

Field Feature Bill of Material (FFBM)

PN 66X0022

**REMOVAL of a Channel Adapter
CA UK (FC 1561/1571),
or CA not UK (FC 1561/1571),
or CA and TPS UK (FC 1562/1581),
or CA and TPS not UK (FC 1562/1581)**

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Reviewed by: B. Kelly

In these instructions, the generic term CA (Channel Adapter) is used for both CADS and BCCA. CADS (Channel Adapter Data Streaming) and BCCA (Buffer Chaining Channel Adapter) terms will be used when the identification of a specific adapter type is required.

3745 FFBM	PN 66X0022 1 of 18	EC A97870 21NOV90	EC A97885 16MAR90	EC A98112 30OCT90	EC A98318 05AUG91	EC C38411 18JUN93
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PN 66X0022 2 of 18	EC A97870 21NOV90	EC A97885 16MAR90	EC A98112 30OCT90	EC A98318 05AUG91	EC C38411 18JUN93
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Before Removal (Steps 1-8)

1.0 Machines Affected

3745 Models X10/X1A and 3746 Model A11.

2.0 Related BMs and ECs

None.

3.0 BM(s) to be Used

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

3.1 FFBM to be Used

- 66X0022 - Installation Instructions
- 66X0021 - Channel Adapter UK/not UK
- or 66X0026 - Channel Adapter and TPS UK/not UK

3.2 As required BM

- 66X0030 - Channel Adapter Power Supply removal (if you remove a CA in ODD position or a CA with TPS)

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 that all the parts were received.
3. Update all copies of the instruction with any changes found in the retain TIPS.
4. Ensure that all host (UCW) updating is done (see the *MIR*, Chapter 7, **HOST UNIT CONTROL WORD**)).
5. Using the *Hone Configuration sheet*, determine the frame the feature is to be removed, then with the following tables determine the cards and power (if required) positions.

CA removal from 01L-A1 (3745 base frame)

1) Board populated with CA(s) only

	IOC bus 1				IOC bus 2			
TAILGATE POSITION	1	2	3	4	5	6	7	8
SPECIFY CODE POSITION FOR BCCA	9571	9573	9575	9577	9572	9574	9576	9578
CARDS CAL/BCCA position	B2	E2	G2	K2	N2	R2	T2	W2
CADR	A2	D2	F2	J2	M2	Q2	S2	V2
Power Supply (type 3)	04 01K-A1	05 01K-B1		06 01K-C1		07 01K-D1		

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2) Board populated with CA + TPS(s) only

	IOC bus 1				IOC bus 2			
TAILGATE POSITION	1	2	3	4	5	6	7	8
SPECIFY CODE POSITION FOR CADS	9563		9565		9564		9566	
SPECIFY CODE POSITION FOR BCCA	9581		9583		9582		9584	
CARDS CAL/BCCA IN CADR-A 01L-A1 CADR-B	B2 A2		G2 F2		N2 M2		T2 S2	
		C2		H2		P2		U2
Power Supply (type 3)	04 01K-A1		05 01K-B1		06 01K-C1		07 01K-D1	

CA removal in 02E-A1 (3746 A11)

1) Board populated with CA(s) only

	IOC bus 1				IOC bus 2			
TAILGATE POSITION	9	10	11	12	13	14	15	16
SPECIFY CODE POSITION FOR BCCA	9571	9573	9575	9577	9572	9574	9576	9578
CARDS CAL/BCCA position	B2	E2	G2	K2	N2	R2	T2	W2
CADR	A2	D2	F2	J2	M2	Q2	S2	V2
Power Supply (type 3)	14 02D-A1		15 02D-B1		16 02D-C1		17 02D-D1	

2) Board populated with CA + TPS(s) only

	IOC bus 1				IOC bus 2			
TAILGATE POSITION	9	10	11	12	13	14	15	16
SPECIFY CODE POSITION FOR CADS	9563		9565		9564		9566	
SPECIFY CODE POSITION FOR BCCA	9581		9583		9582		9584	
CARDS CAL/BCCA IN 01L-A1 CADR-A CADR-B	B2 A2		G2 F2		N2 M2		T2 S2	
		C2		H2		P2		U2
Power Supply (type 3)	14 02D-A1		15 02D-B1		16 02D-C1		17 02D-D1	

Notes:

1. To prevent problems with adapter chaining on IOC bus, an IOC bypass card (BPC1) will be plugged in place of each 'CAL/BCCA' card removed.
2. CA board is shared between 2 IOC buses:
 - IOC bus group 1 drives adapter positions 1 through 4.
 - IOC bus group 2 drives adapter positions 5 through 8 of each board.
3. If you remove a CA in an ODD position or a CA with TPS, you have to remove a power block (PSTY3).

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.

5.2 Systems Programs

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

6.0 Purpose and Description

6.1 Purpose

- Remove CA Adapter U.K. or not U.K., or
- Remove CA Adapter with TPS U.K. or not U.K.

6.2 Description

Remove CA Adapter cards and associated Channel Power Supply (if required).

7.0 Removal Time

BMs	MACHINE	HRS.
66X0021 (CA)		1.2
or 66X0026 (CA + TPS)		1.7
66X0030 (Power)		0.3
TEST time		0.5

TOTAL time CA + TPS		2.5
CA w/o power		1.7
CA w. power		2.0

8.0 Tools/Materials Required

ESD kit (PN 6428316).

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Removal (Steps 9-11)

9.0 Safety

- This 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.

10.1.1 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.

- If you are removing a CA from a Model X1A, go to Step 10.1.3, "Log the Service Processor on."
- Otherwise, continue.

10.1.2 Log 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 10.1.5, "Display the CDF" on page 7.

10.1.3 Log the Service Processor on

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

10.1.4 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.

10.1.5 Display the CDF

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

- ___ 1. Enter **CDF**, press **Send/Enter**.
- ___ 2. Enter **1** (DISPLAY/UPDATE), press **Send/Enter**.
- ___ 3. Enter **6** (CA),
press **Send/Enter**.

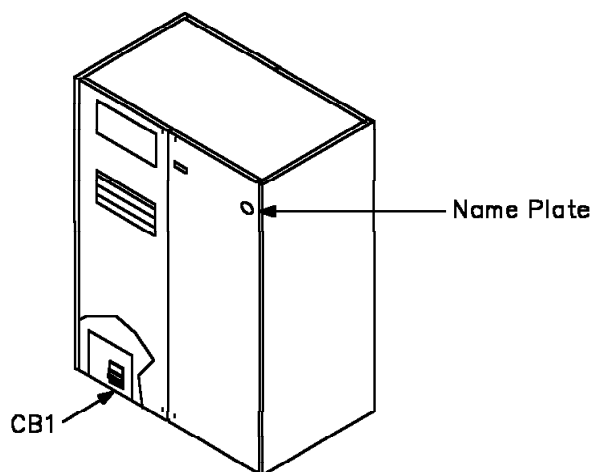
With microcode level A47030 or higher	Without microcode level A47030 or higher
	- Then enter '0' for all CA
- Check for the presence of 'N' for the CA position you have to install according to the HONE installation sheet.	
	- note: press 'F8' to display CA position 9 to 16
- PRESS 'F1'	

10.1.6 Run the Diagnostics

- ___ 1. Enter **ODG**, press **Send/Enter**.
 - ___ 2. Enter **3** (IOCB), press **Send/Enter**.
- When **NO ERROR FOUND** is displayed, press **F1**.
 - If an error is reported, see the *MIP*, Chapter 2, and follow the appropriate procedure.

10.1.7 Power OFF

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



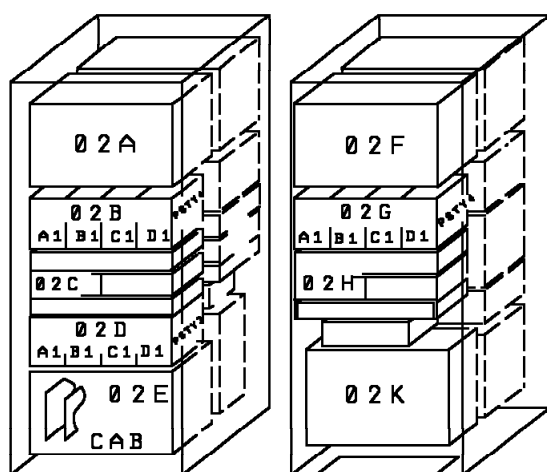
10.2 Hardware Removal

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

10.3 Tailgate Removal

- ___ 1. With the *Hone configuration sheet* and tables in Step 4.0, "Preparation" on page 3, open the system cover of the frame where the adapter is to be removed.
- ___ 2. Locate the T or K channel tailgate area.

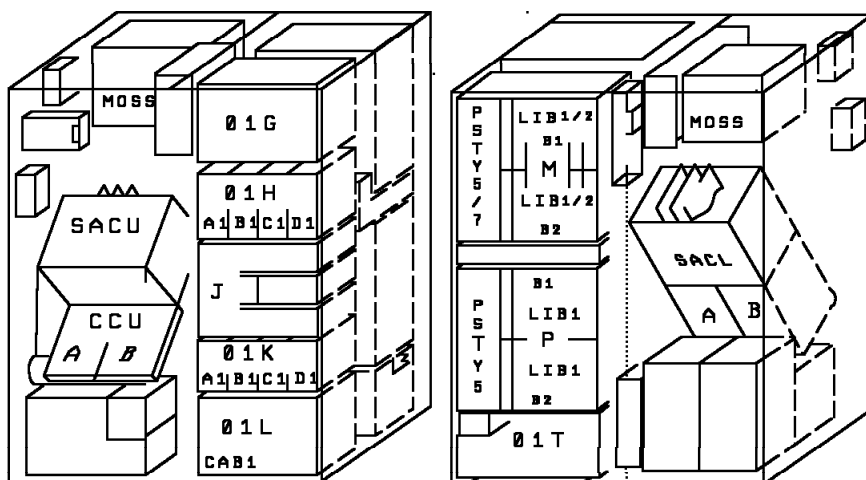
3 7 4 6 A 1 1



FRONT VIEW

REAR VIEW

3 7 4 5

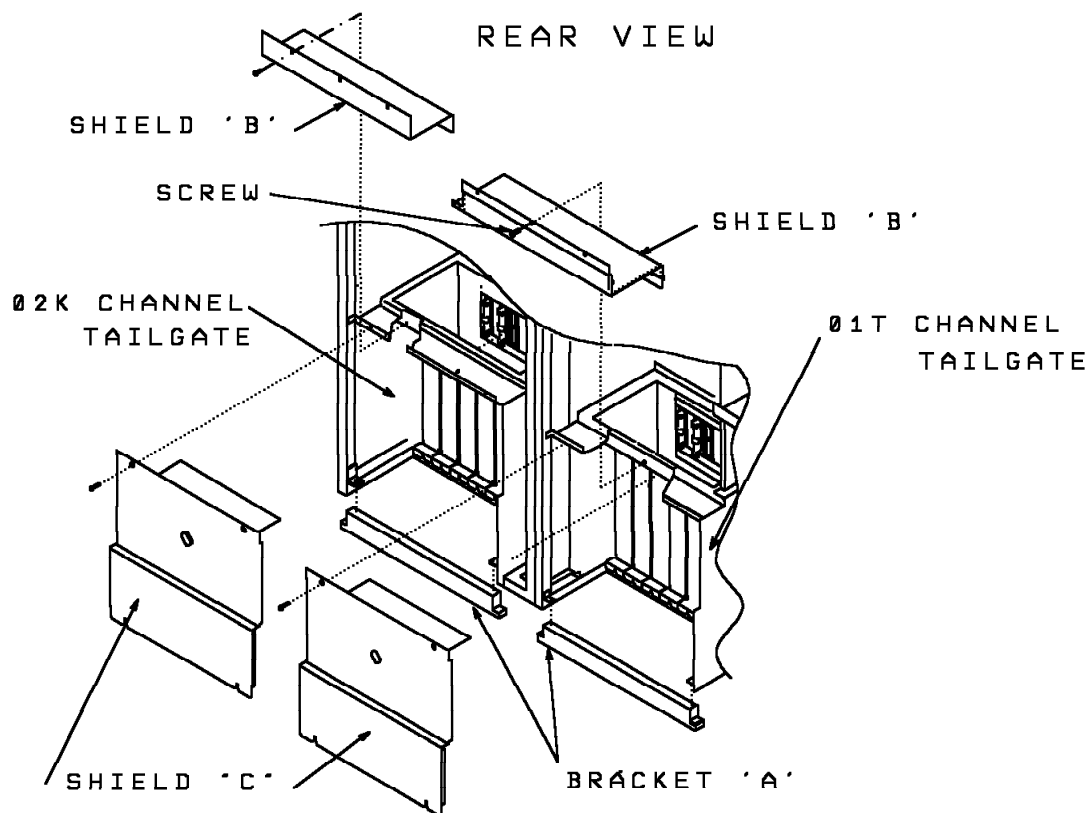


FRONT VIEW

REAR VIEW

10.3.1 From the rear of the machine

- ___ 1. Remove shield 'C' with its 4 screws from identified channel tailgate.
- ___ 2. Remove bracket 'A' from bottom of the frame with its 2 screws.
- ___ 3. Remove the shield 'B' with its 6 screws from the top of CA tailgate area by loosening the 3 top screws and removing the 3 bottom screws.
- ___ 4. Keep the screws.

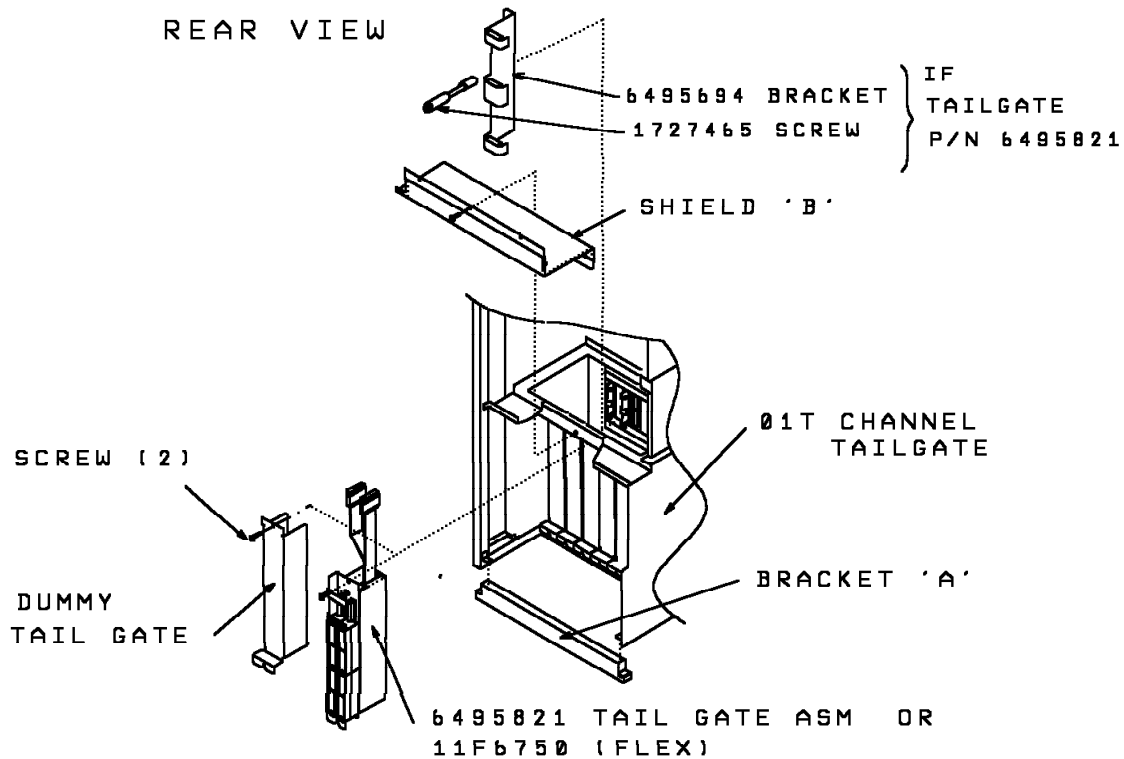


10.3.2 Identify Channel Tailgate(s)

- ___ 1. Identify the Channel tailgate(s) to be removed as selected in step 4.0, "Preparation" on page 3.
Note: If you remove a CA Adapter with TPS, you have to remove two tailgates.
- ___ 2. Disconnect external cables from Channel tailgates to be removed.

10.3.3 Remove Tailgate

- ___ 1. Remove bracket retaining Channel tailgate(s) cables on board, by loosening screw (one bracket with each tailgate).
- ___ 2. Unplug Tailgate(s) cables from Channel board.
- ___ 3. Remove tailgate(s) asm (PN 6495821) (BNI) or (PN 11F6750) (Flex) by removing 2 screws.
- ___ 4. Retain screws.
- ___ 5. Install dummy Tailgate(s) (PN 6496096) in the same position using screws saved in previous step.

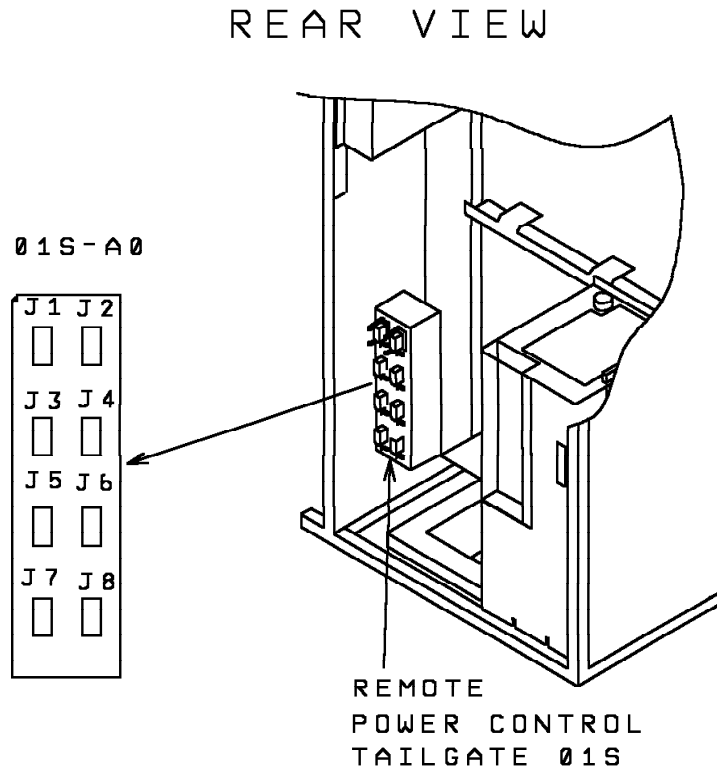


- ___ 6. Re-install brackets 'A', 'B' and shield 'C' previously removed.

10.3.4 EPO Cable(s)

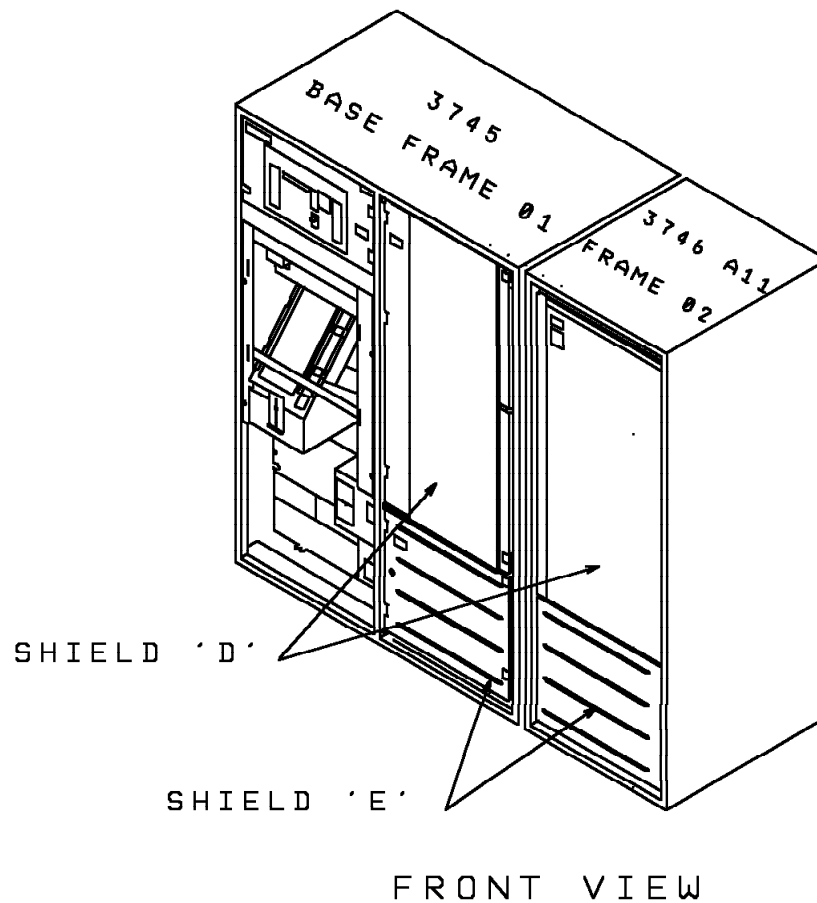
If required, disconnect EPO cable(s) from 01S-A0 tailgate.

Note: If you remove the last 'EPO' cable, install the 'EPO PLUG' (PN 8482303) (part of 3745 Shipping Group).



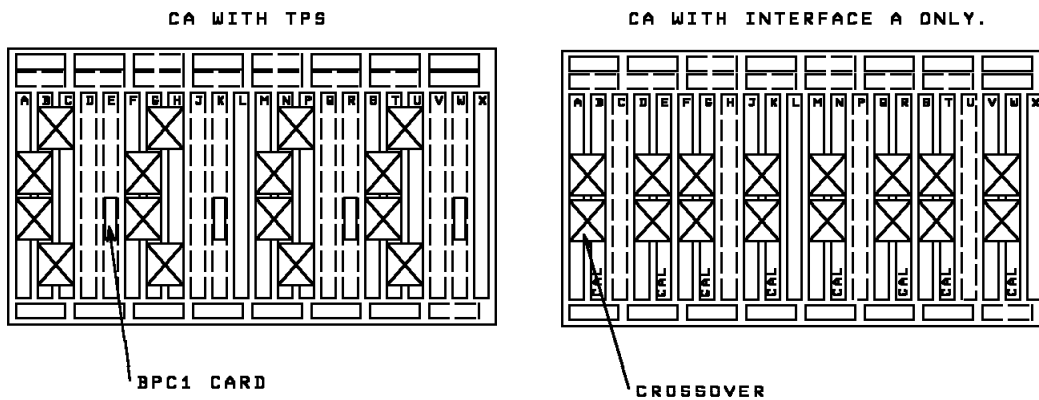
10.3.5 Card Removal

- ___ 1. From the front side, open shields 'D' and 'E' of the frame identified in Step 4.0, "Preparation" on page 3.



- ___ 2. Locate Channel board in position 01L or 02E.
- ___ 3. Identify the CA Adapter card positions selected in Step 4.0, "Preparation" on page 3.

- ___ 4. Remove crossovers from top cards.
- ___ 5. Remove the cards.
- ___ 6. Insert cards in envelopes provided by FFBM.



10.3.6 BPC1 Card Installation

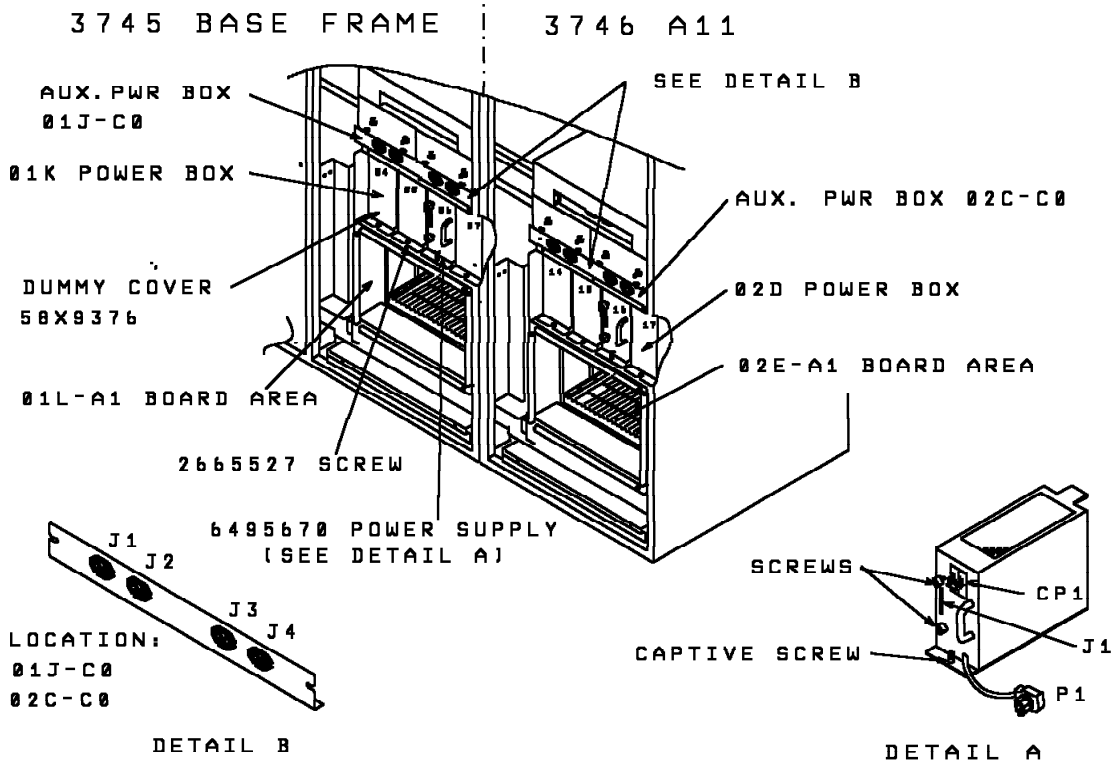
- ___ 1. This card is used to ensure continuity between CAs on the same IOC bus.
- ___ 2. The BPC1 card must be plugged in position 4 of the CAL/BCCA card you have just removed from the board.
- ___ 3. Mount extender (PN 1953093) on BPC1 card. Then, plug the card in position. Secure it with the intermix bracket (PN 1953110).
- ___ 4. Install dummy card(s) in free card position(s).

10.4 Power Supply Removal

Note: You must remove a PSTY3 if you remove a CA with TPS or if you remove a CA in an ODD position.

- If you do not remove a PSTY3, go to Step 10.5, "Power ON" on page 15.

1. Locate power box in position 01K or 02D just above the board where you have removed the adapter.
2. Identify the power block with tables in Step 4.0, "Preparation" on page 3.
3. Disconnect power plug P1 from auxiliary power box connector located directly above power block.
4. Unscrew the two front screws then the captive screw on the bottom front of the power block.
5. Slide the power supply out of the power box.
6. install dummy cover (PN 58X9376) by using screw (PN 2665527) in place of power block.
7. Close all shields opened in previous steps.



10.5 Power ON

Switch CB1 ON, and close system covers.
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.

11.0 Test Procedures

Note: During the following procedures some Alarm messages may be displayed on the screen, these can be removed by clicking on **OK**.

- If you have removed a CA from a Model X1A, go to Step 11.1.2, "Open MOSS/MOSS-E Session."
- Otherwise, continue.

11.1.1 From the 3745-X10 Console

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

- If you have not removed a PSTY3, go to Step 11.1.4, "Update the CDF."
- Otherwise, go to Step 11.1.3, "Create the Power Configuration Table."

11.1.2 Open MOSS/MOSS-E Session

From the Service Processor:

- ___ 1. Wait until the 3745 icon becomes **PURPLE**.
- ___ 2. When the **3745 Menu** window is displayed, double click on **MOSS console**.

Wait for the **Function Selection Rules** screen.

- If you have not removed a PSTY3, go to Step 11.1.4, "Update the CDF."
- Otherwise, continue.

11.1.3 Create the Power Configuration Table

- ___ 1. Enter **POS**, press **Send/Enter**.
- ___ 2. Enter **C** (RE-CREATE), press **Send/Enter**.
Verify that the ID of the PSTY3 you have installed is displayed.
- ___ 3. Enter a **Y** to confirm, press **Send/Enter**.
- ___ 4. Select option 1 and display the power information for the base frame, press **Send/Enter**.
The power status is **DOWN** for the new power.
- ___ 5. Enter **UXX** to set the power **UP**.
Verify that the PSTY3 goes to the **UP** state.
Press **F1**.

11.1.4 Update the CDF

- ___ 1. Enter **CDF**, press **Send/Enter**.
- ___ 2. Enter **4** (VERIFY), press **Send/Enter**.
The values from the **CDF DATA** and the **MACHINE DATA** should be identical, except for the adapter you have just removed.
- ___ 3. To update the CDF with machine values, enter **2**, press **Send/Enter**.
 - When **CDF VERIFY COMPLETED** is displayed, press **F6**.
 - If adapters are not recognized, see the *MIP*, Chapter 1, and follow appropriate procedure.

11.1.5 Display the CDF

- ___ 1. Enter **CDF**, press **Send/Enter**.
- ___ 2. Enter **1** (DISPLAY/UPDATE), press **Send/Enter**.
- ___ 3. Enter **6** (CA), press **Send/Enter**.

With microcode level A47030 or higher	Without microcode level A47030 or higher
	- Then enter '0' for all CA.
- A 'N' should appear under the CA number you have just removed. Check the Channel type: 6 for a CADS or 7 for a BCCA	
	- NOTE: press 'F8' to display CA position 9 to 16
- Press 'F1'	

11.1.6 Run the Diagnostics

- ___ 1. Enter **ODG**, press **Send/Enter**.
 - ___ 2. Enter **4** (CA).
Enter the **Adapter Number**, press **Send/Enter**.
- When **NO ERROR FOUND** is displayed, press **F1**.
 - If an error is displayed, see the *MIP*, Chapter 2, and follow the appropriate procedure.

11.1.7 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 a CA from a Model X1A, go to step 11.1.9, "Logoff MOSS-E."
- Otherwise, continue.

11.1.8 Logoff the 3745-X10 Console

Re-enable the channel adapters disabled in Step 10.1.2, "Log the 3745-X10 Console on" on page 6.

- Go to Step 11.1.10, "General IPL" on page 17.

11.1.9 Logoff MOSS-E

- ___ 1. On the **3745 Menu** window, double click on **MOSS Console**,
- ___ 2. Enter **CID**, press **Enter**.
- ___ 3. Enable the channel adapter recorded in Step 11.1.2, "Open MOSS/MOSS-E Session" on page 15.
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**.



11.1.10 General IPL

From the 3745 Control Panel:

- ___ 1. Set the **Power Control** indicator to its original value recorded in Step 10.1.1, "From the 3745 Control Panel" on page 6.
- ___ 2. Set the **Function** indicator value to **0** (general IPL).
- ___ 3. 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.

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.

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Headings			
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<u>id</u>	<u>File</u>	<u>Page</u>	<u>References</u>
TABLE	P66X0022 SCRIPT	3	4.0, Preparation 8, 10, 12, 12, 14
OO	P66X0022 SCRIPT	6	10.1.1, From the 3745 Control Panel 17
NN	P66X0022 SCRIPT	6	10.1.2, Log the 3745-X10 Console on 16
SP1	P66X0022 SCRIPT	6	10.1.3, Log the Service Processor on 6
CDF1	P66X0022 SCRIPT	7	10.1.5, Display the CDF 6
PO	P66X0022 SCRIPT	7	10.1.7, Power OFF
REAR	P66X0022 SCRIPT	9	10.3.1, From the rear of the machine
PWR	P66X0022 SCRIPT	15	10.5, Power ON 14
AA	P66X0022 SCRIPT	15	11.0, Test Procedures
SP3	P66X0022 SCRIPT	15	11.1.2, Open MOSS/MOSS-E Session 15, 16
PCT	P66X0022 SCRIPT	15	11.1.3, Create the Power Configuration Table 15
LL	P66X0022 SCRIPT	15	11.1.4, Update the CDF 15, 15
MM	P66X0022 SCRIPT	16	11.1.6, Run the Diagnostics
OFF	P66X0022 SCRIPT	16	11.1.9, Logoff MOSS-E 16
IPL	P66X0022 SCRIPT	17	11.1.10, General IPL 16
PP	AFTRINSR	17	After Removal (steps 12-15)

Processing Options	
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Runtime values:

Document fileid	P66X0022 SCRIPT
Document type	PNCDOC
Document style	FBII
Profile	EDFPRF30
Service Level	21Jun90
SCRIPT/VS Release	3.2.1
Date	93.06.18
Time	14:16:27
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/footing 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 6	LOGONLC
Page 6	LOGONSP
Page 7	PRESSEND
Page 15	NOTE1
Page 16	LOGOFFSP
Page 17	AFTRINSR