

Field Feature Bill of Material (FFBM)

PN 66X0040

INSTALLATION of a LIC Enclosure (LIU1) (FC 4900) in IBM 3745 Models X10/X1A, or in IBM 3746 Models L13, L14, or L15

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Approved by: F. Charron
Reviewed by: B. Kelly

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3745
FFBM

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Before Installation (Steps 1-8)

1.0 Machines Affected

- 3745 Models 210, 21A, 310, 31A, 410, 41A, 610, and 61A.
- 3746 Models L13, L14, and L15.

2.0 Related BMs and ECs

None.

3.0 BM(S) to be Installed

- 66X0040 - Installation instructions
- 66X0039 - LIC unit assembly.

3.1 As Required FFBMs

- 66X1350 - Fan asm, if you install the LIC unit in a 3746, lower positions.
- 66X1395 - MUX cables, if you install the LIC unit in a 3746-L15.

4.0 Preparation

1. Familiarize yourself with the purpose and details of these installation instructions before negotiating machine time with the customer.
2. Check all the items and count the parts listed on the BM(s) to be installed to verify whether all parts were received.
3. A LIC unit can be installed in a:
 - 3745 base frame (01M)
 - 3746-L13 (04B, 04D, 04E, and 04G)
 - 3746-L14 (05B, 05D, 05E, and 05G)
 - 3746-L15 (06B, 06D, 06E, and 06G).

4. The LIU1 installation can be performed either online (concurrent mode, NCP running, 3745 power ON), or offline (complete machine power DOWN, MOSS ALONE).
Select the procedure according to the machine availability.

5.0 Programming

5.1 Diagnostic Programs

None.

5.2 System Program

The customer must 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

To install a line unit feature (FC 4900).

6.2 Description

Install:

- The line enclosure
- Power
- DMUX cables.
- Fan ASM, if required.

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7.0 Installation Time

FFBM Installed	Machine Hours	System Hours
66X0039	1.2	0.0
66X1350	0.3	0.0
Test time	0.5	0.0
Total time	2.0	0.0

8.0 Tools/Materials Required

ESD kit (PN 6428316).

Installation (Steps 9-11)

9.0 Safety

- This installation can be performed either online or 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 Installation

- If you are installing a LIU1 with the 3745 POWER ON, go to Step 10.2, "LIU1 Installation Online (3745 Power ON)" on page 5.
- Otherwise, continue.

10.1 LIU1 Installation Offline (3745 Power OFF)

Before the installation, 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 installing a LIU1 in a 3745-X1A or in a 3746 line frame connected to a 3745-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**.

- Go to Step 10.1.5, "Power OFF" on page 5.

10.1.3 Log the Service Processor on

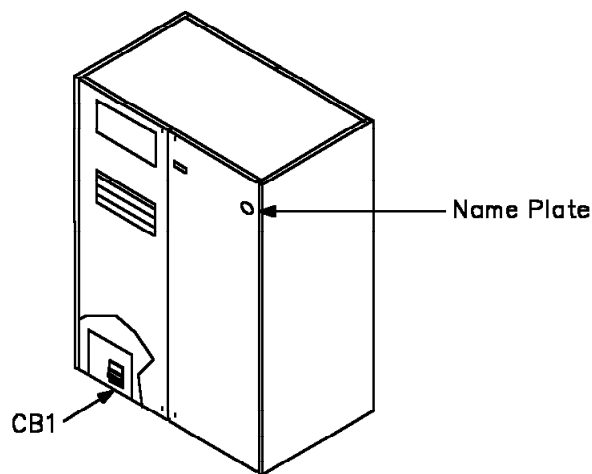
- 1. On the **MOSS-E View** window, click on **Program**.
- 2. Click on **LOG ON MOSS-E**.
- 3. Enter the maintenance password, press **Enter**.

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**.

10.1.5 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.



- Go to Step 10.3, "Hardware Installation" on page 6.

10.2 LIU1 Installation Online (3745 Power ON)

Before the installation, ask the customer:

- ___ 1. For the maintenance password.
- ___ 2. To logoff the console, if not already done.

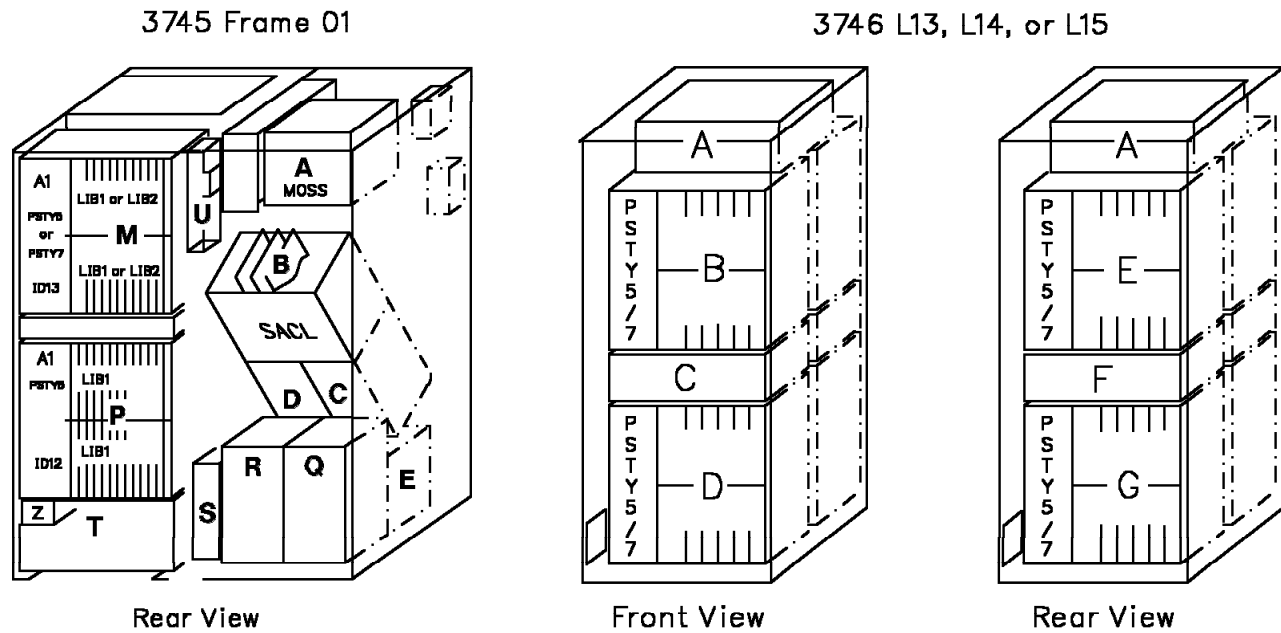
10.2.1 From the 3745 Control Panel

- ___ 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.

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10.3 Hardware Installation

Locate the LIC unit position in the following figure:



L13 - frame 04, L14 - frame 05, L15 - frame 06.

- If you are installing a LIC enclosure in 3746 line frame, go to Step 10.3.2, "LIC Enclosure Installation in a 3746 Line Frame" on page 9.
- if you are installing a LIC enclosure in 3745 (base frame), continue.

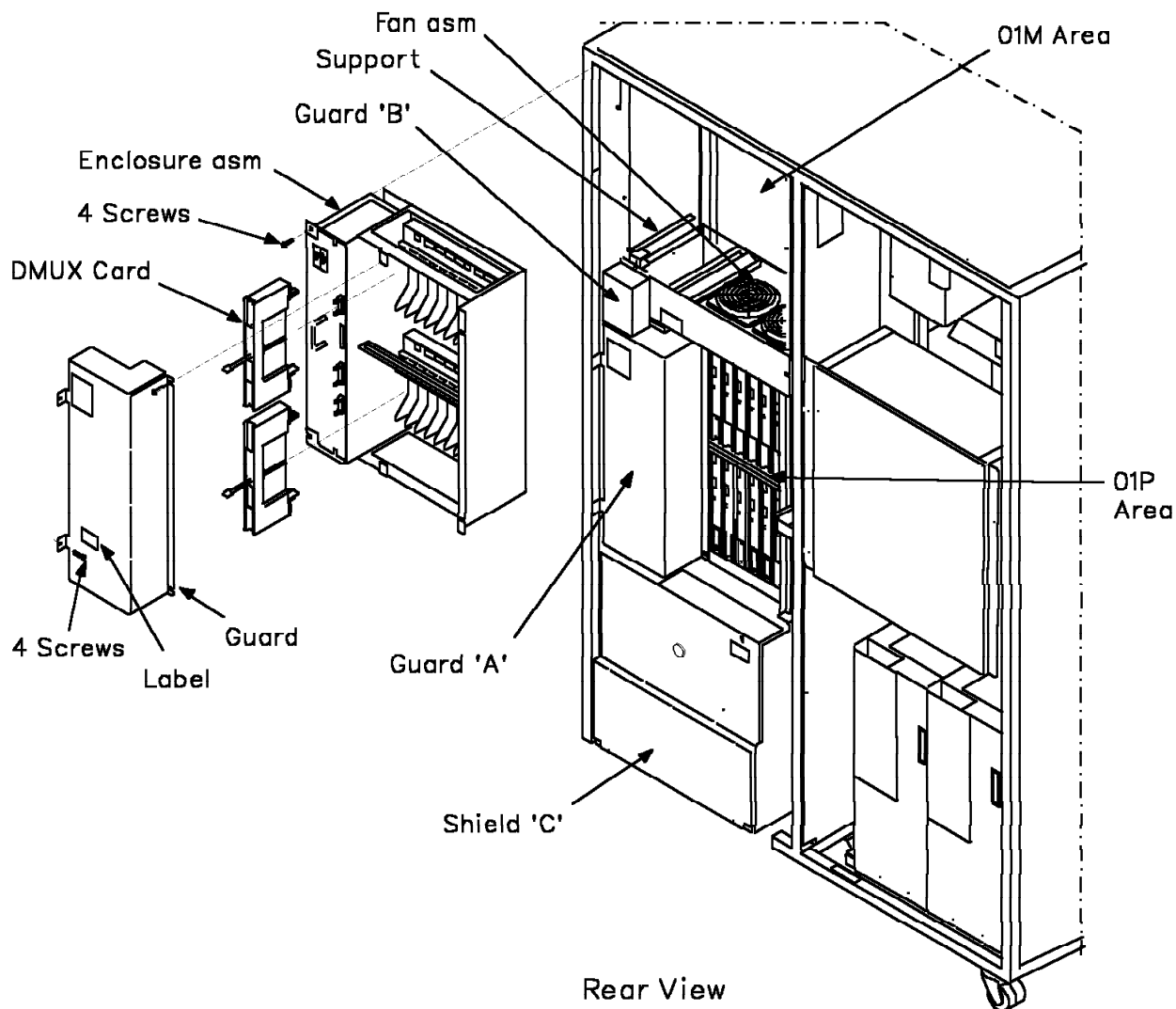
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10.3.1 LIC Enclosure Installation in 3745 Base Frame

Warning: Follow the ESD procedures when handling logic parts.

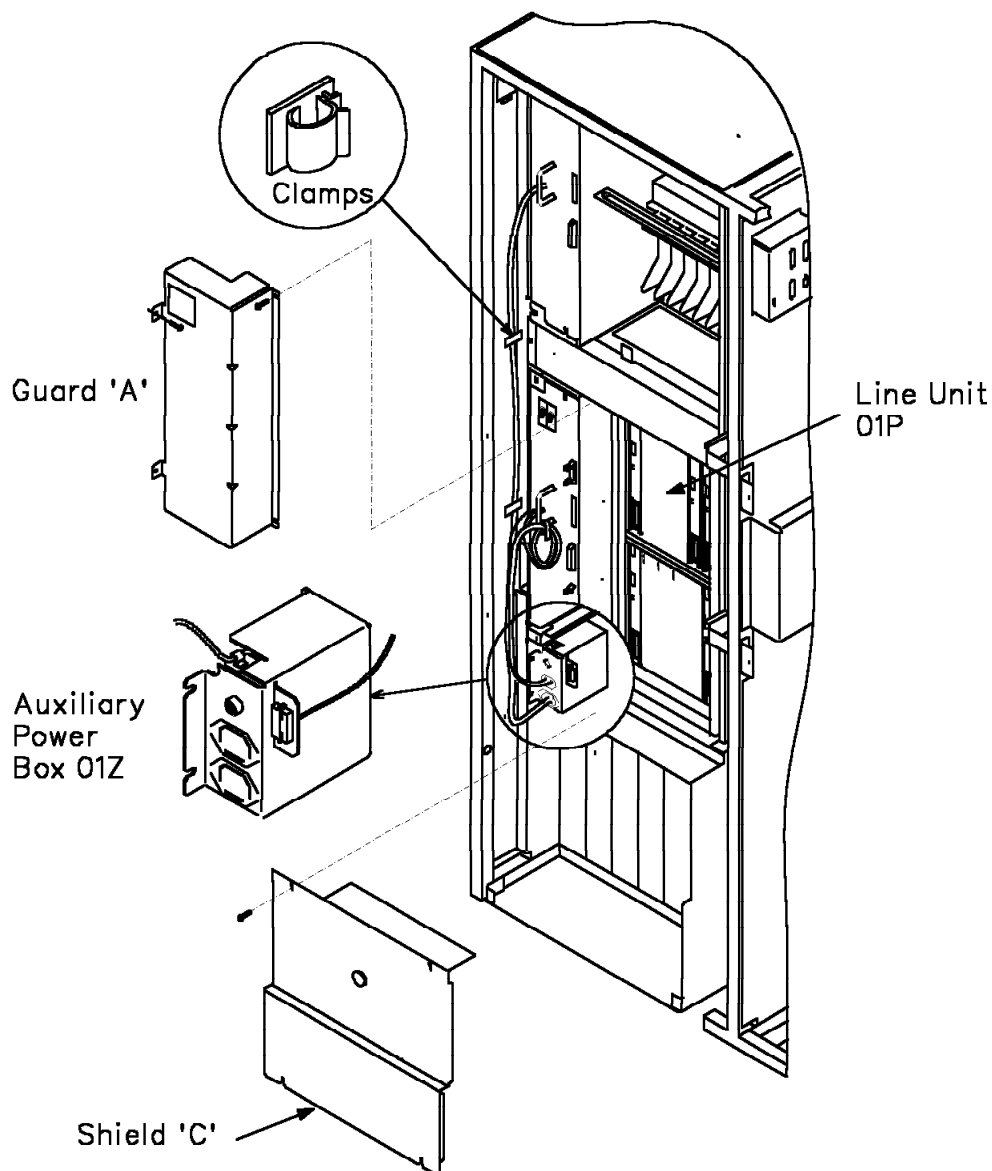
Note: The weight of the LIC enclosure (PN 65X8961) can be reduced by removing the power supply as follows:

- ___ 1. Unplug cables from J3 and J4 connectors on the PSTY5.
- ___ 2. Remove the 2 mounting screws and slide the PSTY5 out the enclosure.



- ___ 3. Slide the LIC enclosure into the frame.
- ___ 4. Secure it with 4 screws (PN 2665528).
- ___ 5. Re-install the PSTY5 in the enclosure (if required), and reconnect cables in J3/J4.

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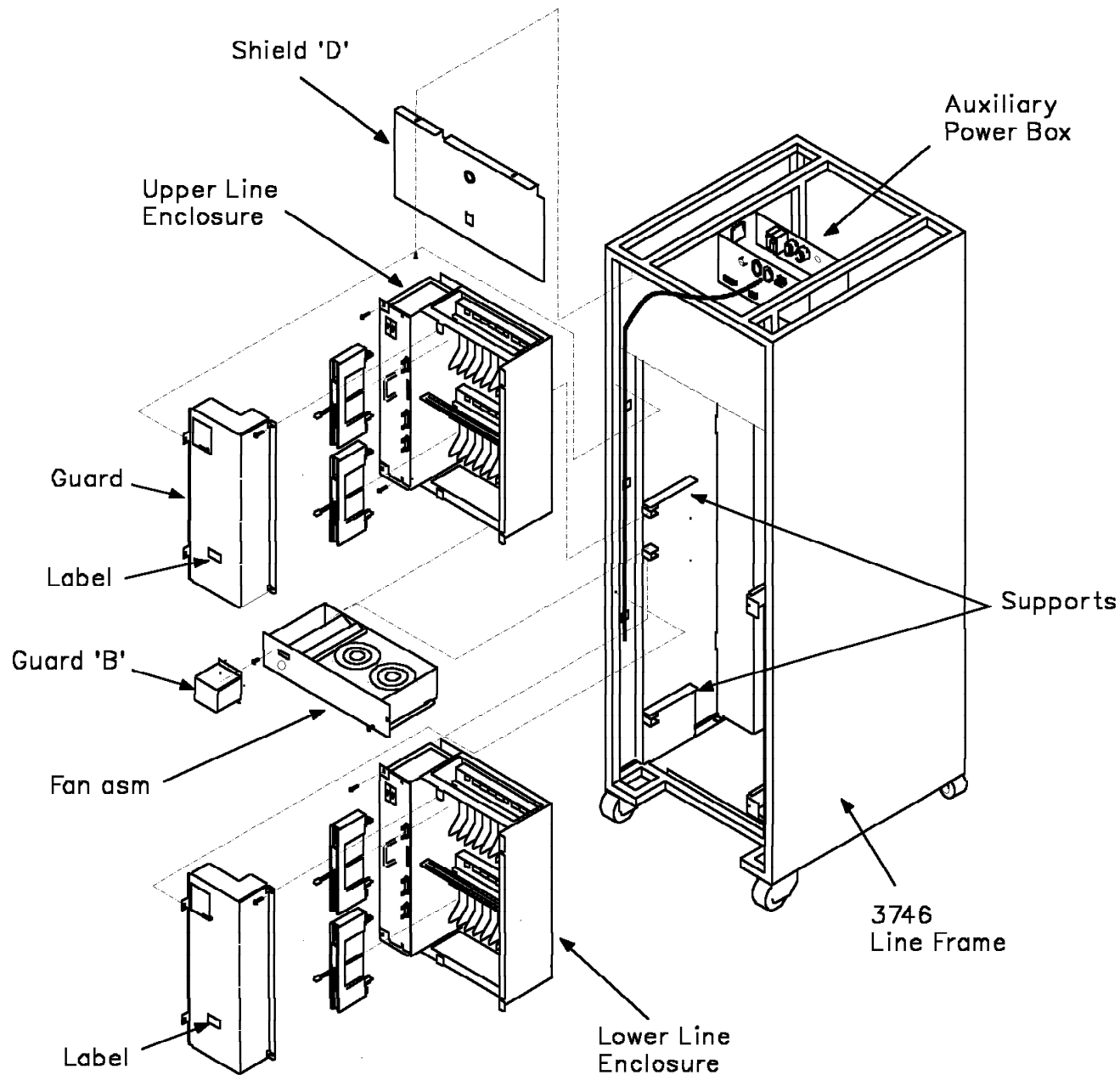


- ___ 6. Remove the shield 'C' with its 4 screws.
 - ___ 7. Remove the guard 'A' over PSTY5 in 01P area by loosening 4 screws.
 - ___ 8. Remove the guard 'B' over the fan connector by loosening 2 screws.
 - ___ 9. Locate the auxiliary power box in 01Z position.
 - ___ 10. Route and connect the PSTY5 power cord in 01Z-J2 position.
 - ___ 11. Secure the power cord in clamps stuck on the frame.
 - ___ 12. Reinstall the shield and guards, removed in previous step.
- **Go to Step 10.3.5, "Power and Board Addresses" on page 11.**

10.3.2 LIC Enclosure Installation in a 3746 Line Frame

Note: The weight of the LIC enclosure (PN 65X8961) can be reduced by removing the power supply as follows:

- ___ 1. Unplug cables from J3 and J4 connectors on the PSTY5.
- ___ 2. Remove the 2 mounting screws and slide the PSTY5 out the enclosure.



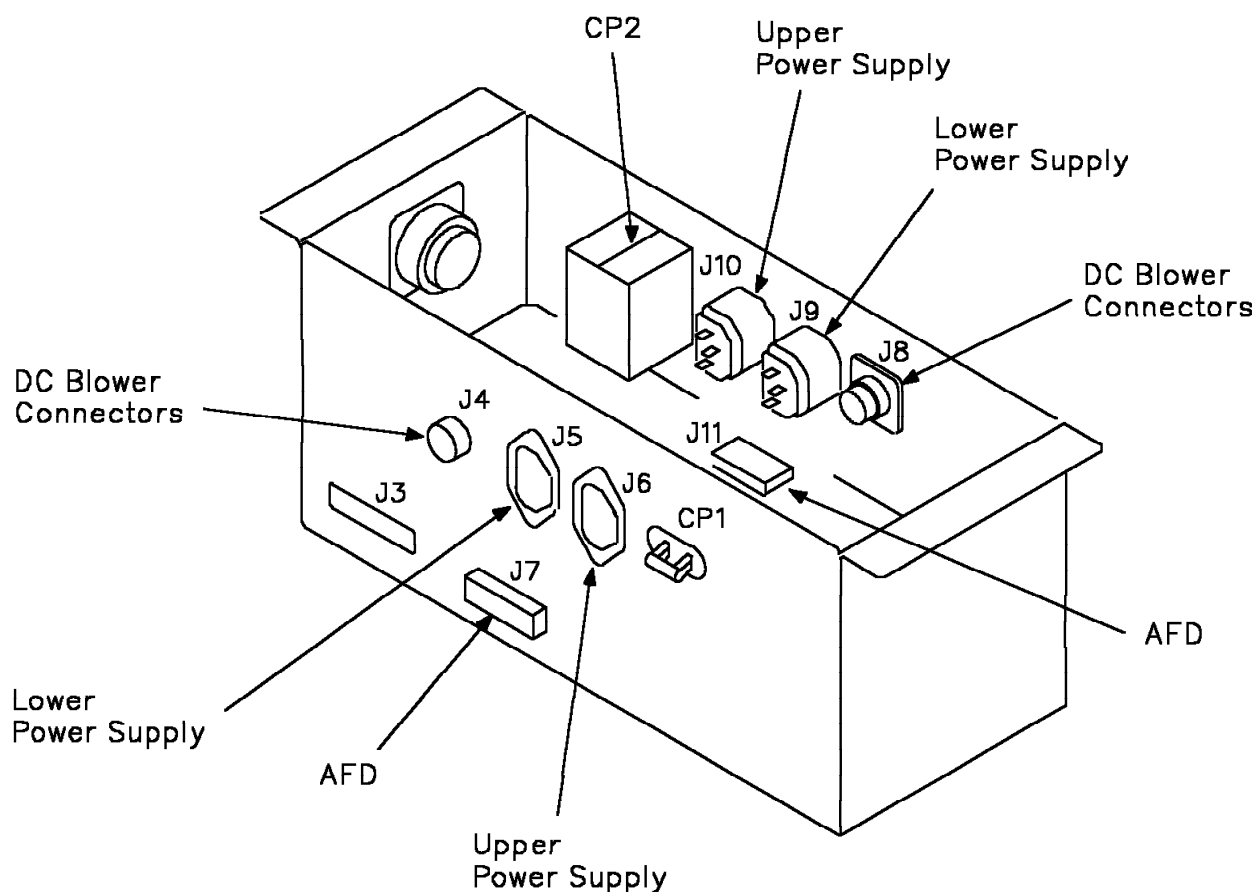
- ___ 3. Slide the LIC enclosure into the frame.
- ___ 4. Secure it with 4 screws (PN 2665528).
- ___ 5. Re-install the PSTY5 in the enclosure (if required), and reconnect cables in J3/J4.

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- ___ 6. Remove the shield 'D' (if present) from the top of the line frame and locate the auxiliary power box 04A, 05A or 06A.
- ___ 7. Route the PSTY5 power cable to auxiliary power box and plug it as specified in the following table.

AUX.P.BOX	PSTY5	AUX.P.BOX	PSTY5
04A-J5	04D	04A-J6	04B
04A-J9	04G	04A-J10	04E
05A-J5	05D	05A-J6	05B
05A-J9	05G	05A-J10	05E
06A-J5	06D	06A-J6	05B
06A-J9	06G	06A-J10	06E

- ___ 8. Secure cables in clamps stuck on the frame.



Auxiliary Power Box in A area, Front View

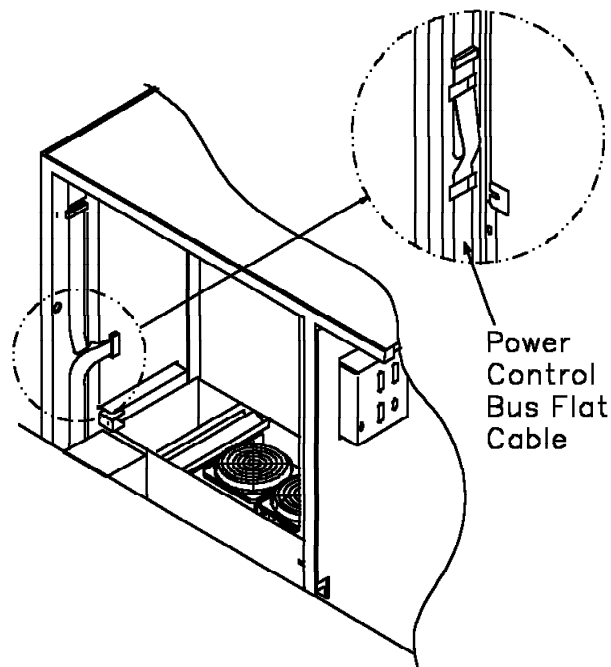
10.3.3 Fan Installation

- If you install a line unit in bottom position of line frame, you must install a fan assembly provided by FFBM 66X1394.
- If not, go to step 10.3.5, "Power and Board Addresses."

1. Remove the guard 'B' from fan asm (PN 65X8447).
2. Locate the fan location in 04C, 04F, 05C, 05F, 06C, or 06F, and slide the asm on position (over the LIC unit you have installed).
3. Secure it with 2 screws (PN 2665528).

10.3.4 Fan Cable Installation

1. Plug cable (PN 65X8466) in socket J1 of fan asm, route it to the auxiliary power box 04A, 05A, or 06A, and plug it in socket J7 (front side) or J11 (rear side).



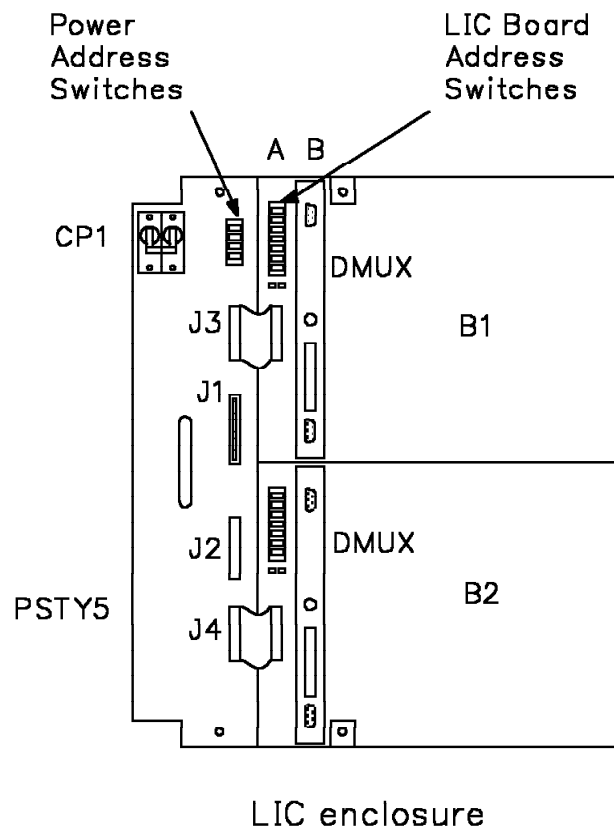
2. Plug cable (PN 65X8465) in socket J2 of fan asm, route it to auxiliary power box 04A, 05A, or 06A, and plug it in socket J4 (front side) or J8 (rear side).
3. Secure cables in clamps stuck on the frame.

4. Reinstall shield 'D' and guard 'B' removed in this Step.

10.3.5 Power and Board Addresses

1. Locate the power control bus flat cable tied back on the left frame member and connect it in connector J2 of PSTY5.

Note: Check the seating of cables (PN 6495791) into the enclosure.



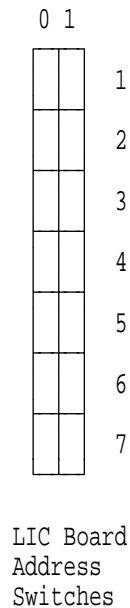
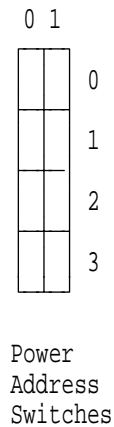
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- 2. Set the power and boards addresses as shown in the following tables.

Note: Remove the plastic guard of the board switches.

- PSTY5 addresses.

Enclosure Position	Switch Position			
	3	2	1	0
01M-A1	0	0	1	0
04B-A1	0	0	0	1
04D-A1	0	0	0	0
04E-A1	0	0	0	1
04G-A1	0	0	0	0
05B-A1	0	0	1	1
05D-A1	0	0	1	0
05E-A1	0	0	1	1
05G-A1	0	0	1	0
06B-A1	0	1	0	1
06D-A1	0	1	0	0
06E-A1	0	1	0	1
06G-A1	0	1	0	0



- LIC board address.

Board Position	Switch Position						
	7	6	5	4	3	2	1
01M-B2	0	0	0	0	0	1	0
01M-B1	0	0	0	0	0	1	1
04D-B2	0	0	0	1	0	0	0
04D-B1	0	0	0	1	0	0	1
04G-B2	0	0	0	1	0	1	0
04G-B1	0	0	0	1	0	1	1
04B-B2	0	0	0	1	1	0	0
04B-B1	0	0	0	1	1	0	1
04E-B2	0	0	0	1	1	1	0
04E-B1	0	0	0	1	1	1	1
05D-B2	0	0	1	0	0	0	0
05D-B1	0	0	1	0	0	0	1
05G-B2	0	0	1	0	0	1	0
05G-B1	0	0	1	0	0	1	1
05B-B2	0	0	1	0	1	0	0
05B-B1	0	0	1	0	1	0	1
05E-B2	0	0	1	0	1	1	0
05E-B1	0	0	1	0	1	1	1
06D-B2	0	0	1	1	0	0	0
06D-B1	0	0	1	1	0	0	1
06G-B2	0	0	1	1	0	1	0
06G-B1	0	0	1	1	0	1	1
06B-B2	0	0	1	1	1	0	0
06B-B1	0	0	1	1	1	0	1
06E-B2	0	0	1	1	1	1	0
06E-B1	0	0	1	1	1	1	1

Note: Wrong switches setting can cause unexpected errors.

- 3. Verify that the **CP1** of the PSTY5 is **ON**.
- 4. Plug the DMUX cables required for each LIC board.
Tighten the front screw.

Note: If you have additional FBMs to install TSS features, you can perform that installation now.

- 5. Install the guard (PN 58X9263) with the 4 screws (PN 2665527), over the PSTY5 and the DMUX cables.
- 6. Affix the label on the guard. This label is part of PN 03F4365 and must be chosen according to your country language.

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- After a LIU1 installation with 3745 POWER ON, go to Step 11.2, “Test Procedure after a LIU1 Installation Power ON” on page 14.
- Otherwise, continue.

10.4 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**.

11.1 Test Procedures after Complete POWER OFF

- If you have installed a LIU1 in a 3745-X1A or in a 3746 line frame connected to a 3745-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**.

- 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.

11.1.3 Create the Power Configuration Table

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

1. Enter **POS**, press **Send/Enter**.
2. Enter **C** (RE-CREATE), press **Send/Enter**.
Verify that the ID of the PSTY5 you have installed is displayed.
3. Enter a **Y** to confirm, press **Send/Enter**.

PSTY5 ID	LIC Unit
13	01M
30	04D
31	04G
32	04B
33	04E
34	05D
35	05G
36	05B
37	05E
38	06D
39	06G
40	06B
41	06E

4. Select option 1, 4, or 5 to display the power status, press **Send/Enter**.
The power status is **DOWN** for the new power.

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- ___ 5. Enter **UXX** (XX being the ID of the PS) to set the power **UP**.
Verify that the PSTY5 goes to the **UP** state.
Press **F1**.

11.1.4 Run the Diagnostics

None.

11.1.5 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 installed a LIU1 in a 3745-X1A or in a 3746 line frame connected to a 3745-X1A, go to Step 11.1.7, "Logoff MOSS-E."
- Otherwise, continue.

11.1.6 Logoff the 3745-X10 Console

Re-enable the channel adapters disabled in Step 10.1.2, "Log the 3745-X10 Console on" on page 4.

- Go to Step 11.1.8, "General IPL."

11.1.7 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 13.
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**.

11.1.8 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 4.
- ___ 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.

- Go to Step "After Installation (steps 12-15)" on page 16.

11.2 Test Procedure after a LIU1 Installation Power ON

11.2.1 Create the Power Configuration Table

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

- 1. Enter **POS**, press **Send/Enter**.
- 2. Enter **C** (RE-CREATE), press **Send/Enter**.
Verify that the ID of the PS you have installed is displayed.

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3. Enter a **Y** to confirm, press **Send/Enter**.

PSTY5 ID	LIC Unit
13	01M
30	04D
31	04G
32	04B
33	04E
34	05D
35	05G
36	05B
37	05E
38	06D
39	06G
40	06B
41	06E

4. Select option 1, 4, or 5 to display the power status.
Press **Send/Enter**.

11.2.2 Power ON the PSTY5

- ___ 1. The power status is **DOWN** for the new PSTY5.
- ___ 2. Enter **UXX** (XX being the ID of PS) to set the power supply **UP**.
Verify that the PSTY5 goes to the **UP** state.
- ___ 3. Press **F1**.

11.2.3 Run the Diagnostics

None.

11.2.4 Set the MOSS Offline

Note: If the 3745 is a Model 410/41A/610/61A, the CCU must be selected with the **CSR** function before performing the **MOF** function. Perform **CSR/MOF** sequence for each CCU.

- ___ 1. Enter **MOF**, press **Send/Enter**.
- ___ 2. Press **F1**.

11.2.5 Save Hard Disk Contents onto the Backup set of Diskettes

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

- If you have installed a LIU1 in a 3745-X1A or in a 3746 line frame connected to a 3745-X1A, go to Step 11.2.7, "Log the Service Processor off."
- Otherwise, continue.

11.2.6 Log the 3745-X10 Console off

Ask the customer to activate the resources on the new lines if the NCP is configured.

- Go to Step "After Installation (steps 12-15)" on page 16.

11.2.7 Log the Service Processor off

- ___ 1. Enter **MON**, press **Enter**.
- ___ 2. Enter **OFF**, press **Enter**.
- ___ 3. On the **MOSS-E View** window, click on **Program**.
- ___ 4. Click on **LOG OFF MOSS-E**.

11.2.8 Power Control

Set the Power Control indicator to its original value recorded in step 10.2.1, "From the 3745 Control Panel" on page 5.

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After Installation (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.

Table Definitions

<u>id</u>	<u>File</u>	<u>Page</u>	<u>References</u>
TOTO	P66X0040 SCRIPT	12	12
TOTA	P66X0040 SCRIPT	12	12

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SP1	P66X0040 SCRIPT	4	10.1.3, Log the Service Processor on 4
PO	P66X0040 SCRIPT	5	10.1.5, Power OFF 4
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FANI	P66X0040 SCRIPT	11	10.3.3, Fan Installation
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QQ	P66X0040 SCRIPT	15	11.2.3, Run the Diagnostics
SP5	P66X0040 SCRIPT	15	11.2.7, Log the Service Processor off 15
PP	AFTRINS2	16	After Installation (steps 12-15) 14, 15

Processing Options

Runtime values:

Document fileid	P66X0040 SCRIPT
Document type	PNCDOC
Document style	FBII
Profile	EDFPRF30
Service Level	21Jun90
SCRIPT/VS Release	3.2.1
Date	93.06.18
Time	14:21:09
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

Page 4	LOGONLC2
Page 4	LOGONSP3
Page 13	NOTE1
Page 13	PRESSEND
Page 14	LOGOFFSP
Page 14	PRESSEND
Page 16	AFTRINS2