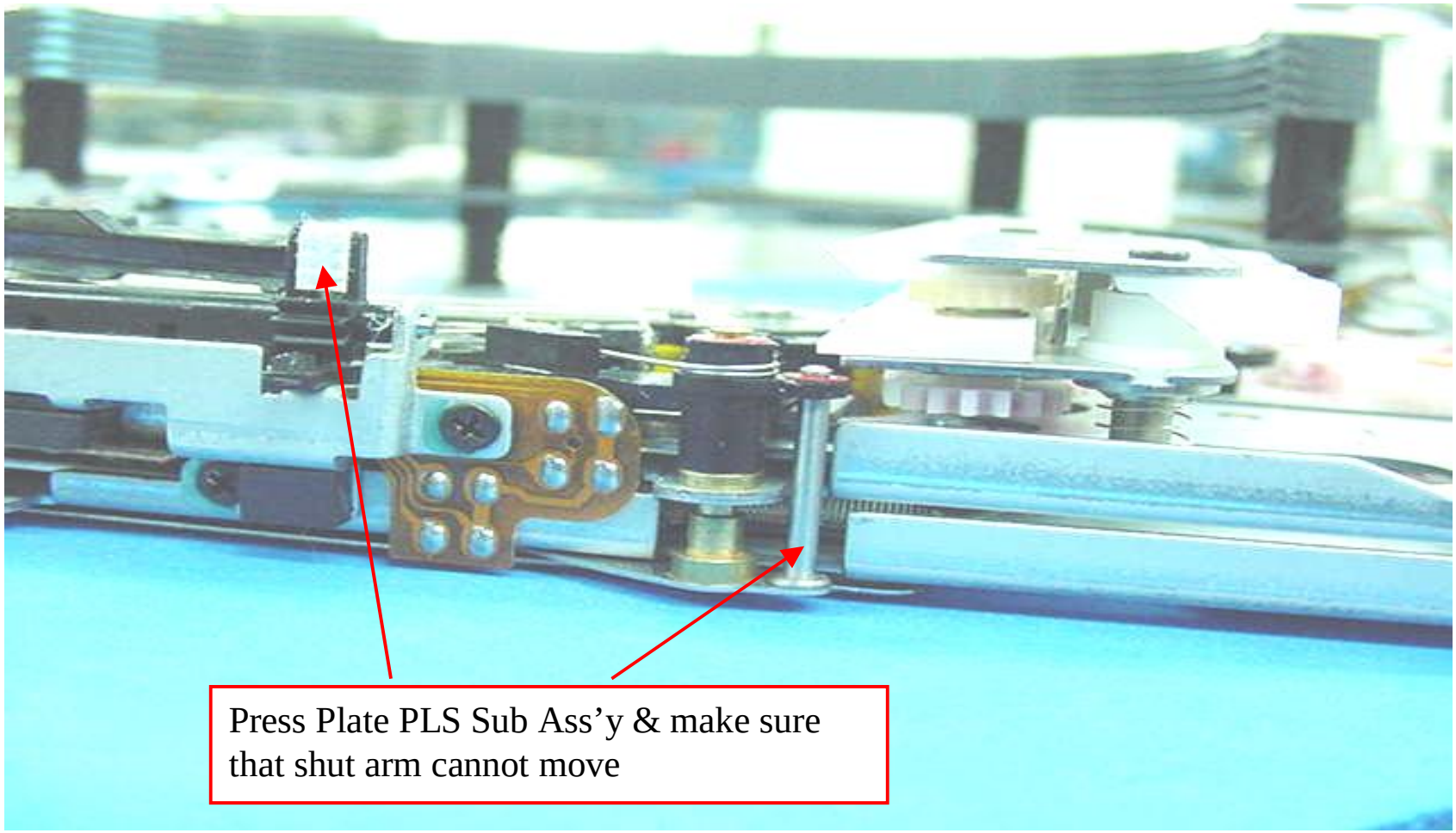
2(ii) Strengthen Loading FPC Ass'y (Loading Ass'y)



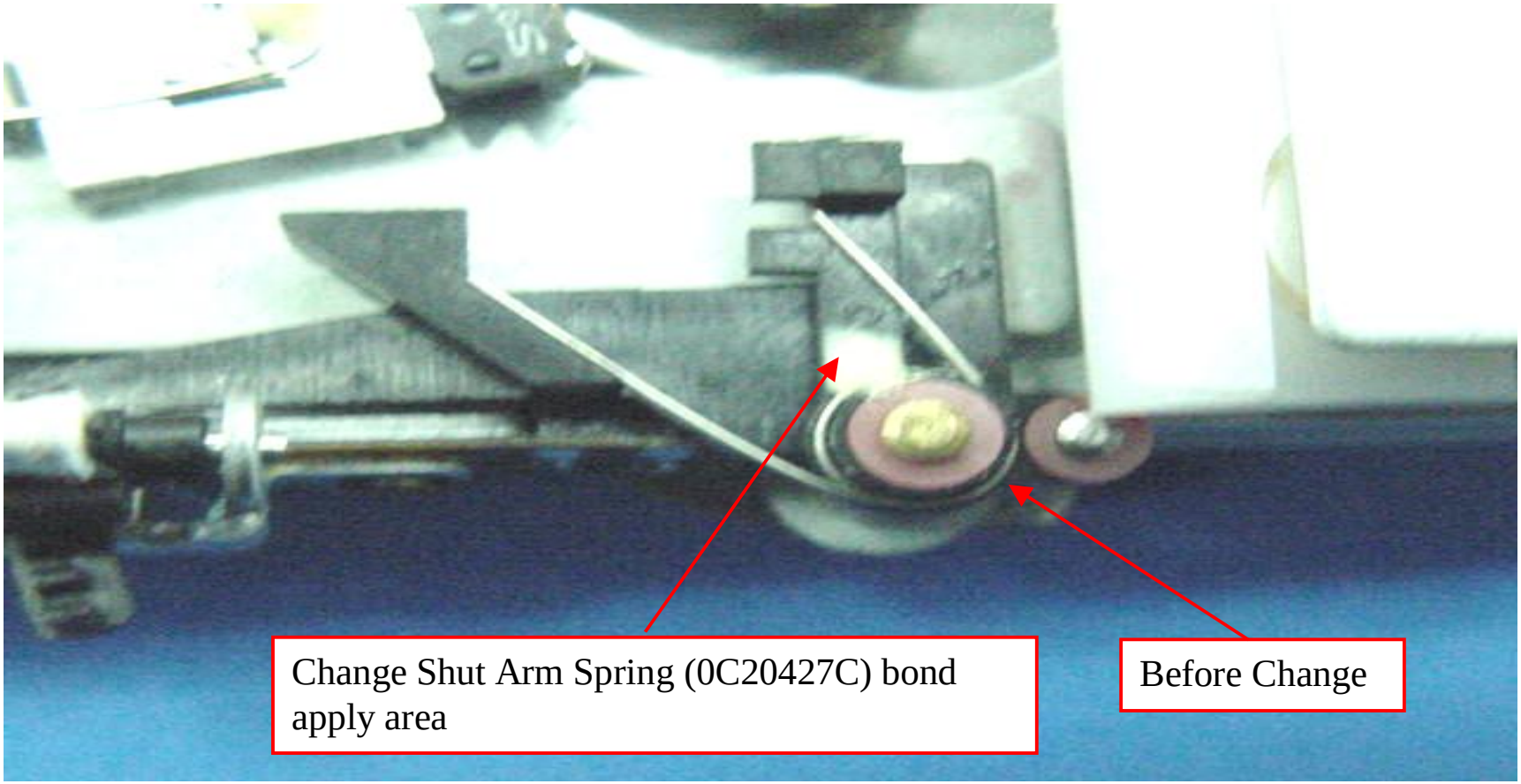
3(i) Prevent E-mecha: loading CAM Mechanism jamming (Loading Ass'y)

If it moves, check if the 3 teeth of the shut arm rack comes out when shut arm is in vertical position.

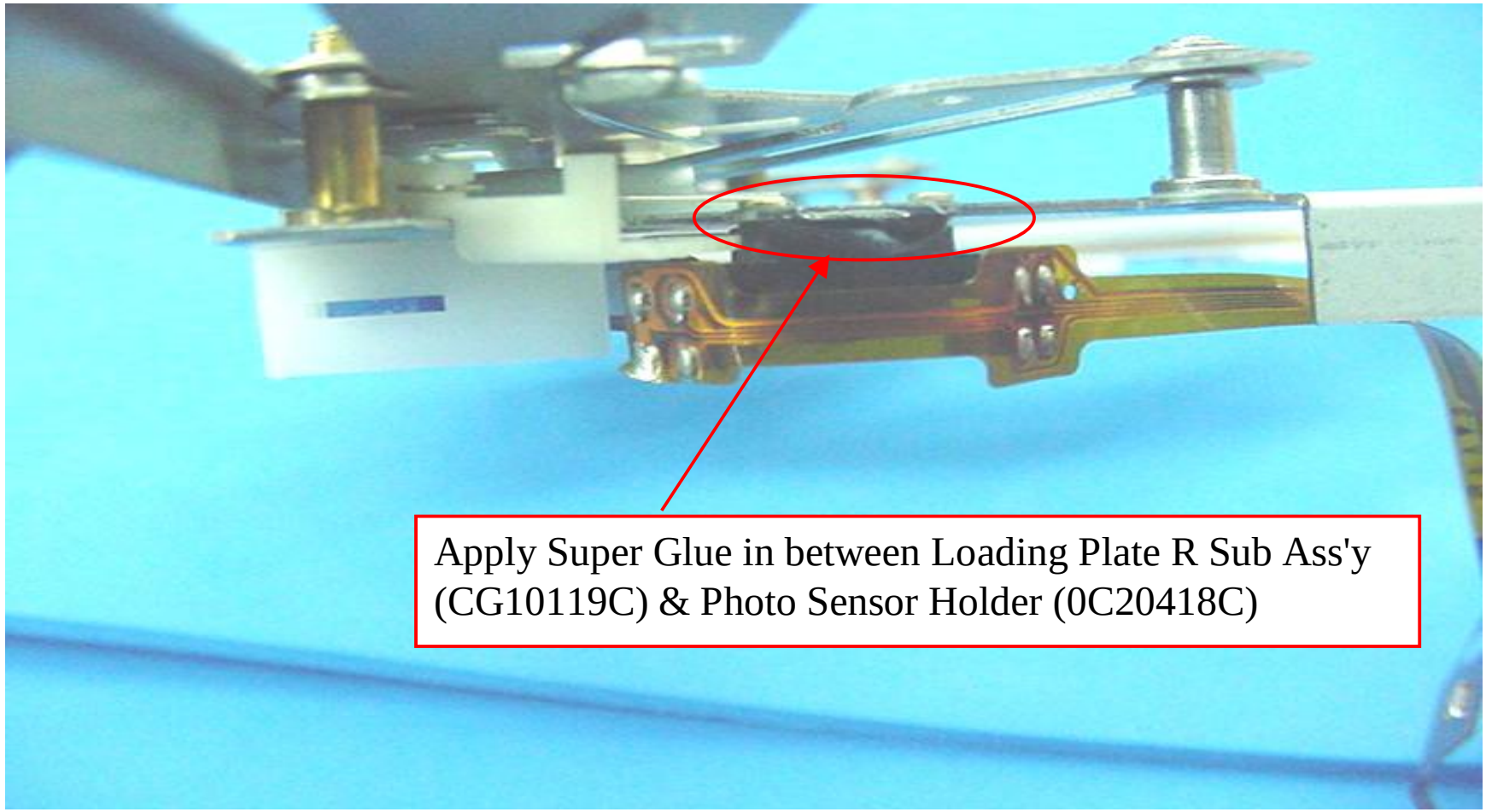
If no, re-adjust the shut arm.



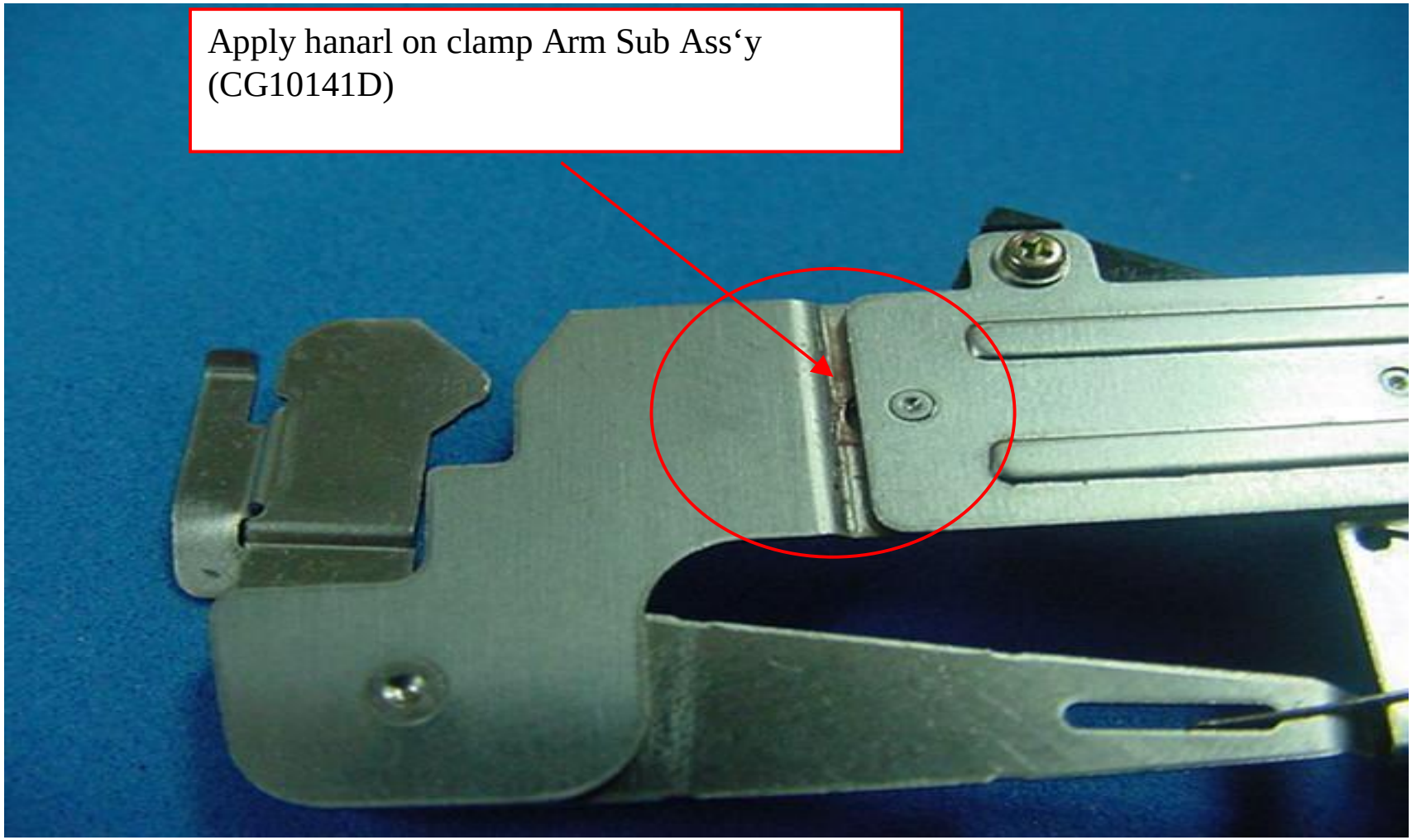
3(ii) Prevent E-mecha: shut arm movement not smooth (Loading Ass'y)



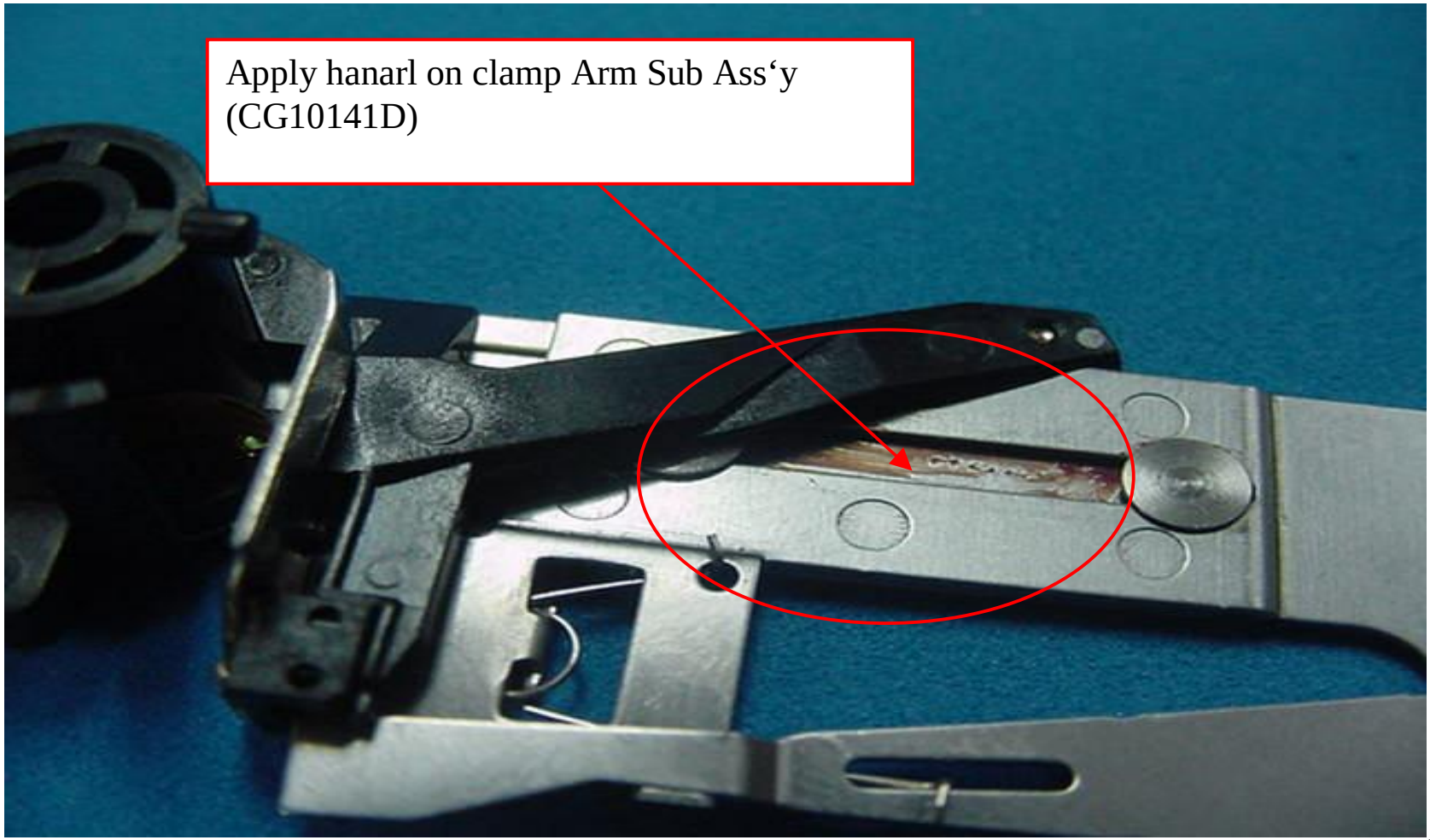
3(iii) Prevent E-mecha: loading CAM Mechanism jamming (Loading Ass'y) (6 Disc Mechanism)



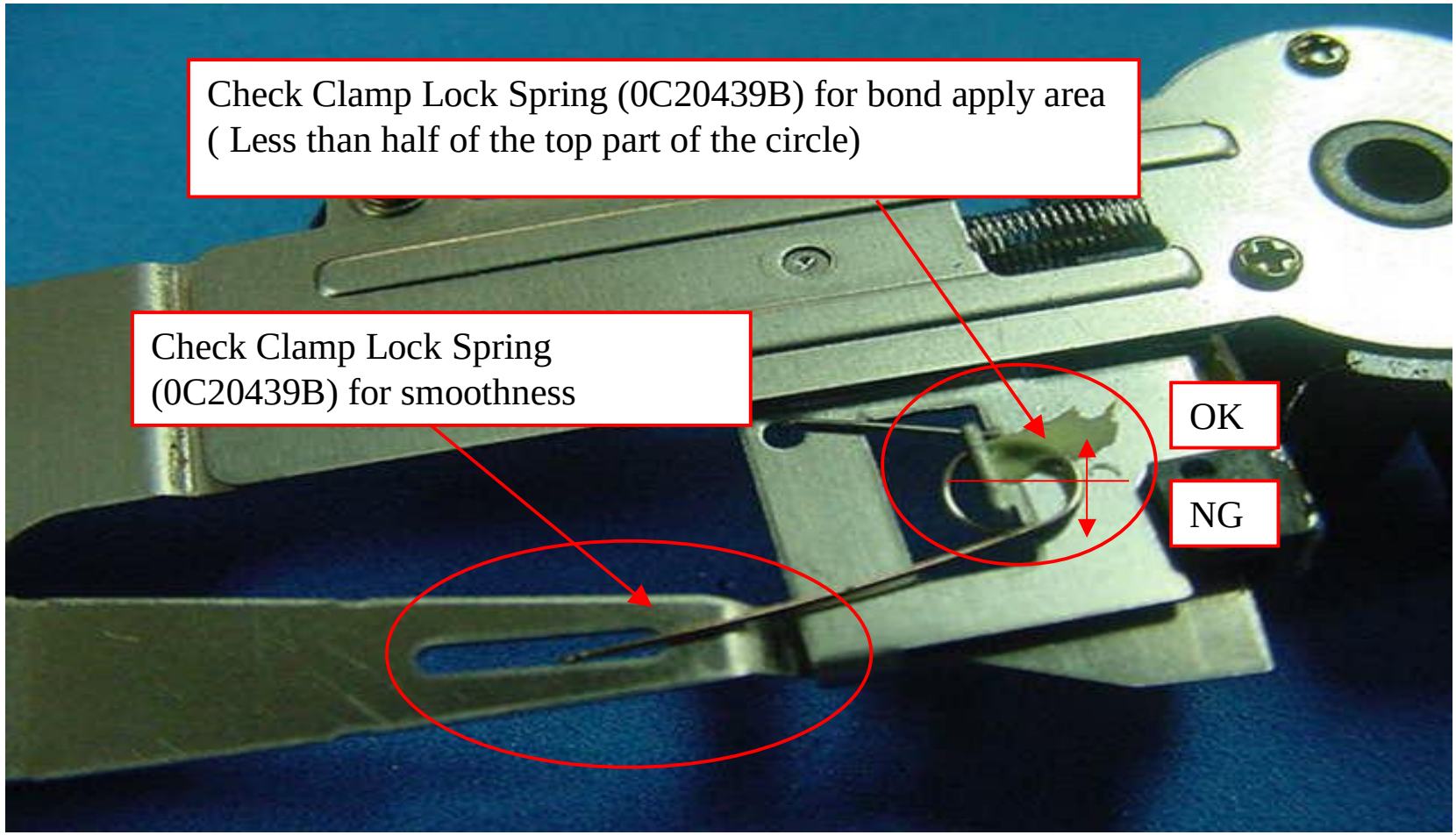
4(i) Prevent E-mecha: clamper arm does not catch clamp plate (Clamper Ass'y)



4(ii) Prevent E-mecha: clamper arm does not catch clamp plate (Clamper Ass'y)

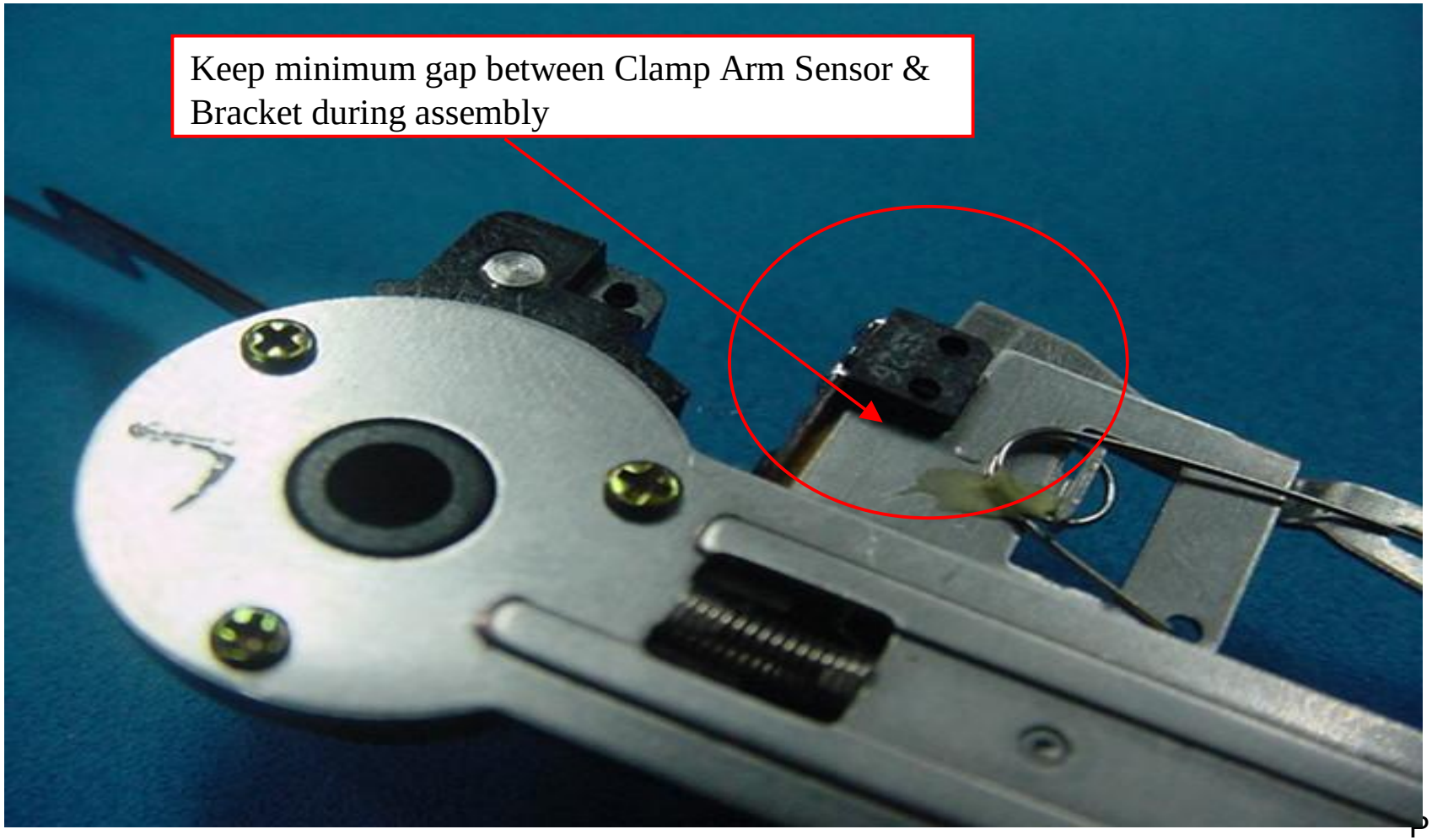


4(iii) Prevent E-mecha: clamper arm does not catch clamp plate (Clamper Ass'y)

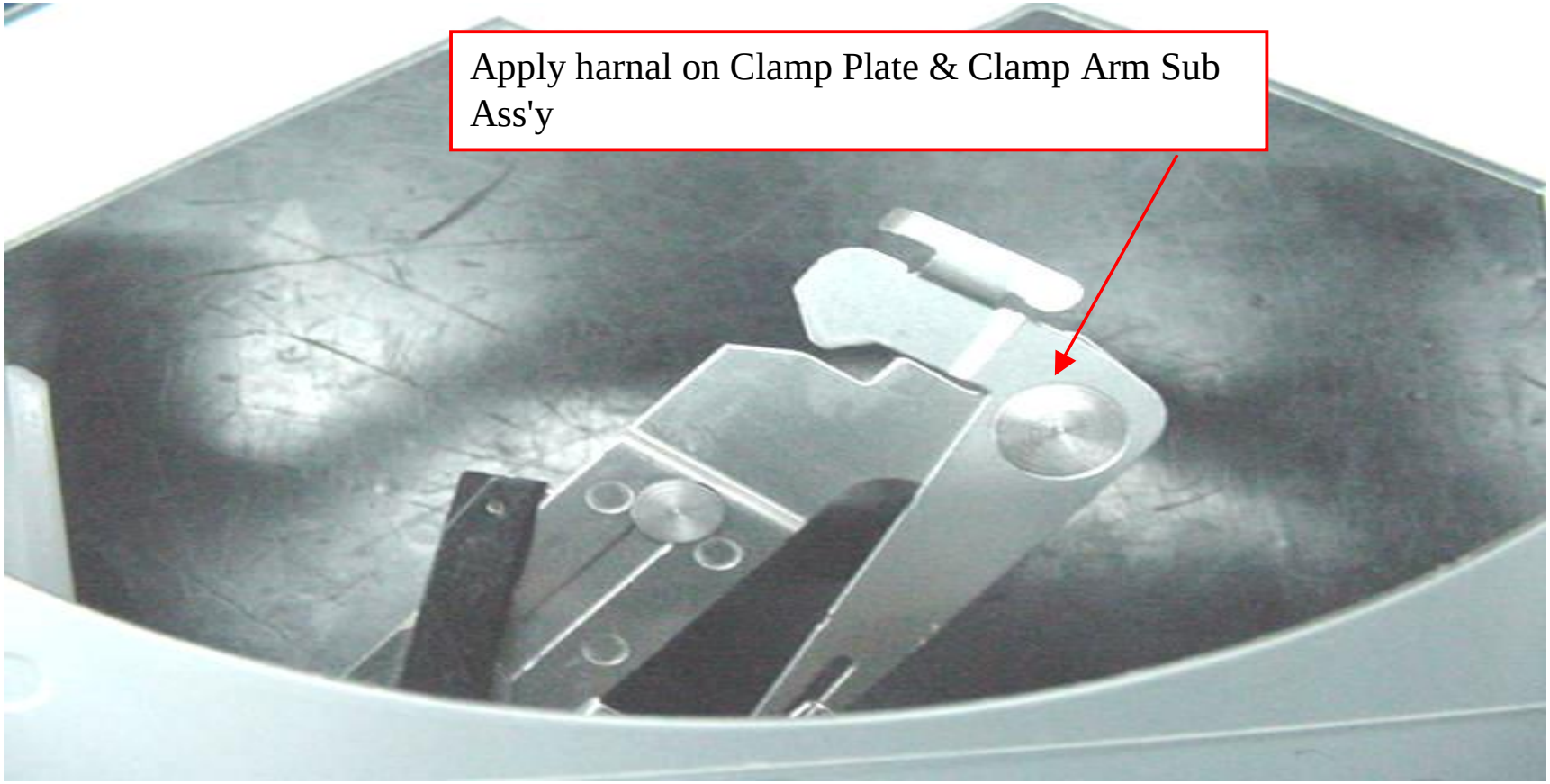


4(iv) Prevent E-mecha: clamper arm does not catch clamp plate (Clamper Ass'y)

Change clamp arm sensor if the gap is too big.



4(v) Prevent E-mecha: clamper arm does not catch clamp plate (Clamper Ass'y)

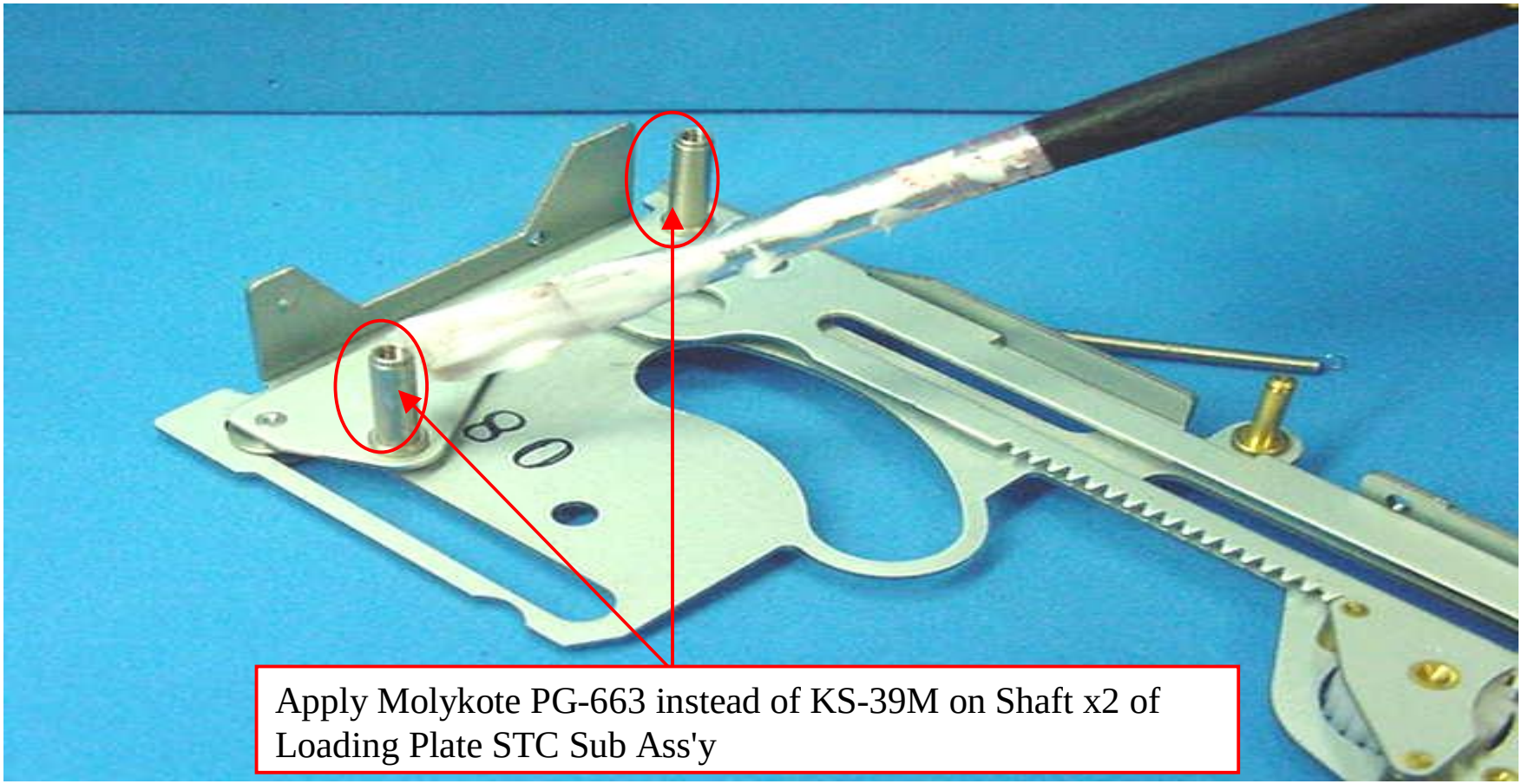


4(vi) Prevent E-mecha: clamper arm does not catch clamp plate (Clamper Ass'y)

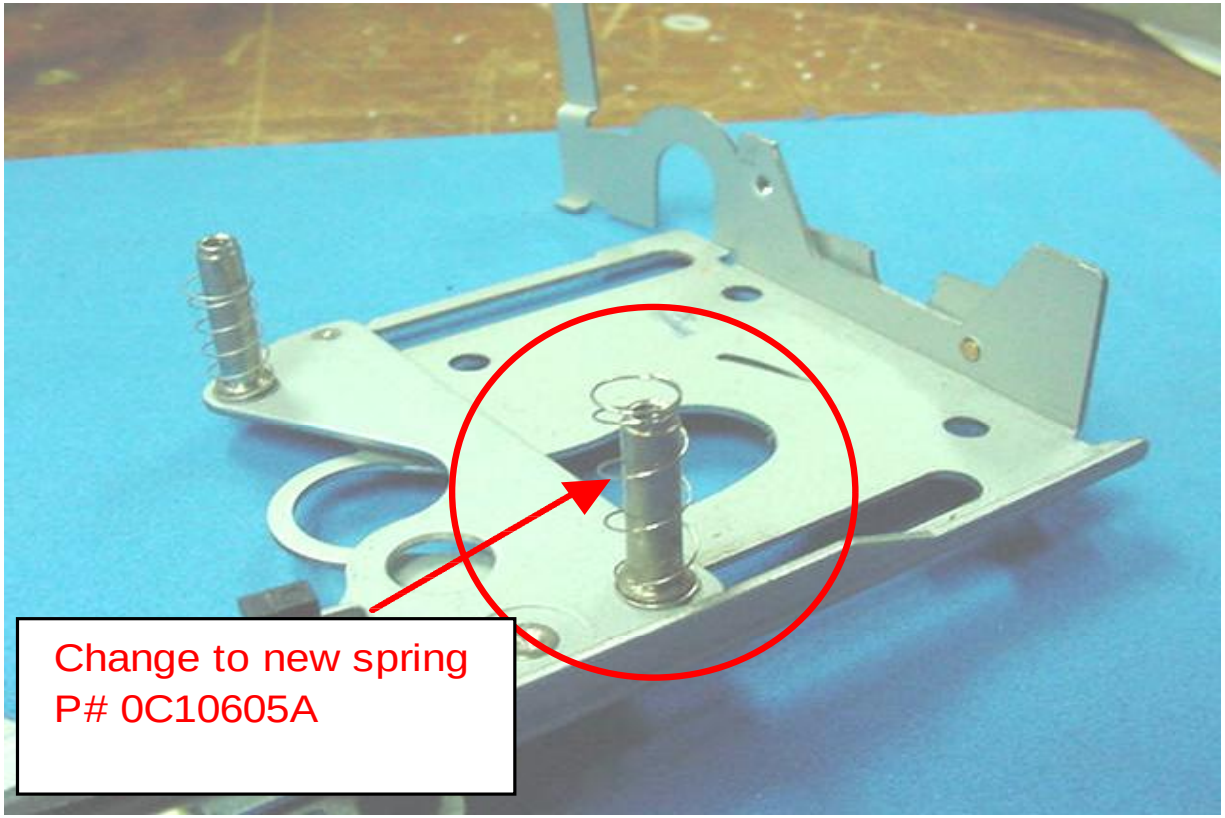
4(vii) Prevent E-mecha: clamper arm does not catch clamp plate (Clamper Ass'y)

5(i) Prevent E-mecha: loading guides does not hold disc correctly when closed
(Loading guide Ass'y)

5(ii) Prevent E-mecha: loading guides does not hold disc correctly when closed
(Loading guide Ass'y)

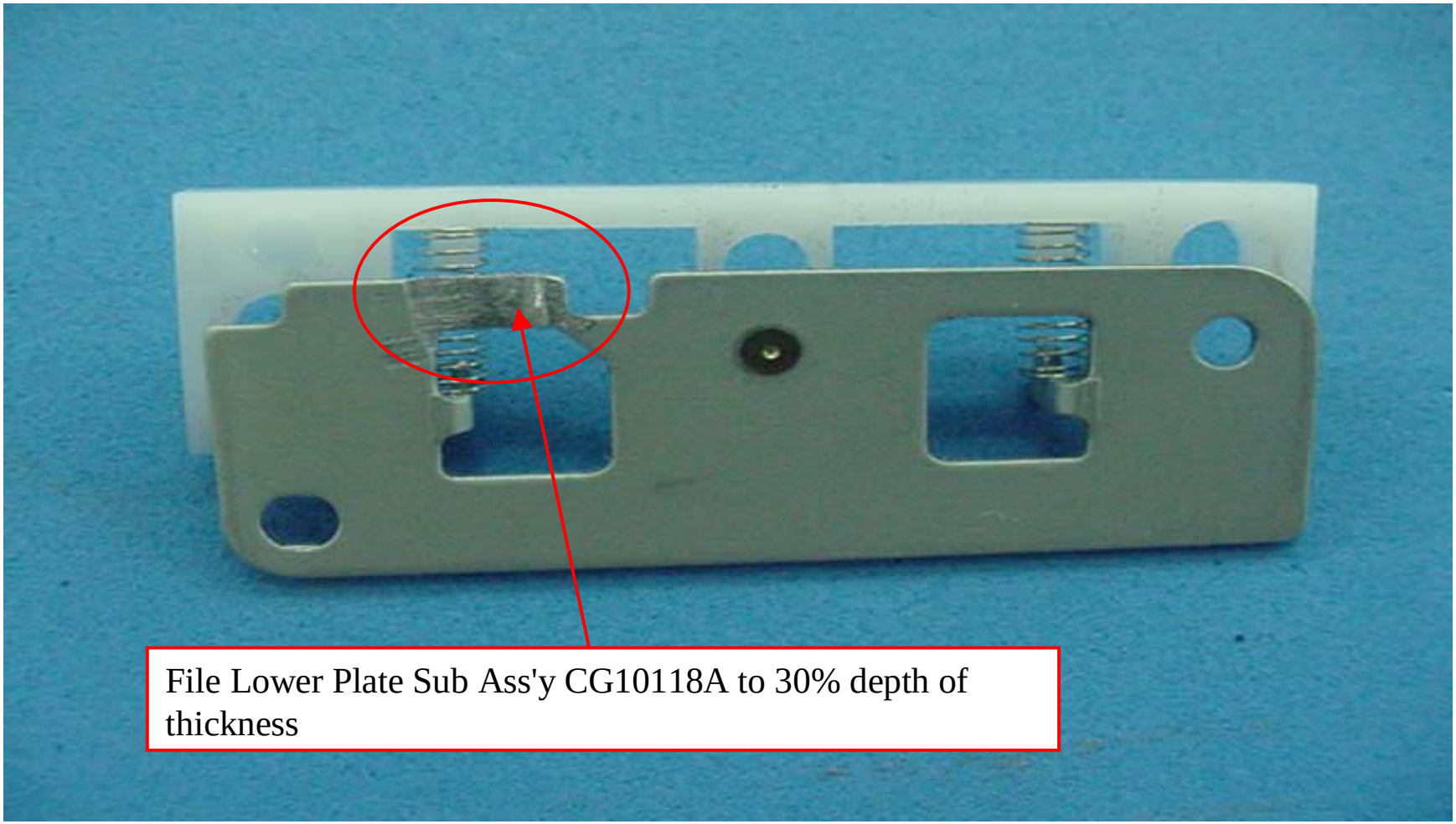


5(iii) Prevent E-mecha: loading guides does not hold disc correctly when closed
(Loading guide Ass'y)

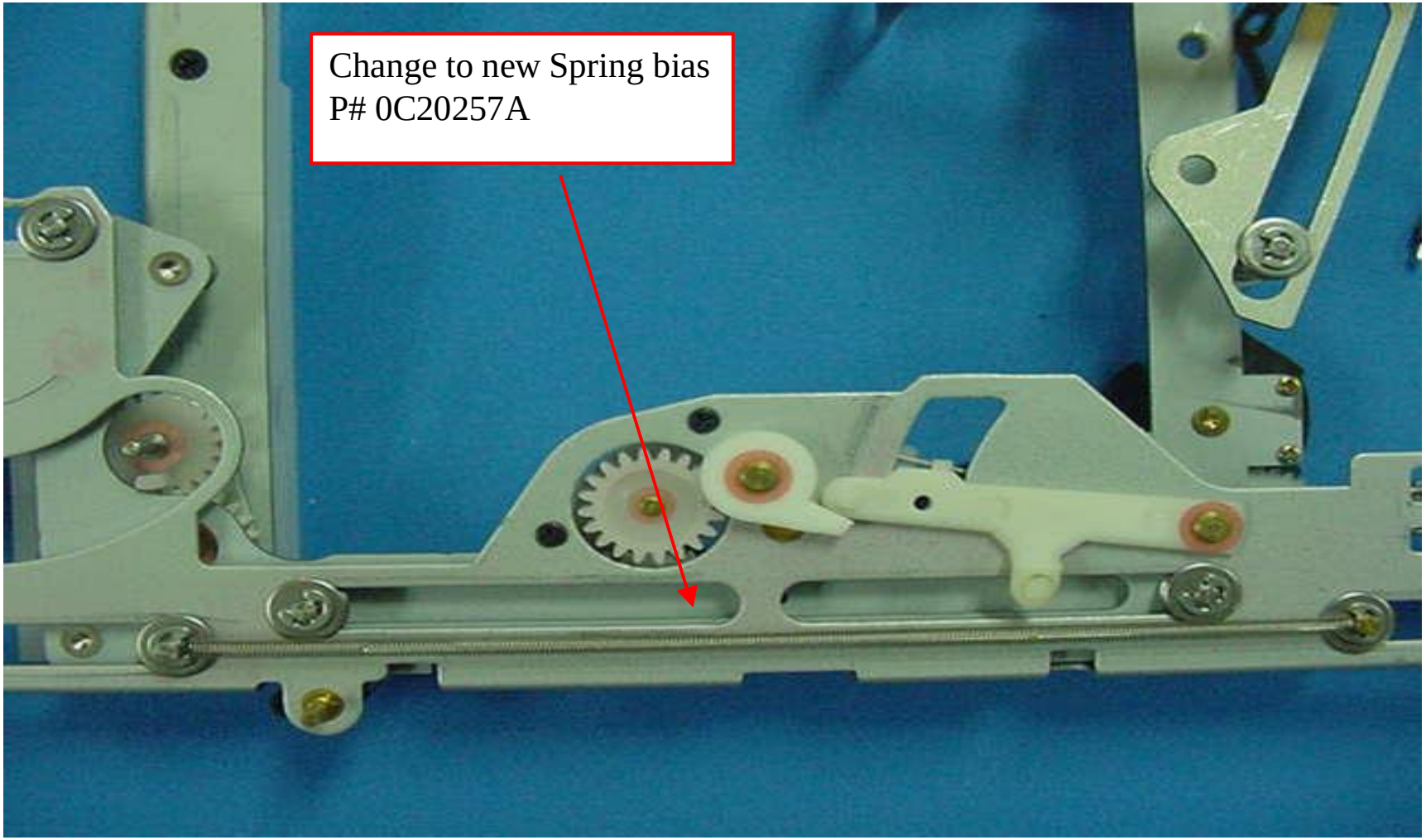


5(iv) Prevent E-mecha: lower plate sub ass'y may touch to traverse vertical screw during disc change (Loading guide Ass'y)

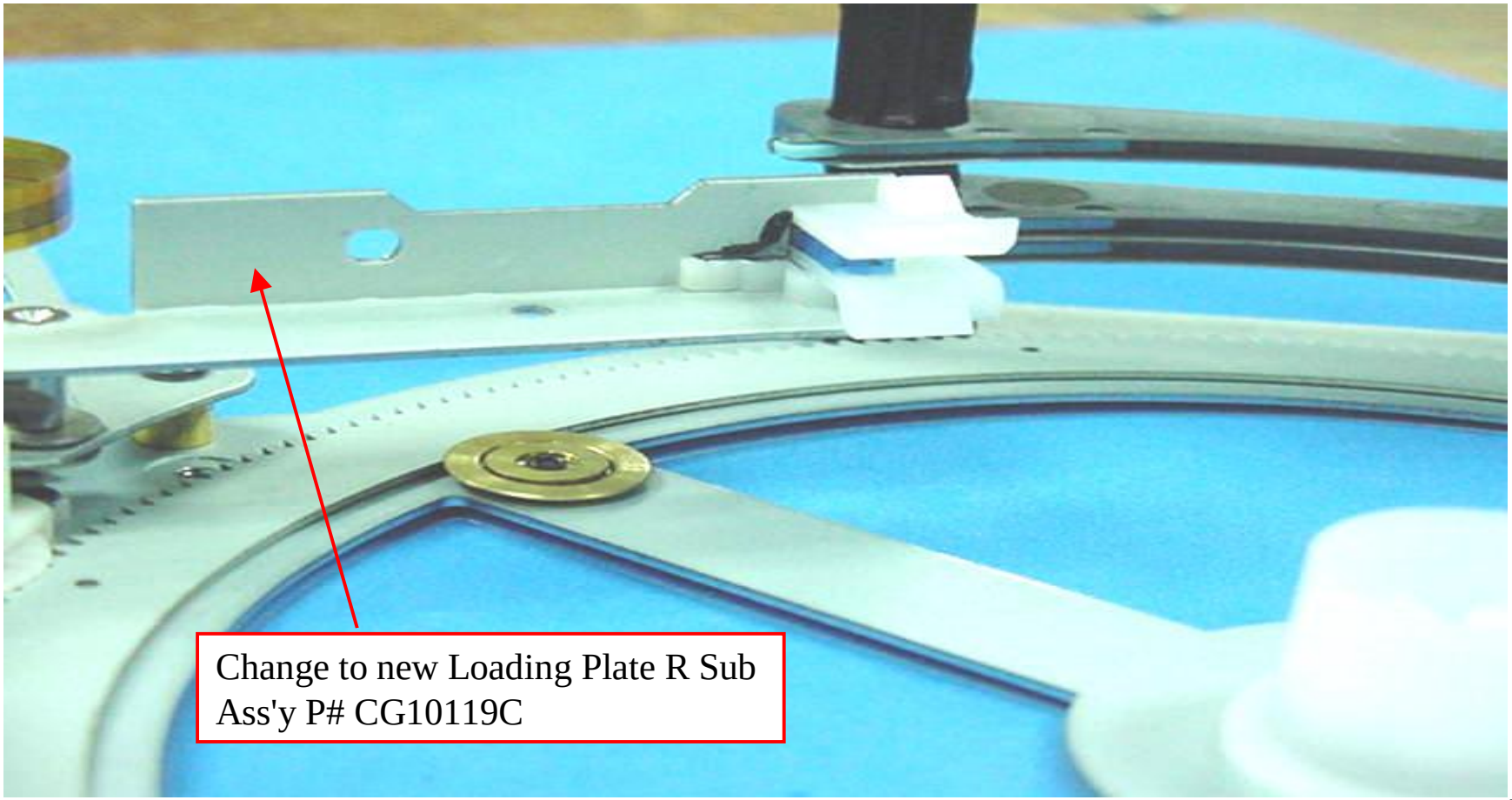
Change to modified spare part



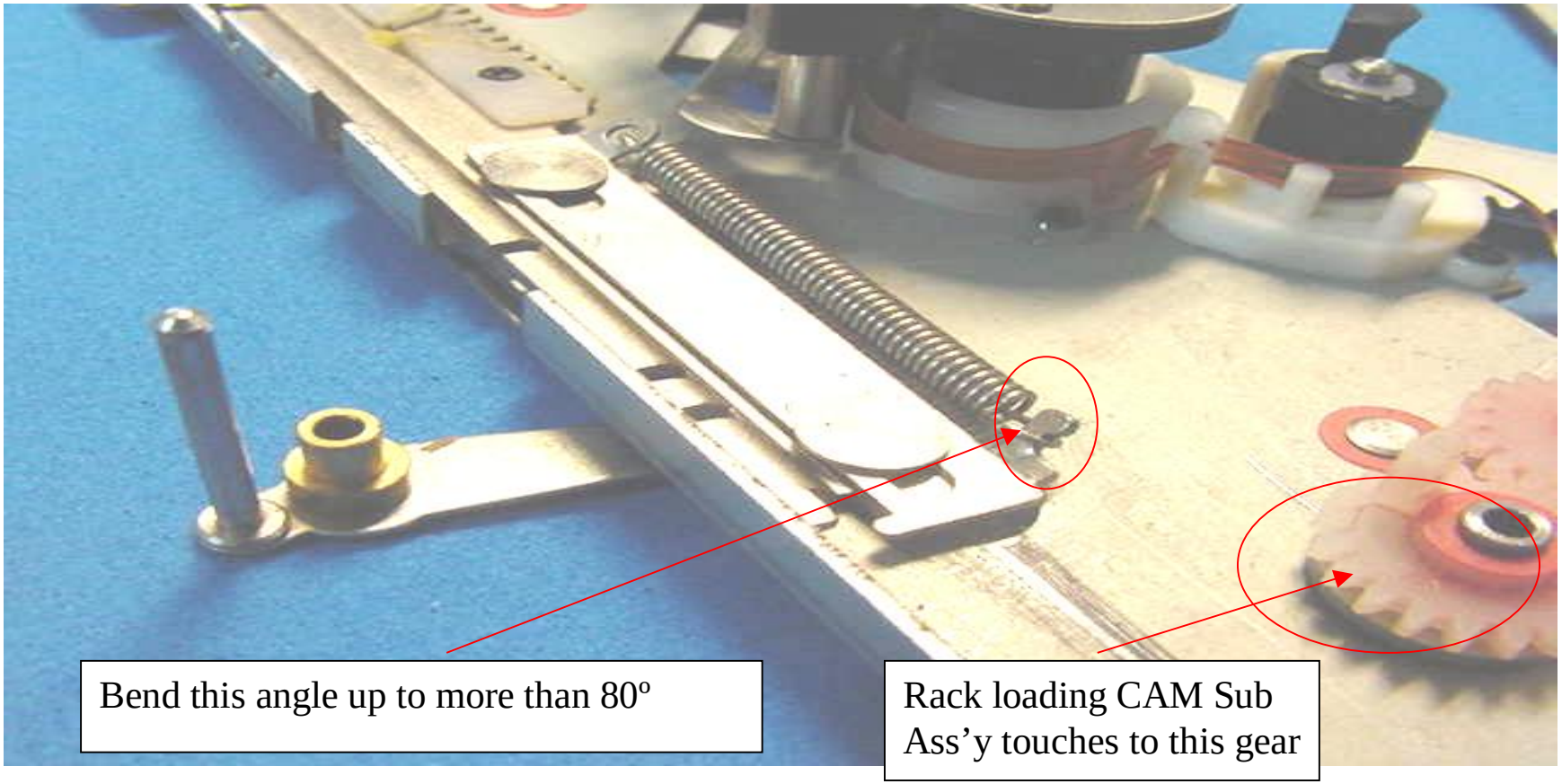
6 Improve 8cm Disc Eject: 8cm Disc does not eject (Loading guide Ass'y)



7 Prevent E-mecha: loading guide R touches to lock guide top (Loading Guide Ass'y)

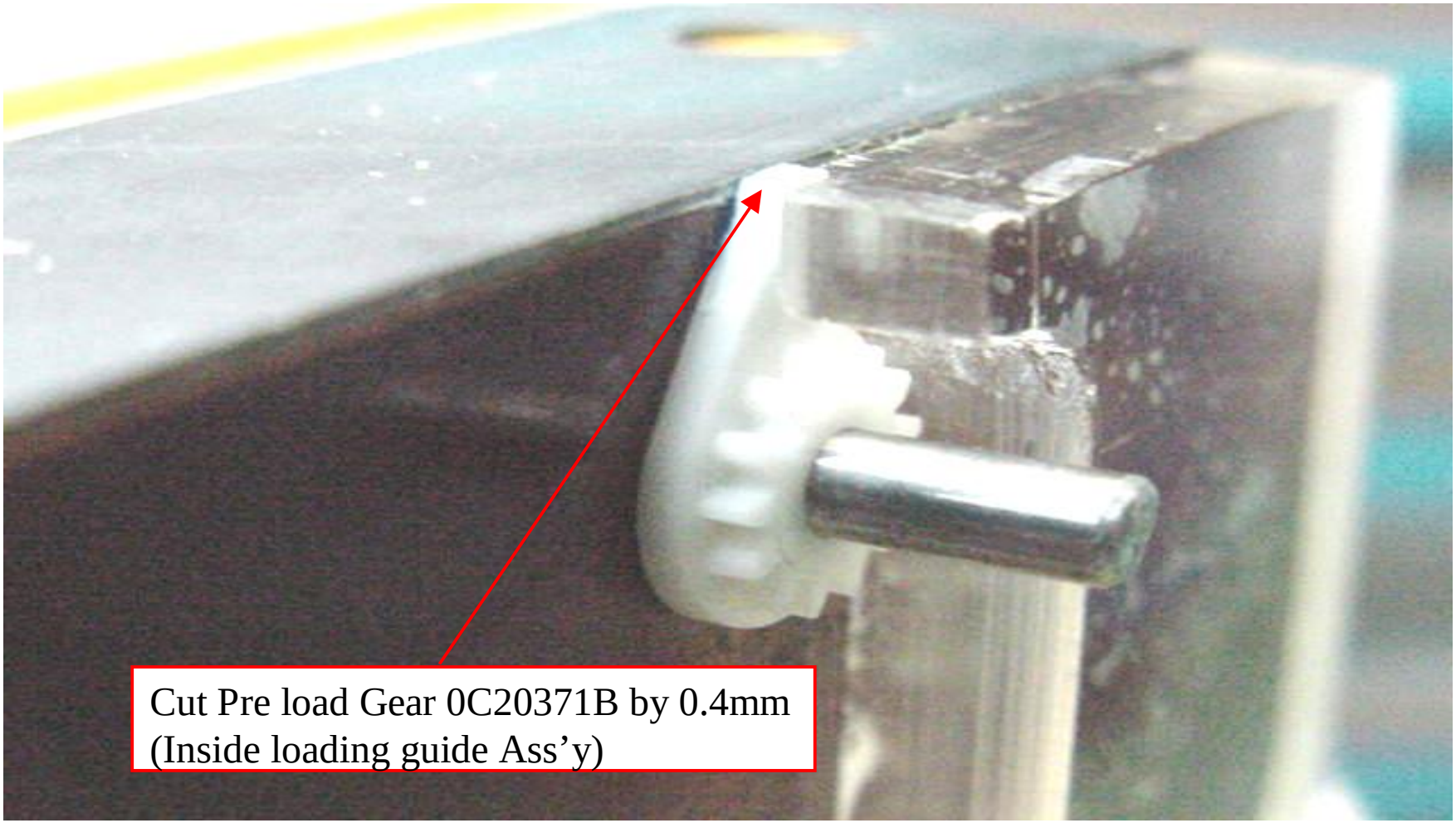


8 Prevent E-mecha: loading guide jamming (Loading Guide Ass'y)



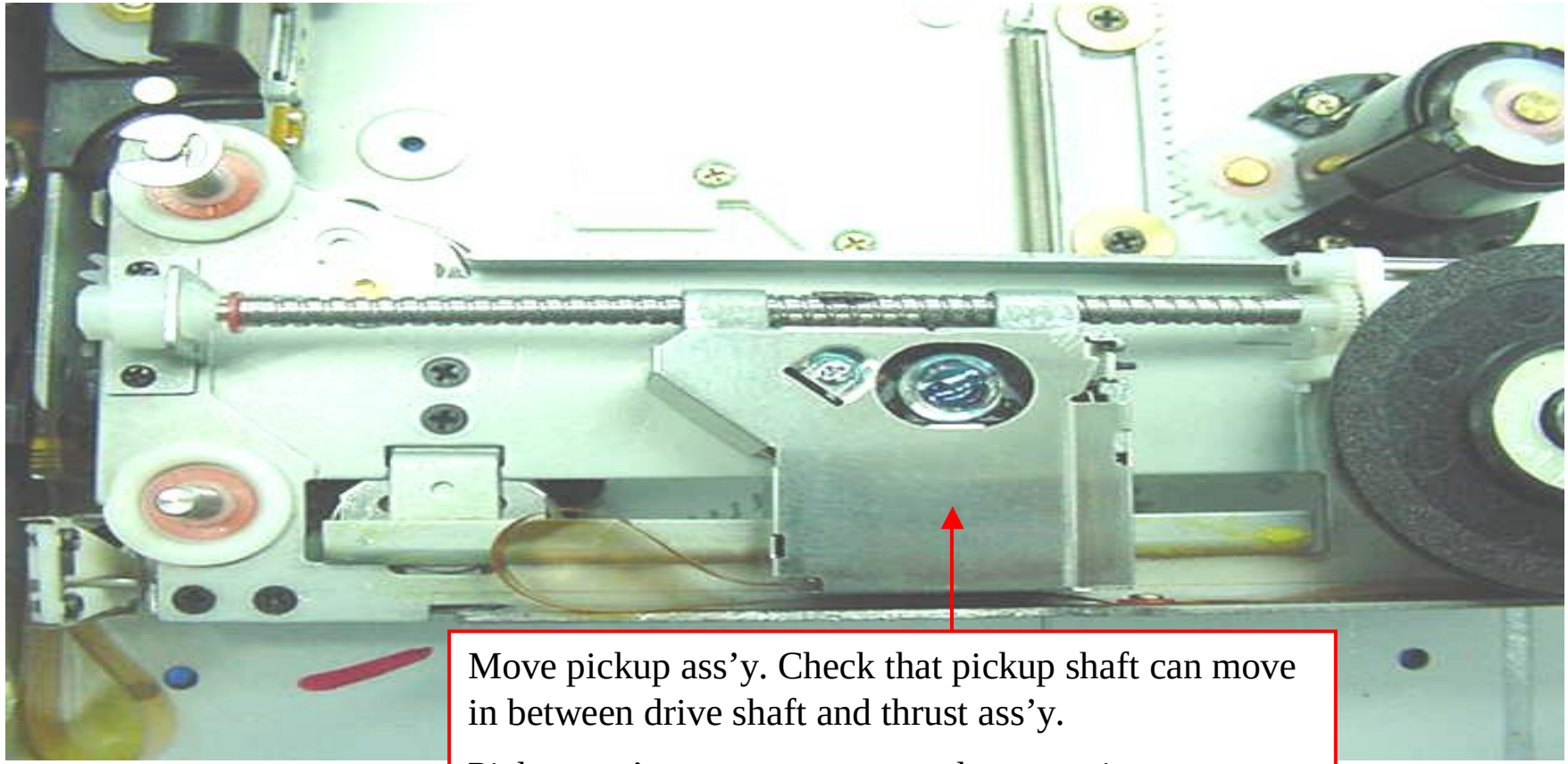
9 Prevent E-mecha: eject jamming (Loading Guide Ass'y)

Change to modified spare part



10(i) Prevent CD skip: CD skip (Traverse Mecha Chassis Ass'y)

Change traverse mecha chassis ass'y if pickup ass'y moves



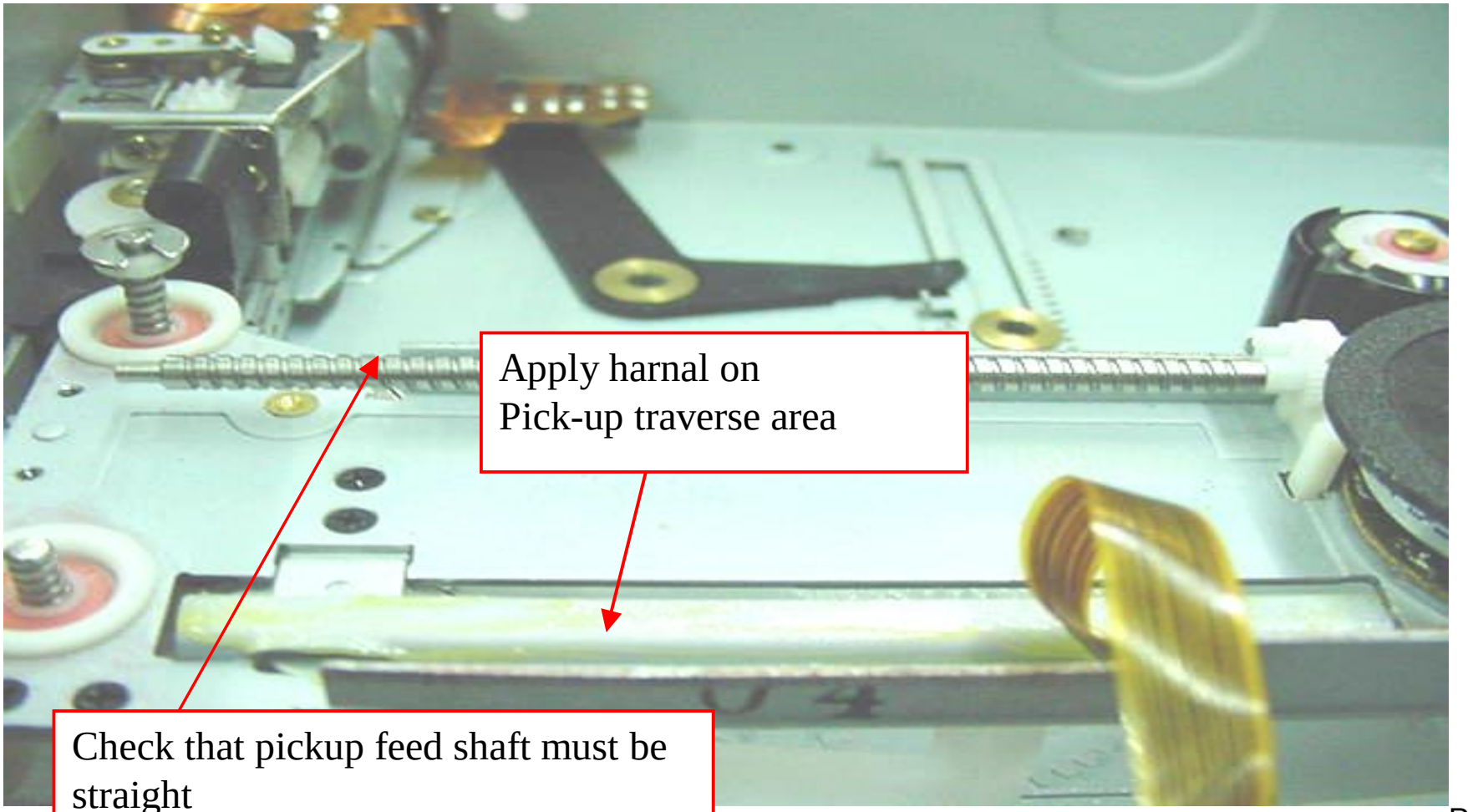
Move pickup ass'y. Check that pickup shaft can move in between drive shaft and thrust ass'y.

Pickup ass'y must not move at the same time

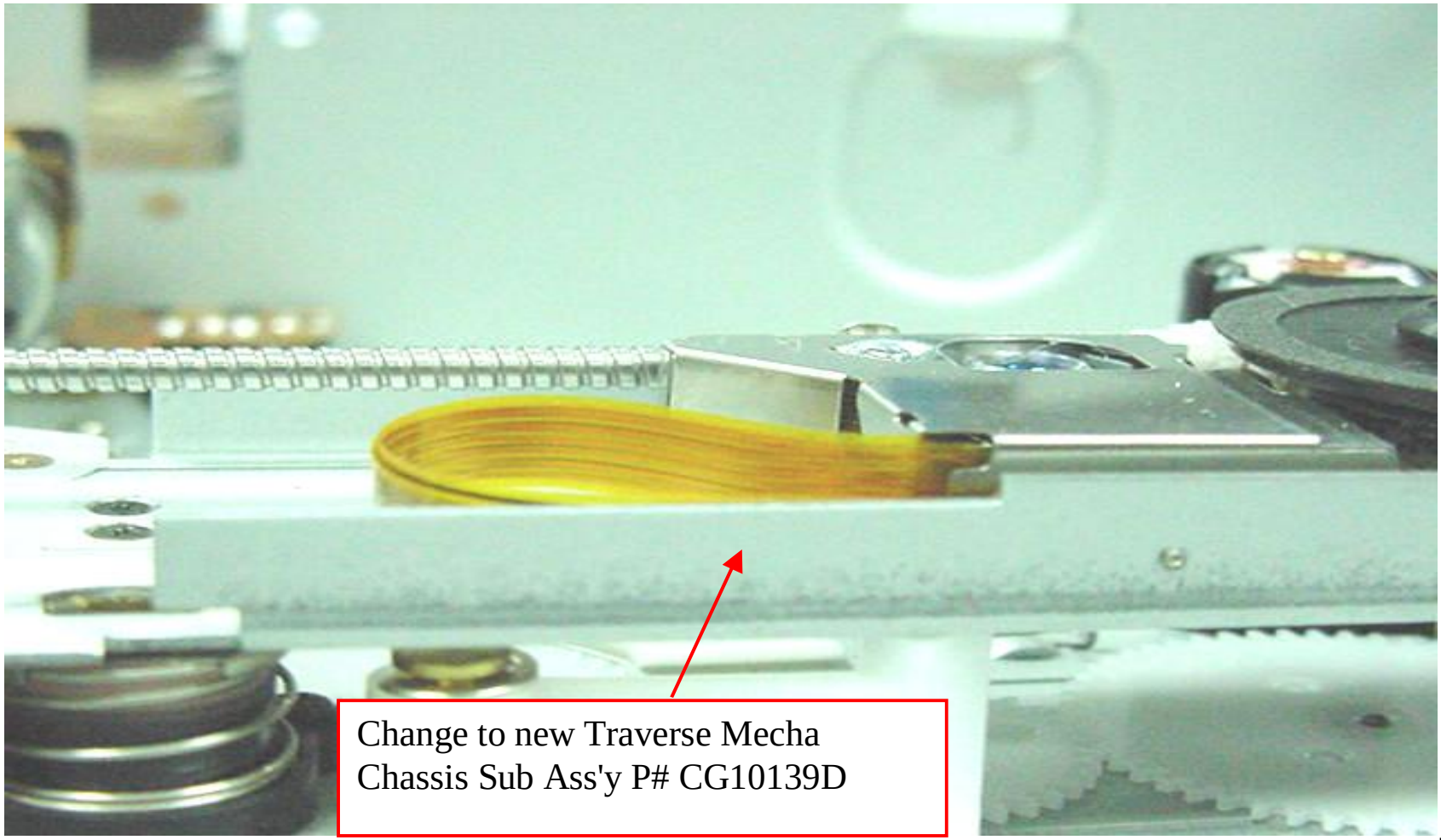
10(ii) Prevent CD skip: CD skip at low temperature
(Traverse Mecha Chassis Ass’y)
When fixing Pickup Feed Shaft into Drive Shaft Guide Ass'y, make sure the Pickup feed shaft must be straight

10(iii) Prevent CD skip: CD skip at low temperature
(Traverse Mecha Chassis Ass’y)
Apply “Harnal” on the top & bottom of Traverse Mecha Sub Ass'y (pick up traverse area)

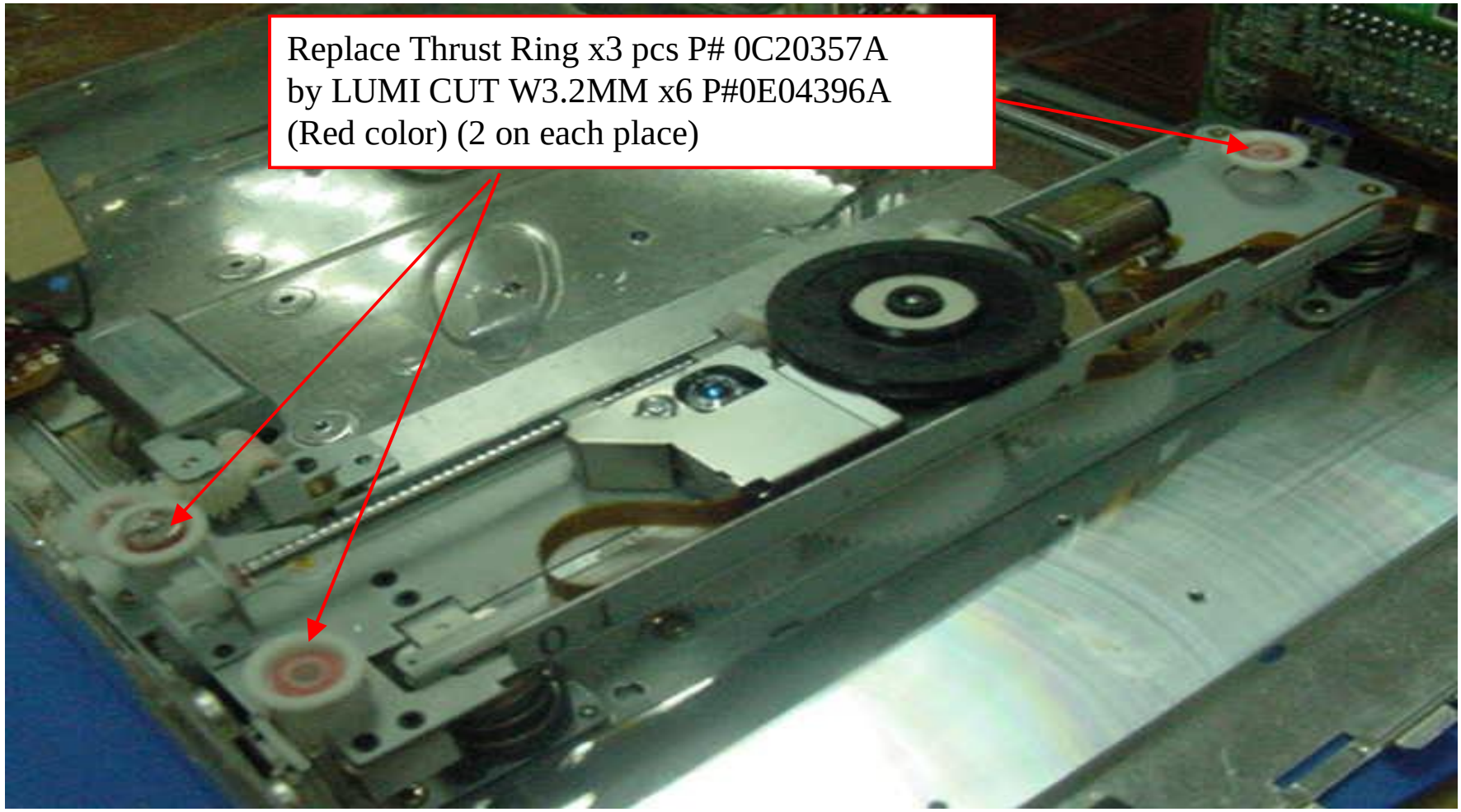
10(ii) & 10(iii) Prevent CD skip: CD skip at low temperature (Traverse Mecha Chassis Ass'y)



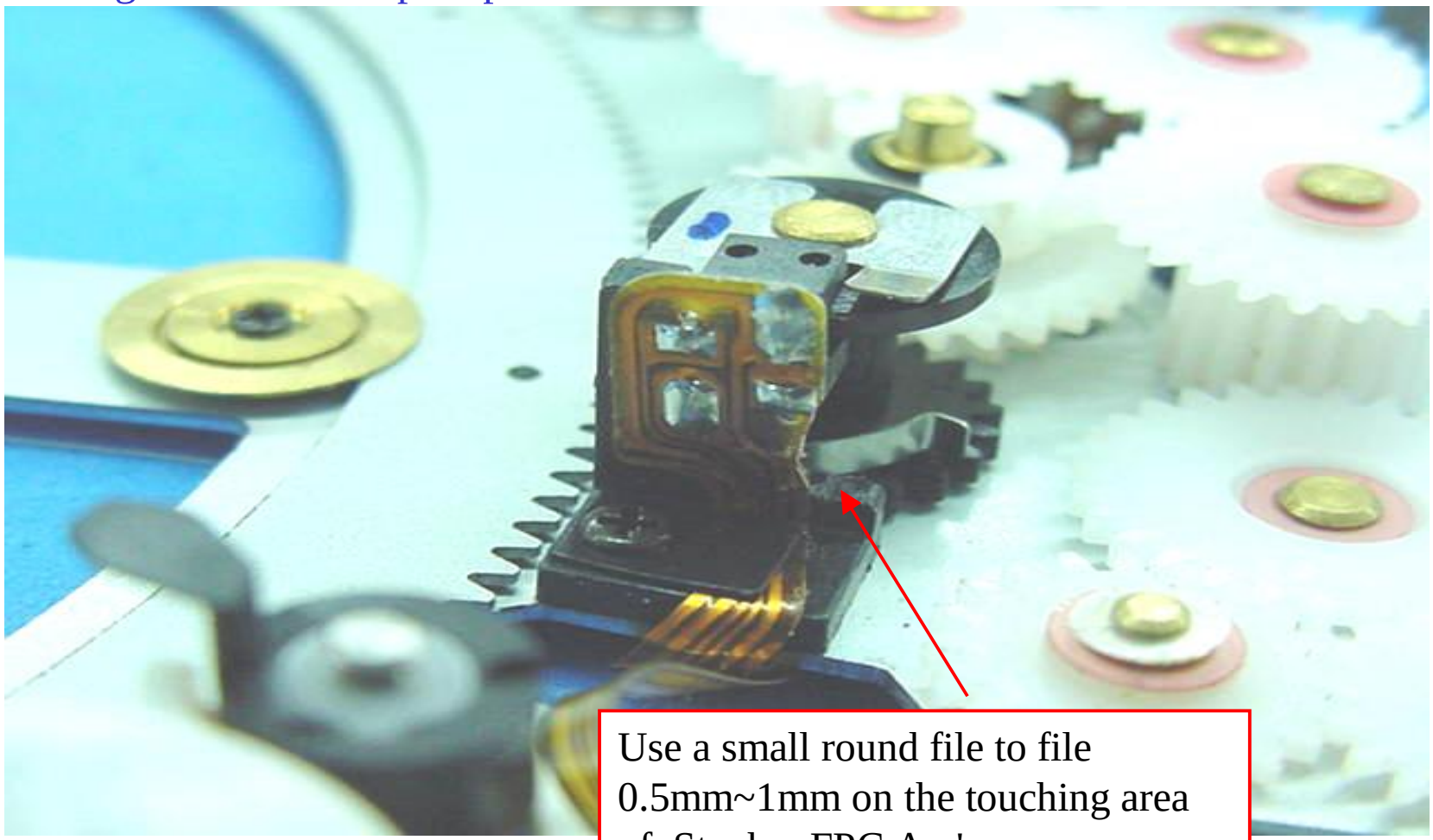
11 Prevent E-mecha: loading guide L touches to traverse mecha chassis ass'y (Traverse Mecha Chassis Ass'y)



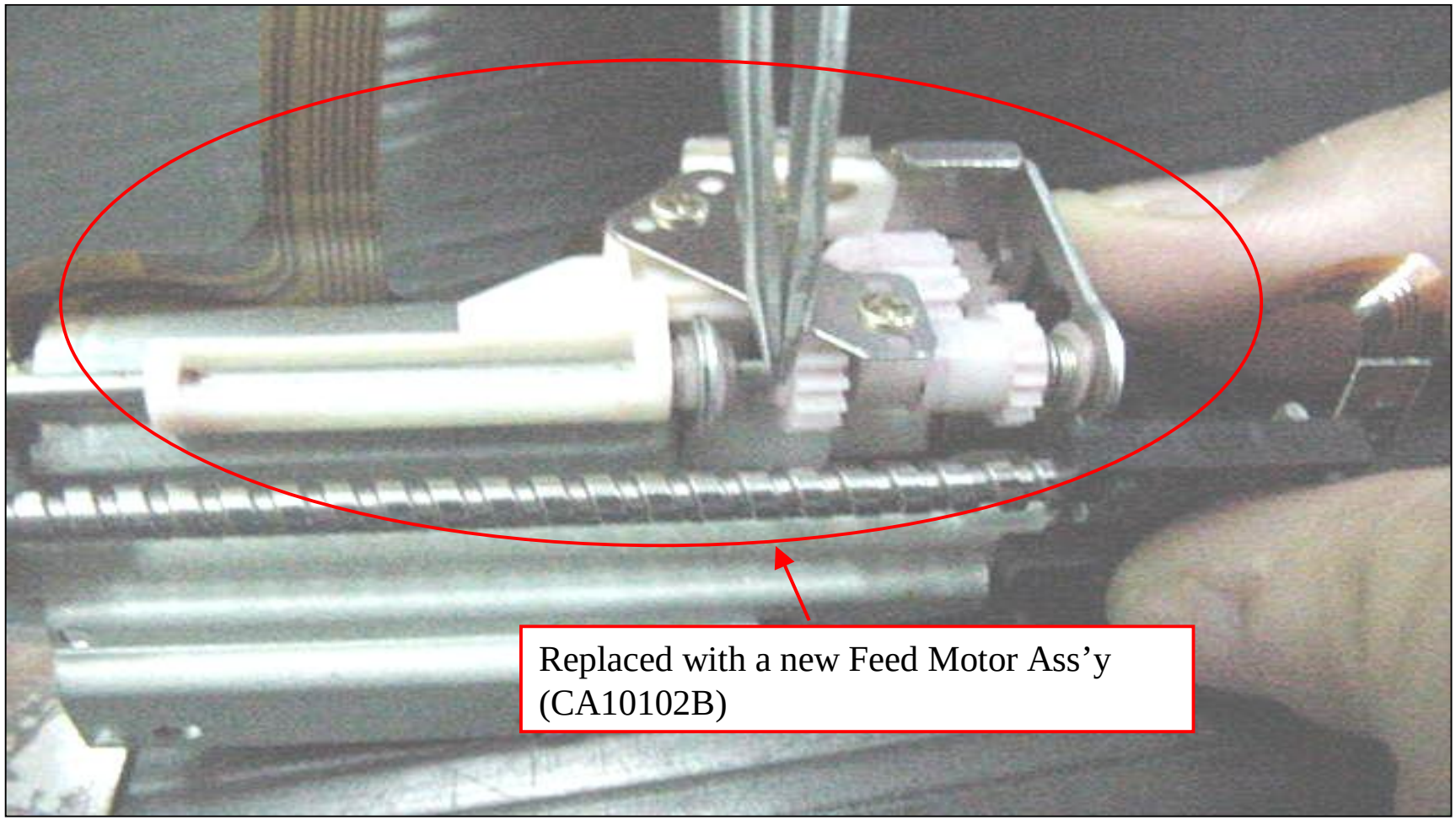
12 Prevent E-mecha: Thrust ring comes out when traverse mechanism moves up & down (Traverse Mecha Chassis Ass'y)



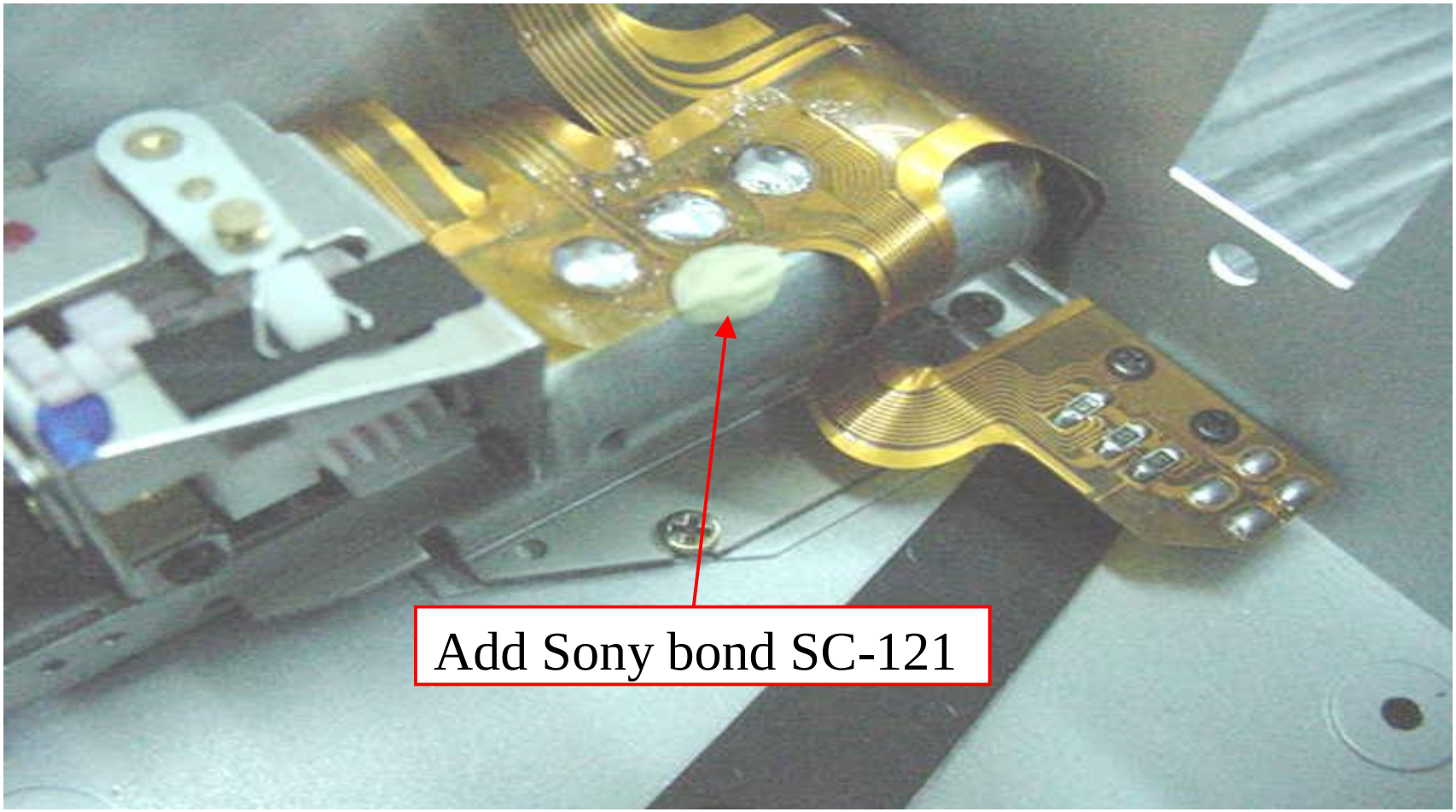
13 Prevent E-mecha: stocker FPC ass'y touches with loading roller guide ass'y (Loading Chassis Ass'y)
(6 Disc mechanism only)
Change to modified spare part



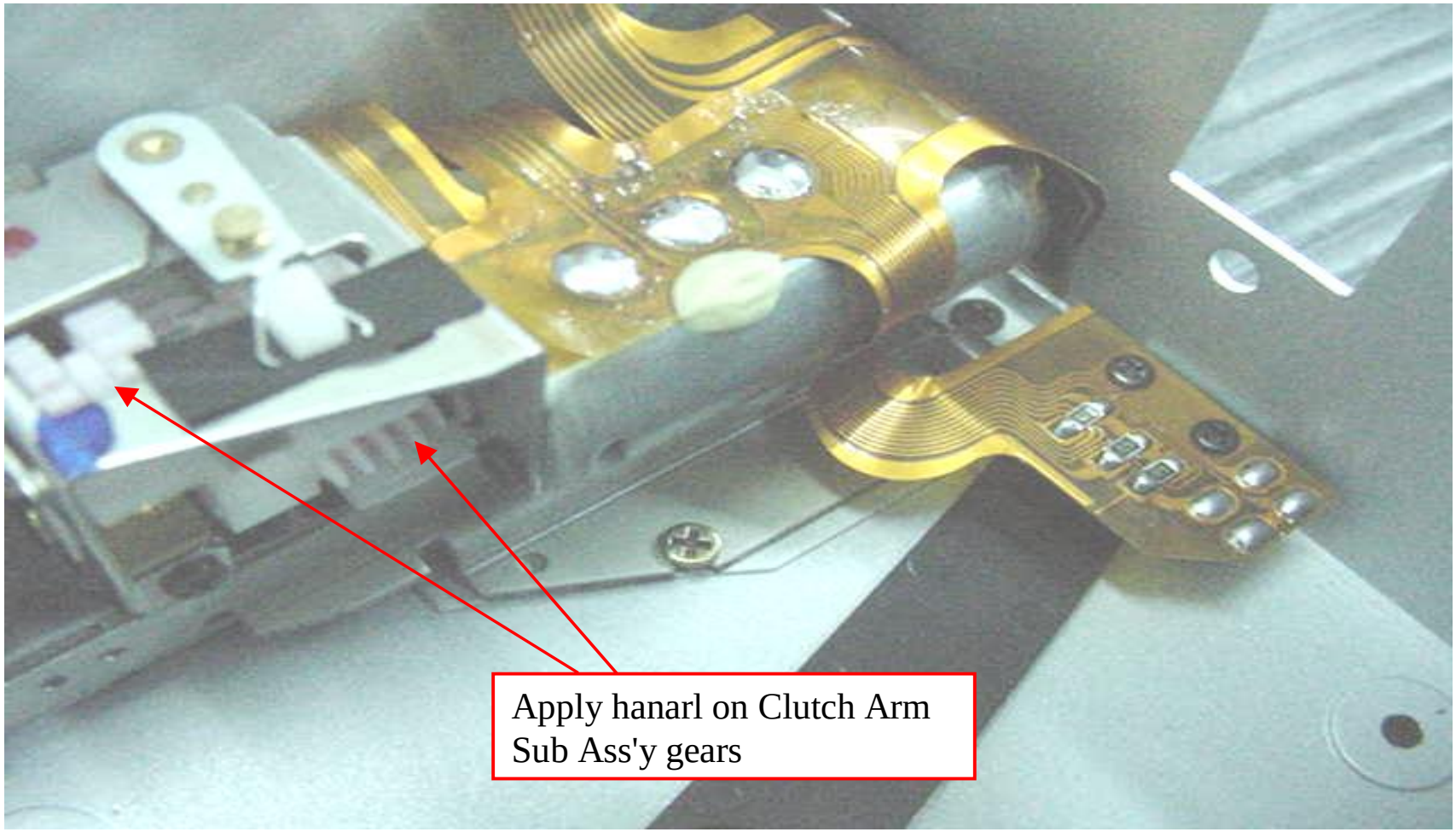
14(i) Prevent E-mecha: Gear damage (Feed motor Ass'y) (6 Disc mechanism only)



14(ii) Prevent E-mecha: Gear damage (Feed motor Ass'y) (6 Disc mechanism only)



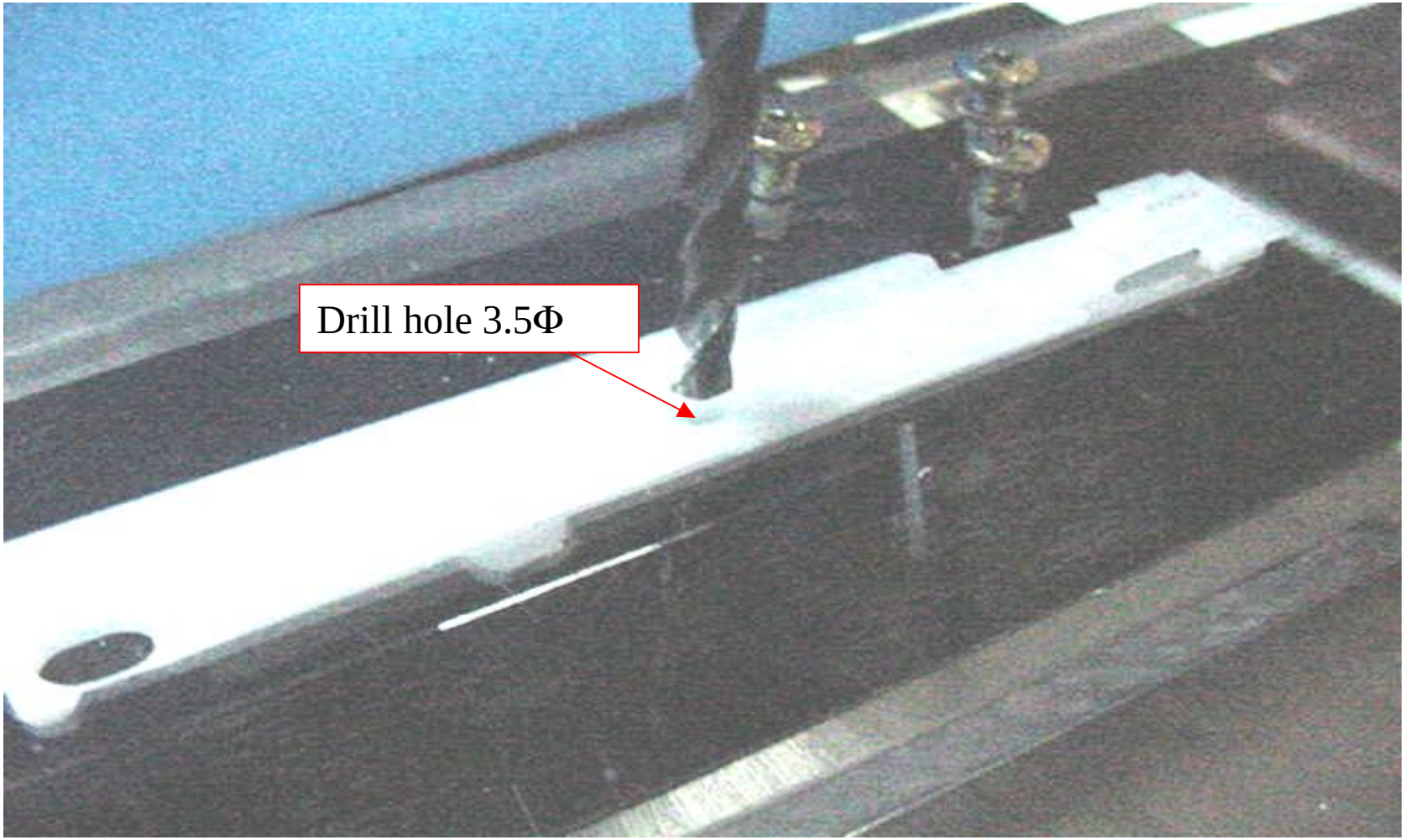
15 Prevent E-mecha: clamper arm does not catch clamp plate (Clamper Ass'y) (6 Disc mechanism only)



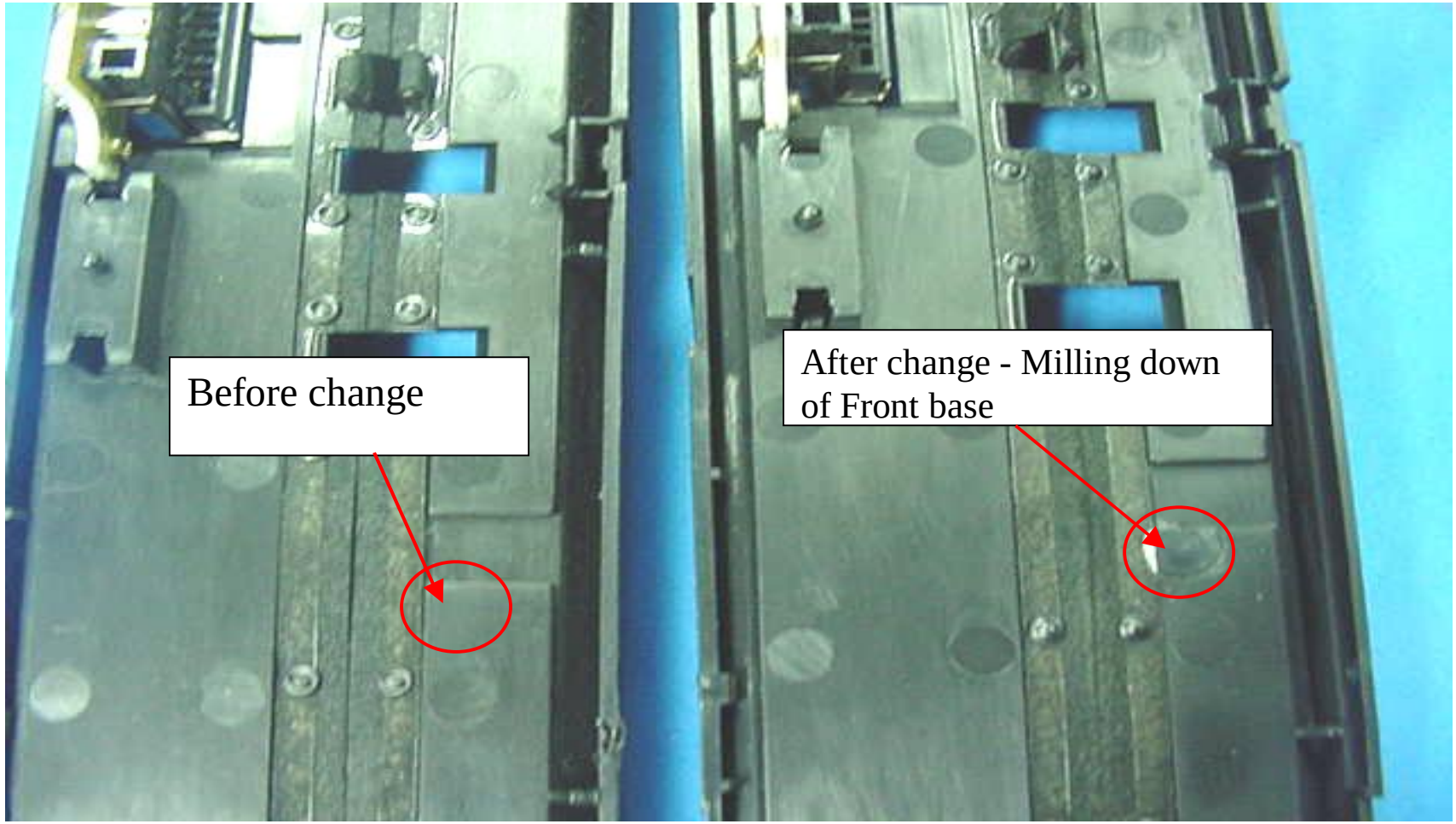
16 Prevent E-mecha: loading guides does not hold disc correctly when closed

(Loading guide Ass'y)

Change to modified part



17 Prevent CD cannot insert: Plate PLS Sub Ass'y touches to Front Base (Front Base Ass'y)
Change to modified part



Summary

- Most of the improvements are in the Loading Assembly (Part # CA10105).
- Traverse Mecha Chassis Assy.
- Feed Motor Assy
- Front Base Assy