

Field Feature Bill of Material (FFBM)

PN 11F6545

REMOVAL of a TRA Option (RPQ 7L1104) from IBM 3745 Models X10/X1A

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3745 FFBM	PN 11F6545 1 of 16	EC A47576 12JUN89	EC A97870 21NOV89	EC A98318 05AUG91	EC D55651 07JUL93	EC C38773 03FEB94
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3745
FFBM

PN 11F6545 2 of 16

EC A47576 12JUN89

EC A97870 21NOV89

EC A98318 05AUG91

EC D55651 07JUL93

EC C38773 03FEB94

Before Removal (steps 1-8)

1.0 Machines Affected

3745 Models 210/21A/310/31A/410/41A/610/61A.

2.0 Related BMs and ECs

2.1 Prerequisite

(Must be installed prior to this installation)

Visually, check the presence of TSST board in 01G-A1 (BM 6495981 in machine history).

Checkpoint: TRM card installed in 01G-A1A2 or BPC2 card in 01G-A1A4.

2.2 Concurrent

(Must be installed together)
None.

2.3 Companion

(Must be installed separately)
None.

3.0 BM(s) to be Used

Note: Review each numbered item in this section to determine your needs.

- 11F6545 - Installation instructions
- 11F6545 - TRA option removal.

4.0 Preparation

1. Familiarize yourself with the purpose and details of these removal instructions before negotiating machine time with the customer.
2. Check all the items and count parts listed on the BM(s) to be used to determine whether all parts were received.
3. Additional information:

- After the TSSB board installation, you must re-install cards and power supplies (PSTY4) according to the *HONE Configurator sheet*.
- If a 3746-A11/A12 is connected on this 3745, some of scanners installed in the adapter frame(s) must be moved in 3745. This should be done according the *HONE configurator sheet* with RPQ(s).
- You may have on the floor up to two PSTY4 and up to four Token-Ring adapters. These features can be re-installed in an other 3745 via RPQs.
- You may differentiate FESH (HPTSS adapters) from FESL (TSS adapters) as follows:
 - There are two connectors on a FESH card.
 - There is one connector on a FESL card.
- CSP card is the same for HPTSS and TSS adapter(s).

4. For 3745-X1A and 3746-900:

Configuration modification in a line adapter chain, in 3745-X1A with 3746-900 connected, requires the relocation of ACTIVE/PASSIVE bypass cards in IOC/DMA bus for proper signals propagation. This will be done in section 11.0. Parts to be used for relocation are part of the 3746-900 shipping group (holders, BPC1, ABP, cables...).

5.0 Programming

5.1 Diagnostics Program

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

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5.2 Systems Programs

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

NCP Tier	Usage Limits (Up to...)
1	1 TSS/HPTSS + 1 TRA + 2 CA
2	2 TSS/HPTSS + 1 TRA + 2 CA
2.5	6 TSS/HPTSS + 0 TRA + 4 CA
or	2 TSS/HPTSS + 2 TRA + 4 CA
3	8 TSS/HPTSS + 0 TRA + 8 CA
or	4 TSS/HPTSS + 4 TRA + 8 CA
4	24 TSS/HPTSS + 0 TRA + 16 CA
or	20 TSS/HPTSS + 4 TRA + 16 CA
5	32 TSS/HPTSS + 0 TRA + 16 CA
or	28 TSS/HPTSS + 4 TRA + 16 CA

6.0 Purpose and Description

6.1 Purpose

- Remove the TRA option from 3745 (SC 9763).

6.2 Description

- Replace the TSST board by a TSSB.

7.0 Installation Time

FFBM	MACHINE HRS.	SYSTEM HRS.
11F6545	3.5	00.0
Test Time	3.5	00.0
Total Time	7.0	00.0

Add 0.3 for ABP card relocation (if 3746-900 attached).

8.0 Tools/Material Required

ESD kit (PN 6428316).

Removal (steps 9-11)

9.0 Safety

- The feature removal must be performed offline.
- Review the **Safety Notices** and the **Safety Inspection Procedures** located at the beginning of the *3745 Maintenance Information Procedures (MIP)* manual (SY33-2054).

10.0 Details of Removal

Before the removal, ask the customer:

- To set all the lines and channel addresses offline for this controller.
- To deactivate all resources of the 3746 Model 900, if attached.
- For the maintenance password.
- To logoff 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

- Check that **Power Control** displays **3**.
- If it does not, record the value ____.
Set the **Power Control** value to **3**.
Press the **Validate** key.

- If you are removing this RPQ from a 3745-X1A, go to Step 10.1.1.3, "From the Service Processor" on page 5.
- Otherwise, continue.

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10.1.1.2 From the 3745-X10 Console on

- ___ 1. From the **CA INTERFACE DISPLAY** screen, record **Enabled channel adapters**. Then, **disable** all channel adapters.
- ___ 2. Wait for **Interface Status Disabled** for all CAs. Press **F4**.
- ___ 3. Enter the maintenance password, press **Send**.

Note: If Model 410/610, the CCU must be selected with **CSR** function before **RST**.

Perform the **CSR/RST** sequence for each CCU.

- ___ 4. If the CCU is running, enter **CSR** and select CCU A or/and CCU B. Then, enter **RST** to reset the CCU(s). The MOSS goes in **MOSS ALONE** state.

• Go to Step 10.1.2, "Diagnostics."

10.1.1.3 From the Service Processor

- ___ 1. On the **MOSS-E View** window, click on **Program**.
- ___ 2. Click on **LOG ON MOSS-E**.
- ___ 3. Enter the maintenance password, press **Enter**.

10.1.1.4 Open MOSS/MOSS-E Session

- ___ 1. On the **MOSS-E View** window, double click on the icon of the identified 3745.
- ___ 2. On the **3745 Menu** window, double click on **MOSS Console**.
- ___ 3. When **MOSS Console** screen is displayed, enter **CID**, press **Enter**.
- ___ 4. From the **CA INTERF DISPLAY** screen, record **Enabled channel adapters**. Then, **disable** all channel adapters.
- ___ 5. When all CAs are **DISABLED**, press **F1**.

Note: On Models 41A/61A, CCU must be selected with **CSR** function before performing **RST**.

Perform CSR/RST sequence for each CCU.

- ___ 6. If CCU running, enter **CSR** and select CCU A or CCU B. Then, enter **RST** to reset CCU(s). The MOSS goes in **MOSS ALONE** state.

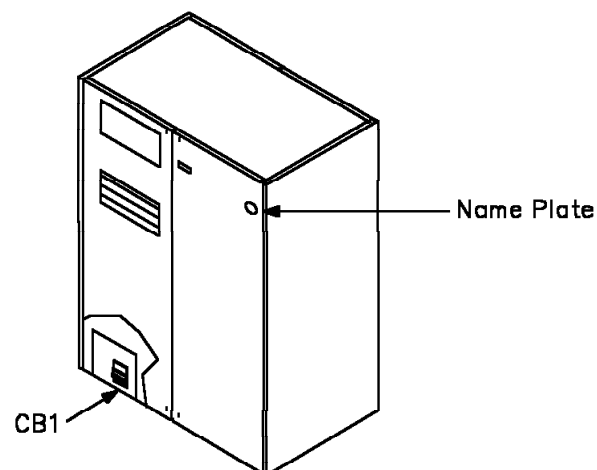
10.1.2 Diagnostics

Note: From this point, the **Send** key is used only for a local console. For a Service Processor, press the **Enter** key.

- ___ 1. Enter **ODG**, press **Send/Enter**.
- ___ 2. Enter **3** (IOCB), the adapter number in ADP field, press **Send/Enter**.
 - If an error is reported, see the *MIP*, Chapter 1.
- ___ 3. Enter **5** (TSS) or **7** (HPTSS), the adapter address (1 to 8), press **Send/Enter**.
- ___ 4. Repeat this step until all adapters in TSST board have been tested.
 - If **NO ERROR FOUND** displayed, press **F1**.
 - Otherwise, see the *MIP*, Chapter 1.

10.1.3 Power OFF

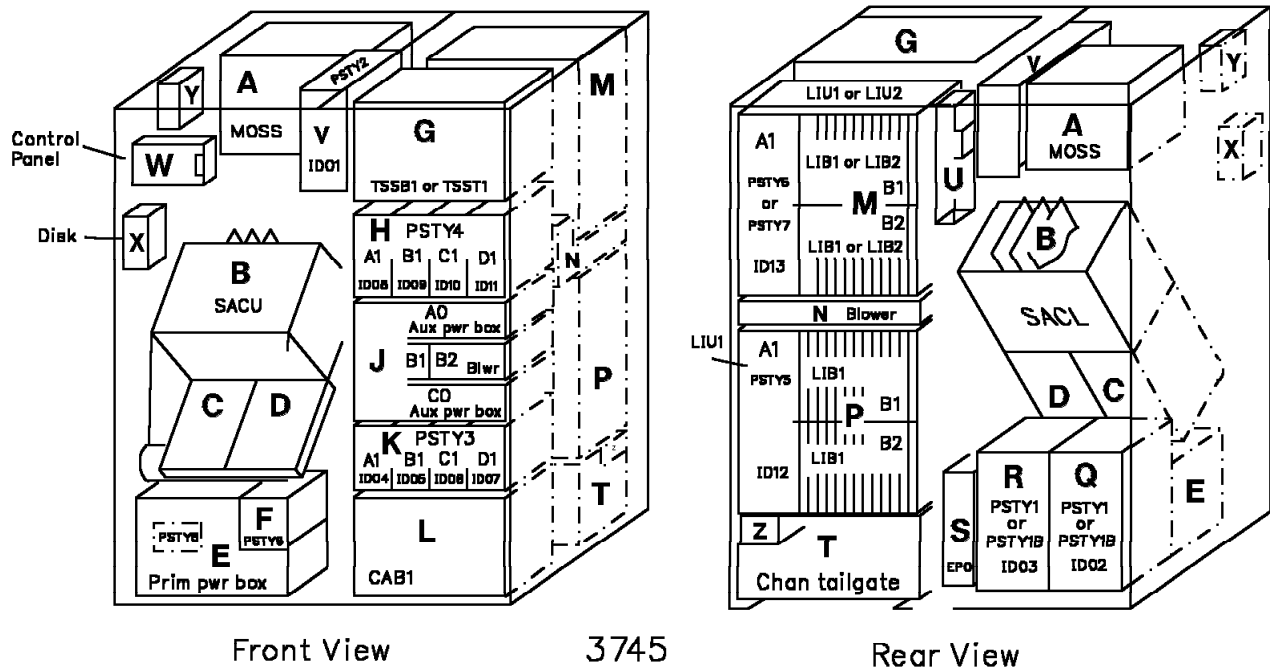
- ___ 1. From the 3745 control panel, press the **Power OFF** key.
- ___ 2. Open the front covers of the 3745, then switch **CB1** OFF.



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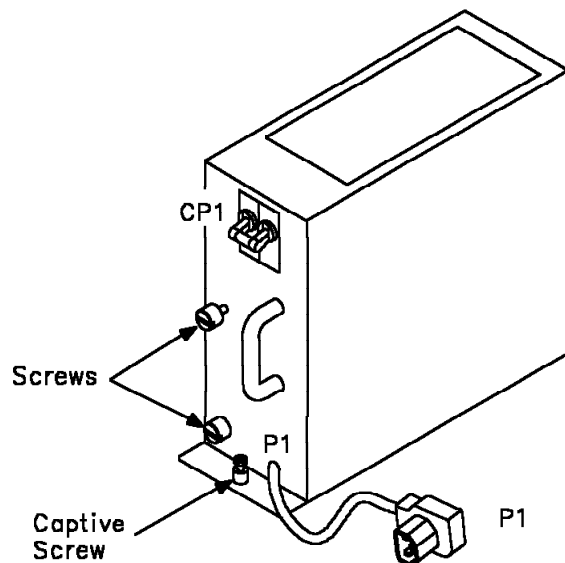
10.2 Hardware Removal

Warning: Follow existing ESD procedures when handling logic parts.



10.2.1 PSTY4s Removal (to reduce the weight of the enclosure)

1. Locate the PSTY4 enclosure in position 01H, and open the shield if present.
2. On the PSTY4s, set the CP1s OFF.
3. Unplug the PSTY4 cables P1 from the connector (J1, J2, J3, or J4 of the auxiliary power box) just under the PSTY4s.
4. Unfasten the two front screws, then the captive screw at the bottom front of each power.



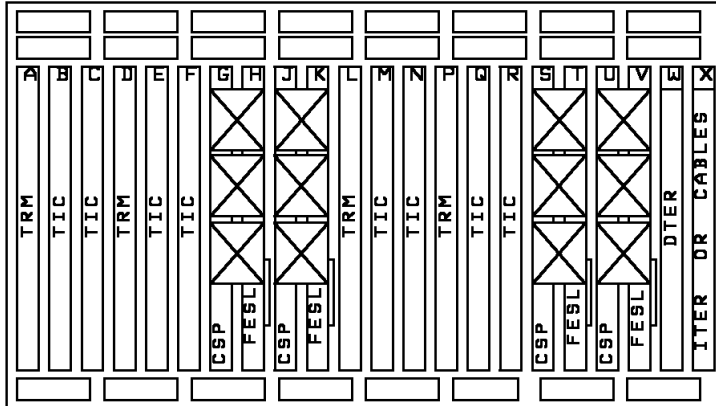
5. Slide the PSTY4s out of the enclosure and save for re-installation.

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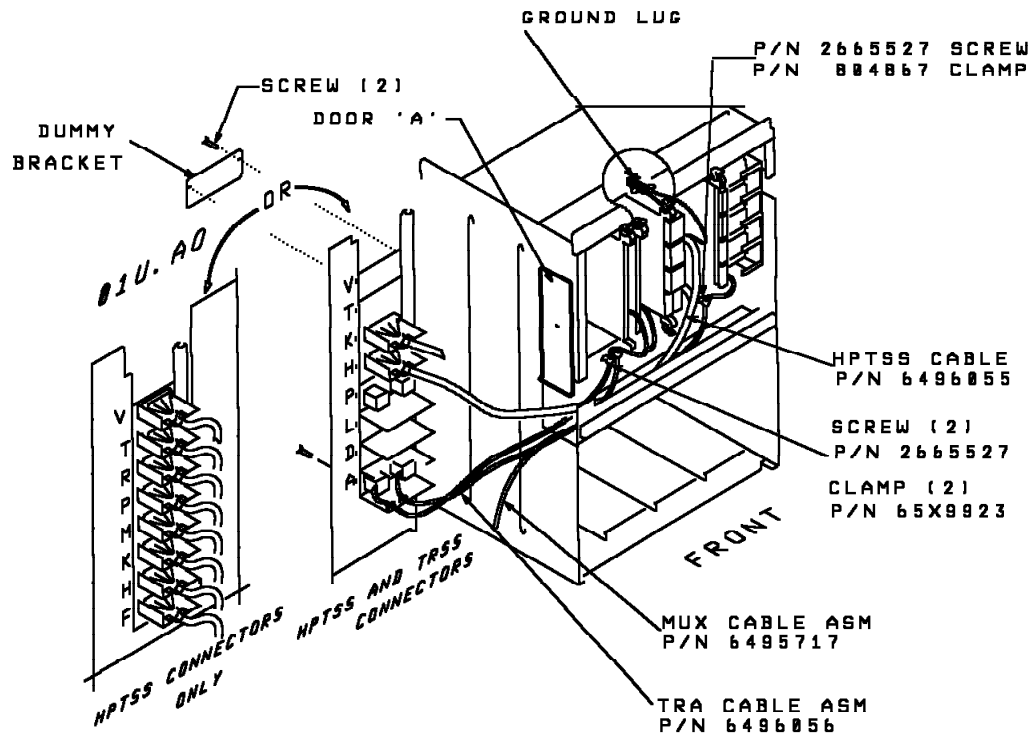
10.2.2 Adapter Cards and Power Bus Removal

10.2.2.1 Adapter Cards

1. Locate the TSST board in position 01G-A1 and slide the door 'A' up on the left side of the enclosure.



2. Note the crossover positions and remove them.



3. Remove the screw securing the MUX cable clamps. Then, remove the MUX cables from the FESH card(s) if any.

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- ___ 4. Note the location and remove cables from the FESH card(s) if any. Unplug the ground wires. Save parts.
- ___ 5. Verify that cards are labelled according to their position. Then, remove all cards and store them in a safe place.
- ___ 6. Remove the DTER card from position W2 (if a FESH card is present).
From position 01G-A1X2, disconnect the flat cables from the ITER card.

Note: If a 3746-900 is attached to the 3745, remove the DICO cards with the IOC/DMA cables attached.
- ___ 7. If flat cables are installed, remove them from the raceway. Feed the cables out of the enclosure.
Save cards for reinstallation.

10.2.2.2 Power Bus Cables

- ___ 1. Locate the power card in 01H.
- ___ 2. Disconnect the cables from 01H-A0J7 and 01H-A0J8.

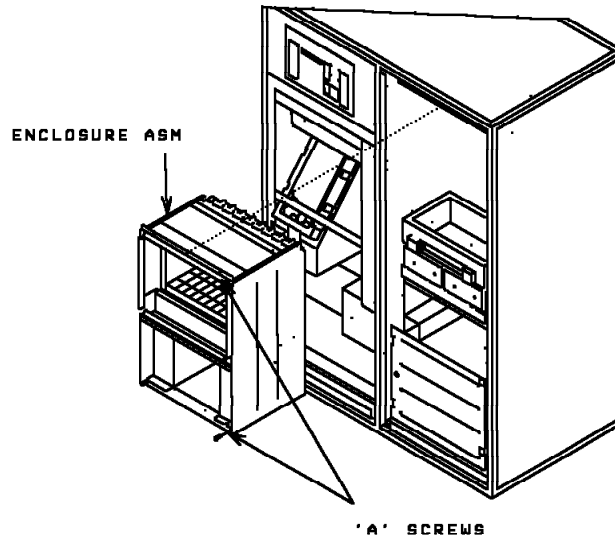
10.2.3 IOC Bus Cables Removal

- ___ 1. Locate the SACU board in position 01B.
- ___ 2. Disconnect the following cables from the SACU board:
 - 01B-A1-G0Z4
 - 01B-A1-G0Z5
 - 01B-A1-H0Z4
 - 01B-A1-H0Z5
 - 01B-A1-N0Z1
 - 01B-A1-N0Z2
 - 01B-A1-P0Z4
 - 01B-A1-P0Z5
- ___ 3. Route the cables through the frame towards the scanner board enclosure.

10.2.4 TSST Board Removal

10.2.4.1 Enclosure Removal

- ___ 1. If present, remove the dummy bracket(s) from the PSTY4 enclosure.
- ___ 2. Remove the 6 screws 'A' securing the enclosure and slide it out of the frame. Save the screws.

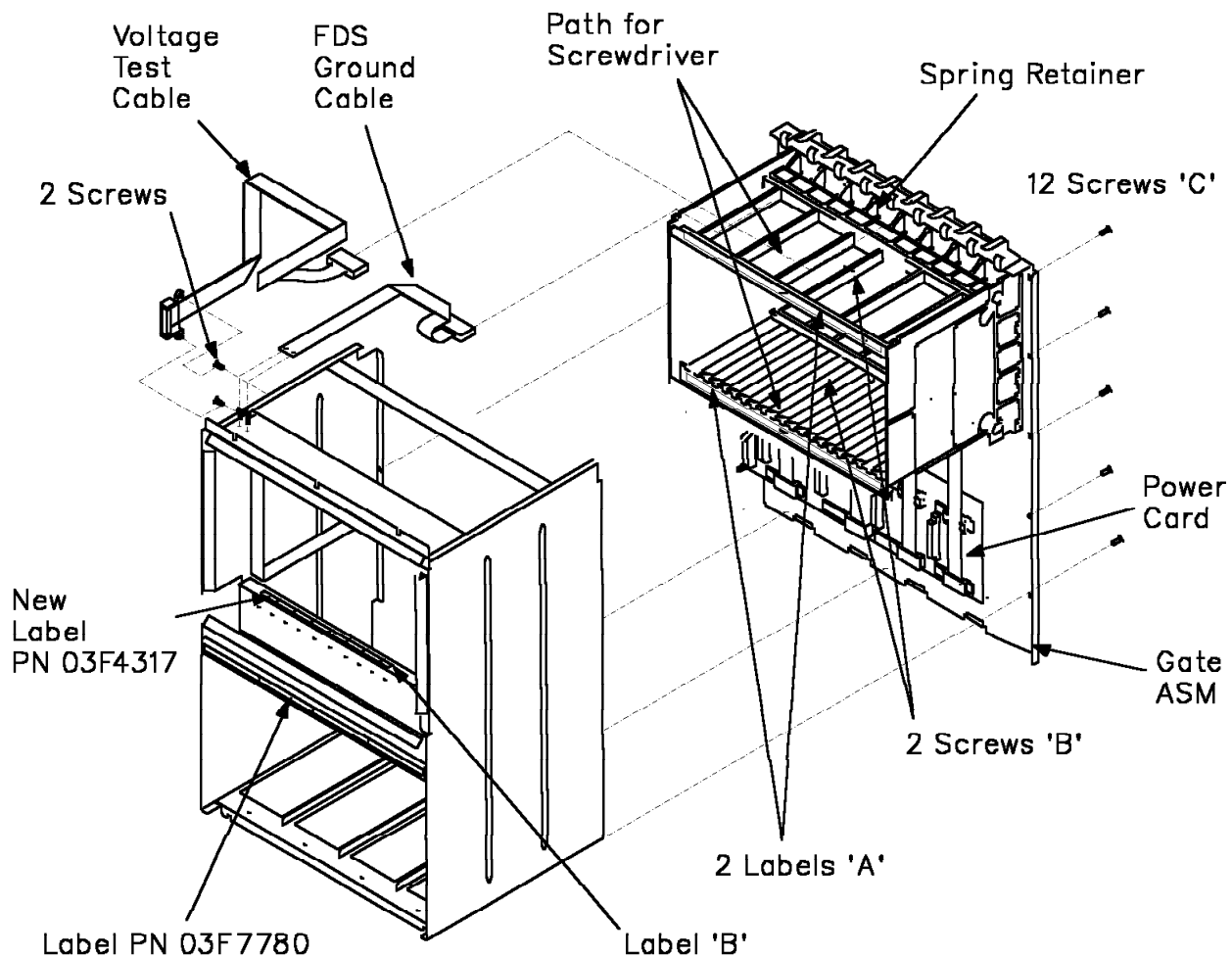


- ___ 3. Take care not to damage the power board, the connectors and IOC bus on the left side of the enclosure.
- ___ 4. Place the enclosure on a table.

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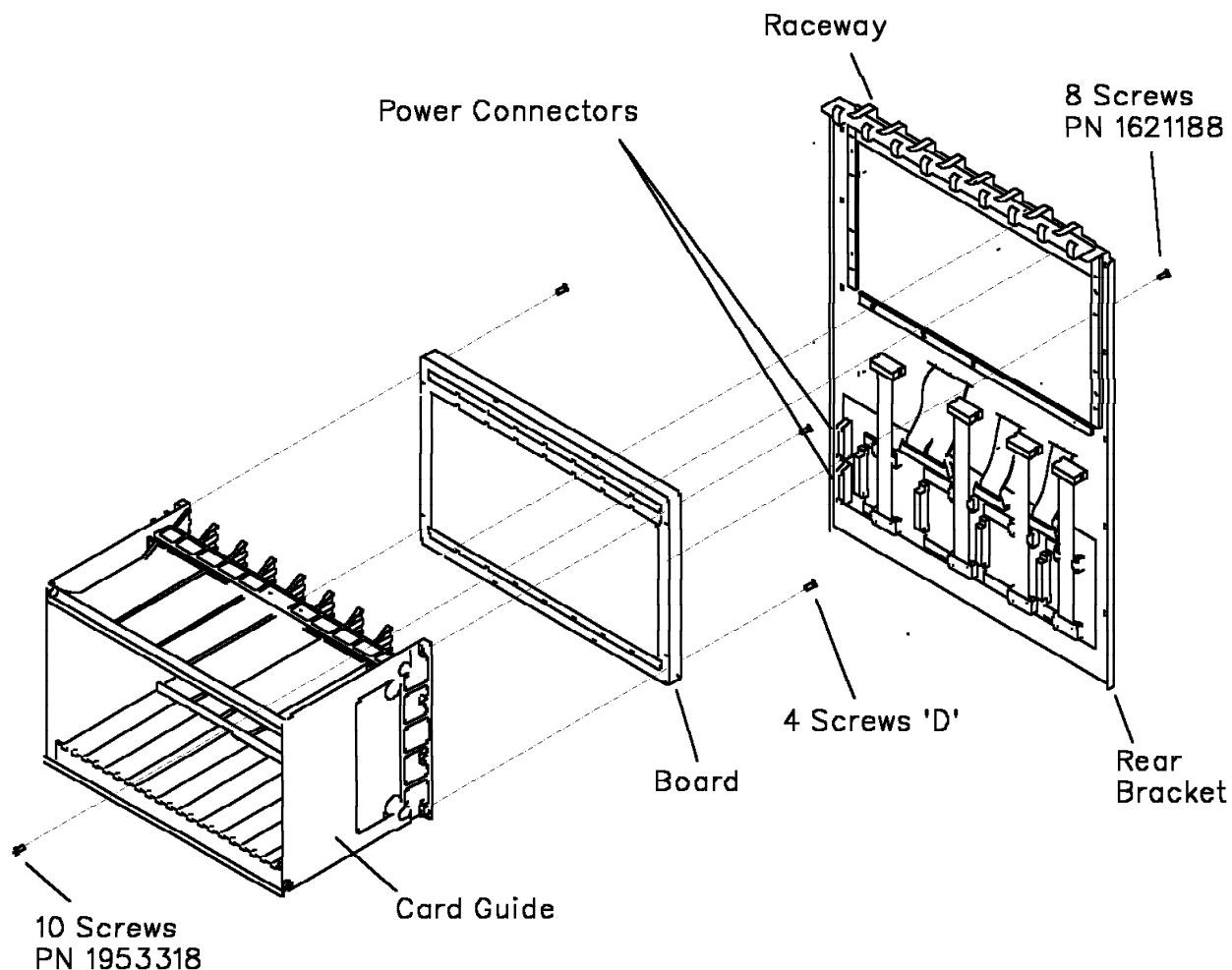
10.2.5 Enclosure Disassembly

- ___ 1. Remove the 2 screws securing the FDS ground cable on the top of the enclosure.
- ___ 2. From the rear side, remove the 12 screws 'C' securing the gate asm on the enclosure.
- ___ 3. Disassemble the enclosure end the gate asm.
- ___ 4. Put the enclosure in a safe place.



- ___ 5. With a torque wrench, loosen completely the 2 screws 'B' which maintain the spring retainer securing cables in rows Y and Z.
- ___ 6. Pull back the spring retainer and unplug all cables from board (keep them in the raceway).

10.2.6 Board Asm Removal



- ___ 1. From the rear side of the gate asm, remove the 8 screws (PN 1621188).
- ___ 2. From the front side of the gate asm, remove the 10 screws (PN 1953318) securing the board asm on the rear bracket.
- ___ 3. Remove the rear bracket and save the screws.
- ___ 4. Disassemble the board and the card guide asm by removing the 4 screws 'D' and save the screws.

10.3 TSSB Board Installation

- ___ 1. Write the board PN and the EC of the TSSB board on label (PN 03F7780) attached to the front of the enclosure.
- ___ 2. Refer to previous figures to install the new board.

10.3.1 Board, Card Guide, Rear Bracket Assembly

- ___ 1. Check on the board that no pin is bent or damaged.
- ___ 2. Mount the TSSB board on the card guide with the 4 screws 'D'.
- ___ 3. On the front side secure the board asm on the rear bracket with the 10 screws (PN 1953318).
- ___ 4. Reconnect the flat cables on the board in rows Y and Z.
 - 65X8880 to YA (grounds FDS).
 - 6495703 to YE/YN/YF/YP/YC/YL/YB/YK.
 - 6495734 to ZB/ZC.
 - 6495930 to ZE/ZG.
 - 6495731 to ZA/ZD/ZF/ZH.
- ___ 5. Secure the flat cables with the spring retainer.
- ___ 6. Fasten the 2 screws 'B'.
- ___ 7. From the rear of the bracket, secure the board with 8 screws (PN 1621188).

10.3.2 Enclosure Reassembly

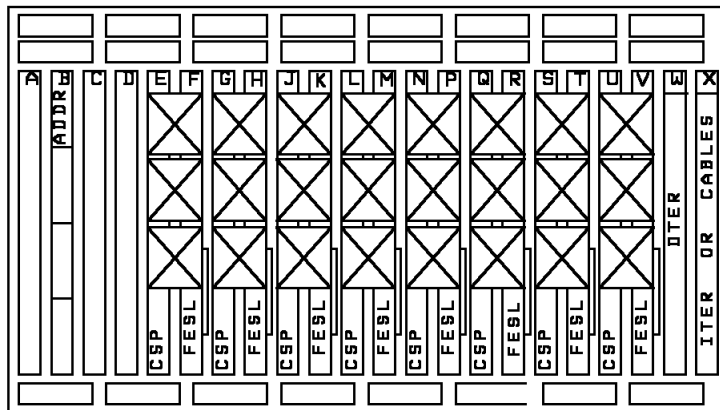
- ___ 1. Install the gate assembly on the enclosure, and insert the 12 screws 'C'.
- ___ 2. Place the enclosure on a work surface oriented as installed in the machine and supported by the bottom the power enclosure.
- ___ 3. Allow the gate assembly to lower as far as permitted by the loose screws.
- ___ 4. Tighten the 12 screws securely.
- ___ 5. Re-install the FDS ground cable with 2 screws.

10.3.3 Enclosure Re-installation

- ___ 1. Slide the enclosure asm in the frame, and secure with the 6 screws 'A'.
- ___ 2. Take care not to damage the power board, the connectors and IOC bus on the left side of the enclosure.
- ___ 3. Secure the cables in the enclosure raceway.
- ___ 4. Affix the 3 labels (PN 03F4317) on the enclosure.
- ___ 5. Re-install the power bus cables in 01H-A0J7 and 01H-A0J8.

10.4 Card and Cable Re-installation

10.4.1 Card Installation



- ___ 1. Re-install the TSS and/or HPTSS cards according to the *HONE configurator sheet*. If HPTSS, reconnect the ground wire.
- ___ 2. Re-install the crossovers.
- ___ 3. Route and plug the MUX cable(s) and/or HPTSS cables on the FESL and/or FESH cards, and re-install the clamps with screws to secure the MUX cables.

- If you are removing the RPQ from a 3745-X1A connected to a 3746-900, go to Item 6.
- Otherwise, continue.

- ___ 4. Replug the DTER in A1W2 (if a FESH card is present).
- ___ 5. Replug the flat cables in positions X2, X3, X4, X5 of ITER card. Secure the cables (if any) in the raceway.

- Go to Item 9.

- ___ 6. Remove the cable (PN 43G3181) from the CCU board (positions 01B-A1-G0W4 and P0W4) to DICO cards.

- ___ 7. Install the new cable (PN 43G3180) (XXA shipping group).
- ___ 8. Replug the DICO cards and the IOC/DMA cables in the TSSB board.
- ___ 9. Mount the ADDR card provided by the FFBM on its extender (PN 1953093) and plug in position A1B2. Secure with intermix bracket (PN 1953110).
- ___ 10. Install the fillers in free card positions.
- ___ 11. Slide the door 'A' down on the left side of the enclosure.

10.4.2 IOC Bus Cables and PSTY4

- ___ 1. Feed the flat cables through the frame back to the SACU board and re-install them in their positions.
- ___ 2. According to the adapter position in 01G-A1 board, re-install the PSTY4s previously removed.
- ___ 3. Tighten the tab screws and the bottom screws.
- ___ 4. Connect the connectors P1 of PSTY4s in the corresponding socket of the auxiliary power box.
- ___ 5. Re-install the dummy brackets (if any).

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10.5 Power ON

Switch **CB1** ON, and close system covers.

10.5.1 From the 3745 Control Panel

- ___ 1. set the **Function** indicator to 1.
Press the **Validate** key.
- ___ 2. Press the **Power ON Reset** key.

The MOSS IML is completed when **F0E** is displayed on the 3745 control panel.

- If you have removed the RPQ from a 3745-X1A, go to Step 10.5.3, "From the Service Processor."
- Otherwise, continue.

10.5.2 From the 3745-X10 Console

- ___ 1. When the **CA INTERFACE DISPLAY** screen is displayed, press **F4**.
- ___ 2. Enter the maintenance password, press **Send**.

- Go to Step 11.2, "Update the CDF."

10.5.3 From the Service Processor

- ___ 1. Double click on the 3745 icon when it becomes **PURPLE**.
- ___ 2. On the **3745 Menu** window, double click on **MOSS console**.

Wait for **Function Selection Rules** screen.

11.0 Test Procedures

11.1 Recreate the Power Configuration Table

- ___ 1. Enter **POS**, press **Send/Enter**.
- ___ 2. Enter **C** (CREATE), press **Send/Enter**.
When **Created Power Configuration Table** is displayed, check on **Base Frame** line

that the PS number 8 and 10 are displayed according to 3745 configuration. PS number 9 and 11 are blanked.

- ___ 3. Enter **Y**, press **Send/Enter**.
- ___ 4. Press **F1**.

11.2 Update the CDF

- ___ 1. Enter **CDF**, press **Send/Enter**.
- ___ 2. Enter **3** (UPGRADE), press **Send/Enter**.
 - When **CDF UPGRADE COMPLETED** is displayed, press **F6**.
 - If adapters are not recognized, see the *MIP*.

11.3 Display the CDF

- ___ 1. Enter **CDF**, press **Send/Enter**.
- ___ 2. Enter **1** (DISPLAY/UPDATE), press **Send/Enter**.
- ___ 3. Enter **3** (FRAMES), press **Send/Enter**.
- ___ 4. Enter the CA number, press **Send/Enter**.
Verify that adapter type and numbering are in accordance with your configuration.
- ___ 5. Press **F1**.

11.4 Diagnostics

- ___ 1. Enter **ODG**, press **Send/Enter**.
- ___ 2. Enter **3** (IOCB), press **Send/Enter**.
 - If an error is displayed, see the *MIP*, Chapter 1.
- ___ 3. According to the configuration:
 - a. Enter **5** (TSS) or **7** (HPTSS), the adapter address (3, 4, 7, or 8), press **Send/Enter**.
 - b. Repeat this step until all adapters in TSST board have been tested.
 - If **NO ERROR FOUND** is displayed, press **F1**.
 - If an error is displayed, see the *MIP*, Chapter 1.

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11.5 Save Hard Disk Contents Onto the Backup set of Diskettes

- ___ 1. Select **DIF**, press **Send/Enter**.
- ___ 2. Select **2**. Enter the date and save-ID, press **Send/Enter**.
Follow the prompts on the console.
- ___ 3. When function is completed, press **F1**.

- If you have removed this RPQ from a 3745-X1A, go to step 11.7, "Relocate the Bypass Card."
- Otherwise, continue.

11.6 From the 3745-X10 Console

Re-enable the channel adapters disabled in Step 10.1.1.2, "From the 3745-X10 Console on" on page 5.

- Go to Step 11.9, "General IPL."

11.7 Relocate the Bypass Card

Note: Follow this Step if a 3746-900 is attached.
From the Service Processor:

- ___ 1. On the **3745 Function Selection** screen, enter **OFF**, press **Enter**.
- ___ 2. On the **3745 menu** window, click on **OPERATION MANAGEMENT**.
- ___ 3. Double click on **Locate Bypass Card Position**.
- ___ 4. Follow the instructions.

Note: Refer to the *3746 Model 900 Installation Guide* (SY33-2088), Chapter 4, section: 'Plugging the Active and Bypass Cards and Connecting +5V Cables'. Then, Chapter 5, perform steps 1, 2, and 5, to verify the CDF and test the IOC/DMA bus.

11.8 From the Service Processor

- ___ 1. On the **3745 Menu** window, double click on **MOSS Console**,
- ___ 2. Enter **CID**, press **Enter**.
- ___ 3. Enable the channel adapter recorded in Step 10.1.1.3, "From the Service Processor" on page 5.
Wait until all channels are **E** in the E/D REQUEST column.
Press **F1**.
- ___ 4. Enter **OFF**, press **Enter**.
- ___ 5. On the **3745 Menu** window, click on **Function**. Then, click on **Exit**.
- ___ 6. On the **MOSS-E View** window, click on **Program**.
- ___ 7. Click on **LOG OFF MOSS-E**.

11.9 General IPL

From the 3745 Control Panel:

- ___ 1. Set the **Power Control** indicator to its original value recorded in Step 10.1.1.1, "From the 3745 Control Panel" on page 4.
- ___ 2. Set the **Function** indicator value to **0** (general IPL).
Press the **Validate** key.

The general IPL starts.

- If **FF4** 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** is successful.

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

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After Removal (steps 12-15)

12.0 Field Updating

None.

13.0 Publications Update

None.

14.0 Parts Disposition

14.1 Purchased Machines

Refer to the parts ownership matrix to determine the correct owner of removed/unused parts.

- For EMEA/APG/AG Areas, refer to *Hardware and General Service Code Description*.
- For Domestic Areas, return parts to the customer.

15.0 Machine Records

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

End of instructions.

Headings			
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<u>id</u>	<u>File</u>	<u>Page</u>	<u>References</u>
TABLE	P11F6545 SCRIPT	3	4.0, Preparation
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NN	P11F6545 SCRIPT	5	10.1.1.2, From the 3745-X10 Console on 15
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IPL	P11F6545 SCRIPT	15	11.9, General IPL 15
PP	AFTRINSR	16	After Removal (steps 12-15)

List Items			
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<u>id</u>	<u>File</u>	<u>Page</u>	<u>References</u>
X900	P11F6545 SCRIPT	13	6 13
P11	P11F6545 SCRIPT	13	9 13

Processing Options	
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Runtime values:

Document fileid	P11F6545 SCRIPT
Document type	PNCDOC
Document style	FBII
Profile	EDFPRF30
Service Level	21Jun90
SCRIPT/VS Release	3.2.1
Date	94.02.03
Time	09:54:45
Device	3820A
Number of Passes	2
Index	YES
SYSVAR G	INLINE
SYSVAR P	3820
SYSVAR R	XREF
SYSVAR U	FNT382SS
SYSVAR W	XREF

Formatting values used:

Annotation	NO
Cross reference listing	YES
Cross reference head prefix only	NO
Dialog	LABEL
Duplex	SB
DVCF conditions file	(none)
DVCF value 1	(none)

DVCF value 2	(none)
DVCF value 3	(none)
DVCF value 4	(none)
DVCF value 5	(none)
DVCF value 6	(none)
DVCF value 7	(none)
DVCF value 8	(none)
DVCF value 9	(none)
Explode	NO
Figure list on new page	YES
Figure/table number separation	YES
Folio-by-chapter	NO
Head 0 body text	(none)
Head 1 body text	(none)
Hyphenation	YES
Justification	NO
Language	ENGL
Layout	2
Leader dots	YES
Master index	(none)
Partial TOC (maximum level)	4
Partial TOC (new page after)	INLINE
Print example id's	NO
Print cross reference page numbers	YES
Process value	3820
Punctuation move characters,
Read cross-reference file	XREF
Running heading/footer rule	NONE
Show index entries	NO
Table of Contents (maximum level)	3
Table list on new page	YES
Title page (draft) alignment	CENTER
Write cross-reference file	XREF

Imbed Trace

Page 3	X1A900
Page 5	LOGONLC
Page 5	LOGONSP
Page 5	PRESSEND
Page 15	BYPASS
Page 15	LOGOFFSP
Page 16	AFTRINSR