Field Feature Bill of Material

PN 26F1418

CONVERT an IBM 3745 Model 150 to 170

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Before Installation (Steps 1-8)

Net Priced Feature

All parts removed from this machine are IBM property and must be returned to IBM.

1.0 Machines Affected

3745 Model 150.

2.0 Related BMs and ECs

None.

3.0 FFBMs to be Installed

```
26F1418 - Installation instructions.
26F1417 - Convert a 3745-150 (with LIB3) to 170
or 26F1453 - Convert a 3745-150 (with LIB1
             or LIB2) to 170 (provided in all
             cases in WORLD TRADE)
```

3.1 As Required FFBM

```
FFBM 03F5056 - BPC1 card
        (for a 3745/150 with TRA installed)
        or/and (if the 3745/170 has no
        feature LSS/HSS in R2 position)
FFBM 26F1479 - LIB1 Board (WORLD TRADE ONLY)
        (provides the LIB1 board if the
        Model 150 houses a LIB3)
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4.0 Preparation

1. Familiarize yourself with the purpose and details of the installation instruction before negotiating machine time with the customer.
2. Check all items listed on the BM(s) to verify that all parts have been received.

Additional information:

- A basic LSS and an optional TRA and / or an optional HPTSS can be installed in 3745 model 150. These features will be re-installed in 3745 model 170 after the conversion in the following locations:
  The LSS will be plugged in A1Q2, the TRA in A1L2, AIK2, A1J2 and the HPTSS in A1T2, A1U2.
- If a TRA feature is installed, the BPC1 cards must be plugged in positions A1M4, N4, P4, Q4, R4, and T4 when these card positions are free.

5.0 Programming

5.1 Diagnostic Programs

To reflect this change, CDF will be upgraded in Step 11.0. This is essential to allow the internal diagnostics to be run properly.

5.2 System Programs

The customer has to update the control program to implement this change.

6.0 Purpose

To convert a 3745 Model 150 to 170.

6.1 Description

Replace the base board.

7.0 Installation Time

FFBMs	Machine Hours	System Hours
26F1417 or 26F1453	3.0	0.0
Test time	2.0	0.0
Total time	5.0	0.0

8.0 Tools/Materiels Required

- ESD kit (PN 6428316)
- Isopropyl Alcohol.

Installation (Steps 9-11)

9.0 Safety

- The installation must be performed offline.
- Review the **Safety Procedures** and the **Safety Notices** located at the beginning of the *3745 Maintenance Information Procedures (MIP)* manual, SY33-2070.

10.0 Details of Installation

Before the installation, ask the customer:

__ • To set all lines off-line for this 3745.

__ • The maintenance password.

__ • To log OFF the console, if not already done.

10.1 Checking, Diagnostics, Power OFF

10.1.1 Checking

10.1.1.1 From the 3745 Control Panel

__ 1. Check that **Power Control** displays **3**.

__ 2. If it does not, record the value __.
Set the **Power Control** value to **3**.
Press the **Validate** key.

10.1.1.2 From the Local Console

__ 1. When the **CA INTERFACE DISPLAY** screen is displayed, press **F4**.

__ 2. Enter the maintenance password, press **Send**.

__ 3. If the CCU is running, enter **RST** to reset the CCU.
The MOSS goes in **MOSS ALONE** state.

10.1.2 Diagnostics

__ 1. Enter **ODG**, press **Send**.

__ 2. Enter **1** (ALL), press **Send**.

- If **NO ERROR FOUND** displayed, press **F1**.
- Otherwise, see the *MIP*, Chapter 1.

10.1.3 Power OFF

__ 1. From the control panel, press the **Power OFF** key.

__ 2. Open the front system cover and switch OFF **CB1**.

10.2 Hardware Installation

Warning: Follow the existing ESD procedures when handling logic parts.

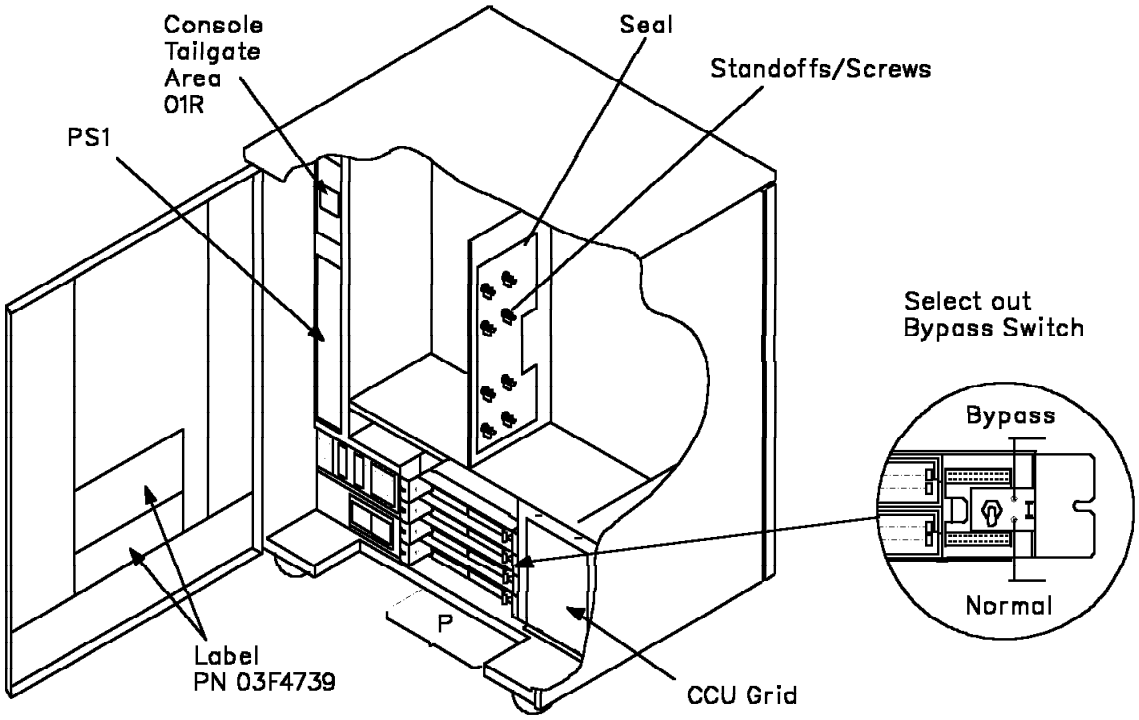
10.3 Board Removal

__ 1. Open the rear system cover.

__ 2. Install 4 stand-offs (PN 03F4507) with 4 screws (PN 79778) (4 bottom positions).

__ 3. If not already installed, stick the seal (PN 03F5266).

__ 4. On the rear system cover, remove the existing label and stick a label (PN 03F4739) provided by this FFBM.

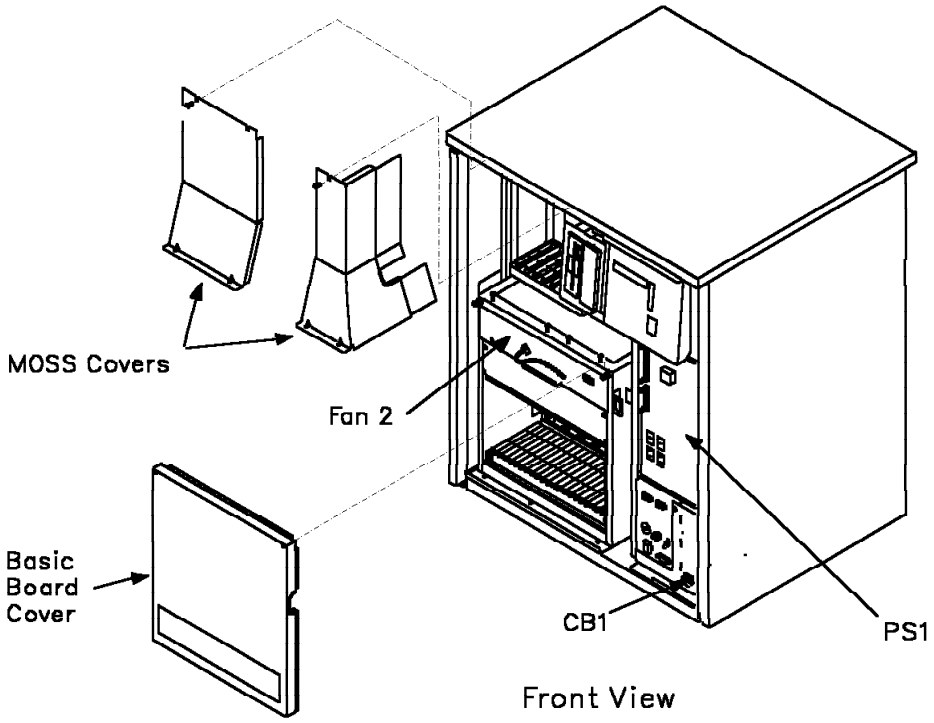


Rear View

__ 5. Locate the BASIC board in 01G and the MOSS board in 01A area.

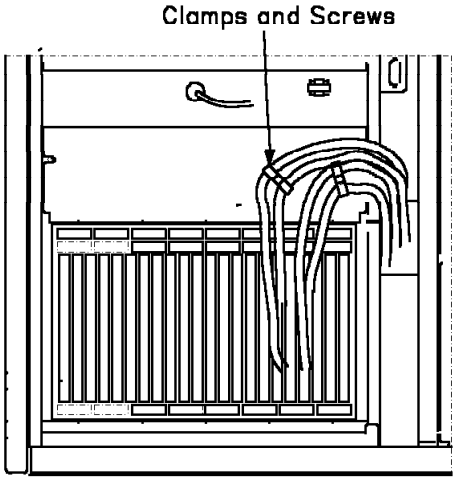
__ 6. Unscrew 2 screws and remove the BASIC Board cover by lifting upwards using finger-hole.

__ 7. Unscrew 7 screws and remove the 2 covers of the MOSS board.



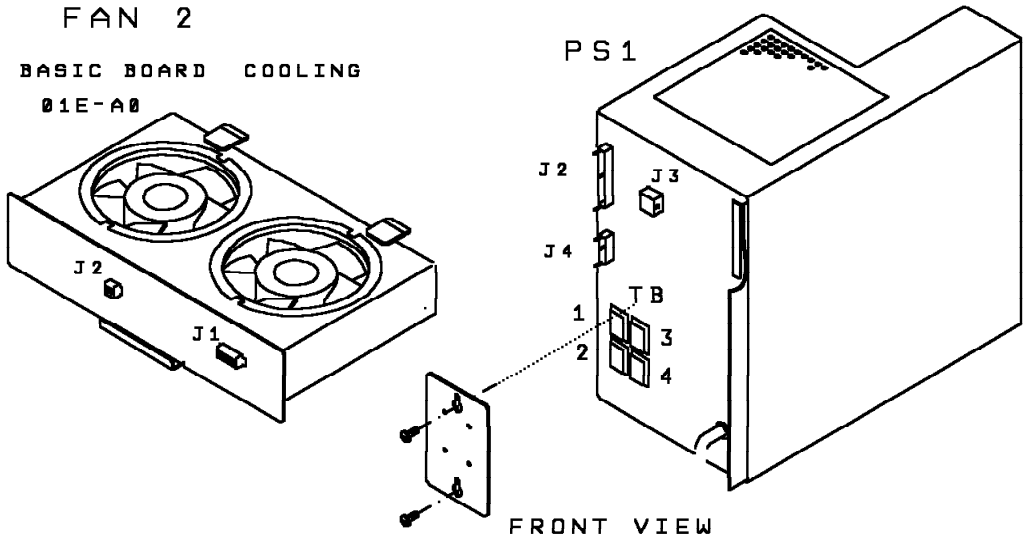
__ 8. Remove the screws securing the adapters cables (TSS, and TRA and HPTSS if installed) to the frame.
Save screws for re-installation.

Note: Check that cable position(s) are identified .



10.3.1 Power Cables, FAN and MOSS Cables

__ 1. Locate the PS1 and FAN 2.



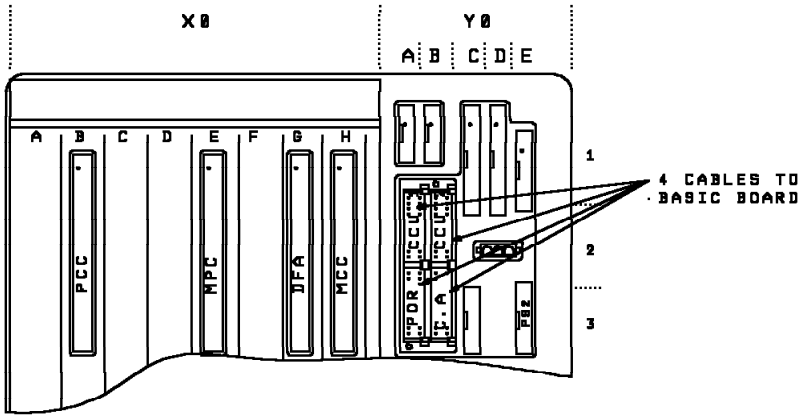
__ 2. On PS1, remove the TB cover and disconnect the FDS cables from TB1, TB2, TB3 and TB4.

__ 3. Disconnect the Multivoltage cable from connector J4.

__ 4. On the FAN box, unplug the AIR FLOW detector cable from J1, and the power cable from J2.

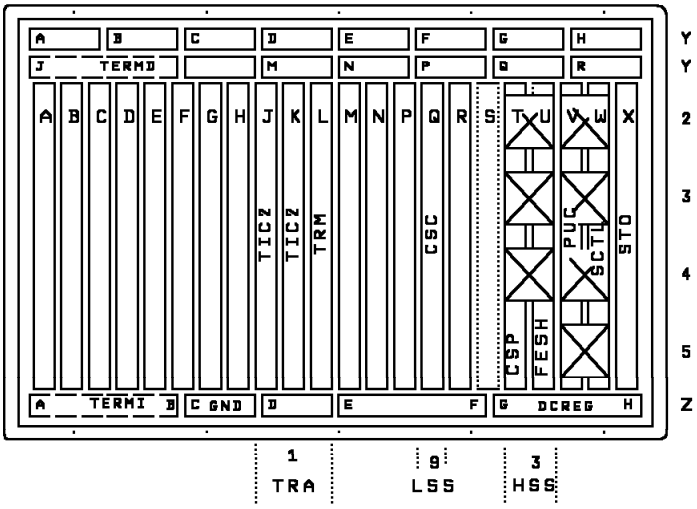
__ 5. Remove 2 screws and remove the FAN BOX from the enclosure.

__ 6. Locate the MOSS board and unplug 4 flat cables from Y0A2, Y0A3, Y0B2 and Y0B3.



__ 7. Carefully free the cables from the 2 retainers on the side of the MOSS board.

10.3.2 Card Removal



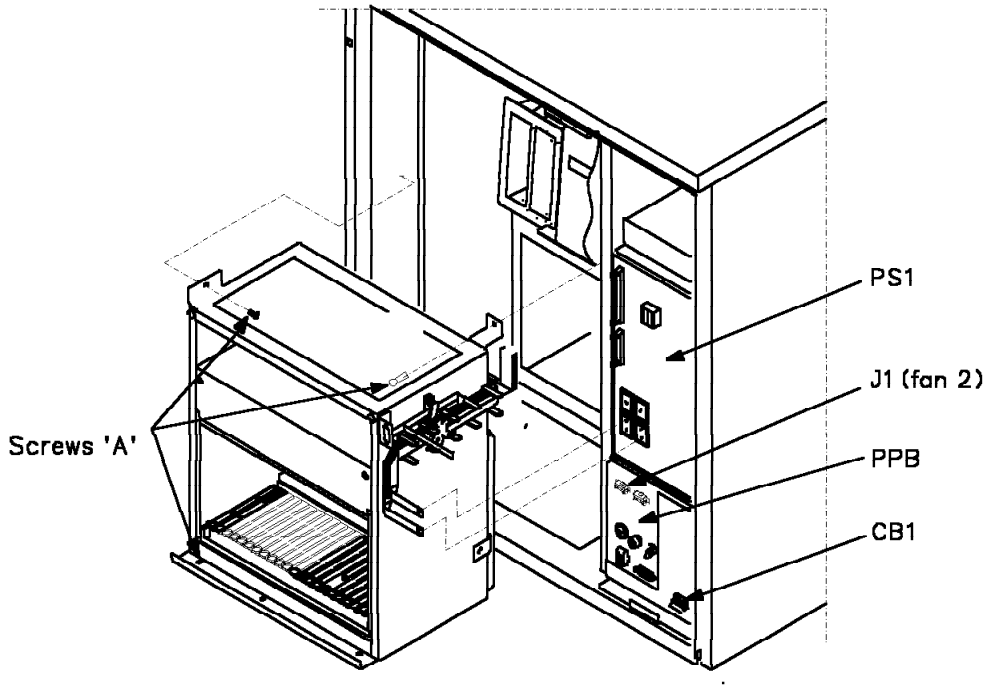
__ 1. Remove crossovers from HPTSS cards (if installed), note their positions.

__ 2. Remove all cards and spacers from the board. Be sure that the cards are labeled according to their positions.

Note: TIC2 and FESH cards have cables plugged on, note their positions.

__ 3. Put the cards and crossovers in a safe place.

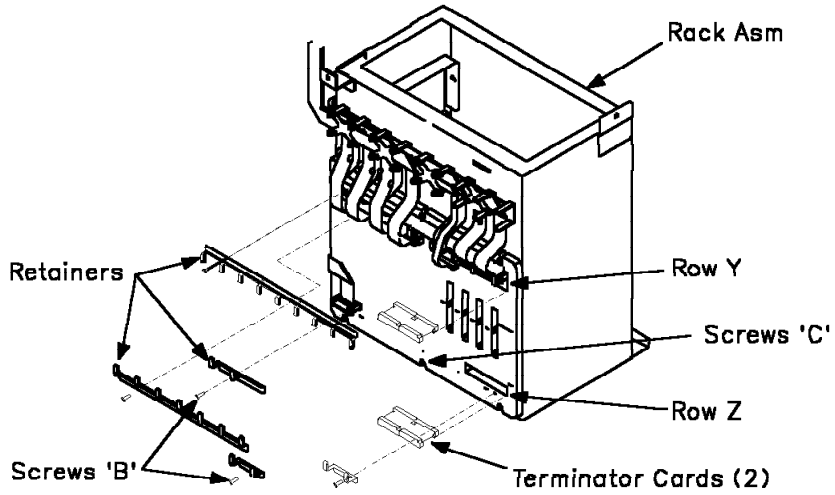
10.3.3 Board Enclosure Removal



__ 1. Remove 5 screws 'A' securing the enclosure in the frame.

__ 2. Slide the enclosure out the frame, taking care not to damage the cables.

Place the enclosure in a safe working area.

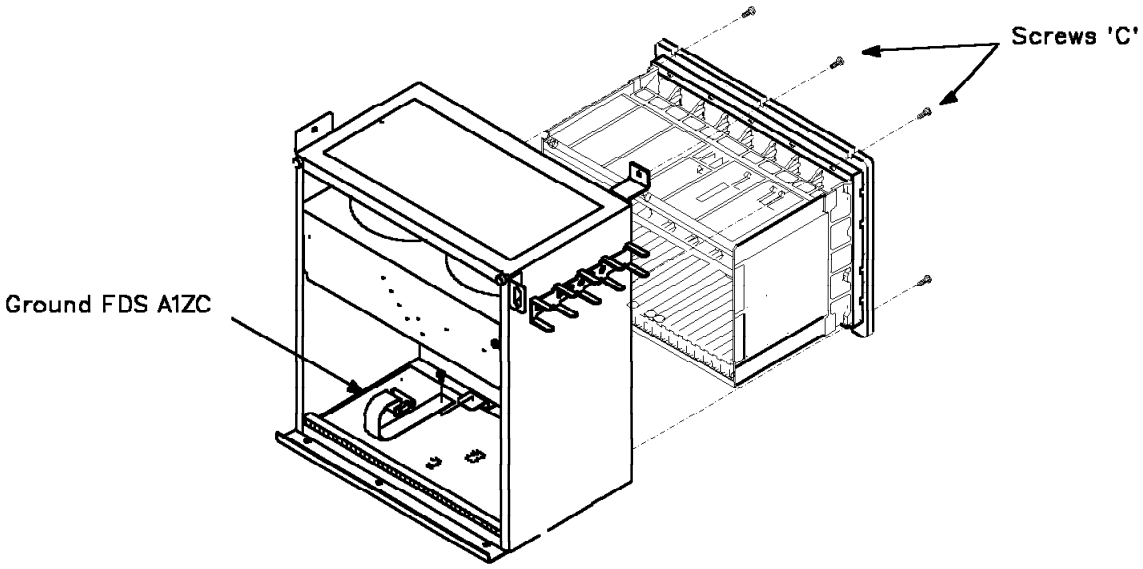


10.3.4 BASE Board asm Removal from Enclosure

__ 1. Remove 10 screws 'B' and remove the cable retainers from rows Y and Z.

__ 2. Disconnect all cables from the board.

__ 3. Remove the terminator cards and store them for re-install.

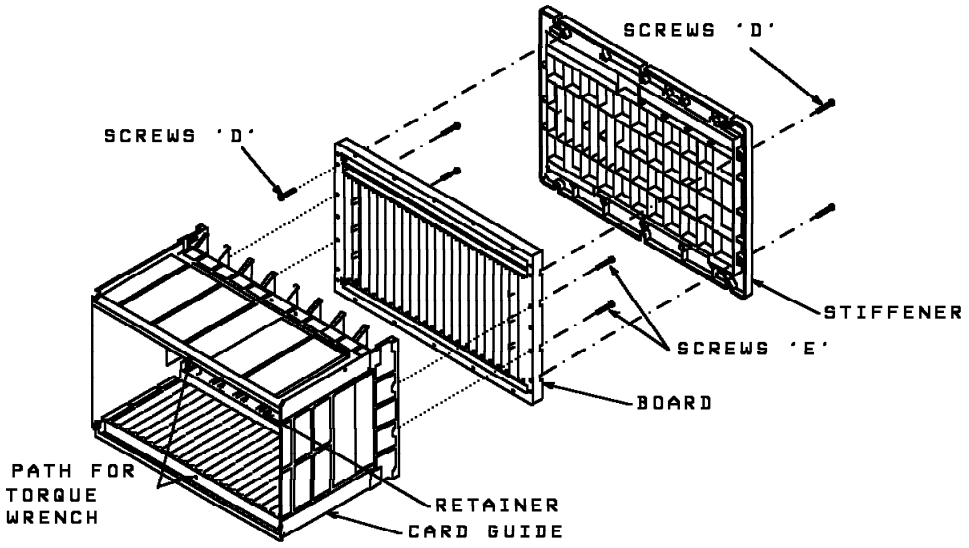


__ 4. From the card side, unscrew the bottom retainer screw and unplug the FDS ground cable from position A1ZC (keep this cable secured by its screw on the enclosure).

__ 5. Unplug a DCREG card from position A1ZE if HPTSS present (save for re-installation).

__ 6. Remove 6 screws 'C' and slide the board asm out the rack assembly.

10.3.5 Base Board Removal from asm



__ 1. Remove 14 screws 'D' securing the stiffener to the board. Remove the stiffener.

__ 2. Remove 8 screws 'E' securing the board to the card guide. Remove the board.

10.4 Board Reinstallation

10.4.1 Gate asm

__ 1. Install the base board received with this FFBM on the card guide and secure it with 8 screws 'E'.

__ 2. Re-install the stiffener with 14 screws 'D'.

10.4.2 Install the Gate asm in Rack

__ 1. Ensure that FDS ground cable is plugged in A1ZC.
__ 2. Re-install the gate asm in RACK and secure it with 6 screws 'C'.
__ 3. Re-install cables and terminator cards on back of board.

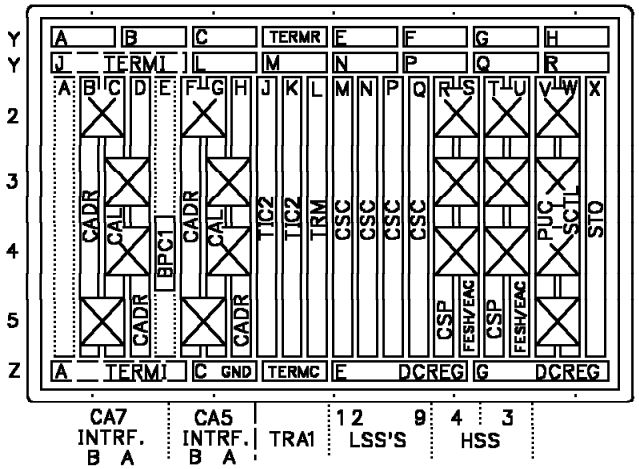
Note: Connect first the cables in Y upper row, then in Y lower row and at last cables in the Z row.

__ 4. Re-install the cable retainers.
__ 5. From the card side, re-plug the DCREG card (if present) in A1ZG and the FDS ground cable in A1ZC. Secure them with the bottom retainer.
__ 6. Stick a label (PN 03F4737).

10.4.3 Enclosure and Cable Re-installation

__ 1. Slide the enclosure into the machine, taking care not to damage the cables.
__ 2. Secure the enclosure with 5 screws.
__ 3. Route the cables from base board to MOSS board and reconnect cables in position.(Y0A2, Y0A3, Y0B2, Y0B3)
__ 4. Route cables from base board to PS1 and reconnect FDS cables and multi-voltage cable.
__ 5. Re-install the FAN asm box, secure it with 2 screws and reconnect the power and AIR FLOW detector cables.

10.4.4 Card Re-installation



__ 1. According to their labels, re-install the cards in board.

Note: Before locking TIC2 and FESH cards, re-connect the adapter cables on cards.

__ 2. Replug the crossovers on top cards.

__ 3. Secure the adapter cables with clamps and screws on the enclosure.

Note: If you have received additional MES, you can proceed to their installation at this step.

10.5 BPC1 Card Installation

If no TRA feature installed with a TSS/LSS feature installed in R2 position, skip to next step. Otherwise, proceed.

Note: Remove TRM cables on unused adapter(s) not addressed.

__ 1. If TRA feature is installed in card position J2,K2 and L2 or if there is no feature in position R2 you must install an IOC bus bypass card in position M4,N4,P4,R4 and T4.(T4 is unused if there is no HPTSS).

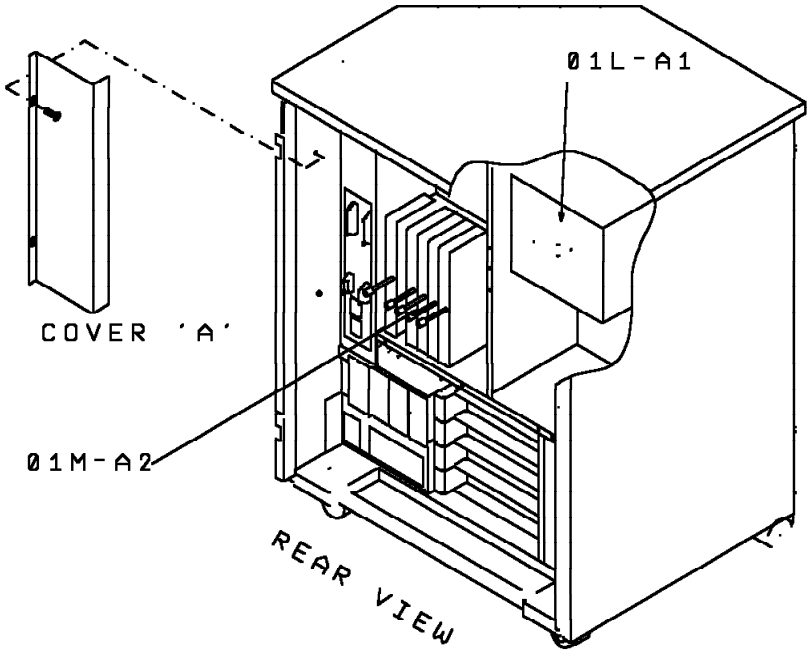
Note: If no HPTSS in T4 position, you have to reinstall the BPC1 from the old board.

__ 2. Mount the BPC1 card on its extender (PN 1953093) and plug it in required positions.

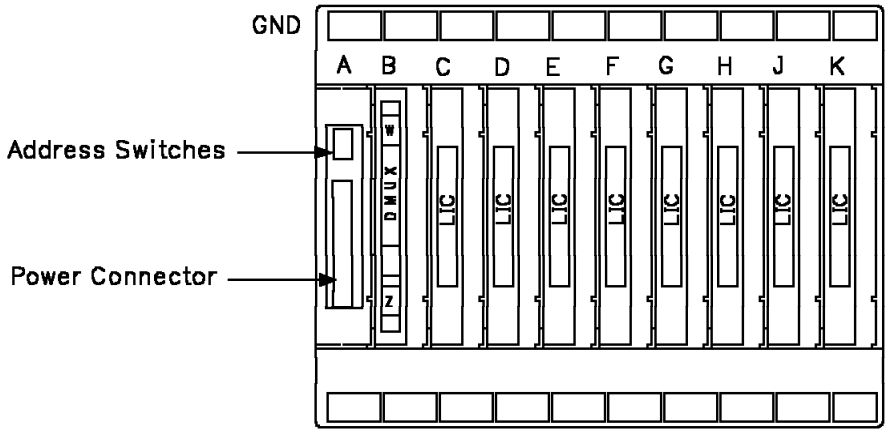
__ 3. Secure BPC1 with intermix bracket (PN 1953110).

10.6 LIB Board

If you convert a 3745/150 with a LIB2 or a LIB1 installed in 01L-A1 skip to step 10.7, “Name plate” on page 12. Otherwise, proceed.



__ 1. Locate the LIB3 board in position 01M-A2.
__ 2. Remove the cover A.



__ 3. Keeping the external LIC cables and MUX cable connected on cassettes, remove up to 4 LICs and the DMUX card from board.
__ 4. Unplug the power cable from LIB board.
__ 5. With 4 mounting screws, remove the LIB board from the machine.
__ 6. Install the LIB1 board provided by this this FFB/M.
__ 7. Set all address switches to 0 (off).
__ 8. Reconnect the power cable and re-install LICs/DMUX in board.
__ 9. Re-install the cover **A**.

10.7 Name plate

__ 1. Remove the name plates from the front and back system covers and clean any adhesive residue from the recessed area of cover with ISOPROPYL alcohol.

__ 2. Remove the paper from the back of the new plate (PN 26F1443) and stick the two plates in place.

__ 3. Strike out the model number on the S/N label located on the Control Panel.Now only the name plate will identify the model number.

10.8 Covers

Re-install all covers.

10.9 Power ON

Switch **CB1** ON and close the system cover(s).

10.10 MOSS IML

From the control panel:

__ 1. Set the **Function** indicator to **1**. Press the **Validate** key.
__ 2. Set the **Service Mode** indicator to **2**. Press the **Validate** key.
__ 3. Press the **Power ON Reset** key.

- The **MOSS IML** is completed when **F0E** is displayed on the control panel.
- If another code is displayed, see the *MIP*, Chapter 2.

10.11 On Local Console

__ 1. When **CA interface display** screen is displayed, press **F4**.

__ 2. Enter the maintenance password, press **Send**.

Note: 3745 150 is still displayed on the first line of display.

10.12 Update the CDF

__ 1. Enter **CDF**, press **Send**.
__ 2. Enter **3** (UPGRADE), press **Send**.
__ 3. When **CDF UPGRADE COMPLETED** is displayed, press **F1**.
__ 4. Enter OFF, press **Send**.
__ 5. When **CA interface display** screen is displayed, press **F4**.
__ 6. Enter the maintenance password, press **Send**.

Note: 3745 170 is now displayed on the first line of display.

11.0 Test Procedures

11.1 Display the CDF

__ 1. Enter **CDF**, press **Send**.
__ 2. Enter **1** (DISPLAY/UPDATE), press **Send**.
__ 3. Enter **10** (LA), press **Send** to check the hardware configuration.
__ 4. Press **F1**.

11.2 Diagnostics

__ 1. Enter **ODG**, press **Send**.
__ 2. Enter **1** (ALL), press **Send**.

- If **NO ERROR FOUND** displayed, press **F1**.
- Otherwise, see the *MIP*, Chapter 1.

11.3 Save CDF on BACKUP and NORMAL sets of Diskettes

__ 1. Enter **DIF**, press **Send**.
__ 2. Select **2**.
__ 3. Enter the date and save ID, press **Send**.
__ 4. Follow prompting on console. When function complete, press **F1**.
__ 5. Repeat this step for each set of diskettes.

11.4 General IPL

11.4.1 From the 3745 Control Panel

__ 1. Set the Power control indicator to its original value recorded in Step 10.1.1.
__ 2. Set the **Service Mode** indicator to **0**. Press the **Validate** key.
__ 3. Set the **Function** indicator to **0**. Press the **Validate** key.

The general IPL starts.

- If **FF4** code is displayed on the control panel, ask the customer to load the control program.
- If the control program is loaded from the hard disk, **000** will be displayed when **IPL** successful.

Note: The control program can fail if a mismatch exists between the control program and the hardware configuration.

After Installation (steps 12-15)

12.0 Field Updating

None.

13.0 Publications Update

None.

14.0 Parts Disposition

- **For parts listed in the RMER**

  All these parts become the property of IBM. You MUST RETURN these parts following the instructions given on the Returned Material Equipment Report (RMER) provided with this FFBM.

- **For parts not listed in the RMER**

All these parts should be returned according to your local procedure.

15.0 Machine Records

- Install the new **MACHINE HISTORY** supplied.
- Report installation and quality to existing procedures.

End of instructions.