

Field Feature Bill of Material (FFBM)

PN 58G7693

**CONVERT an IBM 3745 Model 21A (PUC1)
to 31A (PUC)
and an IBM 3745 Model 41A (PUC1)
to 61A (PUC)**

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3745 FFBM	PN 58G7693 1 of 10	EC D55659 09DEC93	EC D55799 16SEP94	EC D55883 11MAY95	EC E27926 14MAR97	
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3745 FFBM	PN 58G7693 2 of 10	EC D55659 09DEC93	EC D55799 16SEP94	EC D55883 11MAY95	EC E27926 14MAR97	
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Before Installation (steps 1-8)

VERY IMPORTANT

MES should be installed without delay, after receipt, to avoid multiple MCLs needed for the microcode.

Net Priced Feature

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

1.0 Machines Affected

3745 Model 21A/41A (PUC1).

This feature should only be applied on the machine serial for which it is specified.

2.0 Related BMs and ECs

None.

3.0 BMs to be Installed

- FFBM 58G7689 - Convert a 3745 21A (PUC1) to 31A (PUC), or
FFBM 58G7692 - Convert a 3745 41A (PUC1) to 61A (PUC).
- FFBM 58G7693 - Installation instructions

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 determine that all parts have been received.
3. The installation must be performed off-line.

4. To check if a new MCLs level is necessary, perform a RETAIN search using **3745UPGRADE CODE LEVEL** for the TDR which gives the most recent level of microcode available for this machine (model).

To install the last level of MCLs, the most efficient way is with the LIC upgrade procedure. Use the RETAIN search, **3745ECA134 COF**, for the TDR which explains the procedure for ordering the latest level microcode from COF.

Third party can get the latest level of code through their normal microcode ordering procedures.

MCLs can be obtained from RETAIN (If if the customer provide an RSF link), or by ordering the 3746 optical disk MCL via CCSS.

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 and Description

6.1 Purpose

Convert a 3745:

- Model 21A (PUC1) to 31A (PUC).
- Or Model 41A (PUC1) to 61A (PUC).

3745 FFBM	PN 58G7693 3 of 10	EC D55659 09DEC93	EC D55799 16SEP94	EC D55883 11MAY95	EC E27926 14MAR97	
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6.2 Description

Change PUC1 card(s) to PUC card(s) in (both) CCU(s).

7.0 Installation Time

To be reported as MES.

FFBM	Machine Hours	System Hours	Nbr of CE
58G7689 or 58G7692	0.5	0.0	1
Test Time	1.5		Total Time
2.0			

8.0 Tools/Materials Required

- ESD kit (PN 6428316)
- Isopropyl alcohol.

Installation (Steps 9-11)

9.0 Safety

- Review the **Safety Notices** and the **Safety Inspection Procedures** located at the beginning of the *3745 Maintenance Information Procedure (MIP)* manual, SY33-2054.

10.0 Details of Installation

Before the installation of this MES, ask the customer:

- To set all lines and channel addresses offline for this controller and associated machines.
- To provide the maintenance password.
- To logoff the Service Processor (SP), if not already done.
- To deactivate all resources of the 3746-900 (if installed).

10.1 Checking, Diagnostics

10.1.1 MOSS IML

From the control panel:

- ___ 1. Check that the **Power Control** indicator displays **3**. If it does not, record the value ___. Then, set the **Power Control** indicator to **3**.
Press the **Validate** key.
- ___ 2. Set the **Function** indicator to **1**.
Press the **Validate** key.
- ___ 3. Set the **Service Mode** indicator to **2**.
Press the **Validate** key.

The MOSS IML is completed when **F0E** code is displayed.

3745 FFBM	PN 58G7693 4 of 10	EC D55659 09DEC93	EC D55799 16SEP94	EC D55883 11MAY95	EC E27926 14MAR97	
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10.1.2 Logon the SP

- ___ 1. On the **MOSS-E View** window, click on **Program**.
- ___ 2. Click on **LOG ON MOSS-E**.
- ___ 3. Enter the maintenance password, press **Enter** (**Administrator Maintenance Mode** is displayed on the low line of the window).

10.1.3 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**.

Wait for **Function Selection Rules** screen.

10.1.4 Disable Channels Adapters

- ___ 1. Enter **CID**, press **Enter**.
- ___ 2. On the **CA Interface Display** screen, record the **Enable Channel Adapters**, then **Disable** all the Channel Adapters.

Note: If 3746 A11 is installed, press **F8** to display channels 8 through 16.
- ___ 3. Wait for **Interface Status Disabled** for all channels.
- ___ 4. Press **F1**.
- ___ 5. If CCU running, enter **RST** to reset the CCU.

The MOSS goes in **MOSS ALONE** state.

10.1.5 Verify the CDF

- ___ 1. Enter **CDF**, press **Enter**.
- ___ 2. Enter **4** (VERIFY), press **Enter**.
The value from the **CDF DATA** and **MACHINEDATA** should be identical. If there is a discrepancy, verify the features. If correct, update the CDF with the machine values, enter **2**, press **Enter**.
- ___ 3. When **CDF VERIFY COMPLETED** is displayed, press **F1**.

10.1.6 Run the Diagnostics

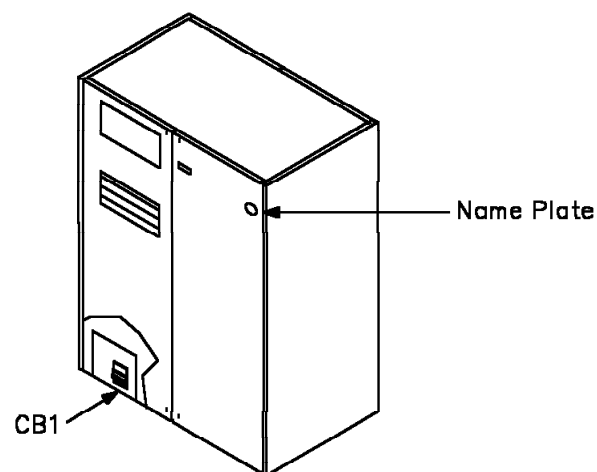
- ___ 1. Enter **ODG**, press **Enter**.
- ___ 2. Enter **3** (IOCB), press **Enter**.
 - When **NO ERROR FOUND** is displayed, press **F1**.
 - If an error is reported, see the *MIP*, Chapter 1, and follow the appropriate procedure.

10.1.7 Power OFF

Note

Remove all electrical power from the machine and associated machines before the hardware installation.

- ___ 1. From the control panel, press the **Power OFF** key.
- ___ 2. Open the front system covers, then switch OFF **CB1**.
- ___ 3. Open the rear system cover.



10.2 Hardware Installation

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

3745 FFBM	PN 58G7693 5 of 10	EC D55659 09DEC93	EC D55799 16SEP94	EC D55883 11MAY95	EC E27926 14MAR97	
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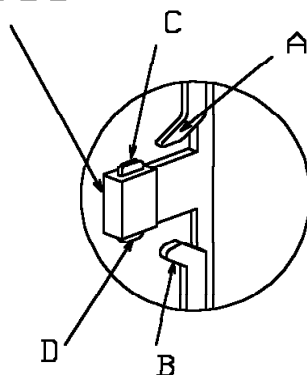
10.2.1 Card Installation

Install carefully the cards provided by FFBM as follows:

- 1. At card positions E0 (21A), E0 and Q0 (41A), move levers A and B outwards and carefully remove the PUC1(s) card.
- 2. Insert the cards into their slots and allow them to seat under their own weight ensuring that they have reached the end of their slots.
 - PUC card in position E0 (21A).
 - PUC cards in positions E0 and Q0 (41A).
- 3. Lock the cards in place by pushing gently on buttons C and D.
- 4. Using both hands, move levers A and B inwards simultaneously. To improve contact, operate the levers three times.

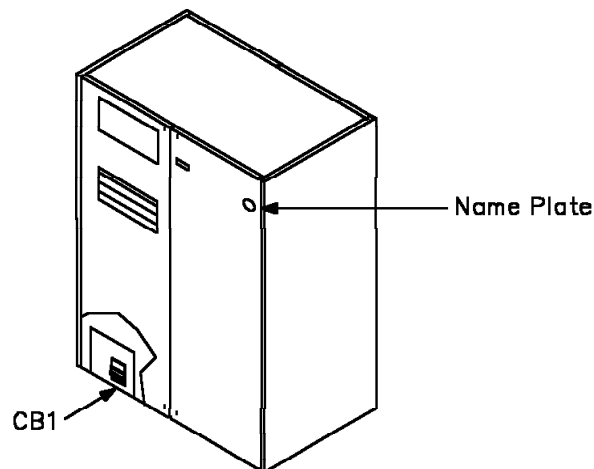
4MB	4MB	△	▽	○	□	▽	▽	□	○	▽	△	4MB	4MB
STO	STO	SCTL2/3	PUC	DMSW	IOW2	STER	STER	IOW2	DMSW	PUC	SCTL2/3	STO	STO
VO	UO	SO	QO	PO	NO	MO	JO	HO	GO	EO	CO	BO	AO

HANDLE



10.2.2 Name Plate Installation

- 1. Remove the name plate from the front system cover, and clean any adhesive residue from the recessed area with Isopropyl alcohol.
- 2. Remove the paper from the back of new name plate, and affix the plate.
- 3. Strike out the model number on the S/N label, only the nameplate will identify the model type from now on.



11.0 Test Procedures

11.1 Power ON

- 1. From the primary power box, switch **CB1** ON.
Verify that all CPs are switched ON.
- 2. Close the system covers.

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.

11.2 Open MOSS/MOSS-E Session

From the Service Processor:

- ___ 1. Double click on the **ICON** of the identified 3745 when it becomes purple.
- ___ 2. On the **3745 Menu** window, double click on **MOSS Console**.

Wait for **Function Selection Rules** screen.

11.3 Update the CDF

- ___ 1. Enter **CDF**, press **Enter**.
- ___ 2. Enter **4** (VERIFY), press **Enter**.
The value from the **CDF DATA** and the **MACHINE DATA** should be identical except for the new hardware installed.
- ___ 3. To update the CDF with the machine values, enter **2**, press **Enter**.
 - When **CDF VERIFY COMPLETED** is displayed, press **F1**.

11.4 Record the 3745 Model

- ___ 1. Double click on the upper right icon (to minimize the window).
- ___ 2. Double click on the SP icon.
- ___ 3. On the **Service Processor Menu** window, double click on **Configuration Management**. Then, double click on **Manage 3745/3746-900 Installation**.
- ___ 4. Click on the line of the 3745 you have just converted.
- ___ 5. Click on **Change**.
- ___ 6. On **Controller Model Change** message, click on **Yes**.

From the 3745 control panel:

- ___ 7. Press the **Power OFF** key.
- ___ 8. Set the **Service Mode** indicator to **2**. Press the **Validate** key.
- ___ 9. Set the **Function** indicator to **1**. Press the **Validate** key.

- ___ 10. Press the **Power On Reset** key.
The MOSS IML is completed when **F0E** is displayed on the control panel.

From the Service Processor:

- ___ 11. Click on **OK**.
The 3745 Model number is being recorded.
- ___ 12. When the operation is completed, click on **OK**.
- ___ 13. Click on **Cancel**.
- ___ 14. On the **3745 Menu** window, double click on **MOSS Console**.

Wait for **Function Selection Rules** screen.

11.5 Run the Diagnostics

- ___ 1. Enter **ODG**, press **Enter**.
- ___ 2. Enter **2** (CCU) in diag field, press **Enter**.
 - When **NO ERROR FOUND** is displayed, press **F6**.
 - If an error is reported, see the *MIP*, Chapter 1, and follow the appropriate procedure.
- ___ 3. Enter **3** (IOCB), press **Enter**.
 - When **NO ERROR FOUND** is displayed, press **F6**.
 - If an error is reported, see the *MIP*, Chapter 1, and follow the appropriate procedure.

11.6 Close MOSS/MOSS-E Session

- ___ 1. Enter **CID**, press **Enter**.
- ___ 2. Re-enable all channel Adapters disabled in step 10.1.4, "Disable Channels Adapters" on page 5.
- ___ 3. When CAs are enabled, press **F1**.
- ___ 4. Enter **OFF**, press **Enter**.
- ___ 5. On **3745 Menu** window, click on **Function**. Then, click on **Exit**.

The **MOSS-E View** window is displayed.

3745 FFBM	PN 58G7693 7 of 10	EC D55659 09DEC93	EC D55799 16SEP94	EC D55883 11MAY95	EC E27926 14MAR97	
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11.7 General IPL

From the 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 (General IPL).
Press the **Validate** key.

The general IPL starts.

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

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

11.8 Disk Save

When the customer network is restarted, save the contents of the hard disk on the **BACKUP** set of diskettes.

11.9 Open MOSS/MOSS-E Session

From the service processor:

- ___ 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**.

Wait for **Function Selection Rules** screen.

11.10 Save Disk Contents onto Diskettes

- ___ 1. If NCP is restarted and MOSS ONLINE, set the **MOSS OFF LINE**, enter **MOF**, press **Enter**.

Note: Select the CCU with CSR function first.
- ___ 2. Select **DIF**, press **Enter**.

- ___ 3. Select 2.
- ___ 4. Enter the date and save-ID, and press **Enter**.
- ___ 5. Follow prompts on console.
- ___ 6. When the function is completed, press **F1**.

11.11 Install Latest MLCs

Prior to returning the 3745 to the customer, you must install the latest MLCs.

- ___ 1. If you have an RSF link:
Refer to the *SP Installation and Maintenance Manual*. Follow the procedure **Reporting problem to retain** in Chapter 3 and, when requested enter **Converting a Model A and testing the RSF link** as short description of the problem. The latest MLCs are automatically downloaded. Then go to **Handling Microcode Change level** in Chapter 3. When the RSF link is completed and the MLCs are installed, go to 11.12, "Close MOSS/MOSS-E Session."
- ___ 2. If you use the LIC Upgrade kit:
Refer to the *SP Installation and Maintenance Manual*. Follow the procedure **Installing a new version of the Licensed Internal Code** in Chapter 3. When done go to 11.12, "Close MOSS/MOSS-E Session."
- ___ 3. If you use the 3746 Optical Disk MLCs:
Refer to the *SP Installation and Maintenance Manual*. Follow the procedure **Handling Microcode Change Level** in Chapter 3. When done go to 11.12, "Close MOSS/MOSS-E Session."

11.12 Close MOSS/MOSS-E Session

- ___ 1. Enter **OFF**, press **Enter**.
- ___ 2. On **3745 Menu** window, click on **Function**, then on **Exit**.

The **MOSS-E View** window is displayed.

3745 FFBM	PN 58G7693 8 of 10	EC D55659 09DEC93	EC D55799 16SEP94	EC D55883 11MAY95	EC E27926 14MAR97	
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11.13 Logging OFF from SP

- ___ 1. On **MOSS-E View** window, click on **Program**.
- ___ 2. Click on **LOG OFF MOSS-E**.

3745 FFBM	PN 58G7693 9 of 10	EC D55659 09DEC93	EC D55799 16SEP94	EC D55883 11MAY95	EC E27926 14MAR97	
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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 (As MES activity) and quality to existing procedures.

End of instructions.

3745 FFBM	PN 58G7693 10 of 10	EC D55659 09DEC93	EC D55799 16SEP94	EC D55883 11MAY95	EC E27926 14MAR97	
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