

Field Feature Bill of Material (FFBM)

PN 03F5295 RPQ 7L1148

INSTALLATION of an ALC (Air Line Control) Scanner in IBM 3745 Models 170 or 17A

Written by: JP. Aubin
Checked by: B. Bigati
Approved by: F. Charron
Reviewed by: B. Kelly

3745 FFBM	PN 03F5295 1 of 12	EC A73532 03AUG89	EC A97870 21NOV89	EC A98111 10AUG90	EC C38773 03FEB94	
--------------	-----------------------	----------------------	----------------------	----------------------	----------------------	--

PN 03F5295 2 of 12	EC A73532 03AUG89	EC A97870 21NOV89	EC A98111 10AUG90	EC C38773 03FEB94	
-----------------------	----------------------	----------------------	----------------------	----------------------	--

Before Installation (steps 1-8)

1.0 Machines Affected

3745 Models 170 and 17A.

2.0 Related BMs and ECs

2.1 Prerequisites

(Must be installed prior to this installation)

- NCP V5 R2.1 with Air Line Control Interconnection (ALCI) FC 4471 (Basic OTC), FC 4091 (Basic MTC), FC 6516, or FC 6594.

3.0 BM(s) to be Installed

3.1 Install the following BMs

- FFBM 03F5295 - Installation Instructions
- FFBM 03F5294 - ALC scanner installation.

3.2 As required FFBM

- FFBM 26F1426 - ALC documentation.
This FFBM will be received with the First ALC feature on 3745.

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 to be installed to determine whether all parts were received.

Notes:

- a. Up to **6 ALC** scanners can be installed in 3745 Models 170/17A.
 - b. Both Low speed scanners (FC4721) and ALC scanners (RPQ 7L1148) can be installed in the same 3745 Model 170/17A if the total number does not exceed 6.
 - c. RPQ 7L1148 supports only ALC protocol and ALC line must be attached via a LIC type 1 or LIC type 5 only.
 - d. On a same LIC, ALC line and non-ALC line cannot be mixed.
3. Based on the *Hone Configurator sheet* and the following table, determine the adapter(s) card position(s) to be installed.

Adapter Number	12	11	10	9	4	3
Instal. Sequence	4	3	2	1	5	6
CSC card in 01G-A1	M2	N2	P2	Q2	R2	T2

4. Identify the LIU enclosure associated with the scanner to be installed and the DMUX/SMUX connector where MUX cable will be plugged.
5. DMUX in LIU1 and SMUX in LIU2 are plugged in position B0 and are protected by a cover.
6. LIB in position 01M-A1 or A2 is always a LIU1.
7. LIB in position 01L-A1 is always a LIU2.
8. LIB in position 01L-A2 can be a LIU1 or a LIU2.

5.0 Programming

5.1 Diagnostic Programs

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

3745 FFBM	PN 03F5295 3 of 12	EC A73532 03AUG89	EC A97870 21NOV89	EC A98111 10AUG90	EC C38773 03FEB94	
--------------	-----------------------	----------------------	----------------------	----------------------	----------------------	--

5.2 System 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

6.0 Purpose and Description

6.1 Purpose

Install an ALC scanner (RPQ 7L1148).

6.2 Description

Install Adapter Cards, MUX cable.

7.0 Installation Time

FFBM	Machine Hours	System Hours
03F5295	1.0	00.0
Test time	0.7	
Total time	1.7	

8.0 Tools/Materials Required

- ESD kit (PN 6428316).

Installation (steps 9-11)

9.0 Safety

- The adapter installation 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 (SY33-2070).

10.0 Details of Installation

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 (3745-170) or the Service Processor (SP) (3745-17A), 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.

- If you are installing an adapter in a 3745-17A, go to Step 10.1.1.3, "From the Service Processor" on page 5.
- Otherwise, continue.

10.1.1.2 From the 3745-170 Console

- ___ 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**.
- ___ 4. If the CCU is running, enter **RST** to reset the CCU.
The MOSS goes in **MOSS ALONE** state.

• Go to Step 10.1.1.4, "Display the CDF."

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**.
- ___ 4. On the **MOSS-E View** window, double click on the icon of the identified 3745.
- ___ 5. On the **3745 Menu** window, double click on **MOSS Console**.
- ___ 6. When **MOSS Console** screen is displayed, enter **CID**, press **Enter**.
- ___ 7. From the **CA INTERF DISPLAY** screen, record **Enabled channel adapters**. Then, **disable** all channel adapters.
- ___ 8. When all CAs are **DISABLED**, press **F1**.
- ___ 9. If CCU running, enter **RST** to reset the CCU.
The MOSS goes in **MOSS ALONE** state.

10.1.1.4 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.

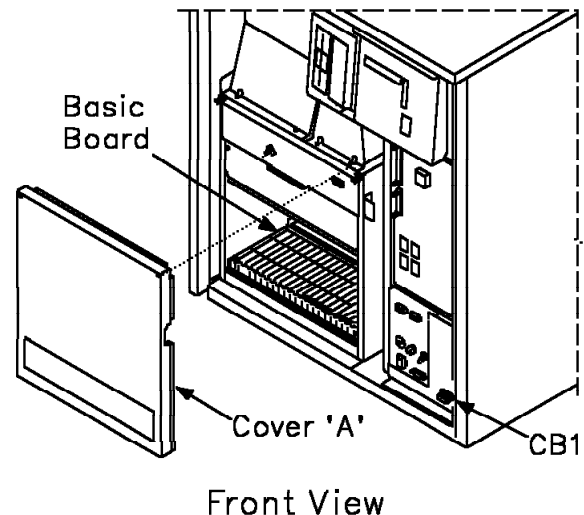
- ___ 1. Enter **CDF**, press **Send/Enter**.
- ___ 2. Enter **1** (DISPLAY/UPDATE), press **Send/Enter**.
- ___ 3. Enter **10** (LINE ADAPTERS (LA)), press **Send/Enter**.
Check for the presence of an **N** for the LA position to be installed according to the *HONE configurator sheet*. Press **F1**.

10.1.2 Diagnostics

- ___ 1. Enter **ODG**, press **Send/Enter**.
- ___ 2. Enter **3** (IOCB), press **Send/Enter**.
 - If **NO ERROR FOUND** is 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 system cover and switch off **CB1**.

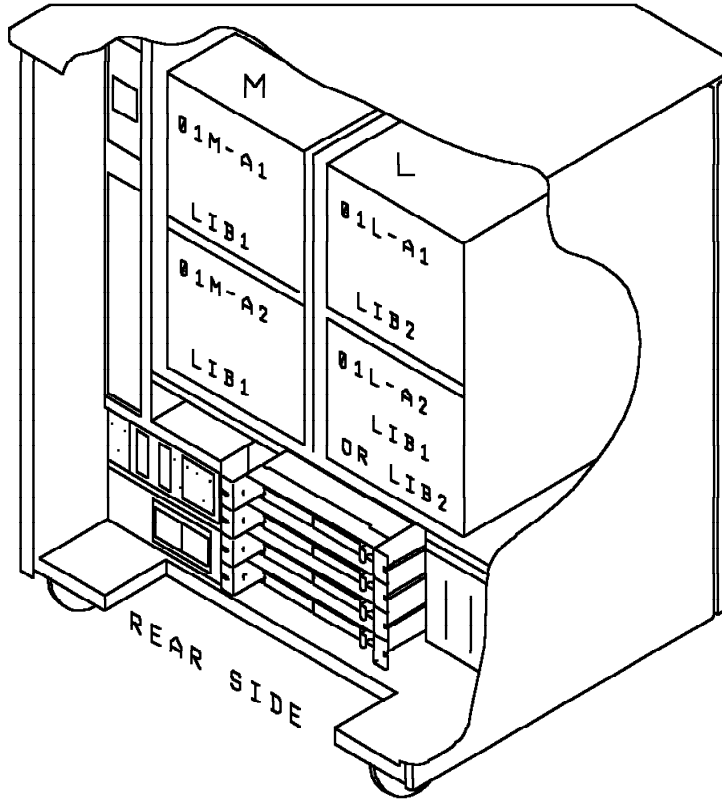


3745 FFBM	PN 03F5295 5 of 12	EC A73532 03AUG89	EC A97870 21NOV89	EC A98111 10AUG90	EC C38773 03FEB94	
--------------	-----------------------	----------------------	----------------------	----------------------	----------------------	--

10.2 Hardware Installation

Warning: Follow existing ESD procedures when handling logic parts.

- ___ • Open the 3745 rear cover.



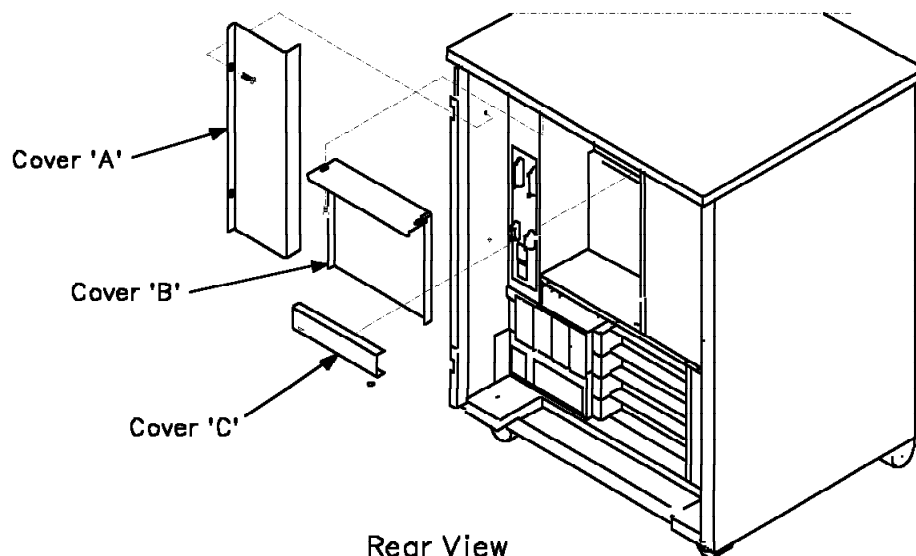
- If you are installing a spare ALC scanner (no MUX cable connection to a LIU), go to step 10.2.3, "Card Installation" on page 9.
- If you are installing an ALC scanner connected to a LIU in position 01L-A1 or A2, go to step 10.2.2, "MUX Cable PN 03F4503 Routing from LIB Position 01L-A1 or A2" on page 8.
- If you are installing an ALC scanner connected to a LIU in position 01M-A1 or A2, continue.

10.2.1 MUX Cable PN 03F4503 Routing from LIB Position 01M-A1 or A2

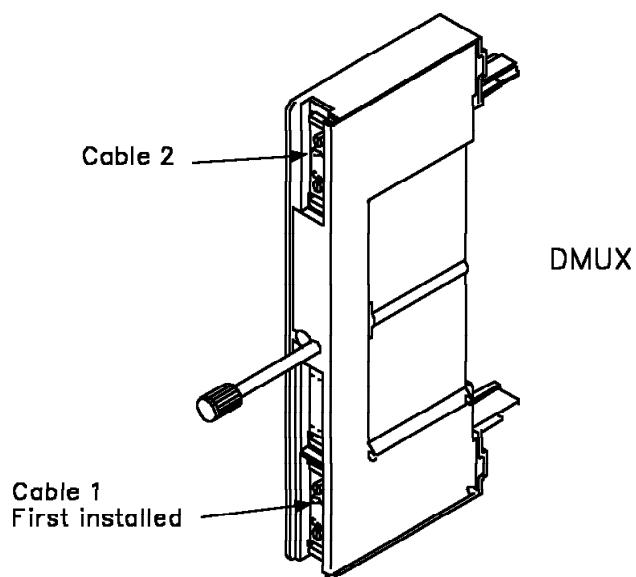
- ___ 1. Keeping the external LIC cables connected on LICs, remove all LICs from LIBs position 01M-A1 and A2 if installed.

Note: Be sure that LICs positions are well identified.

- ___ 2. If no LIB in 01M-A1:
 - a. Remove the cover 'B'.
 - b. Unfasten 2 screws and remove the cover 'A'.
 - c. Remove the DMUX card(s) from board.



- d. Unfasten two screws and remove the cover 'C' over the raceway between the two LIBs.
- e. Route the DMUX in the raceway to the front of the 3745 thru the window in the frame.
- f. Secure the MUX cable in the raceways, and re-install the cover 'C'.
- g. Re-install the DMUX card(s) and connect the MUX cable in the DMUX connector based on the HONE configuration sheet.



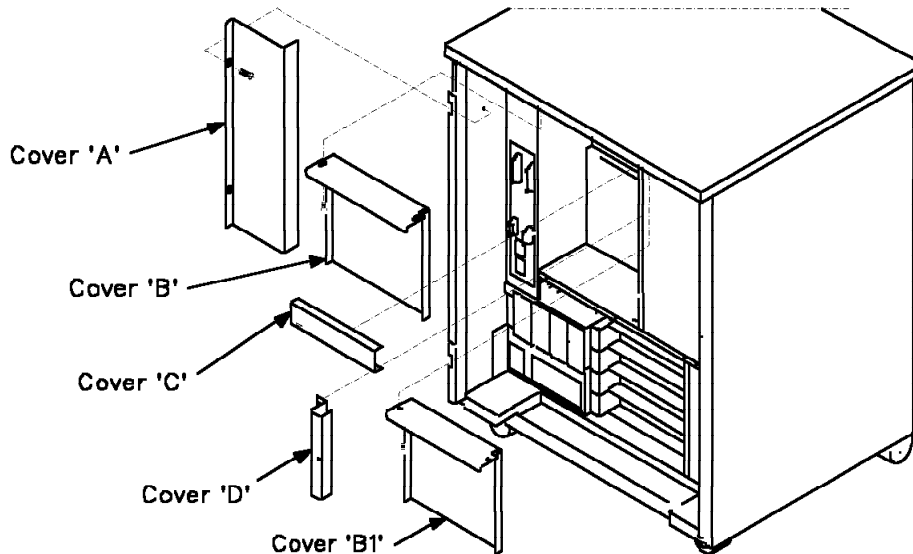
- h. Re-install all LICs in their positions.
- i. Re-install the power/DMUX cover 'A' and the cover 'B' if required.

• Go to step 10.2.3, "Card Installation" on page 9.

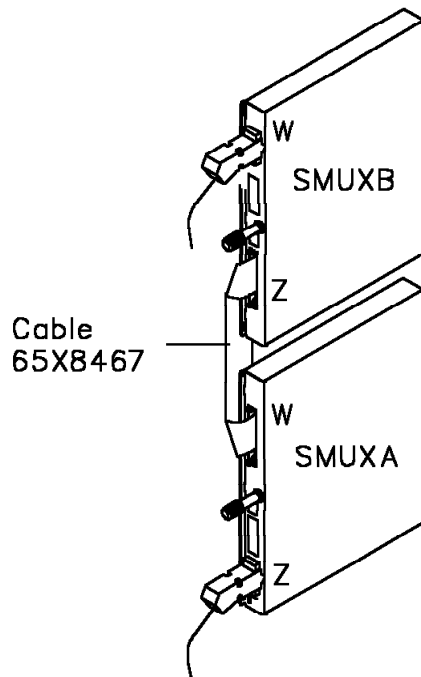
10.2.2 MUX Cable PN 03F4503 Routing from LIB Position 01L-A1 or A2

1. Remove cover 'D' from the identified DMUX/SMUX.

Note: To make the cable routing easier, you may remove the SMUX/DMUX cards and LIC cassettes in the first few positions.



2. Route the cable from the LIB to the front of the 3745 thru the window in the frame and plug the cable in the connector of identified DMUX/SMUX.

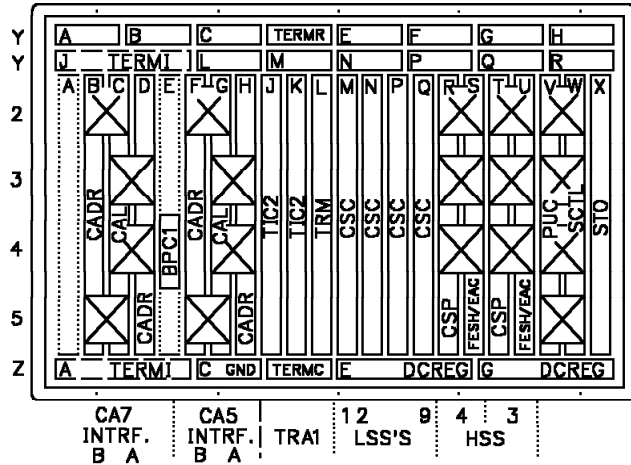


Notes:

- a. If only SMUXB present, connect MUX cable in W of SMUXB cassette.
 - b. If both SMUXA and SMUXB present, connect the first MUX cable in Z of SMUXA.
3. Re-install the cover over the DMUX/SMUX.

10.2.3 Card Installation

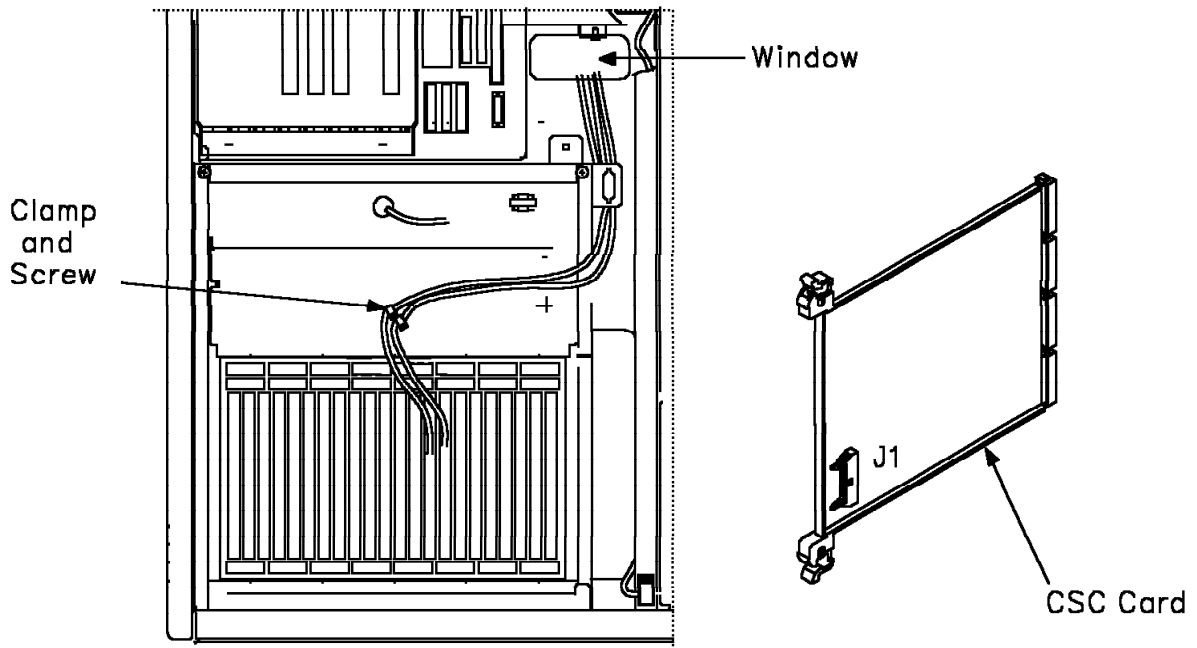
- ___ 1. From the front of the machine, remove the basic board cover 'A'.
- ___ 2. Check that holder is installed on card shipped in the FFBM.



- ___ 3. Remove the dummy cards or bypass card from identified adapter card(s) position and install the CSC card.

Notes:

- a. Before locking the card, connect the MUX cable to the J1 connector.
- b. If you installing a spare ALC scanner (no connection to a LIU) save the MUX cable on the right side of CCU enclosure.



- ___ 4. Secure MUX cable with clamp (PN 804867) and screw (PN 1621197).
- ___ 5. Re-install the basic board cover.

3745	PN 03F5295	EC A73532	EC A97870	EC A98111	EC C38773
FFBM	9 of 12	03AUG89	21NOV89	10AUG90	03FEB94

10.3 Power ON

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

10.3.1 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 installed an adapter in a 3745-17A, go to Step 10.3.3, "From the Service Processor."
- Otherwise, continue.

10.3.2 From the 3745-170 Console

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

- Go to Step 11.1, "Update the CDF."

10.3.3 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 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 installed.
- ___ 3. To update the CDF with machine values, enter **2**, press **Send/Enter**.
 - When **CDF VERIFY COMPLETED** is displayed, press **F6**.
 - Otherwise, see the *MIP*, Chapter 1.

11.2 Display the CDF

- ___ 1. Enter **CDF**, press **Send/Enter**.
- ___ 2. Enter **1** (DISPLAY/UPDATE), press **Send/Enter**.
- ___ 3. Enter **7** (LINE ADAPTERS (LA)), press **Send/Enter**.
A **Y** should appear under the LA number you have just installed.
Check the **LA TYPE** value: 1 for TSS.
Press **F1**.

11.3 Diagnostics

- ___ 1. Enter **ODG**, press **Send/Enter**.
- ___ 2. Enter **5** (TSS). Enter the **Adapter Number**, press **Send/Enter**.
 - If **NO ERROR FOUND** is displayed, press **F1**.
 - Otherwise, see the *MIP*, Chapter 1.

3745 FFBM	PN 03F5295 10 of 12	EC A73532 03AUG89	EC A97870 21NOV89	EC A98111 10AUG90	EC C38773 03FEB94	
--------------	------------------------	----------------------	----------------------	----------------------	----------------------	--

11.4 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 an adapter in a 3745-17A, go to Step 11.6, "From the Service Processor."
- Otherwise, continue.

11.5 From the 3745-170 Console

Re-enable the channel adapters disabled in Step 10.1.1.2, "From the 3745-170 Console" on page 5.

- Go to Step 11.7, "General IPL."

11.6 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**.

11.7 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.

- If you have installed an adapter in a 3745-17A, go to Step 11.7.2, "From the Service Processor."
- Otherwise, continue.

11.7.1 From the 3745-170 Console

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

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

11.7.2 From the Service Processor

- ___ 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**.

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.

Headings			
----------	--	--	--

id	File	Page	References
TABLE	P03F5295 SCRIPT	3	4.0, Preparation
OO	P03F5295 SCRIPT	4	10.1.1.1, From the 3745 Control Panel 11
NN	P03F5295 SCRIPT	5	10.1.1.2, From the 3745-170 Console 11
SP1	P03F5295 SCRIPT	5	10.1.1.3, From the Service Processor 4, 11
CDF1	P03F5295 SCRIPT	5	10.1.1.4, Display the CDF 5
PO	P03F5295 SCRIPT	5	10.1.3, Power OFF
ALC1	P03F5295 SCRIPT	8	10.2.2, MUX Cable PN 03F4503 Routing from LIB Position 01L-A1 or A2 6
ALC2	P03F5295 SCRIPT	9	10.2.3, Card Installation 6, 7
SP3	P03F5295 SCRIPT	10	10.3.3, From the Service Processor 10
LL	P03F5295 SCRIPT	10	11.1, Update the CDF 10
MM	P03F5295 SCRIPT	10	11.3, Diagnostics
SP4	P03F5295 SCRIPT	11	11.6, From the Service Processor 11
IPL	P03F5295 SCRIPT	11	11.7, General IPL 11
SP5	P03F5295 SCRIPT	11	11.7.2, From the Service Processor 11
PP	AFTRINS2	12	After Installation (steps 12-15) 11

Processing Options	
--------------------	--

Runtime values:

Document fileid	P03F5295 SCRIPT
Document type	PNCDOC
Document style	FBII
Profile	EDFPRF30
Service Level	21Jun90
SCRIPT/VS Release	3.2.1
Date	94.02.03
Time	09:17:37
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 4	LOGONLC1
Page 5	LOGONSP1
Page 5	PRESSEND
Page 11	LOGOFFSP
Page 12	AFTRINS2