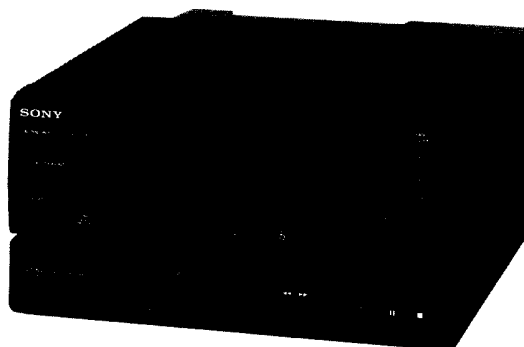


CDP-H3750

SERVICE MANUAL



*US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Tourist Model*

This set is the CD player section
in FH-E705C, MHC-2750/3750.

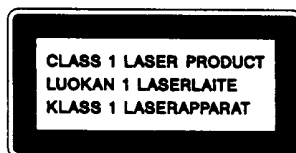
Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM23-5BD3
Optical Pick-Up Block Type	BU-5BD3

SPECIFICATIONS

System	Compact disc digital audio system
Laser	Semiconductor laser ($\lambda = 780 \text{ nm}$) Emission duration: continuous
Laser output	Max. $44.6 \mu\text{W}$ * This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.
Signal to noise ratio	More than 90 dB
Dynamic range	More than 90 dB
Harmonic distortion	Less than 0.05% (at 1 kHz)
Channel separation	More than 90 dB
Output level	1.6 V (at 50 kilohms)
Load impedance	More than 10 kilohms

Design and specifications subject to change without notice.

For the United Kingdom and European countries.



This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE \triangle SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

COMPACT DISC PLAYER
SONY®



SAFETY CHECK-OUT

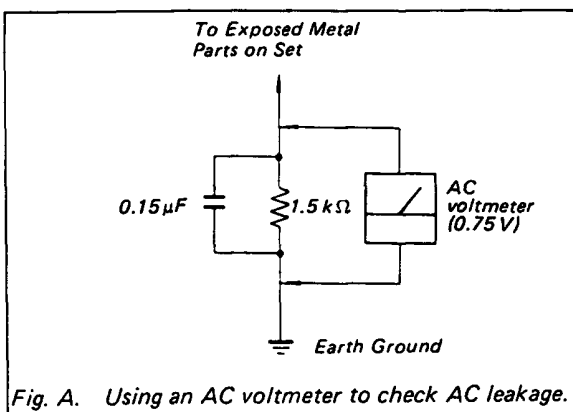
After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)



NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

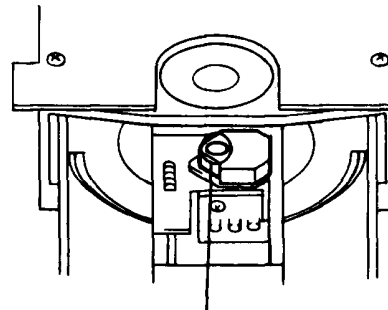
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30cm away from the objective lens.

LASER DIODE AND FOCUS SERCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objective lens.



- Confirm that laser beam is spread.
- Up and down motion of the objective lens. (3 times)

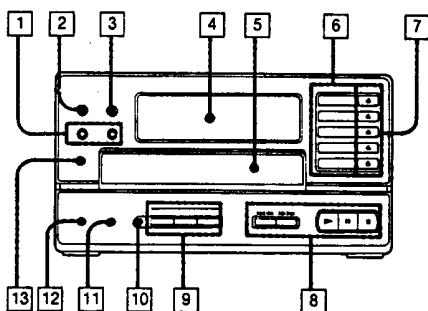
TABLE OF CONTENTS

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SECTION 1
GENERAL

1-1. PARTS IDENTIFICATION

This section is extracted from instruction manual.

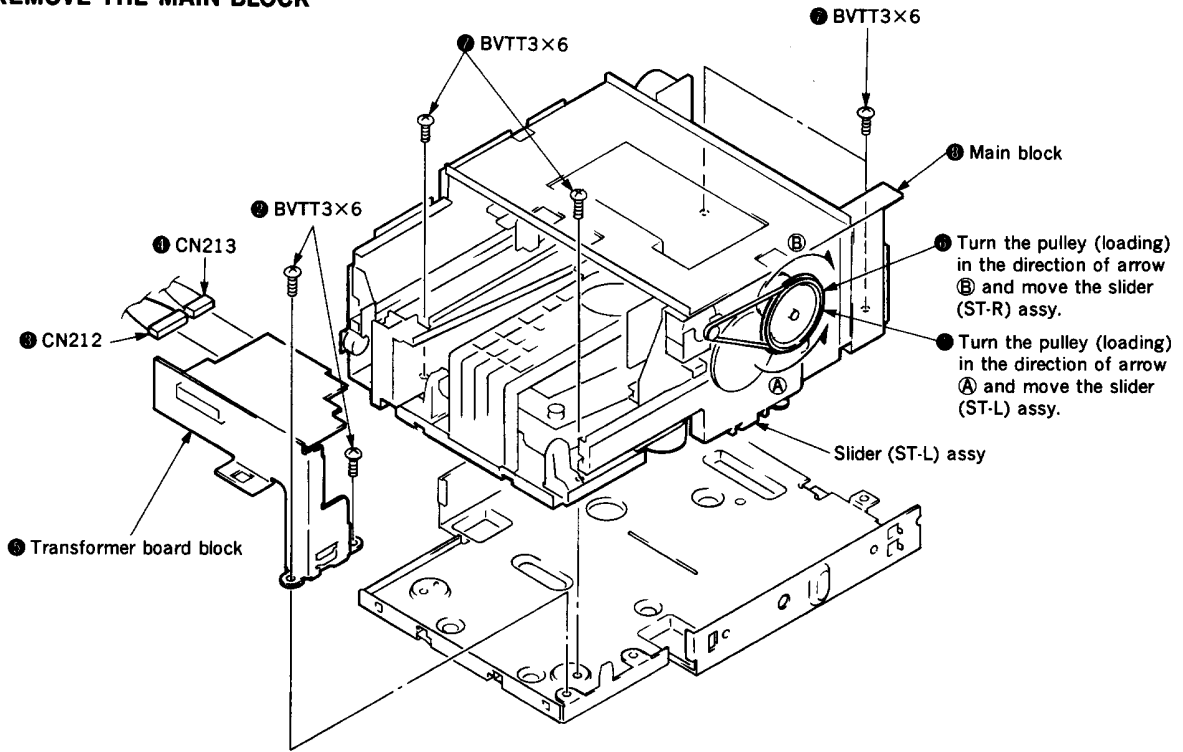


- 1 CHARACTER <I/> buttons 74
- 2 MEMO INPUT button 74
- 3 CURSOR button 74
- 4 Display window
- 5 Disc tray door
- 6 DISC 1 — 5 selectors and disc tray indicators 28 34
- 7 OPEN/CLOSE Δ buttons 28
- 8 CD operation buttons
 - : Stop button
 - II: Pause button
 - >: Play button
 - ◀◀◀▶▶▶: Manual search (when kept depressed)/AMS* (when pressed) buttons
- 9 PLAY MODE buttons
 - PROGRAM button 44
 - SHUFFLE button 40
 - CONTINUE button 30
- 10 REPEAT button 42
- 11 TIME/MEMO button 32 76
- 12 SOUND FIELD FILE button 78
- 13 ERASE button 76 78

SECTION 2 DISASSEMBLY

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

2-1. REMOVE THE MAIN BLOCK



2-2. EXCHANGE OF STOCKER ASSY

How to Attachment

- 1 Turn the pulley (loading) set the chassis hole position to slider (ST-L) assy. (See Fig. A)
- 2 Turn the pulley (loading) ③ set the position of illustration for slider (TB).
- 3 Attach the stocker assy.

Note) Sure attach to ditch of chassis side for shaft or claw of stocker assy.

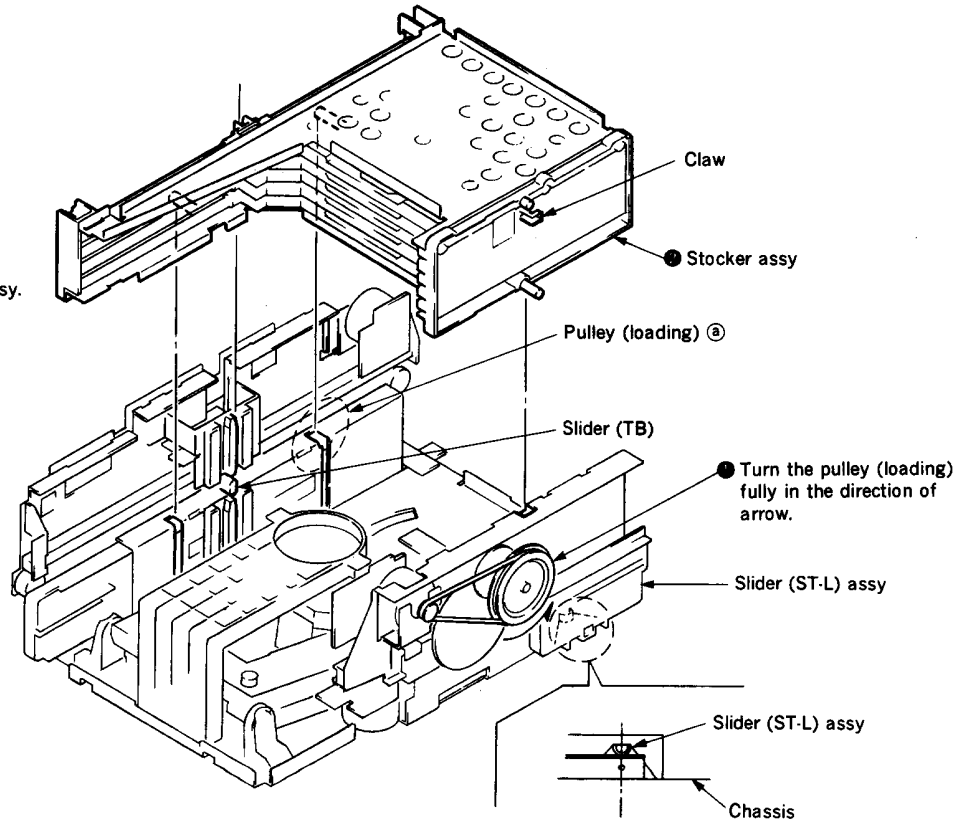
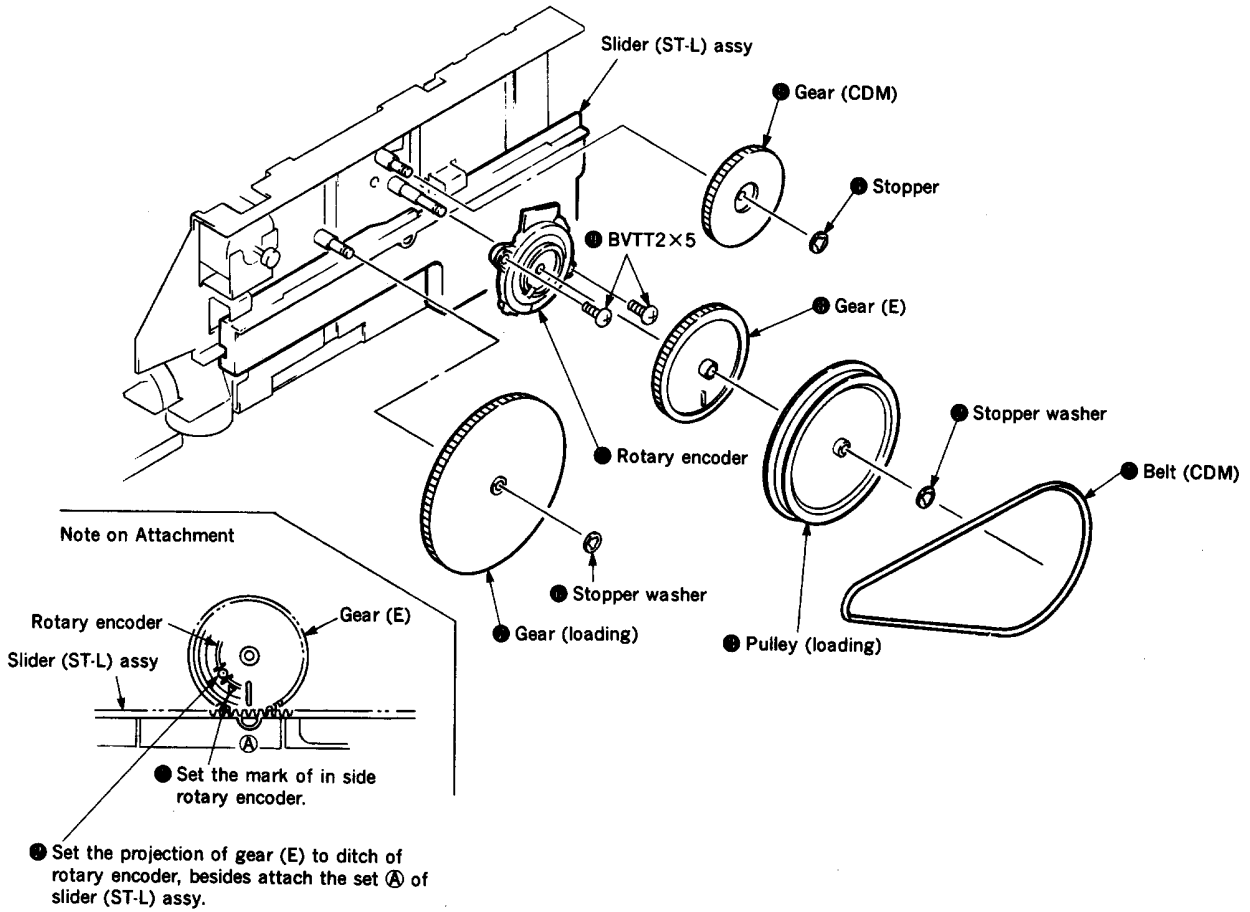


Fig. A

2-3. EXCHANGE OF ROTARY ENCODER

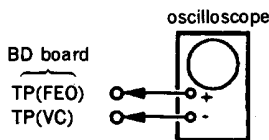


SECTION 3 ELECTRICAL BLOCK CHECKING

Note :

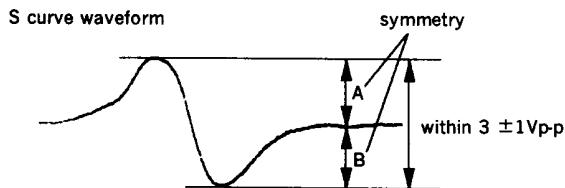
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within $3 \pm 1V_{p-p}$.

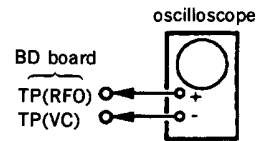


5. After check, remove the lead wire connected in step 2.

Note :

- Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

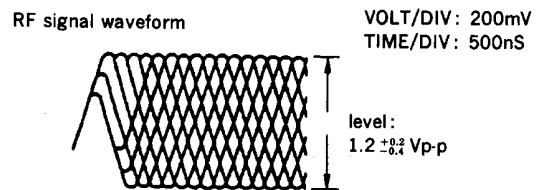


Procedure :

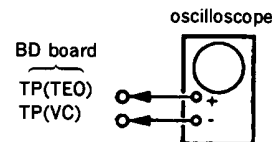
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape “◇” can be clearly distinguished at the center of the waveform.

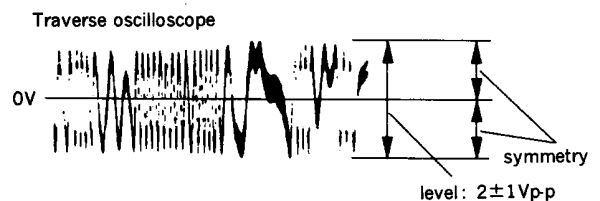


E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

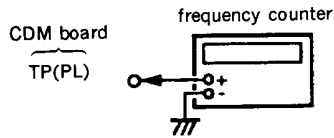


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PL) with lead wire.



2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

Focus/Tracking Gain

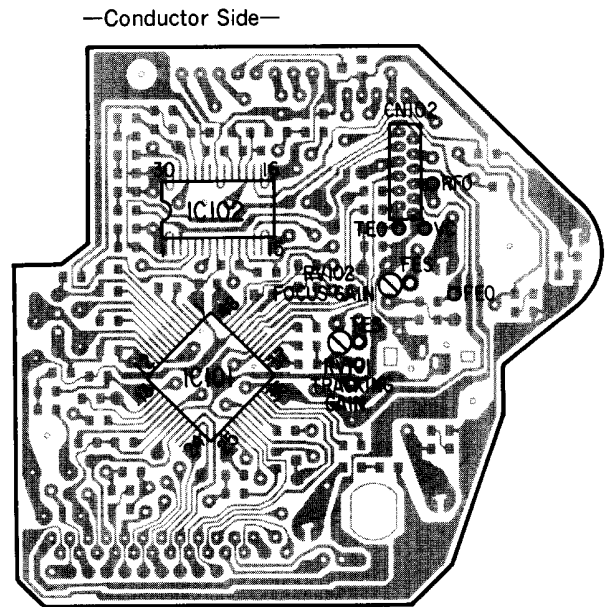
This gain has a margin, so even if it is slightly off. There is no problem.

Therefore, do not perform, this adjustment.

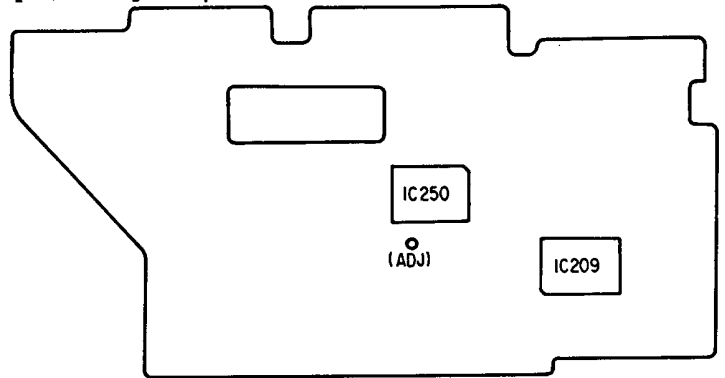
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Checking Location :

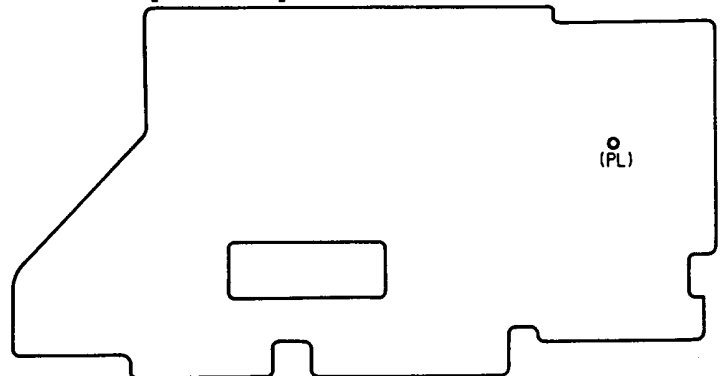
[BD Board]



[CDM BORD] -Component Side-



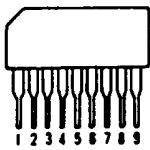
[CDM BOARD] -Conductor Side-



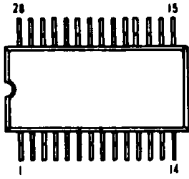
SECTION 4 DIAGRAMS

4-1. SEMICONDUCTOR LEAD LAYOUTS

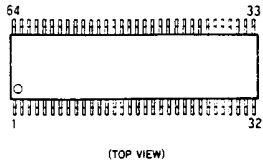
BA6418N



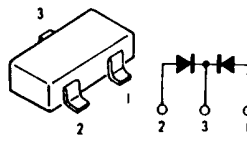
LH5160N-10L



M66004M4FP

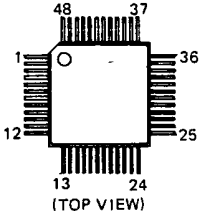


DCB010

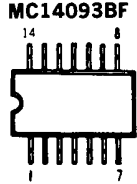


(TOP VIEW)

CXA1372AQ

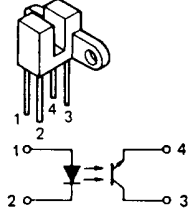


MC14011BF

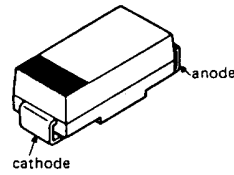


(TOP VIEW)

ON1023-S

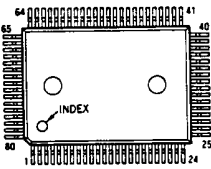


EC10DS2

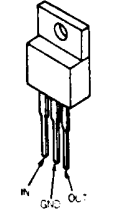


CXD2500AQ

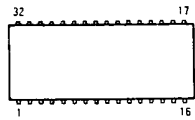
μ PD75516GF
-399-3B9
 μ PD75518GF
-059-3B9



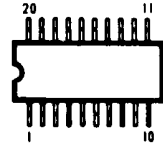
M5F7807L



M5218AFP

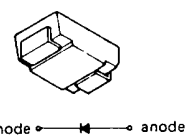


PCM67U

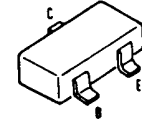


(TOP VIEW)

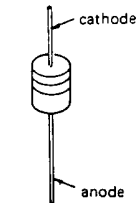
LN1361C



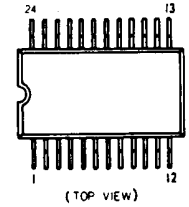
DTC144EK
2SA1602
2SC4154-F



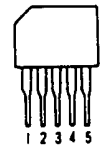
UZP-6.8BB
11EQS04
11ES2



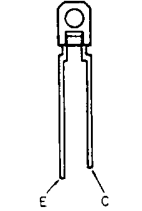
CXD2554M



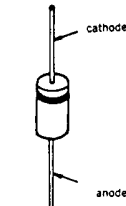
M5293L



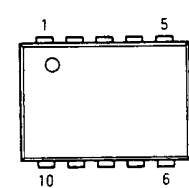
TPS626-F



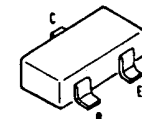
IN4148M



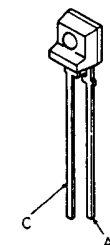
LA5601



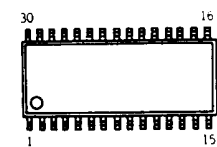
2SB1122-S



TLN117

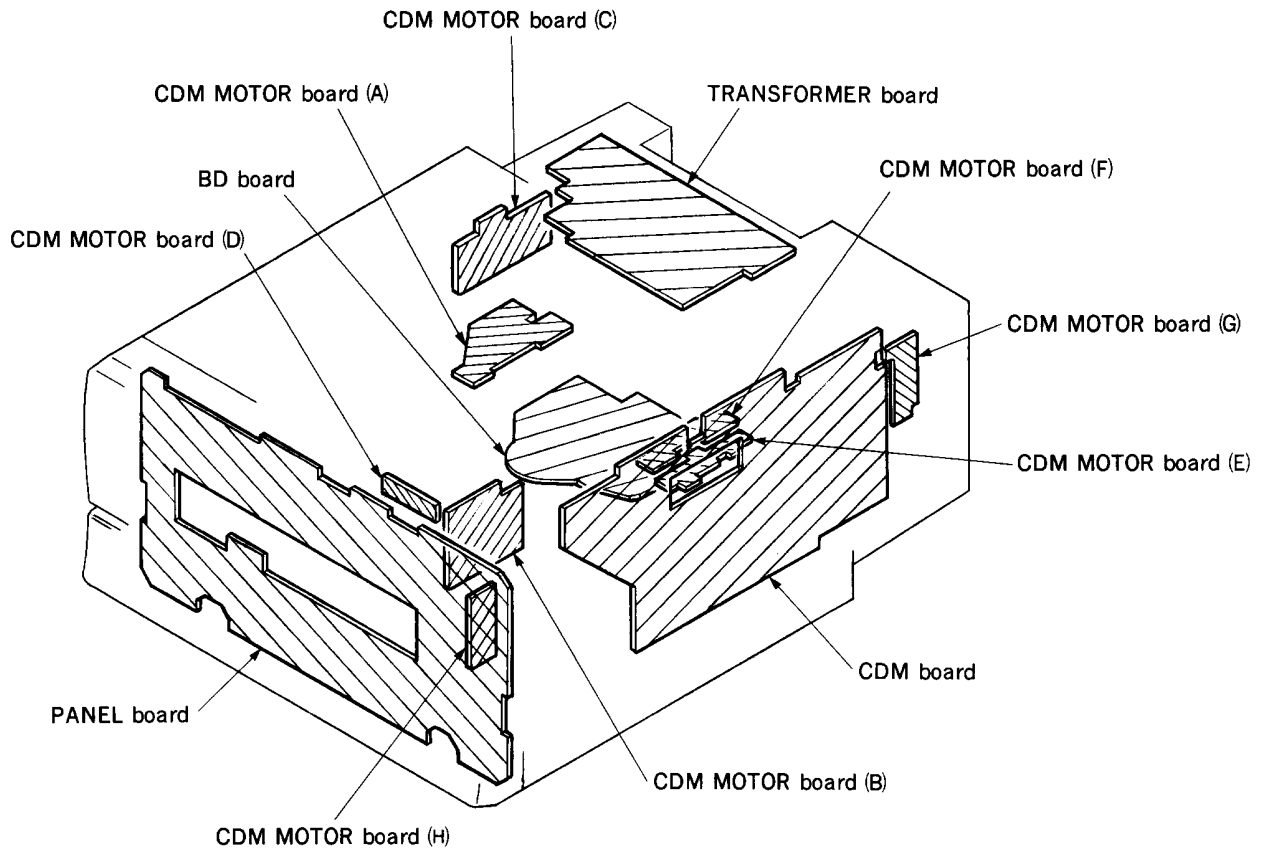


LA6532M



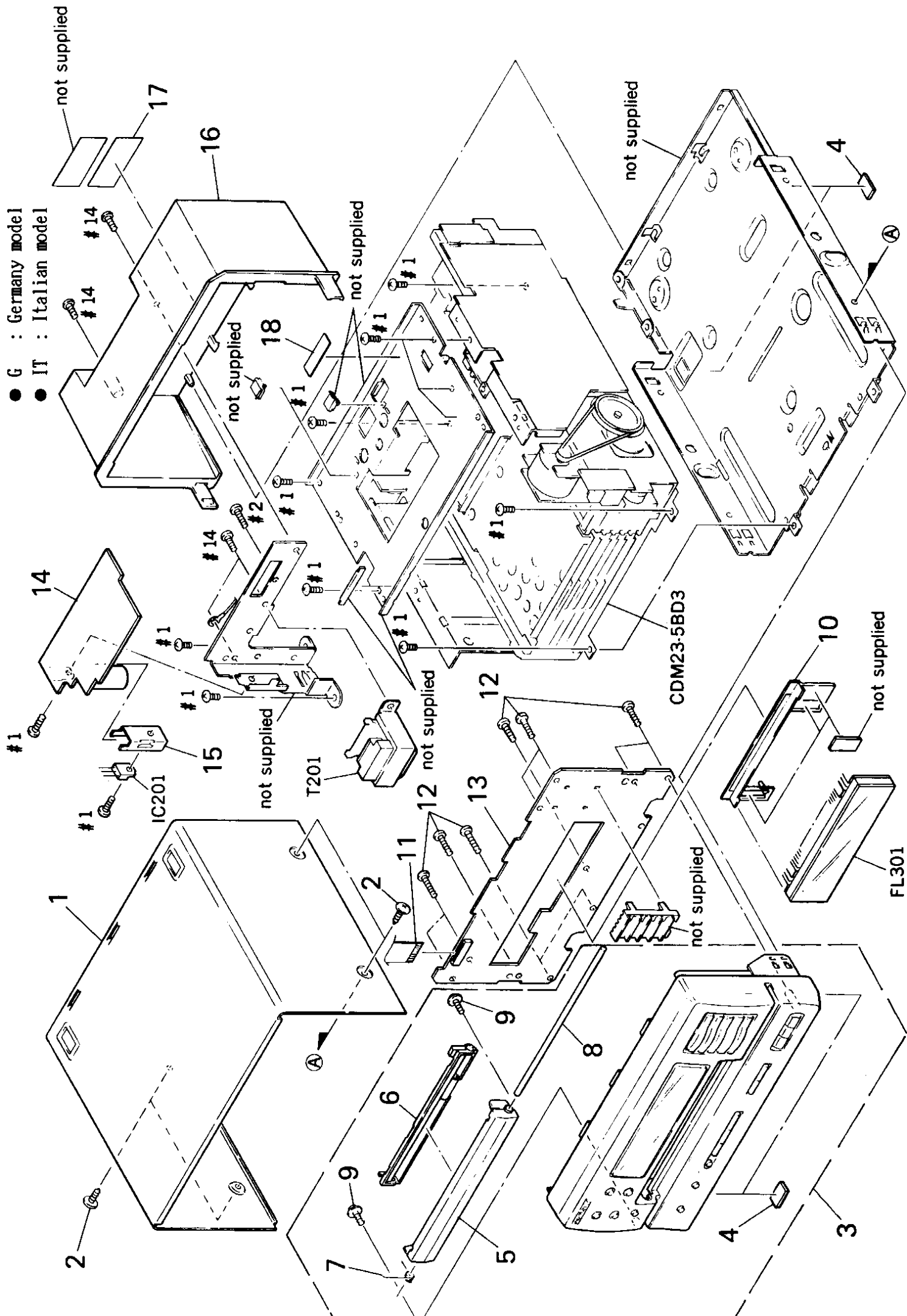
TOP VIEW

4-2. CIRCUIT BOARDS LOCATION

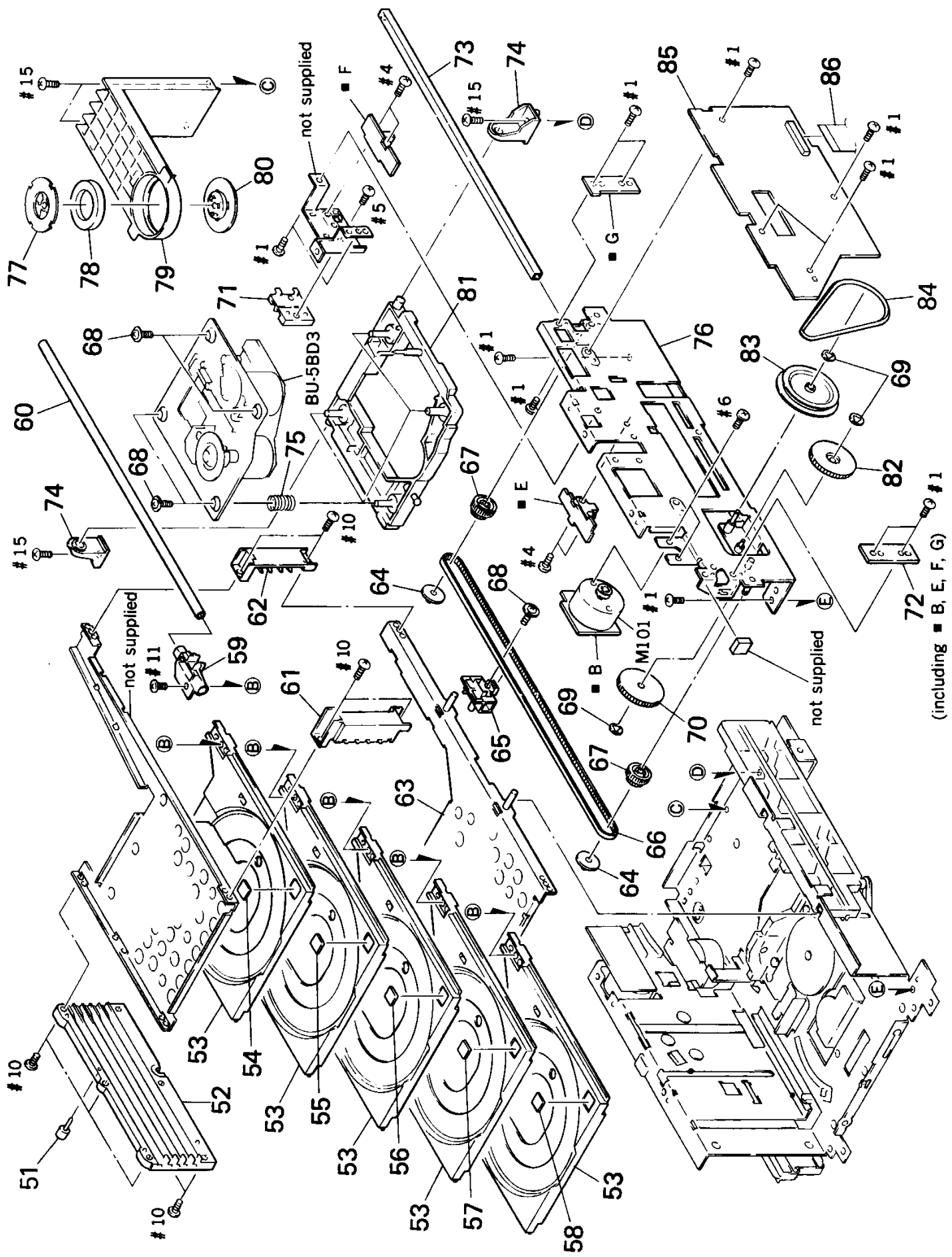


5-1. CABINET SECTION

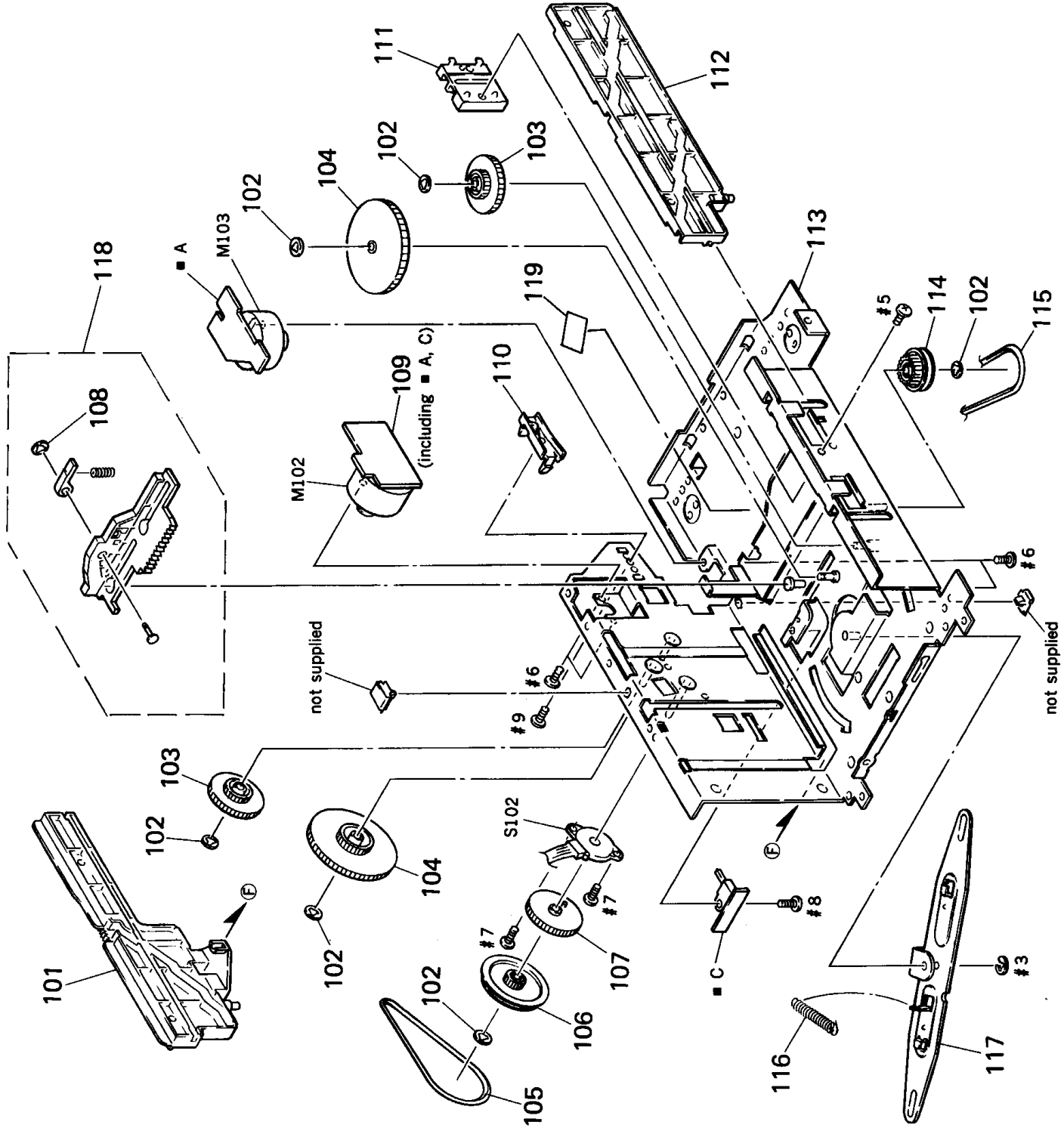
- CND : Canadian model
- G : Germany model
- IT : Italian model



**5-2. CD MECHANISM NECTION (1)
(CDM23-5BD3)**



5-3. CD MECHANISM SECTION (2)
(CDM23-5BD3)



5-4. OPTICAL PICK-UP SECTION (BU-5BD3)

