

Masterfile Documentation

T2000 Maintenance Manual 5/10

DOCUMENTATION REVISION LEVEL									
00 01 02 03 04 05 06 07 08 09									
10 11 12 13 14 15 16 17 18 19									
20 21 22 23 24 25 26 27 28 29									
30 31 32 33 34 35 36 37 38 39									
40 41 42 43 44 45 46 47 48 49									

D*T20001014010

[HARDWARE A]

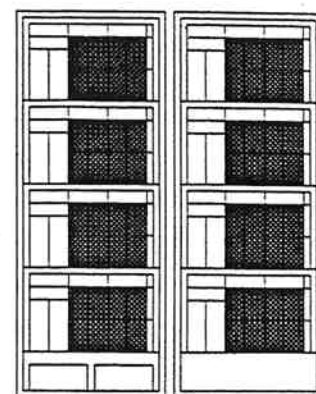
◆HDD Canister or HDD PCB

[Related Procedure]

SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure AREP02-10 Pre-procedure BREP02-40 Pre-procedure CREP02-80 Pre-procedure DREP02-120 Pre-procedure EREP02-160	Refer to REP01-120, 130.
SVP post-procedure	Post-procedure aREP04-10 Post-procedure bREP04-40 Post-procedure cREP04-80 Post-procedure dREP04-100 Post-procedure gREP04-170	Refer to REP01-120, 130.

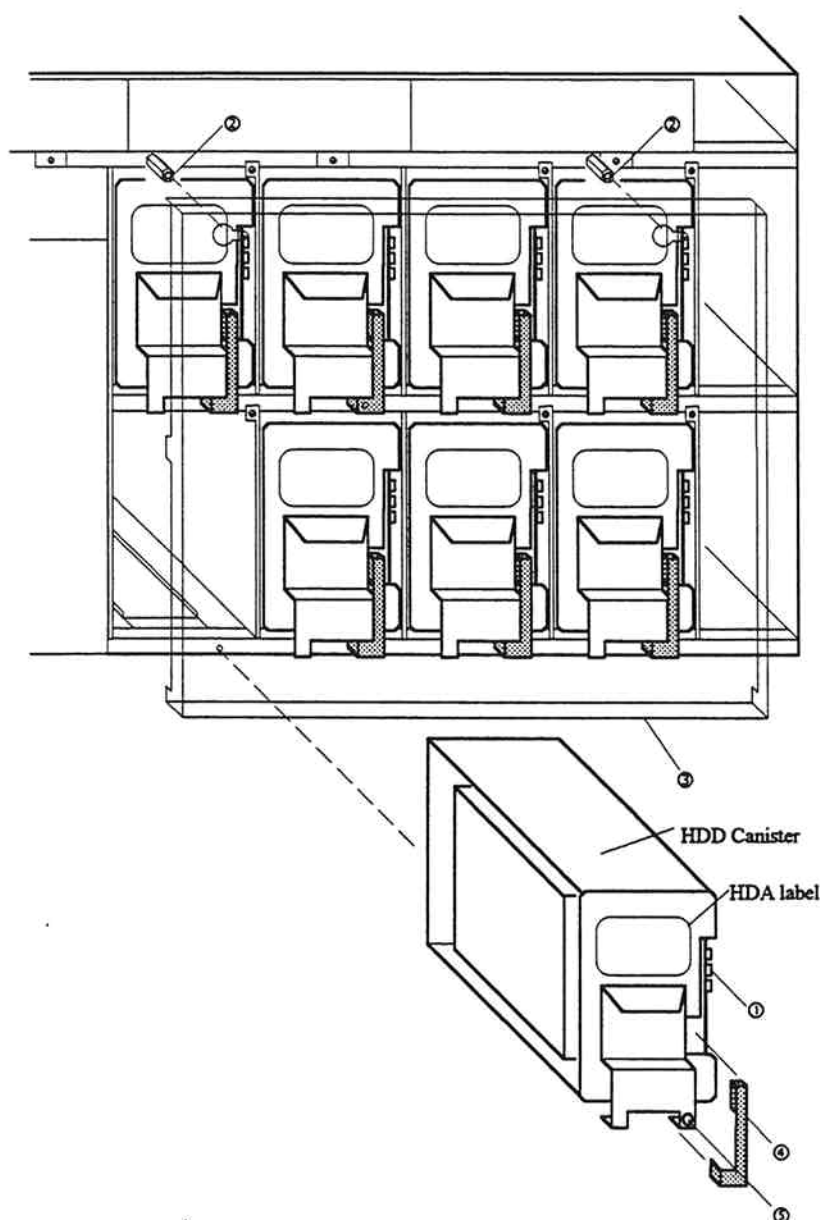
1. The following figure shows the correct way to replace the HDD canister.
(DKU205I-14 S/N 10001-10127)

- Check Shut Down LED ① on the HDD canister.
- Loosen the screws ② and remove the acrylic cover ③.
- Remove connector ④ from the replacement HDD canister.
- Loosen screw ⑤ and remove the HDD canister.
- If you want to replace the HDD PCB in RAID 0 configuration (The model name of HDA label is DK306-35) go to page REP03-31; otherwise, go to next step.
- Insert the spare HDD canister into the HDU box. Fix screw ⑤.
- Insert connector ④ into the spare HDD canister.
- Attach the acrylic cover ③, and fix the screws ②.



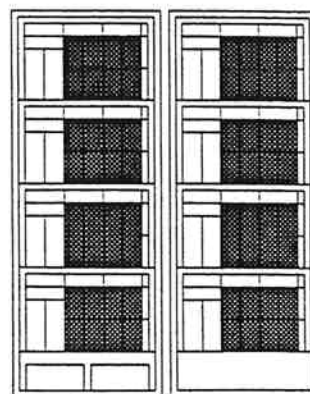
Front view of
DKU205

Rear view of
DKU205



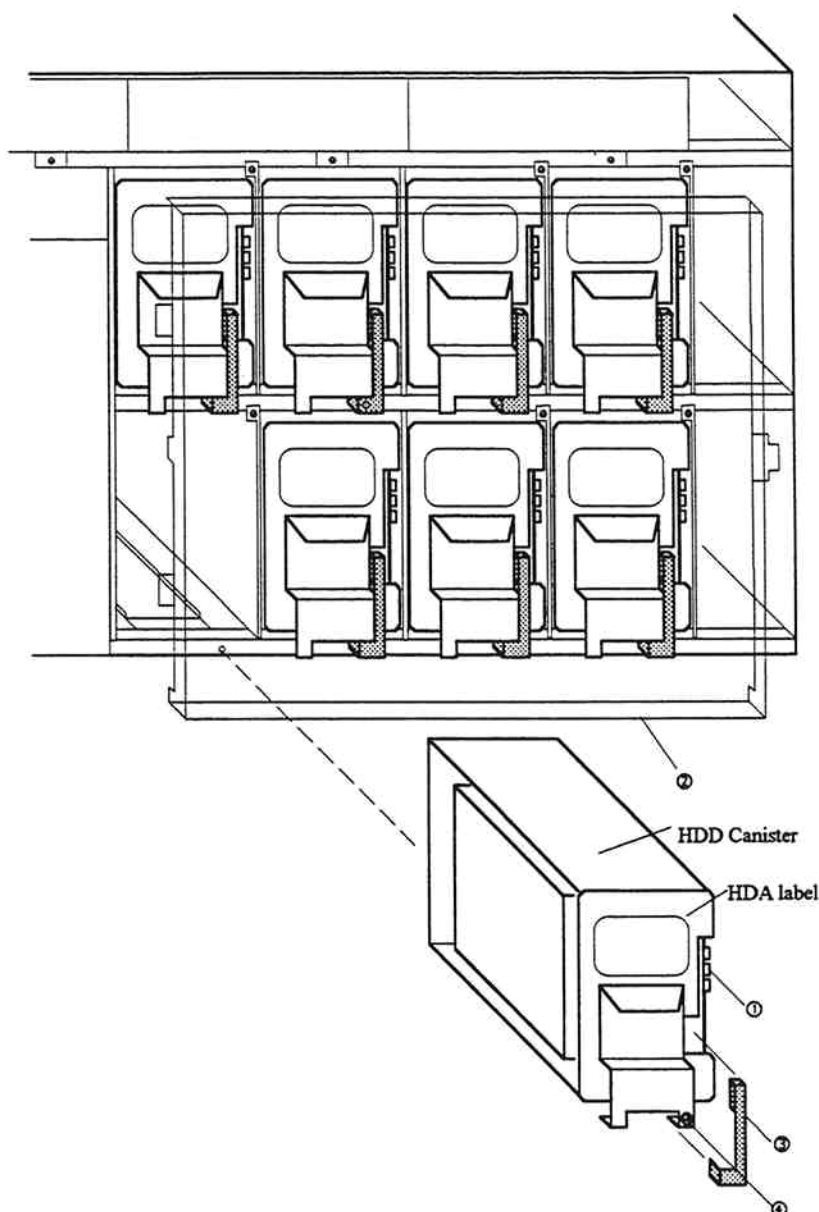
2. The following figure shows the correct way to replace the HDD canister.
(DKU205I-14 S/N 10128-)

- a. Check Shut Down LED ① on the HDD canister.
- b. Remove the acrylic cover ②.
- c. Remove connector ③ from the replacement HDD canister.
- d. Loosen screw ④ and remove the HDD canister.
- e. If you want to replace the HDD PCB in RAID 0 configuration (The model name of HDA label is DK306-35) go to page REP03-31; otherwise, go to next step.
- f. Insert the spare HDD canister into the HDU box. Fix screw ④.
- g. Insert connector ③ into the spare HDD canister.
- h. Attach the acrylic cover ②.



Front view of
DKU205

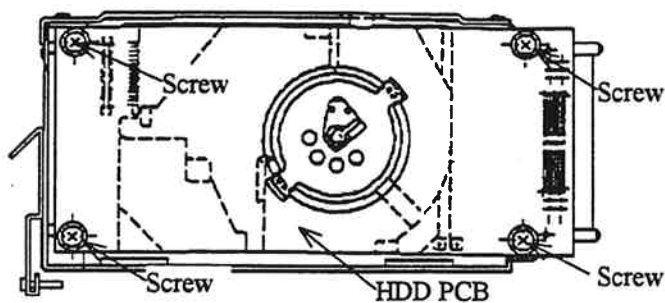
Rear view of
DKU205



3. HDD PCB replacement procedure

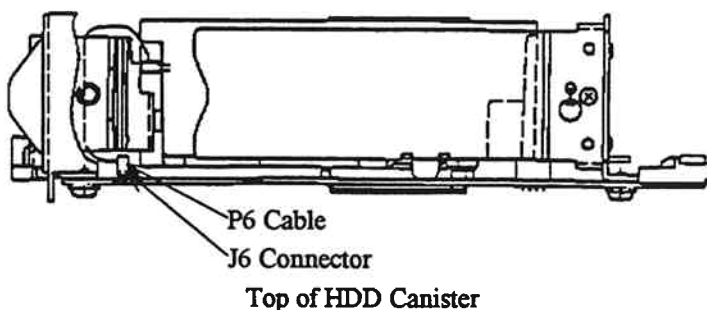
(Note) The HDD PCB can be replaced only in RAID 0 configuration (The model name of HDA label is DK306-35.)
RAID 5/1 (The model name of HDA label is DK306-45, DK308-45 or DK308-90) are not permitted to replace the HDD PCB.

- a. Remove four lock screws from the PCB.



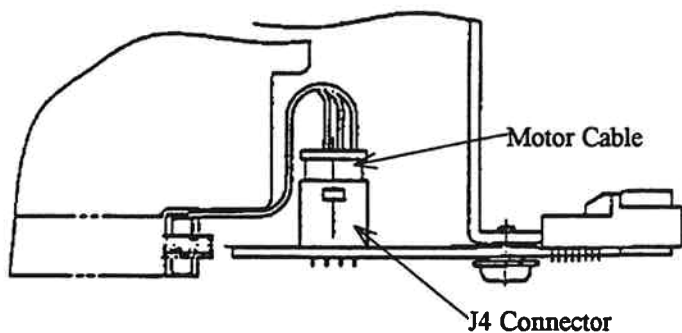
Right side of HDD Canister

- b. Disconnect the P6 cable from the J6 connector.



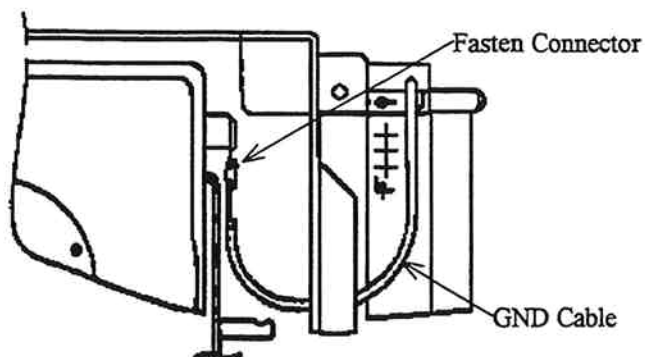
Top of HDD Canister

- c. Disconnect the motor cable from the J4 connector.



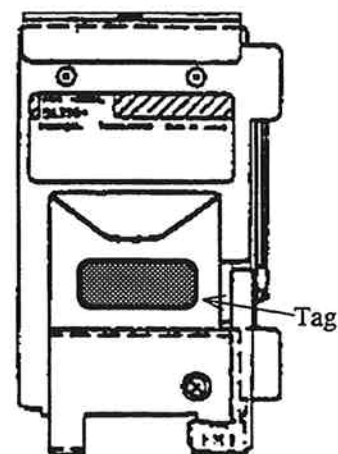
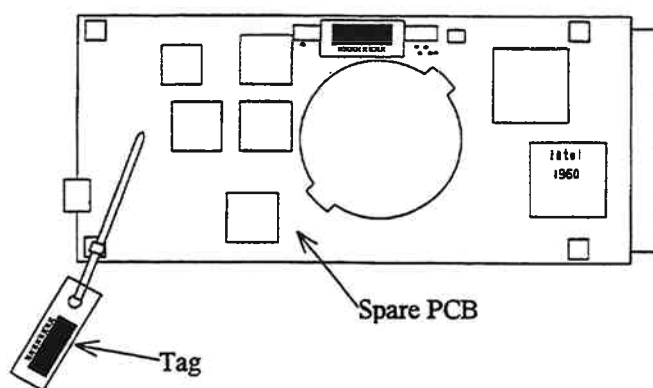
Top of HDD Canister

- d. Disconnect the GND cable from the fasten connector.



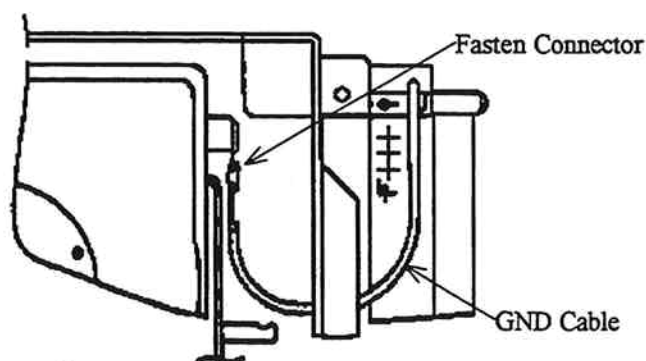
Right side of HDD Canister

- e. Remove the PCB from the canister.
 f. Remove the tag from the spare PCB.
 g. Mount the tag on the canister.
 (Note : Discard the tag after entering its serial No. into SVP.)



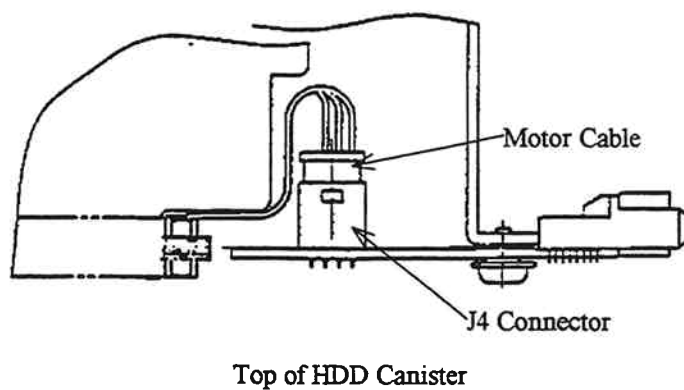
Front of HDD Canister

- h. Connect the GND cable to the fasten connector.

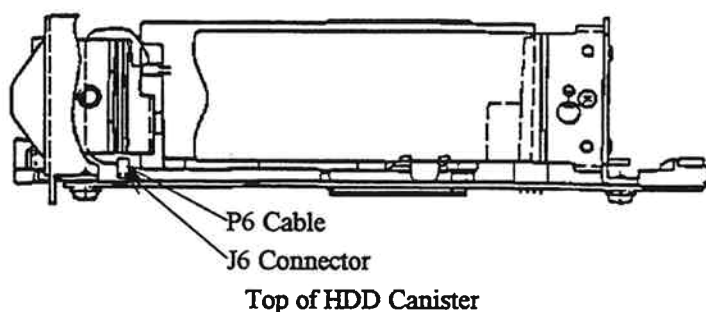


Right side of HDD Canister

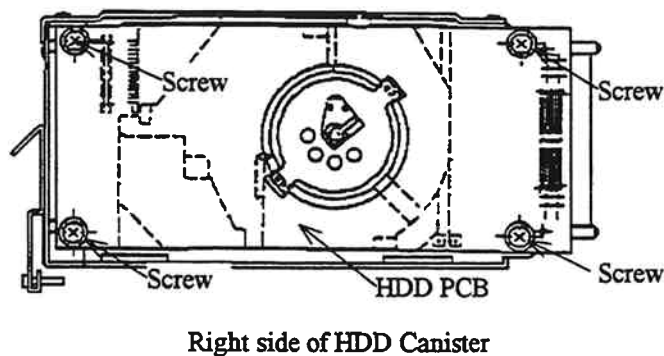
- i. Connect the motor cable to the J4 connector.



- j. Connect the P6 cable to the J6 connector.



- k. Fix four lock screws to mount the PCB.



- l. If DKU205I-14 S/N range from 10001 to 10127, go to page REP03-20 step f; if ranging from 10128 or later, go to page Rep03-30 step f.

4. See SVP post-procedure as follows.

<Data drive, spare drive>

Data drive, spare drive						
Work ID	Part name	Condition Item				Procedure #1
		Condition			Configuration	SVP post-procedure
		Warning threshold value	Block threshold value	Preventive	Unused Spare drive	
RDK 1	Data drive	×	-	-	Yes	Post a
		-	×	-	Yes	
RDK 2	Data drive	-	-	×	Yes	Post a
RDK 3	Data drive	×	-	-	No	Post b
		-	×	-	No	
		-	-	×	No	
RDK 4	Data drive	-	*2			Post c
RDK 5	Spare drive	×	-			Post d
		-	×			
		-	-	×		

*1: Refer to REP01-180

*2: Two drives in a parity group are blocked.

How to determine the condition item (Data drive).

(1) Warning threshold value/Block threshold value :

Determine according to SIM. (see SIM-RC02-30)

(2) Unused spare drive :

[Warning threshold value/Block threshold value]

Determine according to SIM at the beginning or the ending normally of Dynamic Sparing/Correction Copy. (see SIM-RC02-20)

[Preventive]

Determine according to the status of a spare drive and S/D on on-line screen.

("D" in "S/D" indicates a spare drive is used as a data drive.)

<Case in which an another drive error occurred during drive error recovery operation>

Case 2: When an error occurs during drive error recovery operation

Work ID	Part name	Condition Item										Procedure after Error *1
		Before					After					
		Condition			Configu-ration	Condition					Configu-ration	
		Warning threshold value	Block threshold value	Pre-ventive		Before drive replace-ment		After drive replacement				
						Block source	Block destina-tion	INLIN E error	Block source	Block destina-tion		
SVP post-procedure												
RDK6	Data drive	×	-	-	Yes	-	×	-	-	-	Yes	Post a
		-	×	-	Yes	-	×	-	-	-	Yes	Post d
		-	-	×	Yes	-	×	-	-	-	Yes	
RDK7	Data drive	×	-	-	Yes	-	×	-	-	-	No	Post d
		-	-	×	Yes	-	×	-	-	-	No	Post a
RDK8	Data drive	×	-	-	Yes	-	-	×	-	-		Post a
		×	-	-	Yes	-	-	-	-	×		
		-	×	-	Yes	-	-	×	-	-		
		-	×	-	Yes	-	-	-	-	×		
		-	-	×	Yes	-	-	×	-	-		
		-	-	×	Yes	-	-	-	-	×		
RDK9	Data drive	×	-	-	Yes	-	-	-	×	-		Post b
		-	×	-	Yes	-	-	-	×	-		Post d
		-	-	×	Yes	-	-	-	×	-		
RDK10	Data drive	-	×	-	Yes	-	×	-	-	-	No	Post b Post d
RDK11	Data drive	×	-	-	Yes	×	-	-	-	-		Post a
		-	-	×	Yes	×	-	-	-	-		
RDK12	Data drive	×	-	-	No			×	-	-		Post b
		×	-	-	No			-	-	×		
		-	×	-	No			×	-	-		
		-	×	-	No			-	-	×		
		-	-	×	No			×	-	-		
		-	-	×	No			-	-	×		
RDK13	Spare drive	-	×					×				Post d
		-	-	×				×				

*1 Refer to REP01-180

- How to determine the condition item.

Block source/Block destination :

Determine according to SIM whether a data drive is blocked or a spare drive is blocked.

[HARDWARE B]

◆ Cache Memory PCB, Logic Box

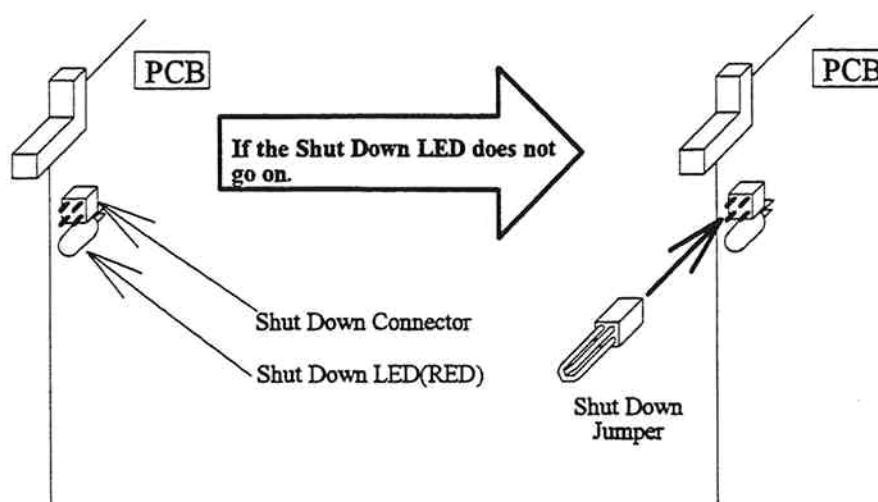
- Cache Memory PCB (WP008-A, WP018-A/C) REP03-60
- Cache Memory Module (32MB/module, SZ635-A, SZ730-A, SH024-A) REP03-80
- Shared Memory Module (16MB/module, SZ635-B, SH024-B)..... REP03-100

[Related Procedure]

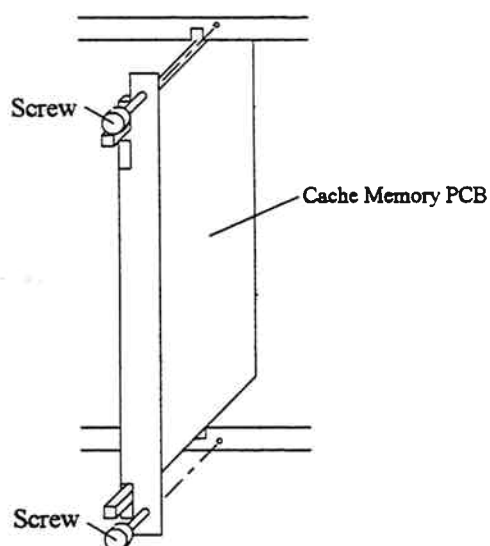
SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure AREP02-10	Refer to REP01-140.
	Pre-procedure FREP02-210	
SVP post-procedure	Post-procedure eREP04-120	Refer to REP01-140.

Replacement of Cache Memory PCB

1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)

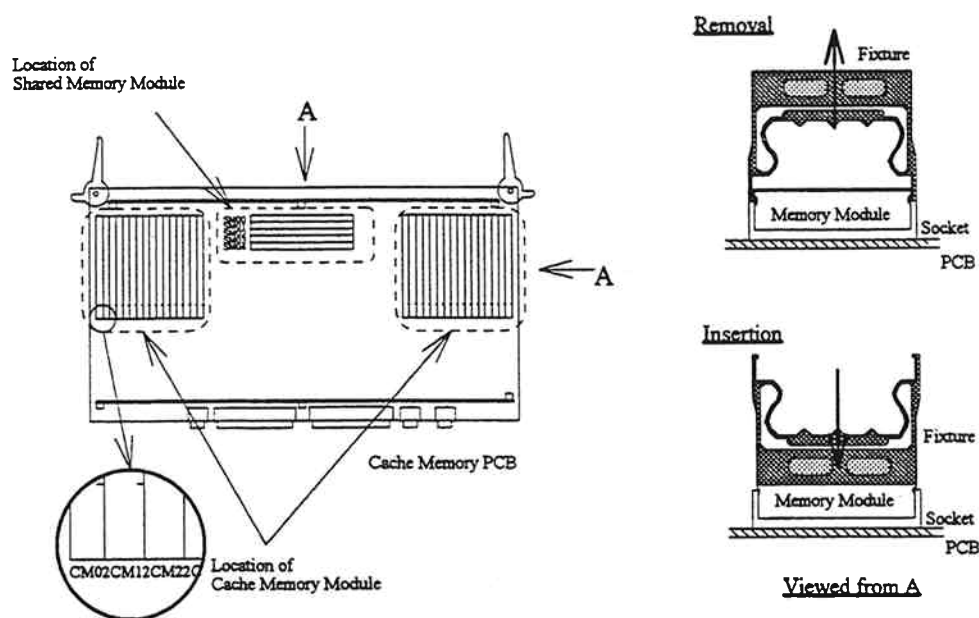


2. Remove the two screws and remove the failed Cache Memory PCB from the Logic Box.



3. Remove the Shut Down Jumper if it is mounted.

4. Move the memory modules to the spare PCB.

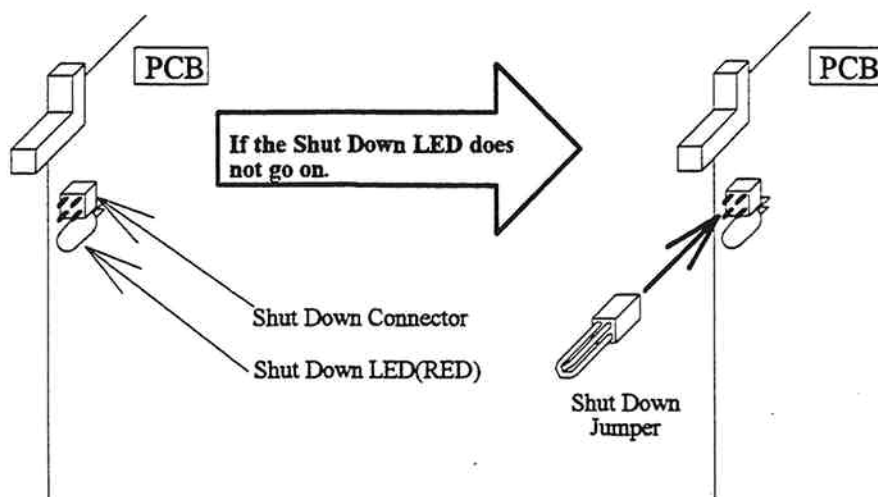


5. Insert the spare PCB on which the modules are mounted, into the Logic Box. Then fasten the two screws.

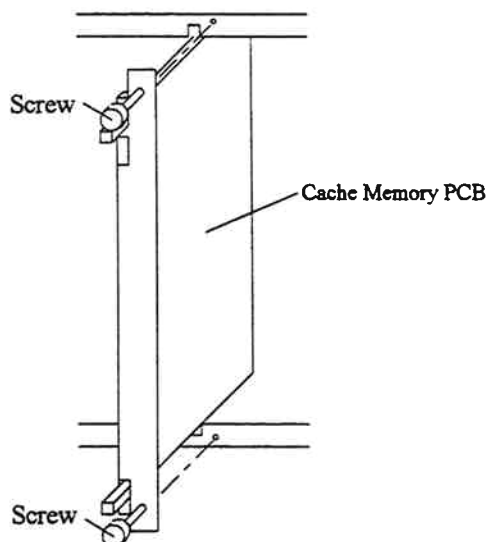
6. Go to SVP post-procedure e [REP04-120].

Replacement of Cache Memory Module

1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)

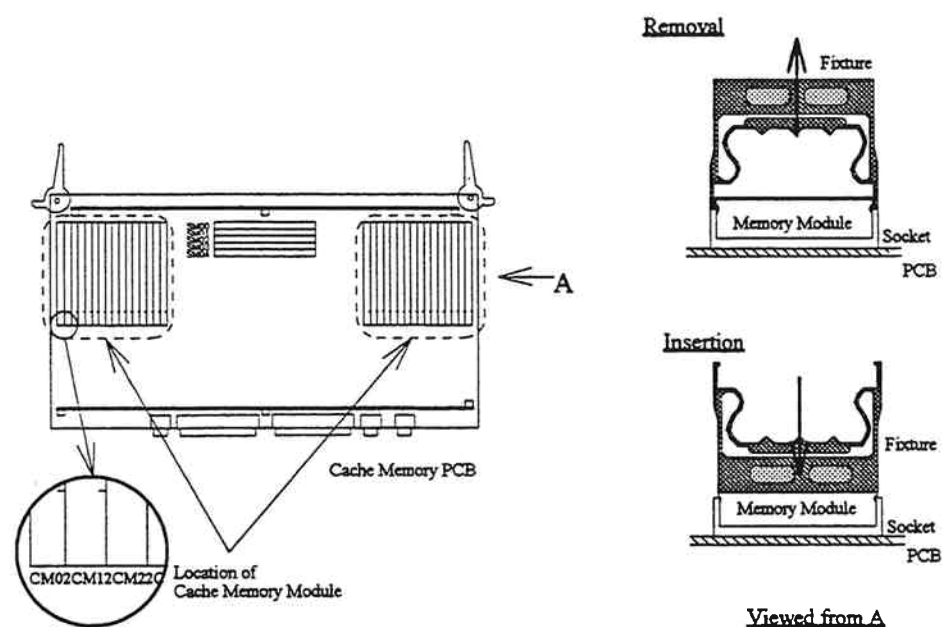


2. Remove the two screws and remove the Cache Memory PCB with the failed Cache Memory Module.



3. Remove the Shut Down Jumper if it is mounted.

4. Replace the Cache Memory Module.

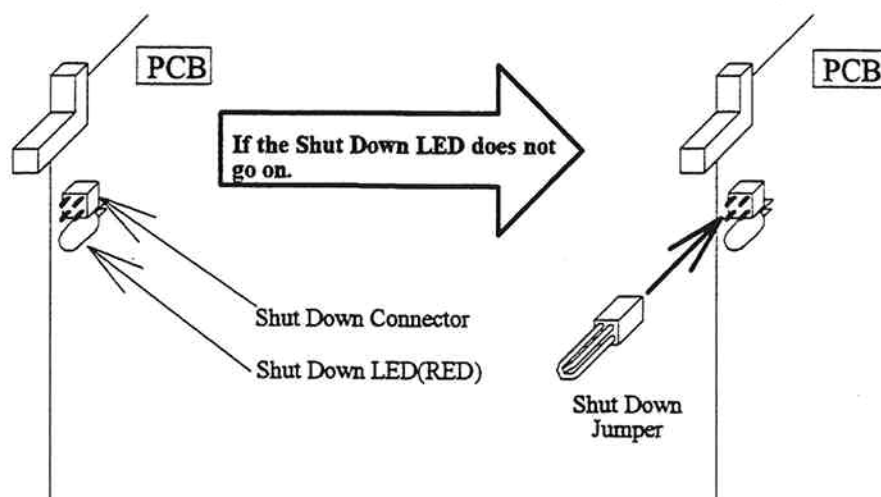


5. Insert the PCB with the spare Cache Memory Module, into the Logic Box. Then fasten the two screws.

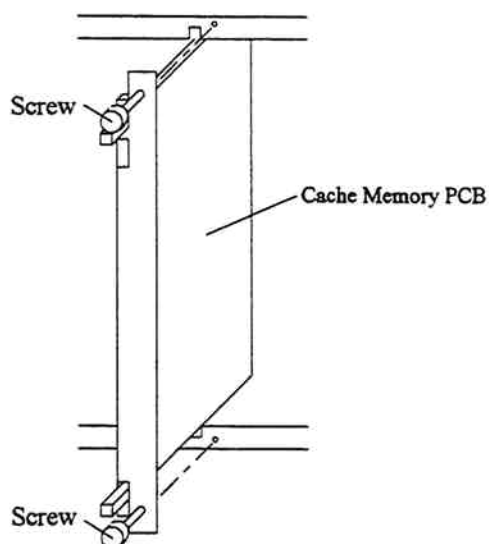
6. Go to SVP post-procedure e [REP04-120].

Replacement of Shared Memory Module

1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)

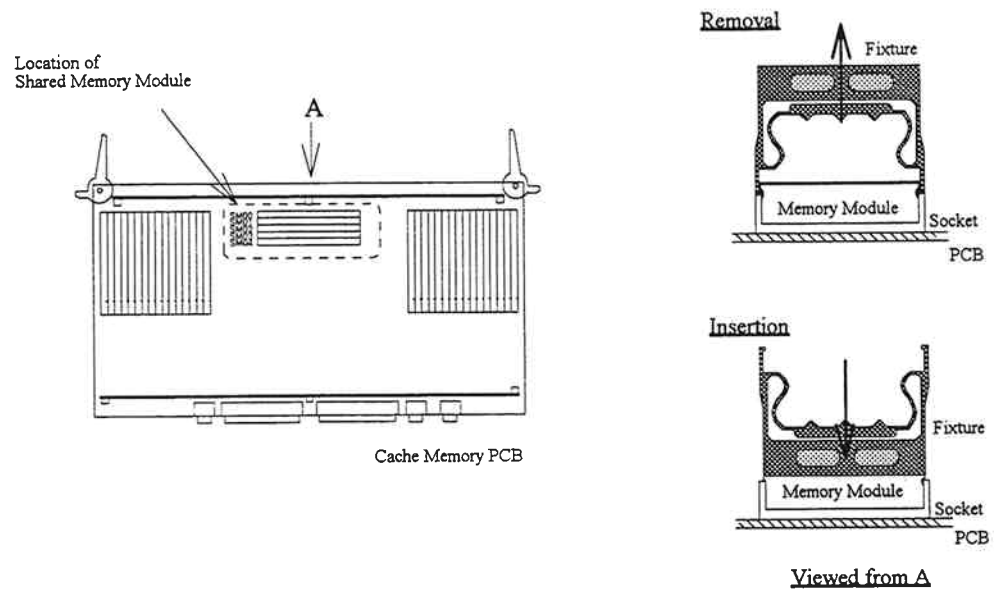


2. Remove the two screws and the Cache Memory PCB with the failed Shared Memory Module.



3. Remove the Shut Down Jumper if it is mounted.

4. Replace the Shared Memory Module.



5. Insert the PCB with the spare Shared Memory Module, into the Logic Box. Then fasten the two screws.

6. Go to SVP post-procedure e [REP04-120].

[HARDWARE C]

◆ Cache Memory PCB, Logic Box

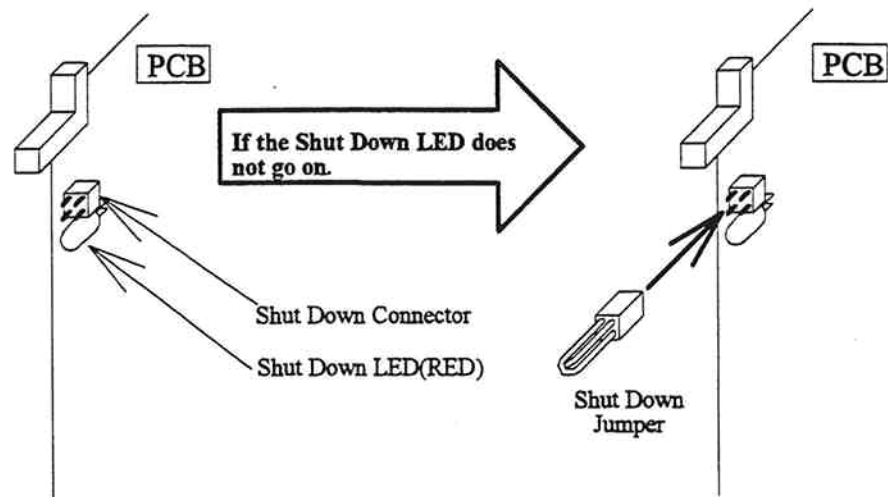
- Cache Memory PCB (WP008-B, WP018-B) REP03-130
- Cache Memory Module (32MB/module, SZ635-A, SH024-A) REP03-150

[Related Procedure]

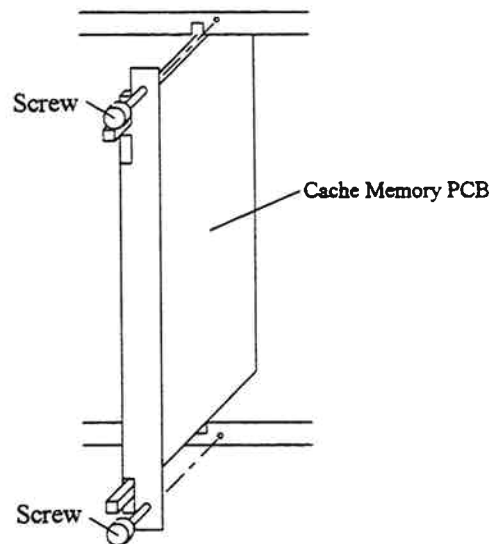
SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure AREP02-10	Refer to REP01-140.
	Pre-procedure FREP02-210	
SVP post-procedure	Post-procedure eREP04-120	Refer to REP01-140.

Replacement of Cache Memory PCB

1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)

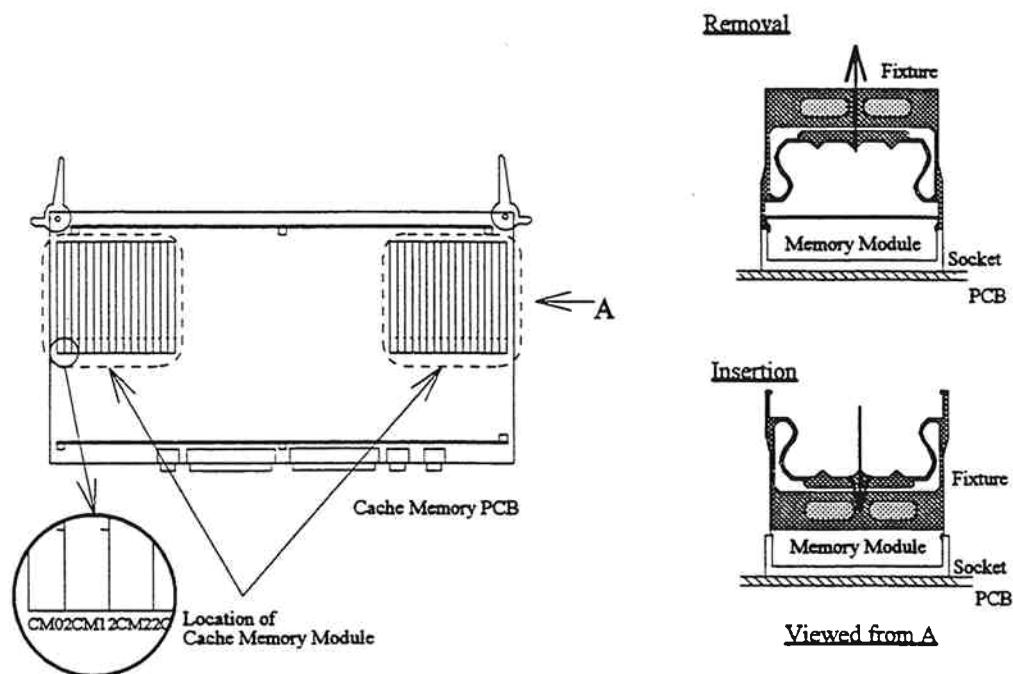


2. Remove the two screws and remove the failed Cache Memory PCB from the Logic Box.



3. Remove the Shut Down Jumper if it is mounted.

4. Move the memory modules to the spare PCB.

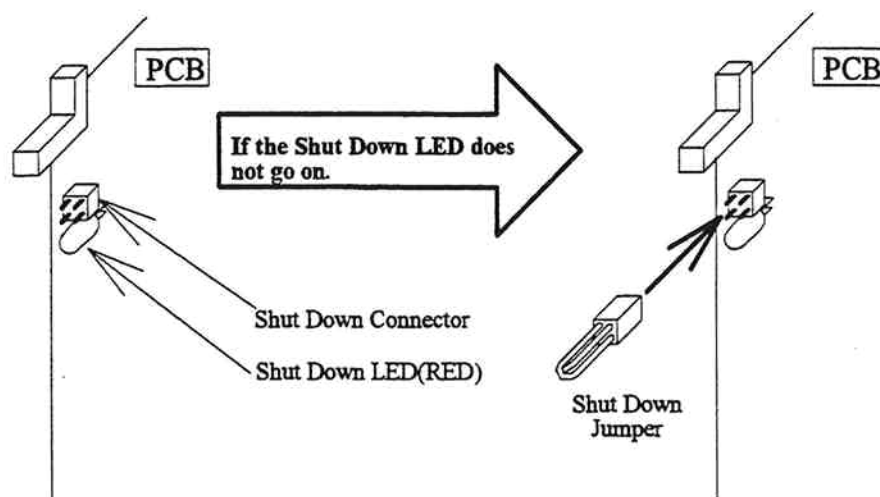


5. Insert the spare PCB on which the modules are mounted, into the Logic Box. Then fasten the two screws.

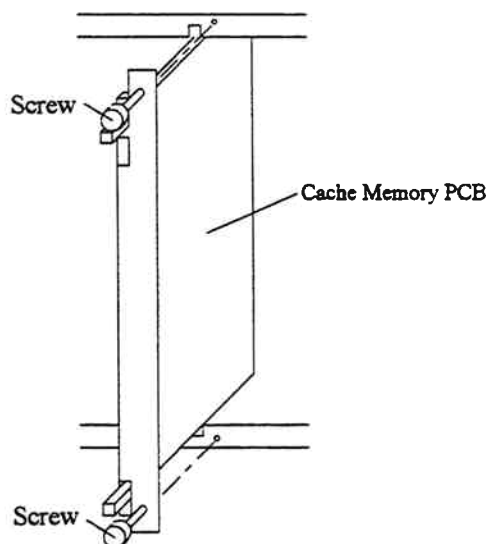
6. Go to SVP post-procedure e [REP04-120].

Replacement of Cache Memory Module

1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)

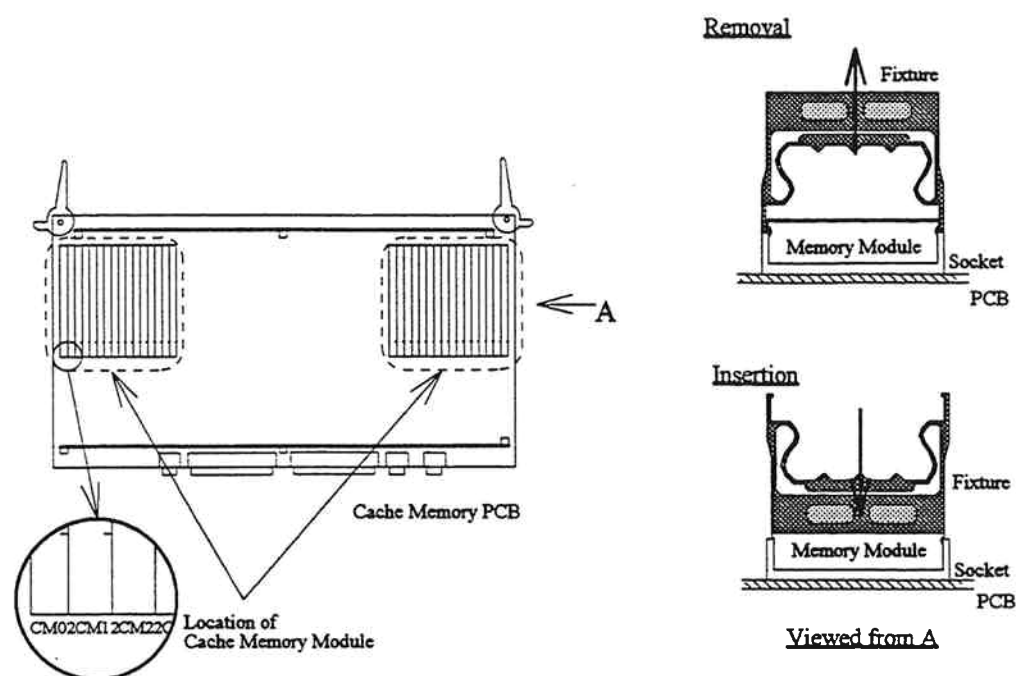


2. Remove the two screws and remove the Cache Memory PCB with the failed Cache Memory Module.



3. Remove the Shut Down Jumper if it is mounted.

4. Replace the Cache Memory Module.



5. Insert the PCB with the spare Cache Memory Module, into the Logic Box. Then fasten the two screws.

6. Go to SVP post-procedure e [REP04-120].

[HARDWARE D]

◆ CPM (Cache Port Master) PCB, Logic Box

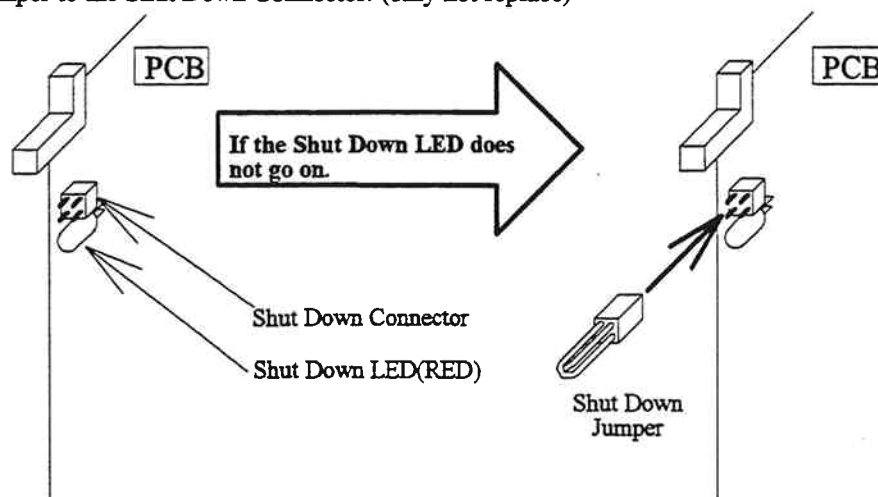
- CPM PCB (WP004-A, WP014-A), Slot No. C REP03-180
- CPM PCB (WP004-A, WP014-A), Slot No. T REP03-192
- Shared Memory Module (16MB/module, SZ635-B, SH024-B), Slot No. C REP03-200
- Shared Memory Module (16MB/module, SZ635-B, SH024-B), Slot No. T REP03-211

[Related Procedure]

SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure A REP02-10	Refer to REP01-140.
	Pre-procedure F REP02-210	
SVP post-procedure	Post-procedure e REP04-120	Refer to REP01-140.

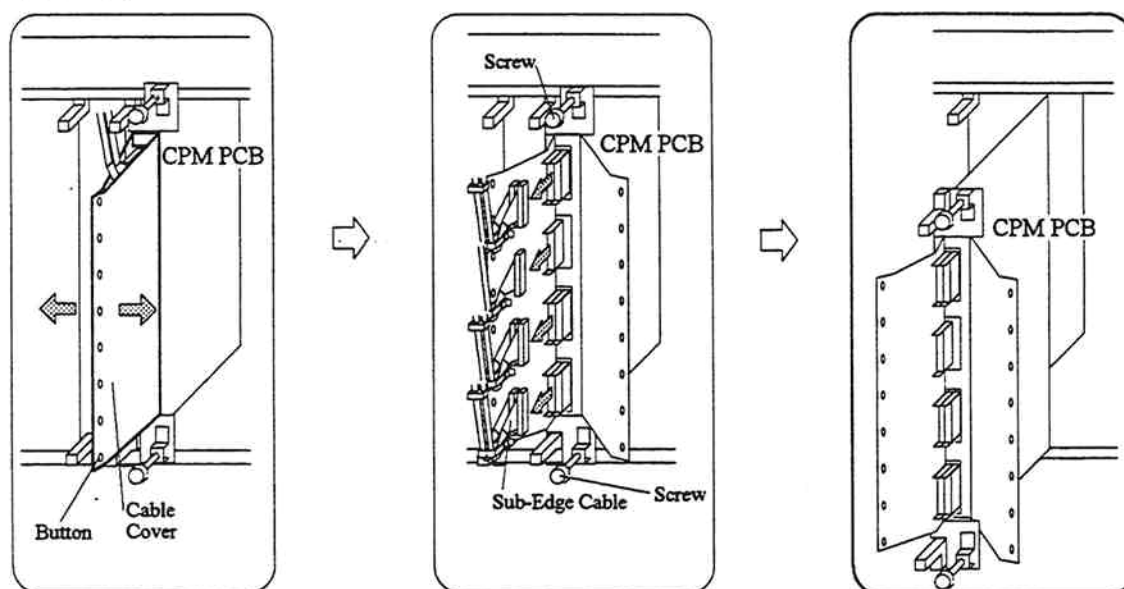
Replacement of CPM PCB (Slot No. C)

1. Check that the Shut Down LED of CPM PCB and CPS PCB (Cache Box-1 slot no. M) is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)



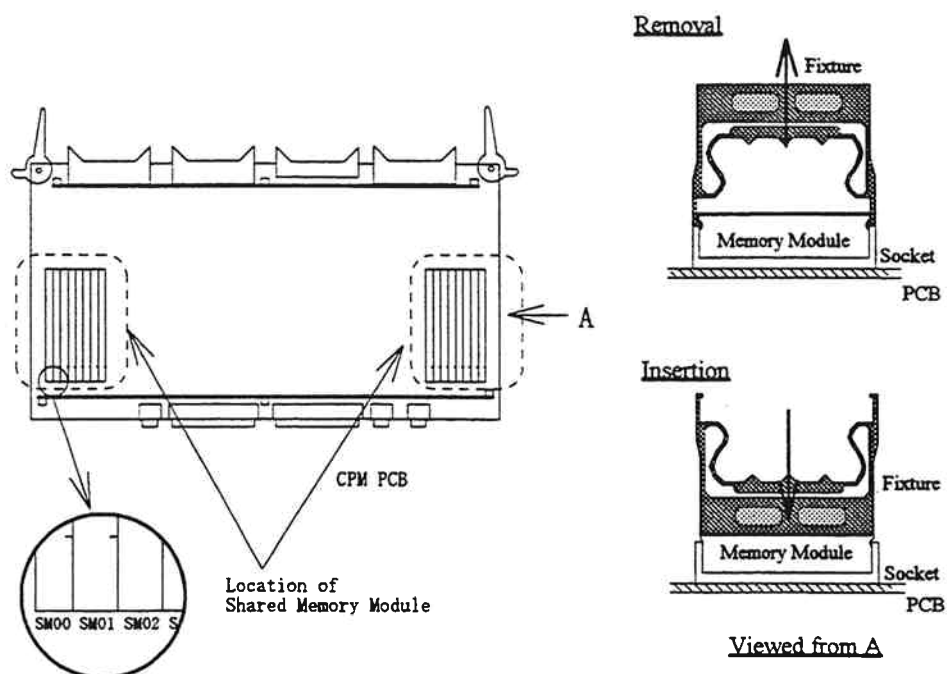
2. Unfasten the cable cover buttons to open the cable cover.
3. Remove the sub-edge cables from the CPM PCB.
4. Remove the two screws and remove the CPM PCB from the Logic Box.
5. Remove the Shut Down Jumper if it is mounted.

Logic Box

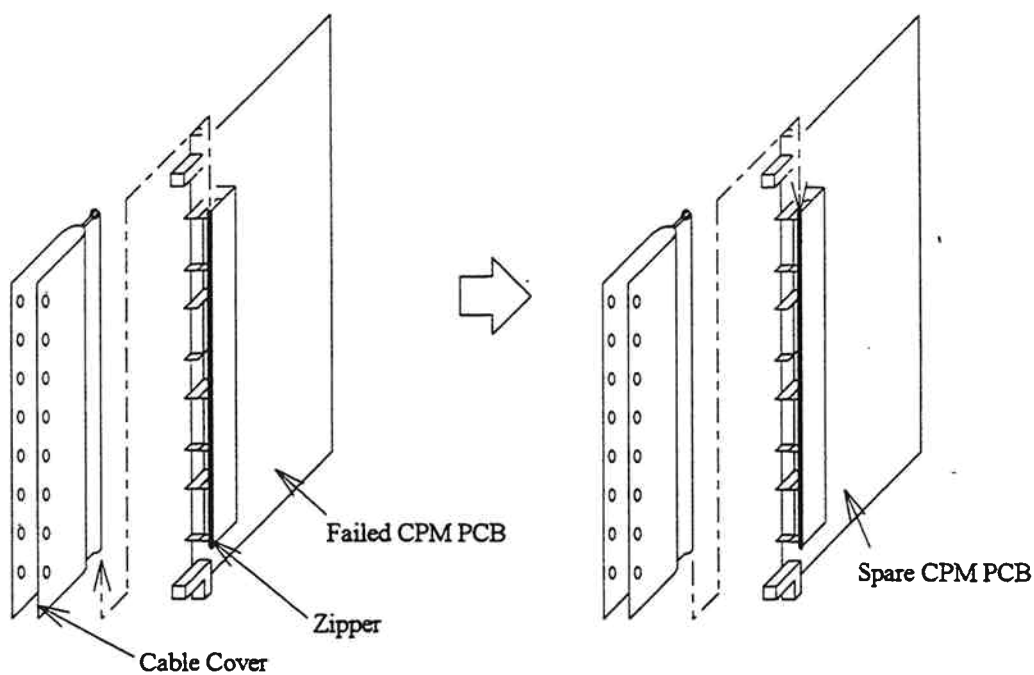


6. Remove the two screws and remove the CPS PCB (Cache Box-1 slot no. M) main edge from the back board.
7. Remove the Shut Down Jumper if it is mounted.
8. Insert the CPS PCB main edge completely into the back board and fasten the two screws.

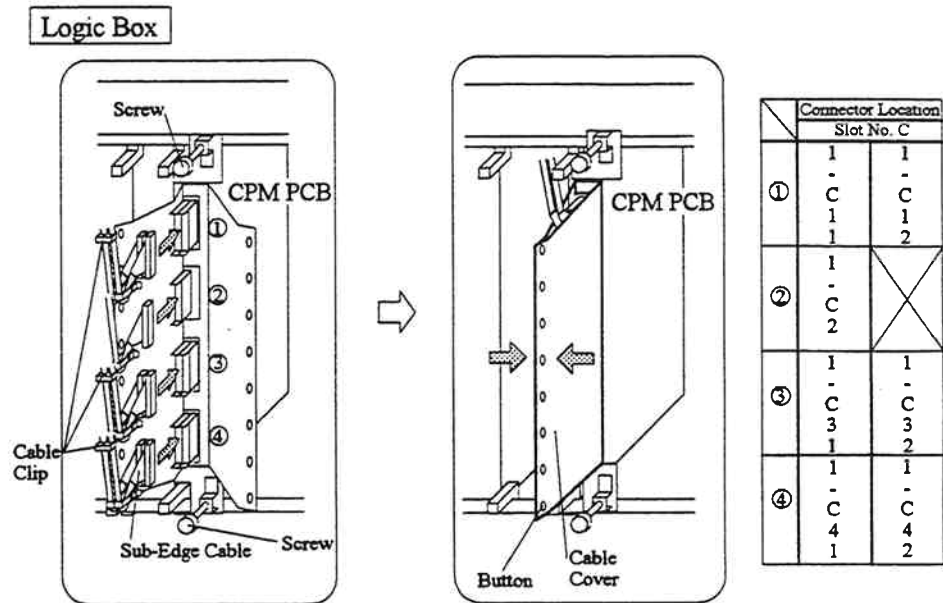
9. Move the memory modules to the spare PCB.



10. Remove the cable cover from the failed CPM PCB, then attach the cable cover to the spare CPM PCB.



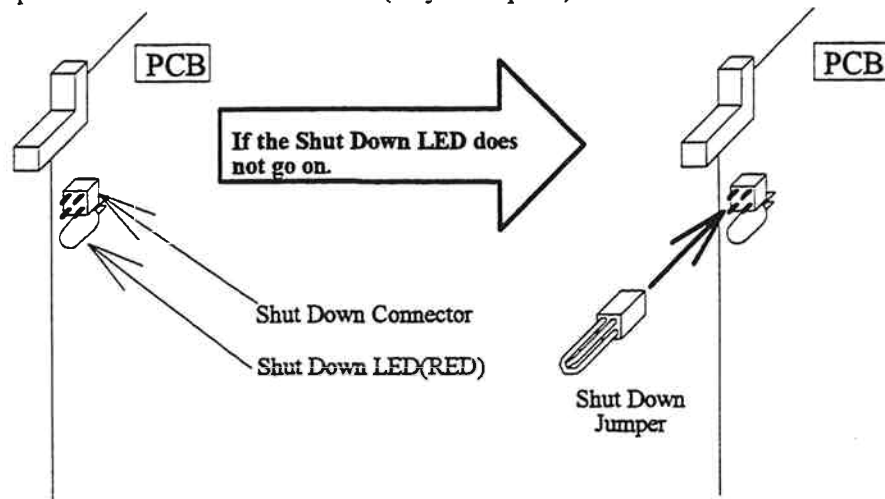
11. Insert the CPM PCB into the Logic Box and fasten the two screws.
12. Connect the sub-edge cables to the PCB.
13. Button up the cable cover.



14. Go to SVP post-procedure e [REP04-120].

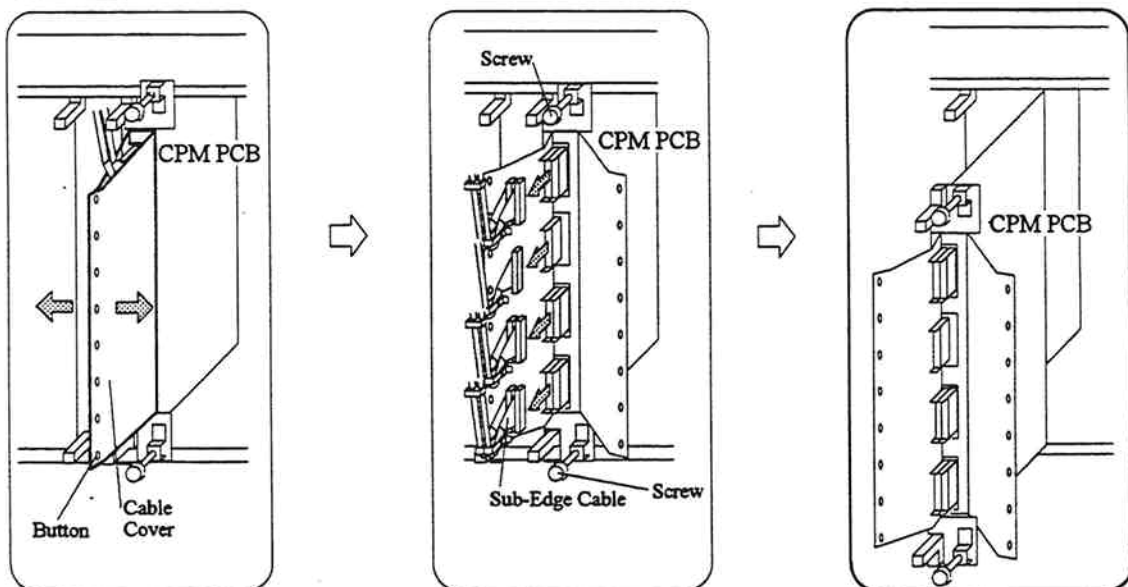
Replacement of CPM PCB (Slot No. T)

1. Check that the Shut Down LED of CPM PCB and CPS PCB (Cache Box-2 slot no. M) is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)



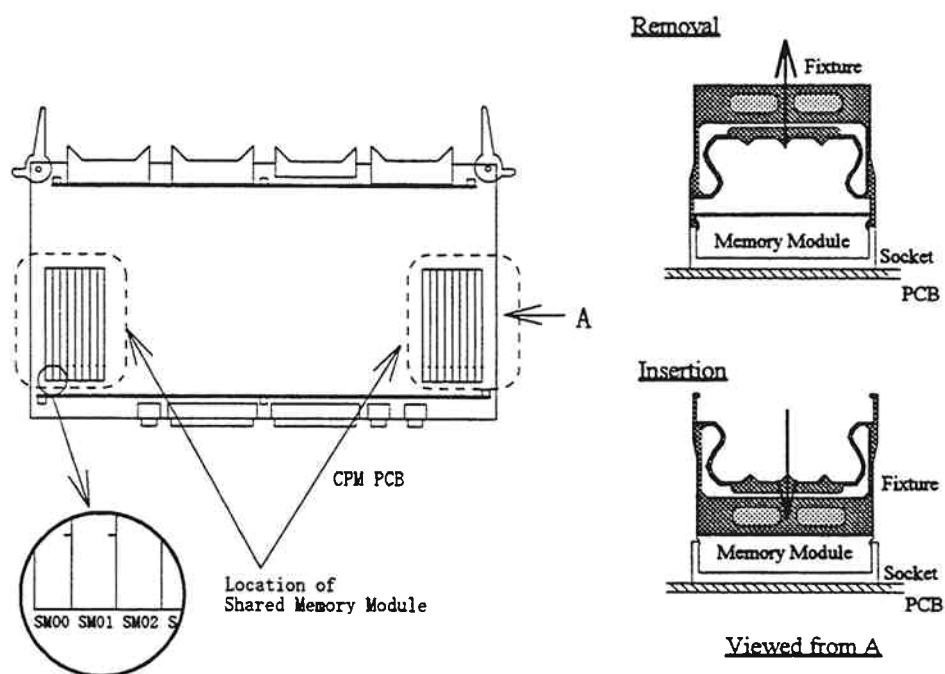
2. Unfasten the cable cover buttons to open the cable cover.
3. Remove the sub-edge cables from the CPM PCB.
4. Remove the two screws and remove the CPM PCB from the Logic Box.
5. Remove the Shut Down Jumper if it is mounted.

Logic Box

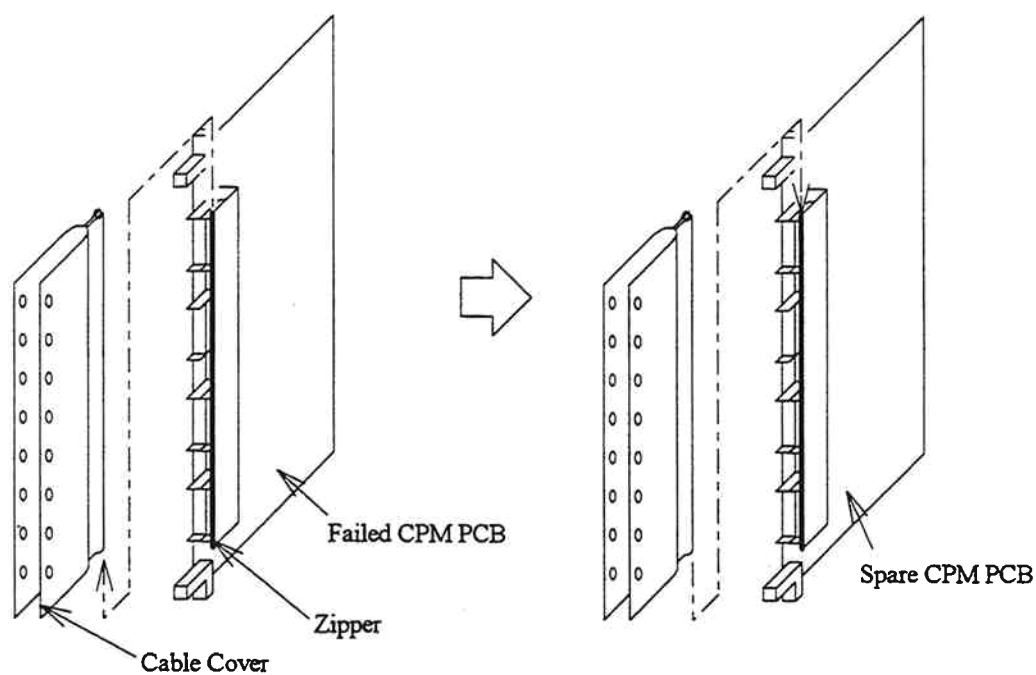


6. Remove the two screws and remove the CPS PCB (Cache Box-2 slot no. M) main edge from the back board.
7. Remove the Shut Down Jumper if it is mounted.
8. Insert the CPS PCB main edge completely into the back board and fasten the two screws.

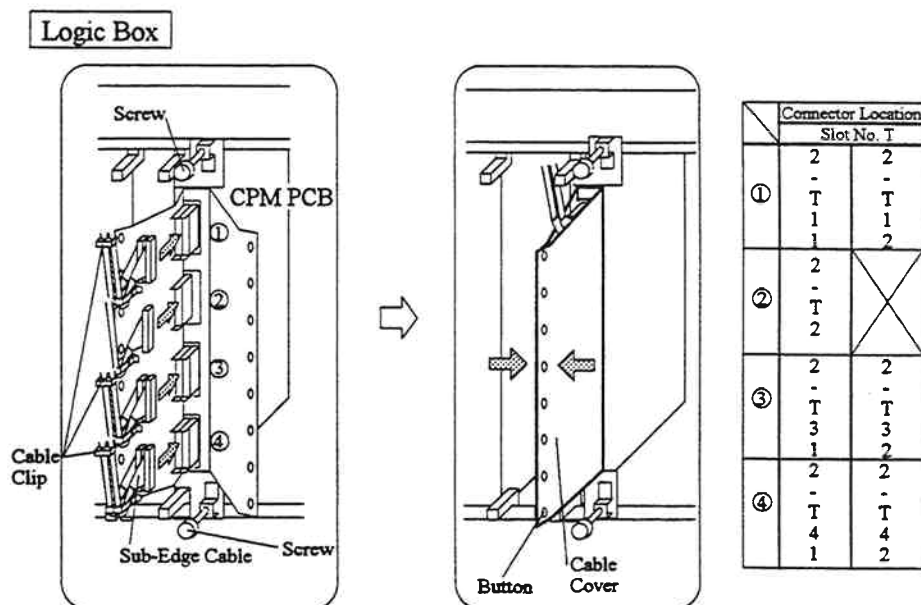
9. Move the memory modules to the spare PCB.



10. Remove the cable cover from the failed CPM PCB, then attach the cable cover to the spare CPM PCB.



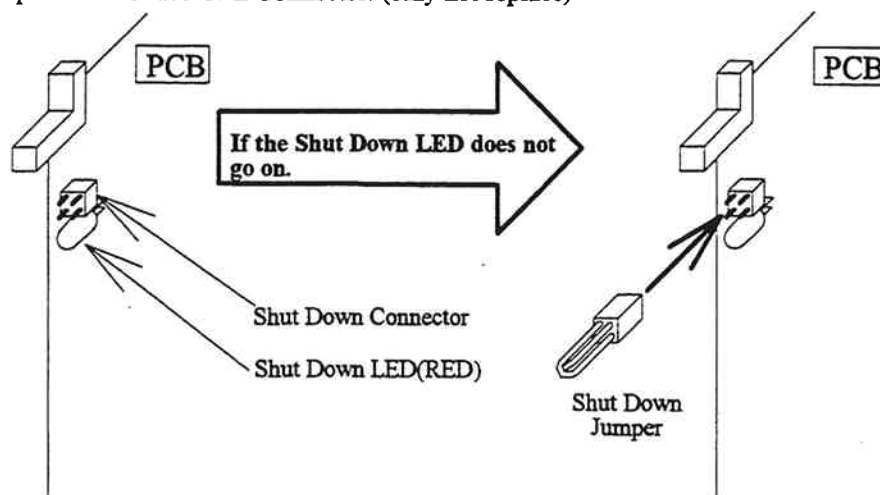
11. Insert the CPM PCB into the Logic Box and fasten the two screws.
12. Connect the sub-edge cables to the PCB.
13. Button up the cable cover.



14. Go to SVP post-procedure e [REP04-120].

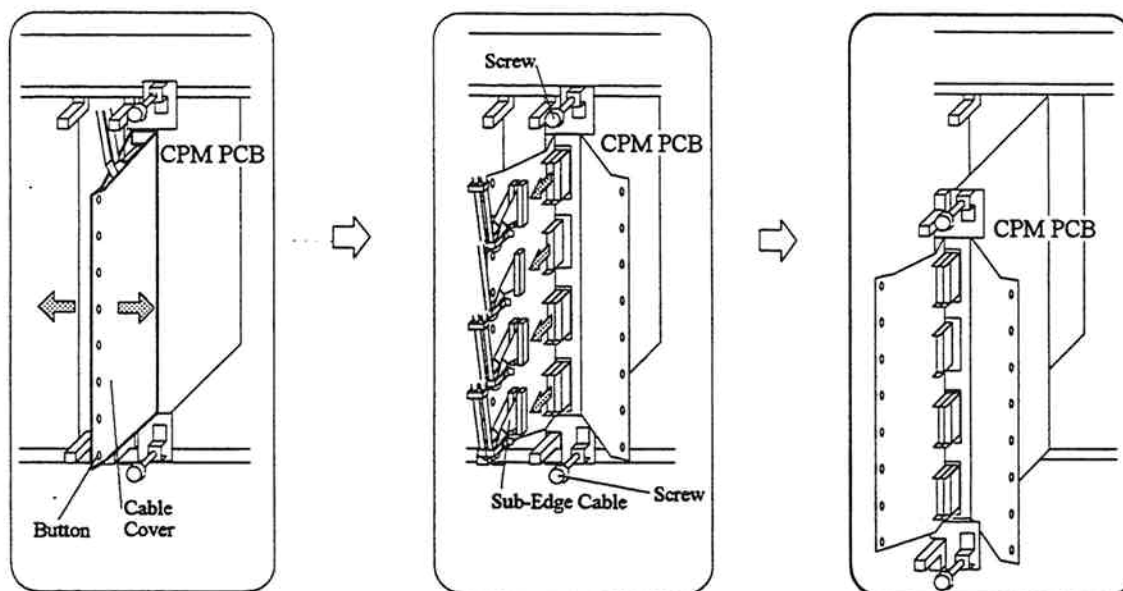
Replacement of Shared Memory Module (Slot No. C)

1. Check that the Shut Down LED of CPM PCB and CPS PCB (Cache Box-1 slot no. M) is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)



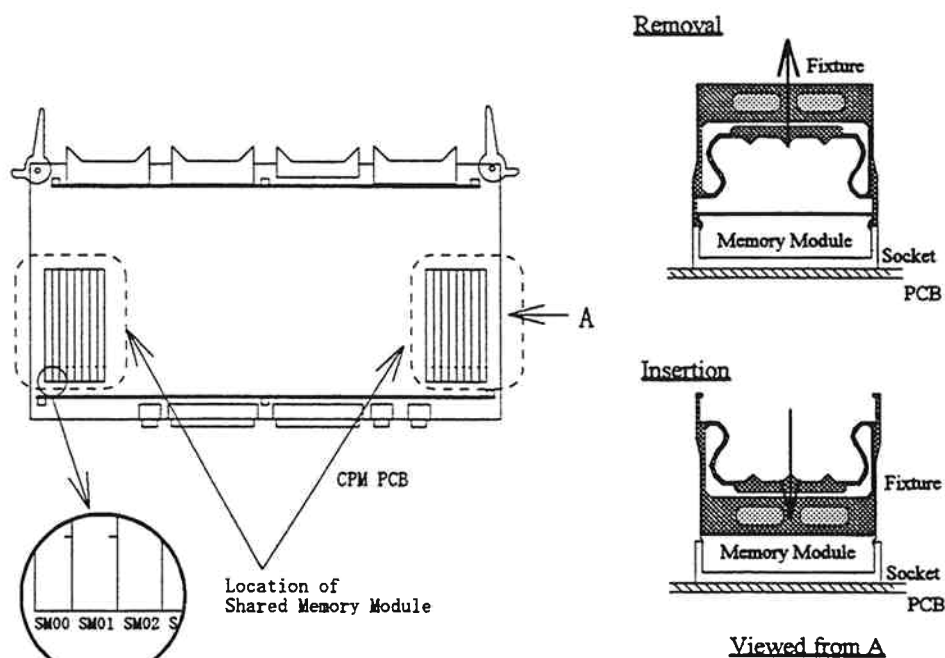
2. Unfasten the cable cover buttons to open the cable cover.
3. Remove the sub-edge cables from the CPM PCB.
4. Remove the two screws and remove the CPM PCB from the Logic Box.
5. Remove the Shut Down Jumper if it is mounted.

Logic Box



6. Remove the two screws and remove the CPS PCB (Cache Box-1 slot no. M) main edge from the back board.
7. Remove the Shut Down Jumper if it is mounted.
8. Insert the CPS PCB main edge completely into the back board and fasten the two screws.

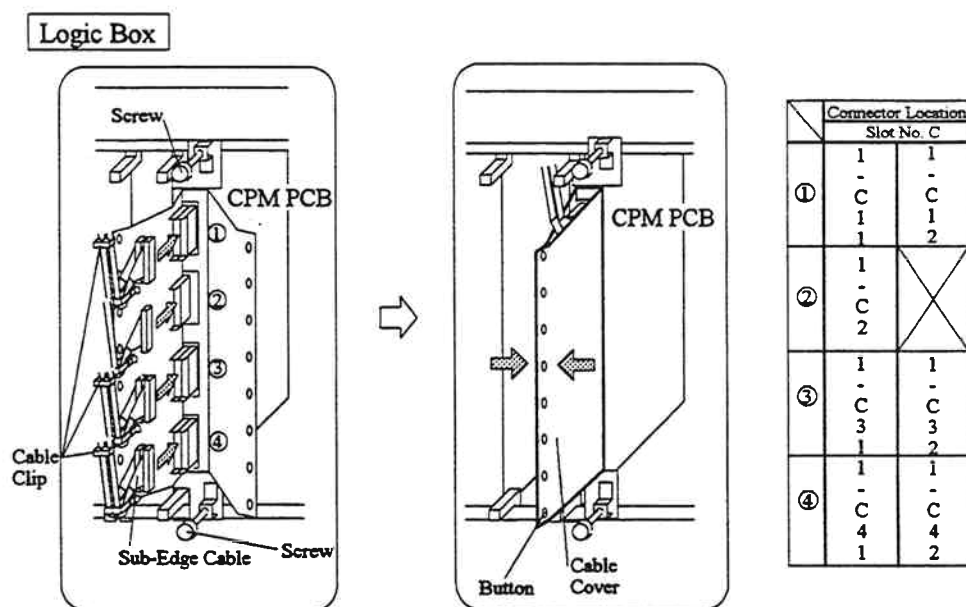
9. Replace the Shared Memory Module.



10. Insert the CPM PCB into the Logic Box and fasten the two screws.

11. Connect the sub-edge cables to the PCB.

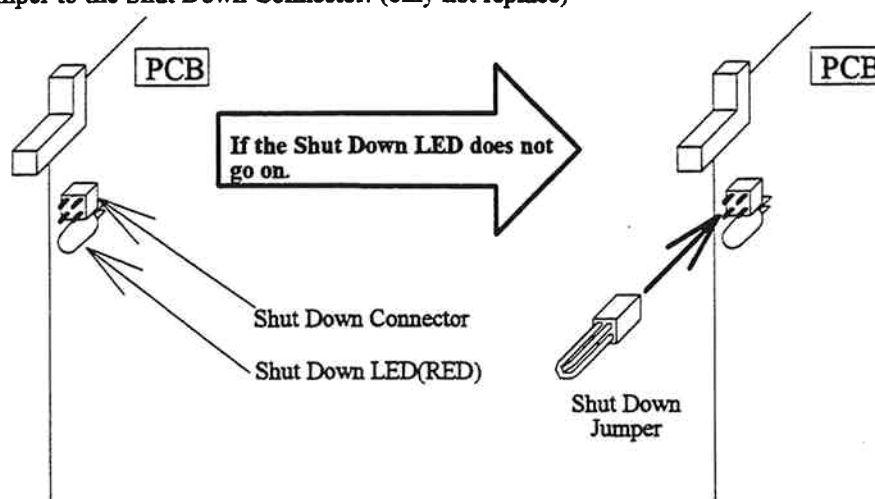
12. Button up the cable cover.



13. Go to SVP post-procedure e [REP04-120].

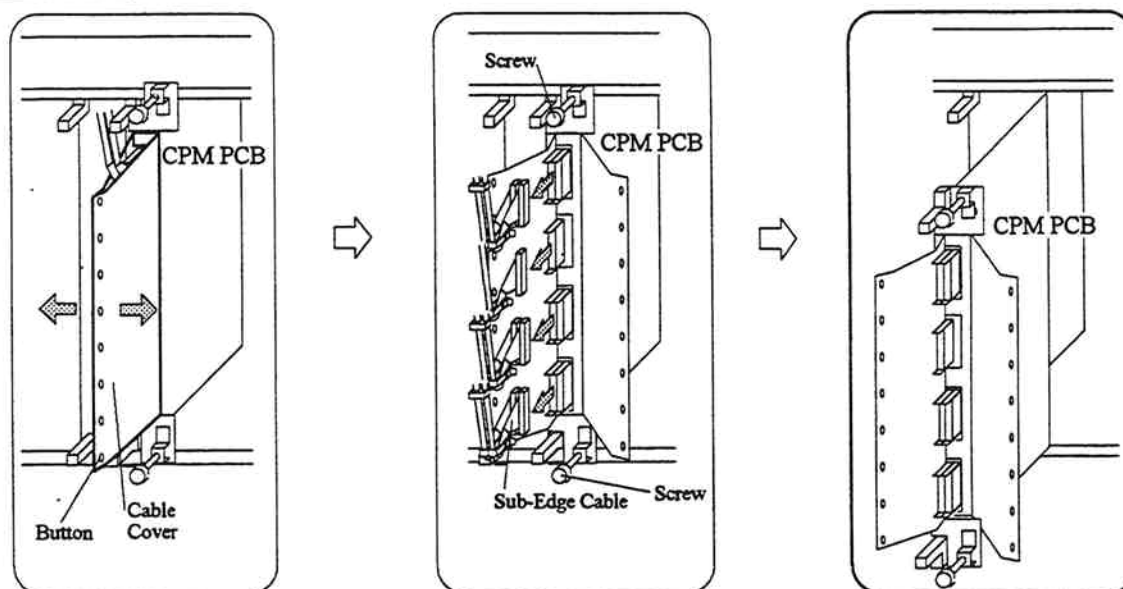
Replacement of Shared Memory Module (Slot No. T)

1. Check that the Shut Down LED of CPM PCB and CPS PCB (Cache Box-2 slot no. M) is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)



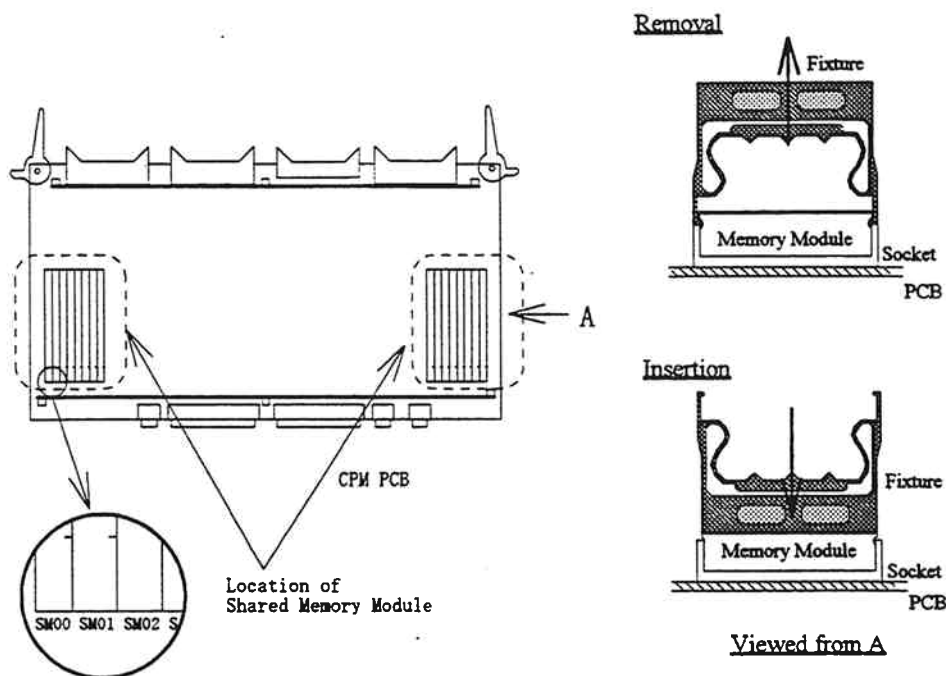
2. Unfasten the cable cover buttons to open the cable cover.
3. Remove the sub-edge cables from the CPM PCB.
4. Remove the two screws and remove the CPM PCB from the Logic Box.
5. Remove the Shut Down Jumper if it is mounted.

Logic Box



6. Remove the two screws and remove the CPS PCB (Cache Box-2 slot no. M) main edge from the back board.
7. Remove the Shut Down Jumper if it is mounted.
8. Insert the CPS PCB main edge completely into the back board and fasten the two screws.

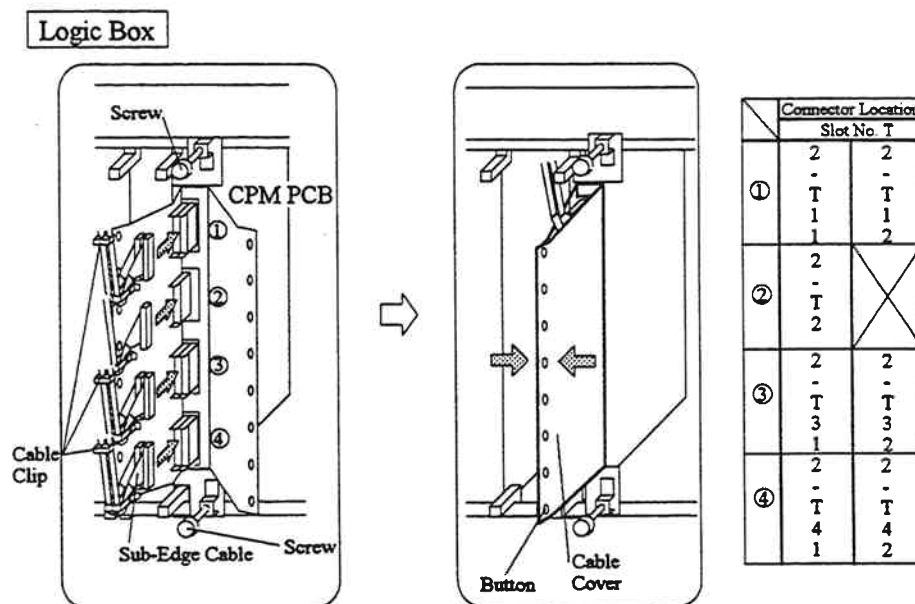
9. Replace the Shared Memory Module.



10. Insert the CPM PCB into the Logic Box and fasten the two screws.

11. Connect the sub-edge cables to the PCB.

12. Button up the cable cover.



13. Go to SVP post-procedure e [REP04-120].

[HARDWARE E]

◆ Cache Memory PCB, Cache Box

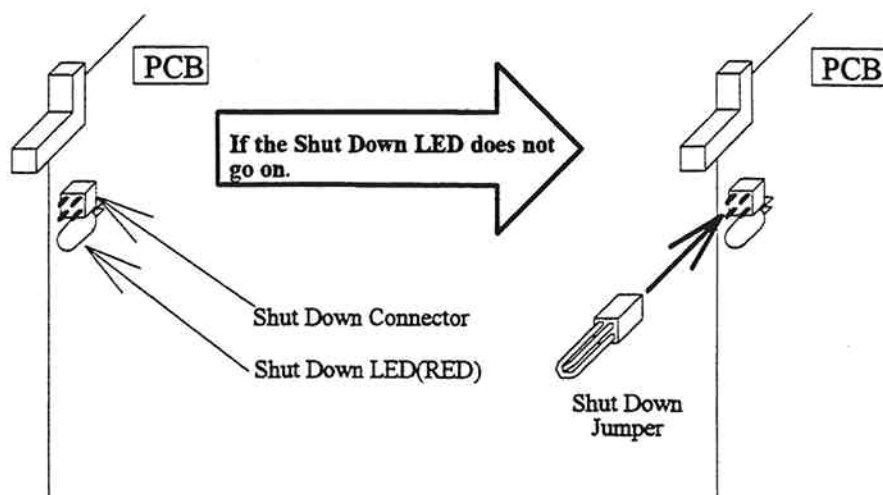
- Cache Memory PCB (WP008-A, WP018-A/C) REP03-230
- Cache Memory Module (32MB/module, SZ635-A, SH024-A) REP03-250

[Related Procedure]

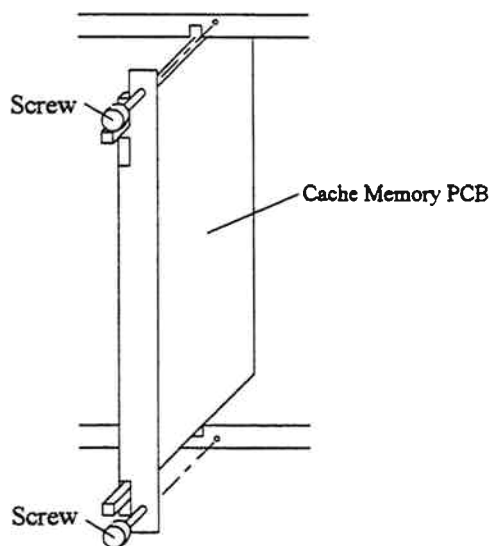
SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure A REP02-10	Refer to REP01-140.
	Pre-procedure G REP02-260	
SVP post-procedure	Post-procedure e REP04-120	Refer to REP01-140.

Replacement of Cache Memory PCB

1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)

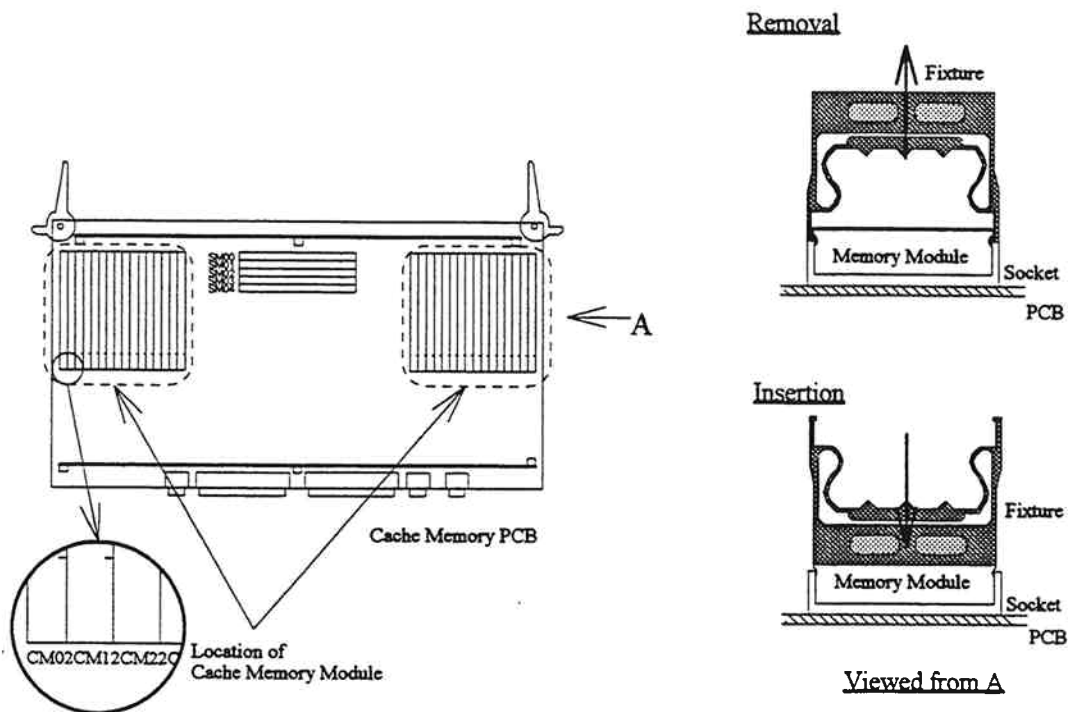


2. Remove the two screws and remove the failed Cache Memory PCB from the Cache Box.



3. Remove the Shut Down Jumper if it is mounted.

4. Move the memory modules to the spare PCB.

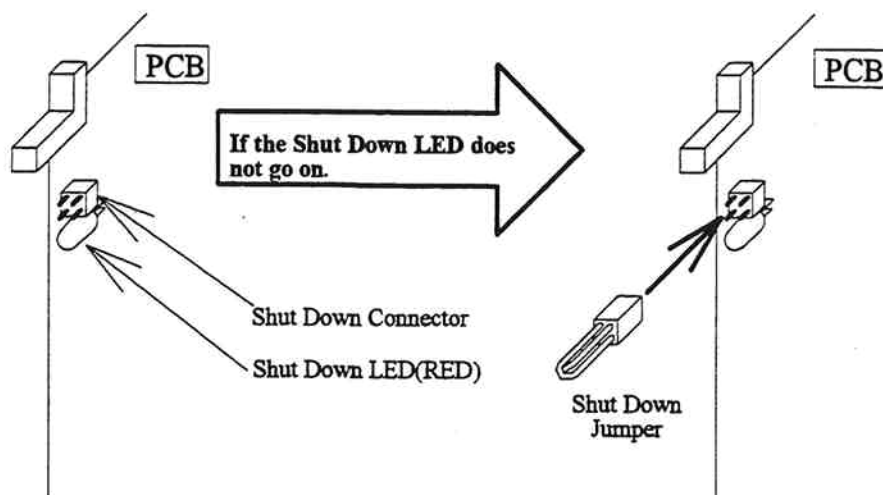


5. Insert the spare PCB on which the modules are mounted, into the Cache Box. Then fasten the two screws.

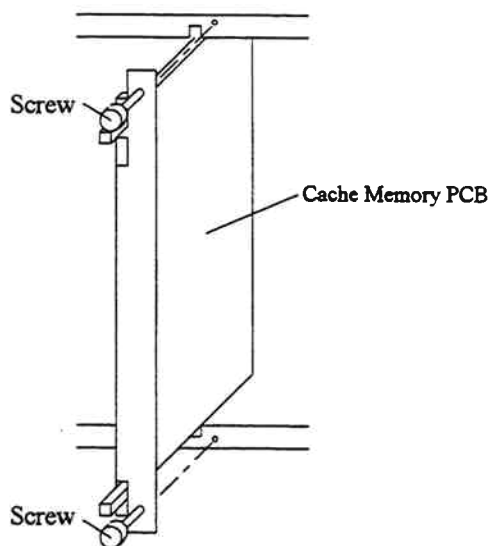
6. Go to SVP post-procedure e [REP04-120].

Replacement of Cache Memory Module

1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)

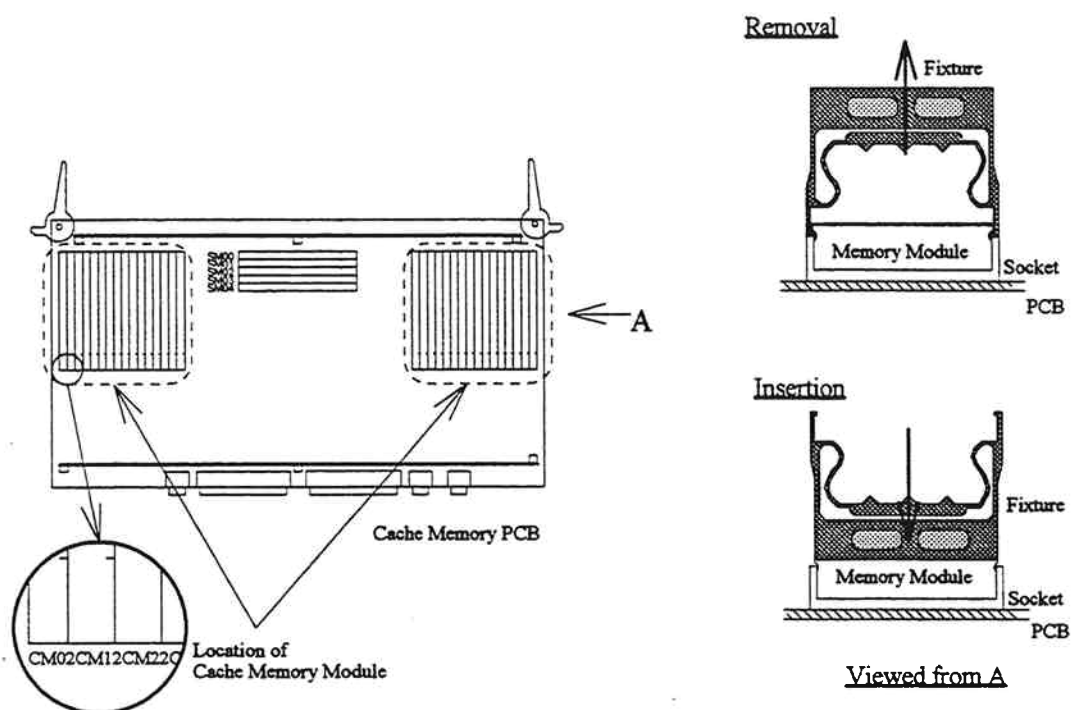


2. Remove the two screws and remove the Cache Memory PCB with the failed Cache Memory Module.



3. Remove the Shut Down Jumper if it is mounted.

4. Replace the Cache Memory Module.



5. Insert the PCB with the spare Cache Memory Module, into the Cache Box . Then fasten the two screws.

6. Go to SVP post-procedure e [REP04-120].

[HARDWARE F]

◆ Cache Memory PCB, Cache Box

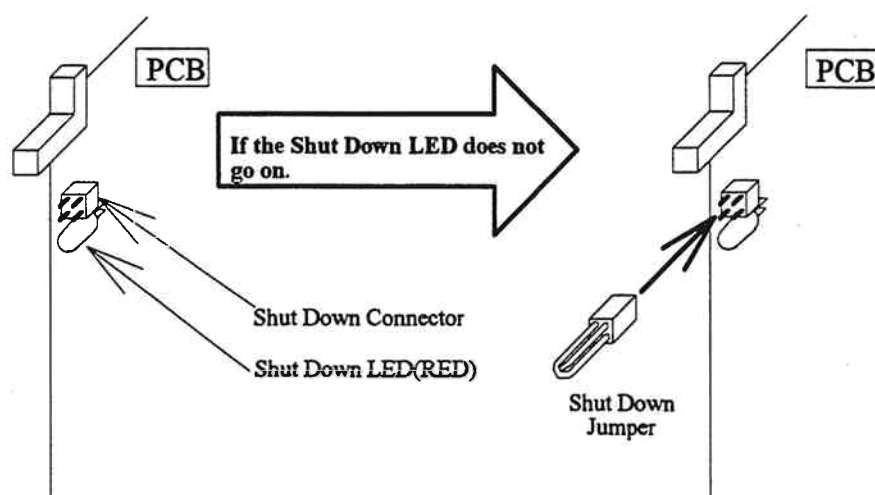
- Cache Memory PCB (WP008-B, WP018-B) REP03-280
- Cache Memory Module (32MB/module, SZ635-A, SH024-A) REP03-300

[Related Procedure]

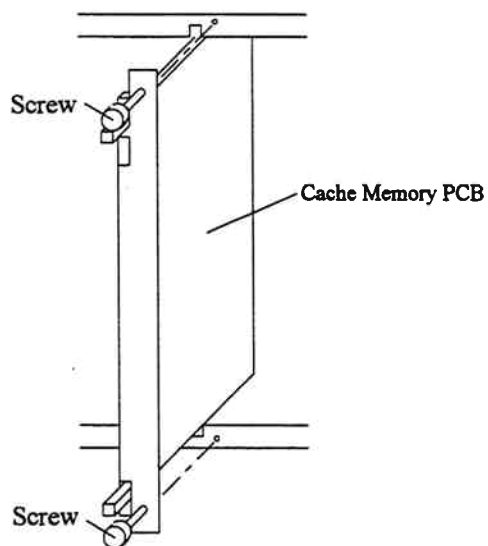
SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure AREP02-10	Refer to REP01-140.
	Pre-procedure GREP02-260	
SVP post-procedure	Post-procedure eREP04-120	Refer to REP01-140.

Replacement of Cache Memory PCB

1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)

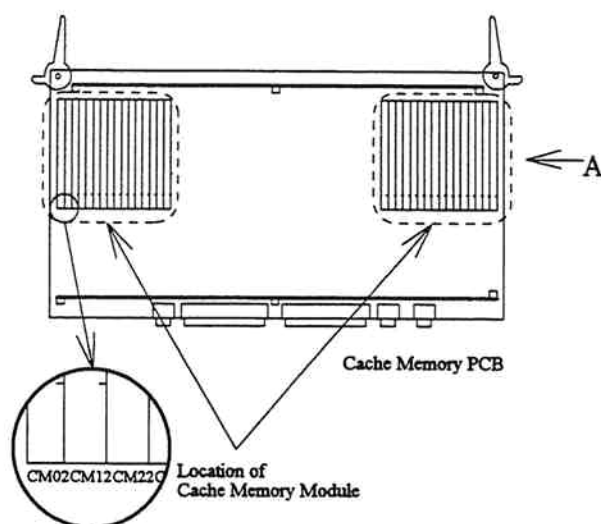


2. Remove the two screws and remove the failed Cache Memory PCB from the Cache Box.

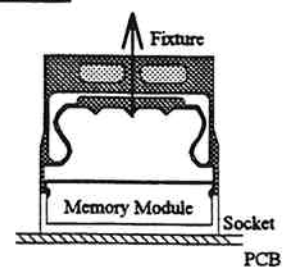


3. Remove the Shut Down Jumper if it is mounted.

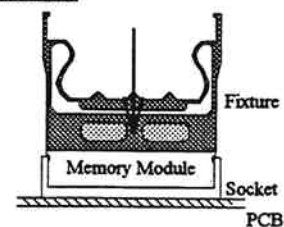
4. Move the memory modules to the spare PCB.



Removal



Insertion

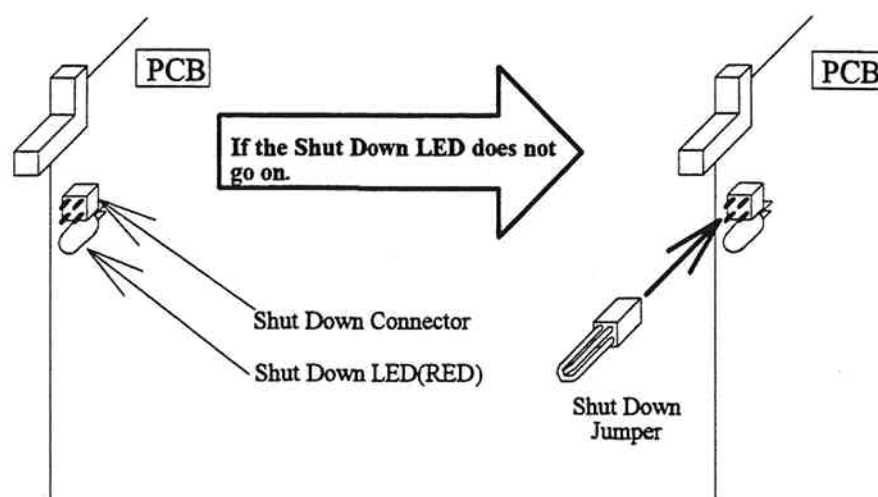


Viewed from A

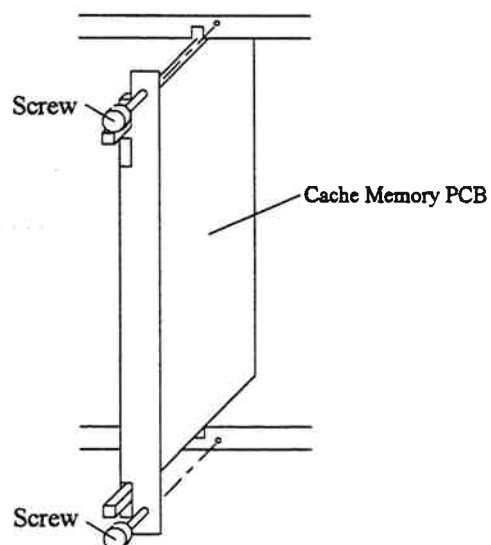
5. Insert the spare PCB on which the modules are mounted, into the Cache Box. Then fasten the two screws.
6. Go to SVP post-procedure e [REP04-120].

Replacement of Cache Memory Module

1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)

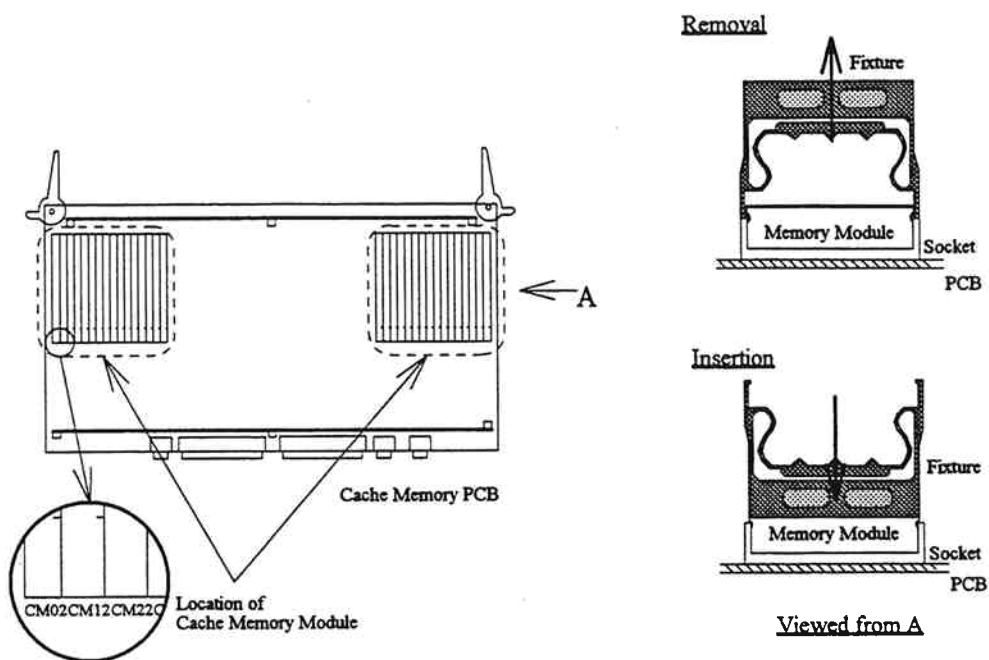


2. Remove the two screws and remove the Cache Memory PCB with the failed Cache Memory Module.



3. Remove the Shut Down Jumper if it is mounted.

4. Replace the Cache Memory Module.



5. Insert the PCB with the spare Cache Memory Module, into the Cache Box. Then fasten the two screws.

6. Go to SVP post-procedure e [REP04-120].

[HARDWARE G]

◆ CPS (Cache Port Slave) PCB,Cache Box

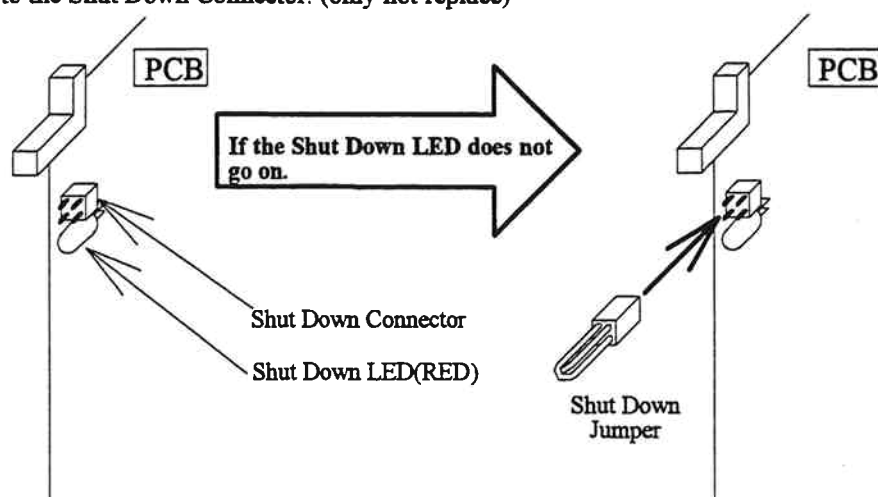
- CPS PCB (WP004-B, WP014-B), Cache Box-1REP03-330
- CPS PCB (WP004-B, WP014-B), Cache Box-2REP03-341

[Related Procedure]

SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure AREP02-10	Refer to REP01-140.
	Pre-procedure FREP02-210	
SVP post-procedure	Post-procedure eREP04-120	Refer to REP01-140.

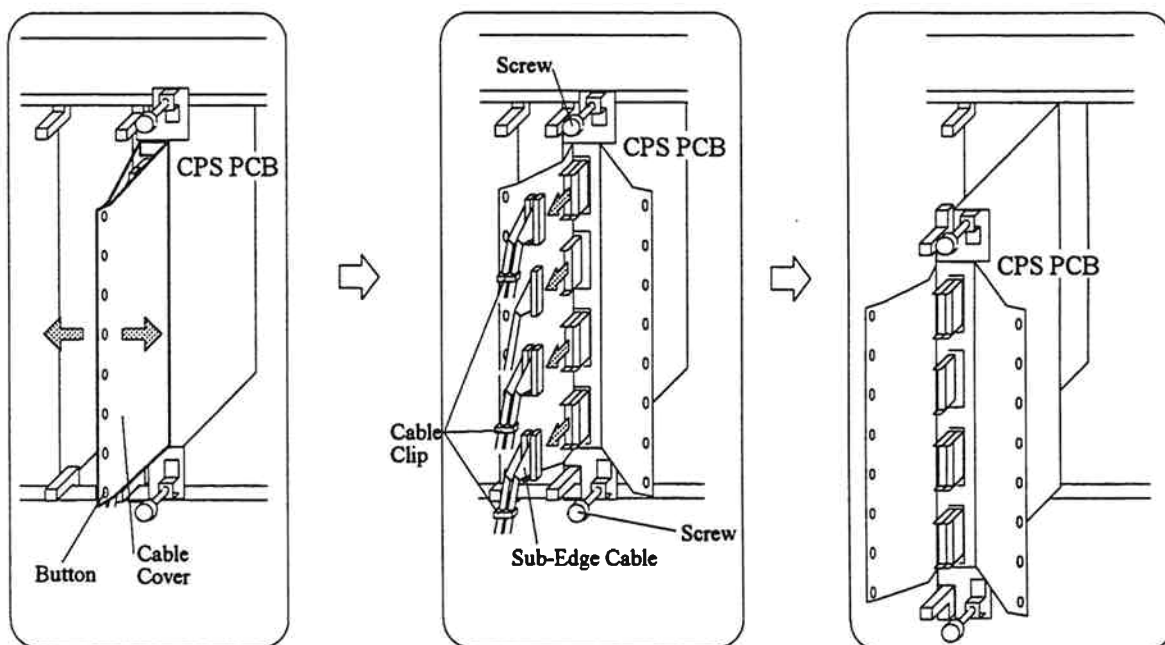
Replacement of CPS PCB (Cache Box-1)

1. Check that the Shut Down LED of CPS PCB and CPM PCB (Logic Box slot no. C) is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)



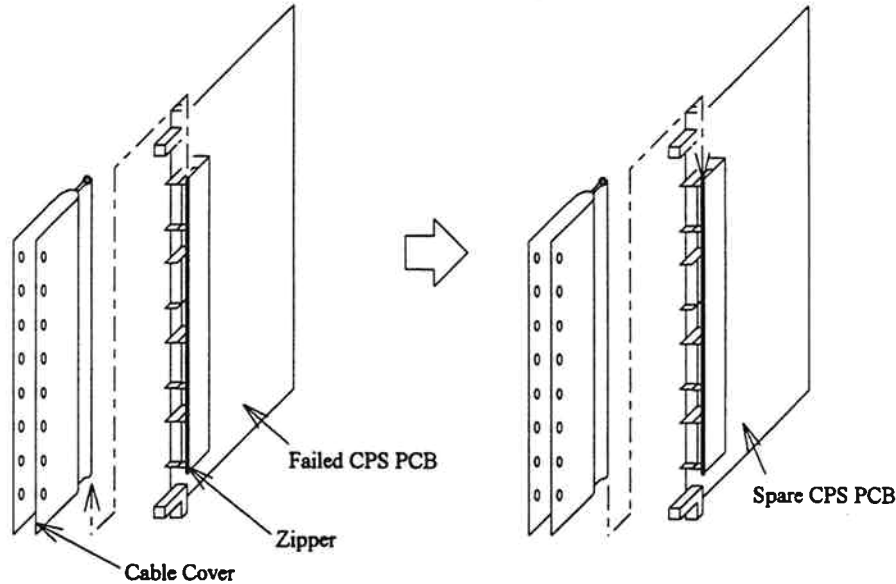
2. Unfasten the cable cover buttons to open the cable cover.
3. Remove the sub-edge cables from the CPS PCB.
4. Remove the two screws and remove the CPS PCB from the Cache Box-1.
5. Remove the Shut Down Jumper if it is mounted.

Cache Box-1



6. Remove the two screws and remove the CPM PCB (Logic Box slot no. C) main edge from the back board.
7. Remove the Shut Down Jumper if it is mounted.
8. Insert the CPM PCB main edge completely into the back board and fasten the two screws.

9. Remove the cable cover from the failed CPS PCB, then attach the cable cover to spare CPS PCB.

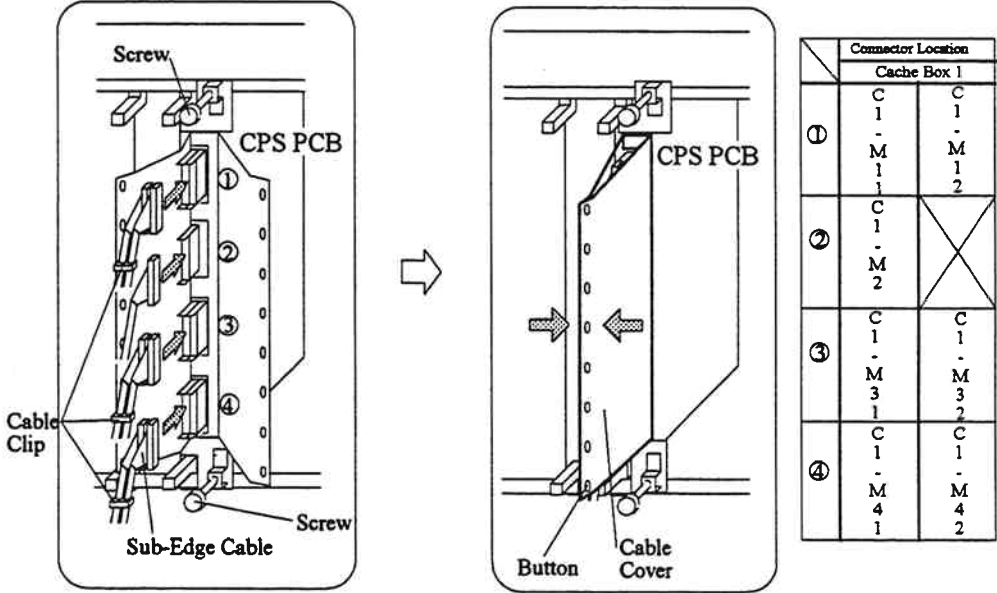


10. Insert the CPS PCB into the Cache Box-1 and fasten the two screws.

11. Connect the sub-edge cables to the PCB.

12. Button up the cable cover.

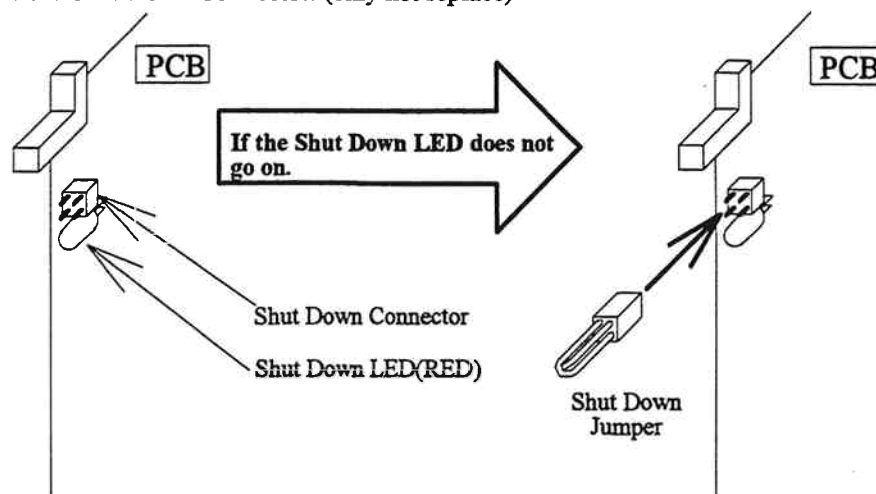
Cache Box-1



13. Go to SVP post-procedure e [REP04-120].

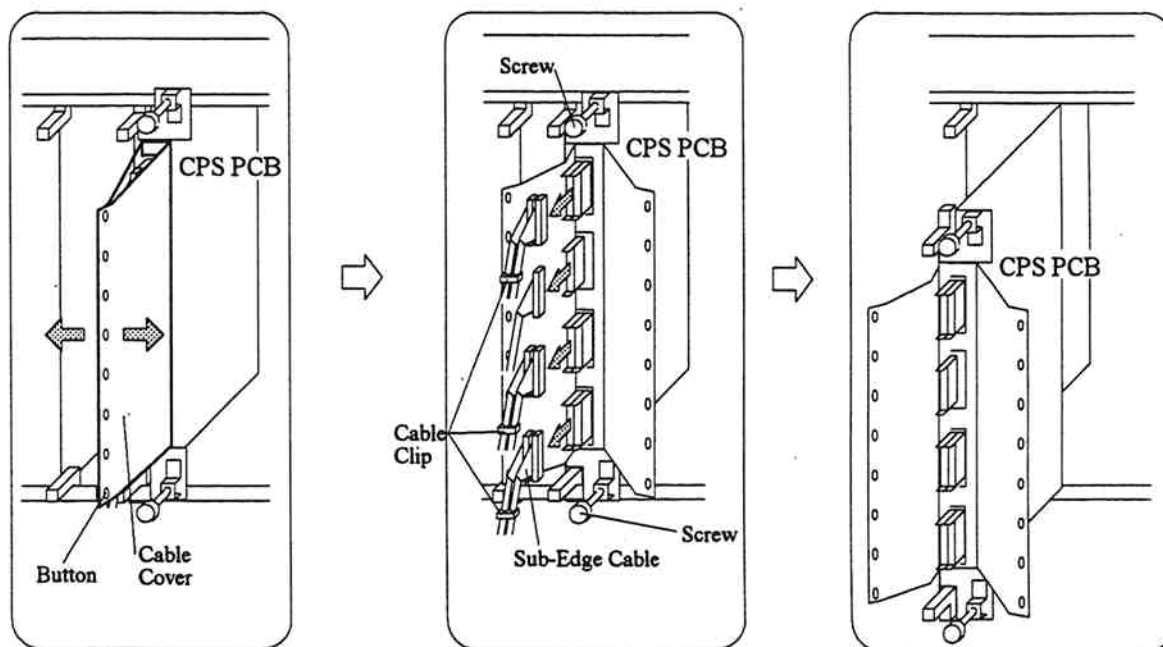
Replacement of CPS PCB (Cache Box-2)

1. Check that the Shut Down LED of CPS PCB and CPM PCB (Logic Box slot no. T) is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)



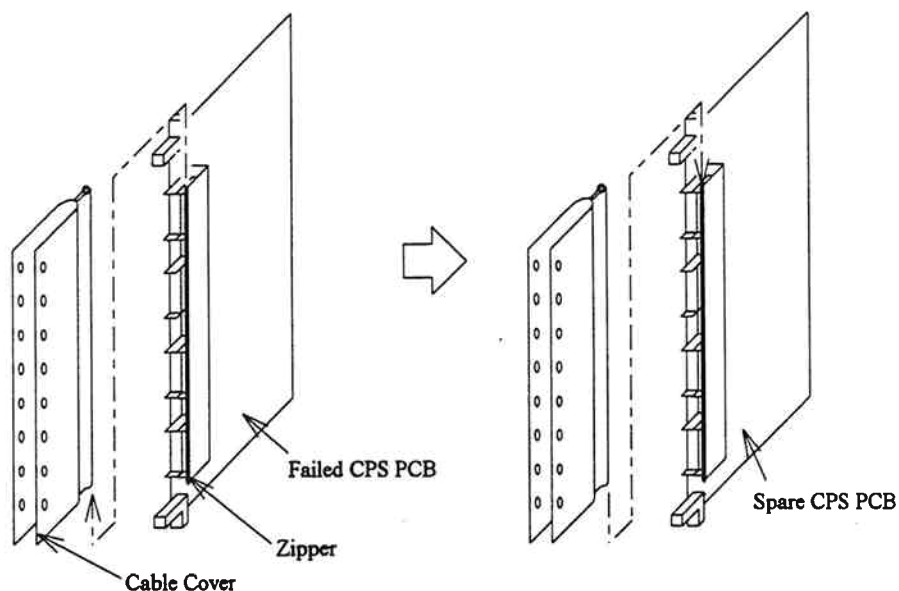
2. Unfasten the cable cover buttons to open the cable cover.
3. Remove the sub-edge cables from the CPS PCB.
4. Remove the two screws and remove the CPS PCB from the Cache Box-2.
5. Remove the Shut Down Jumper if it is mounted.

Cache Box-2



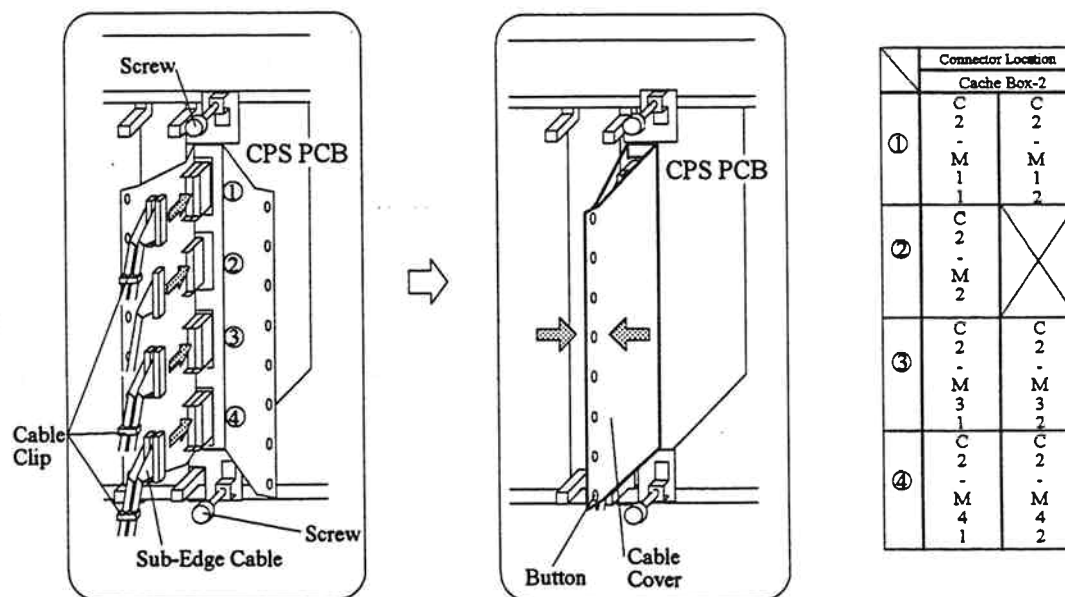
6. Remove the two screws and remove the CPM PCB (Logic Box slot no. T) main edge from the back board.
7. Remove the Shut Down Jumper if it is mounted.
8. Insert the CPM PCB main edge completely into the back board and fasten the two screws.

9. Remove the cable cover from the failed CPS PCB, then attach the cable cover to spare CPS PCB.



10. Insert the CPS PCB into the Cache Box-2 and fasten the two screws.
11. Connect the sub-edge cables to the PCB.
12. Button up the cable cover.

Cache Box-2



13. Go to SVP post-procedure e [REP04-120].

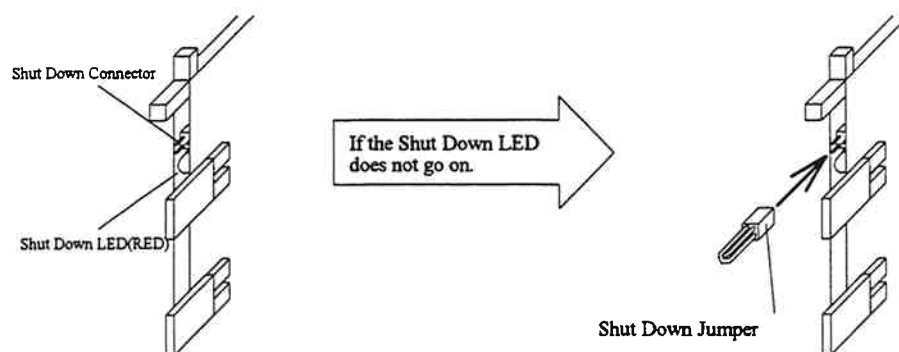
[HARDWARE H]

◆ CHA : SERIAL

[Related Procedure]

SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure AREP02-10	Refer to REP01-140.
	Pre-procedure HREP02-300	BUS blocking: pre A - pre J
	Pre-procedure JREP02-381	Others: pre A - pre H
SVP post-procedure	Post-procedure fREP04-150	Refer to REP01-140.
	Post-procedure iREP04-203	BUS blocking: post i Others: post f

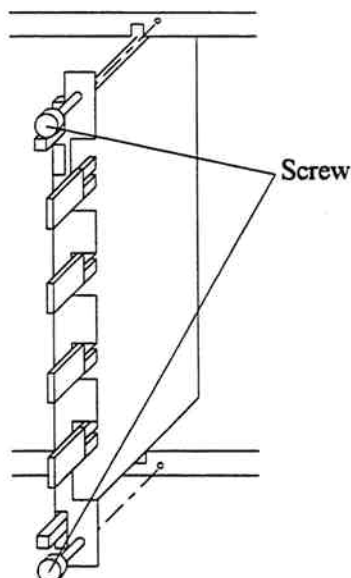
1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)



2. Disconnect the optical fiber cables from the failed Channel Adapter PCB.

3. Remove the two screws and remove the failed PCB.

Note: If the Shut Down Jumper is used, remove it.



4. Insert the spare PCB to the correct location and fasten the two screws.

5. Connect the optical fiber cables to the spare PCB.

6. Go to SVP post procedure.

BUS blocking: Go to post i [REP04-203].

Others: Go to post f [REP04-150].

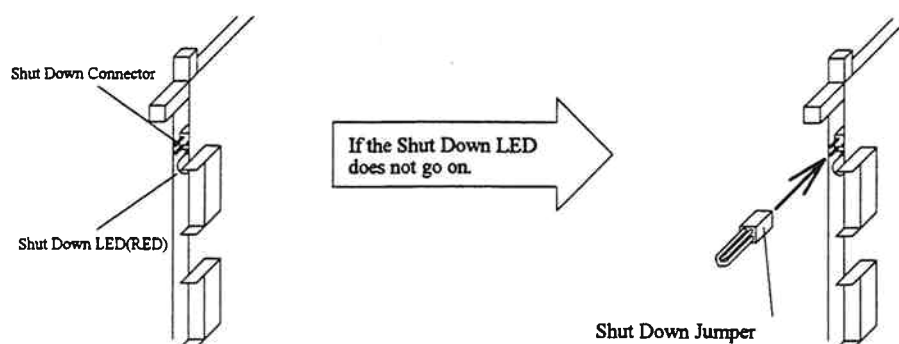
[HARDWARE I]

◆ CHA : PARALLEL

[Related Procedure]

SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure AREP02-10	Refer to REP01-140.
	Pre-procedure HREP02-300	BUS blocking: pre A - pre J
	Pre-procedure JREP02-381	Others: pre A - pre H
SVP post-procedure	Post-procedure fREP04-150	Refer to REP01-140.
	Post-procedure iREP04-203	BUS blocking: post i Others: post f

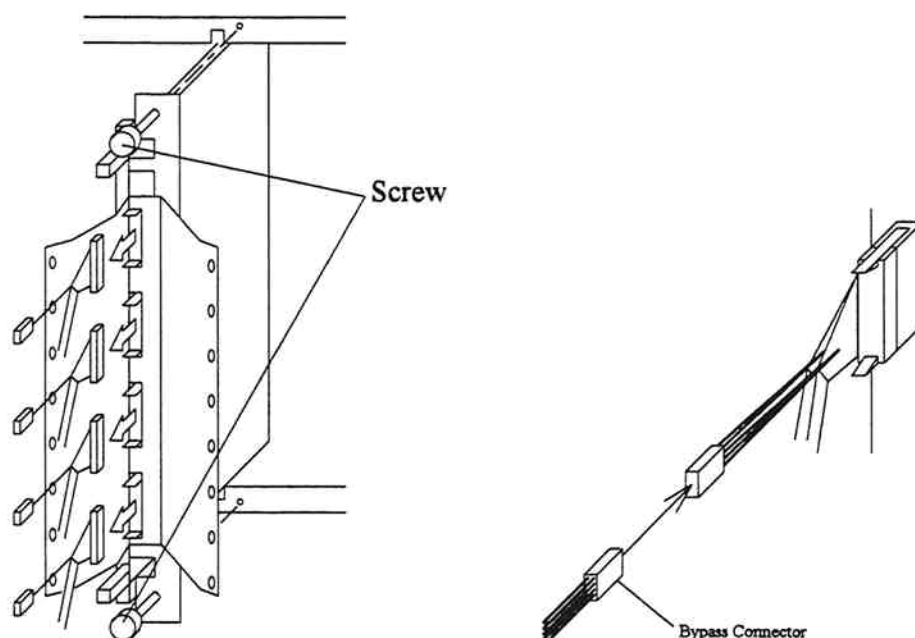
1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector.(only hot replace)



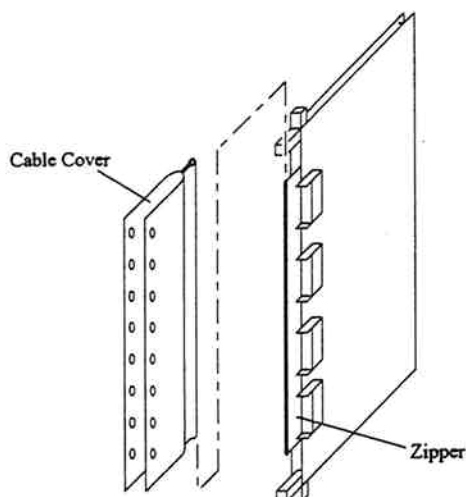
2. Remove the PCB.

Note: If the DKC is connecting with the other DKC, the bypass connectors must be inserted to all CH cables that connect to the PCB to be removed.

- a. Disconnect the CH cables from the failed Channel Adapter PCB.
- b. Remove the two screws and remove the failed Channel Adapter PCB.
- c. If the Shut Down Jumper is used, remove it.

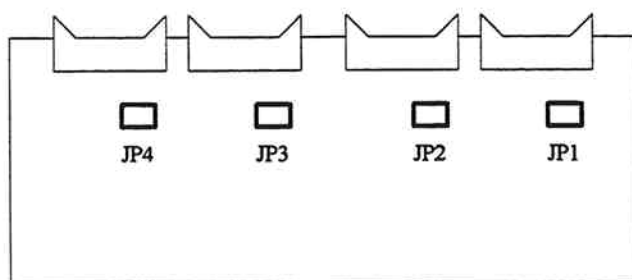


3. Remove the cable cover from the failed PCB, and then attach the cable cover to the spare PCB.



4. Insert the spare PCB to the correct location and fasten the two screws.

5. Set the jumper plugs(JP1-JP4).



	Setting(JP1-JP4)	
Selected by SELECT OUT	2	8
	1	7
Selected by SELECT IN	2	8
	1	7

6. Connect the CH cables to the spare PCB. Then fix the cable cover with buttons.

Note: If the bypass connectors are used , remove them.

7. Go to SVP post procedure.

BUS blocking: Go to post i [REP04-203].

Others: Go to post f [REP04-150].

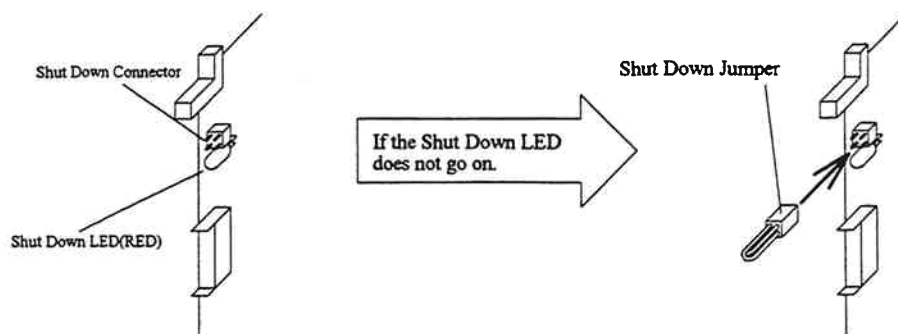
[HARDWARE J]

◆ DKA

[Related Procedure]

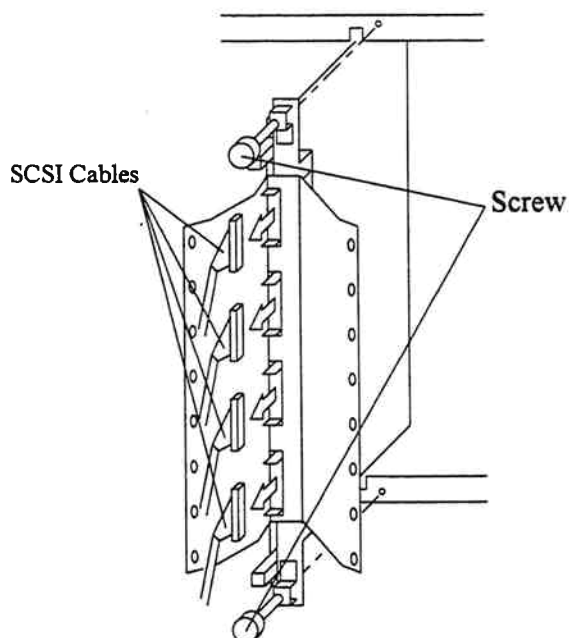
SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure AREP02-10	Refer to REP01-140.
	Pre-procedure HREP02-300	BUS blocking: pre A - pre J
	Pre-procedure JREP02-381	Others: pre A - pre H
SVP post-procedure	Post-procedure fREP04-150	Refer to REP01-140.
	Post-procedure iREP04-203	BUS blocking: post i Others: post f

1. Check that the Shut Down LED is on. If not, connect the Shut Down Jumper to the Shut Down Connector. (only hot replace)

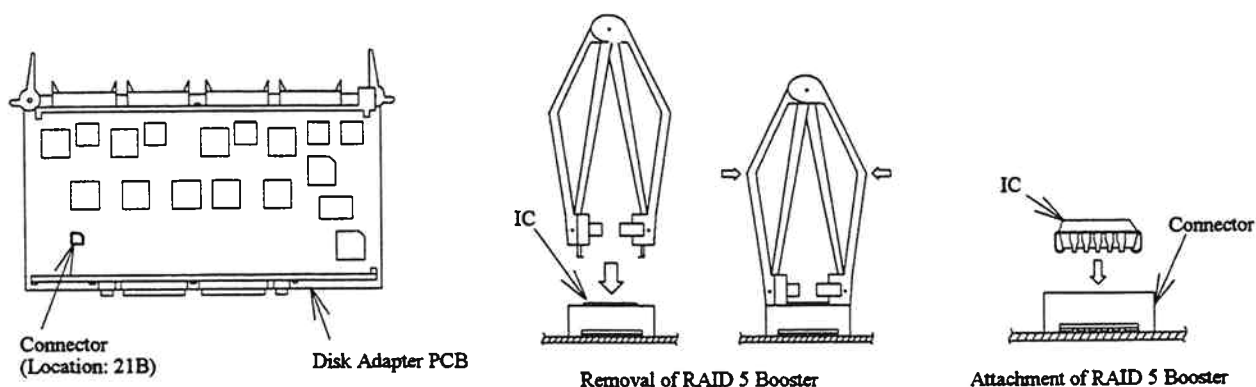


2. Remove the PCB.

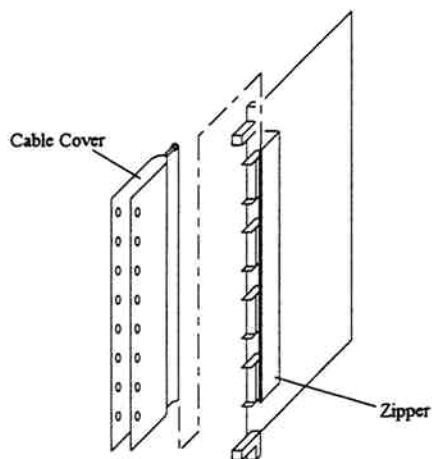
- a. Unfasten the buttons to open the cable cover and disconnect the SCSI cables.
- b. Remove two screws and remove the failed Disk Adapter PCB.
- c. If the Shut Down Jumper is used, remove it.



3. Remove the RAID 5 Booster from the failed PCB, and then attach the RAID 5 Booster to the spare PCB.



-
4. Remove the cable cover from the failed PCB, and then attach the cable cover to the spare PCB.



-
5. Insert the spare PCB to the correct location and fasten the screws.

-
6. Connect the SCSI cables to the spare PCB. Then fix the cable cover with the buttons.

-
7. Go to SVP post procedure.

BUS blocking: Go to post i [REP04-203].

Others: Go to post f [REP04-150].

[HARDWARE K]

◆ SCSI BFR & SCSI CABLE

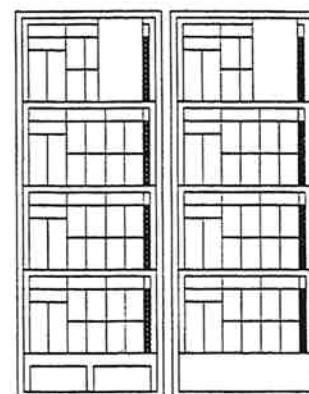
[Related Procedure]

SVP procedure	Title & Sheet No.	Remarks
SVP pre-procedure	Pre-procedure AREP02-10	Refer to REP01-140.
	Pre-procedure IREP02-350	
SVP post-procedure	Post-procedure hREP04-190	Refer to REP01-140.

Caution

Whenever you have to replace a SCSI BFR PCB, you have to replace also, all the concerned SCSI cables and SCSI BFR PCB (In case DKU-R2 and/or DKU-L2 are installed). This consists of all parts connected to the same SCSI path, i.e., (1) SCSI cable connecting the DKA and SCSI BFR, (2) SCSI cable connecting the two SCSI BFRs and (3) the other SCSI BFR in the same path. If the SCSI cable and/or the other SCSI BFR are/is not available, proceed by replacing the SCSI BFR specified in FPC first.

1. Check Shut Down LED① on the SCSI BFR PCB.
2. Disconnect the SCSI interface cables.
3. Loosen screw② and slide stopper③.
4. Replace the SCSI BFR PCB.
5. Slide stopper③ and fasten screw②.



Front view of
DKU205

Rear view of
DKU205

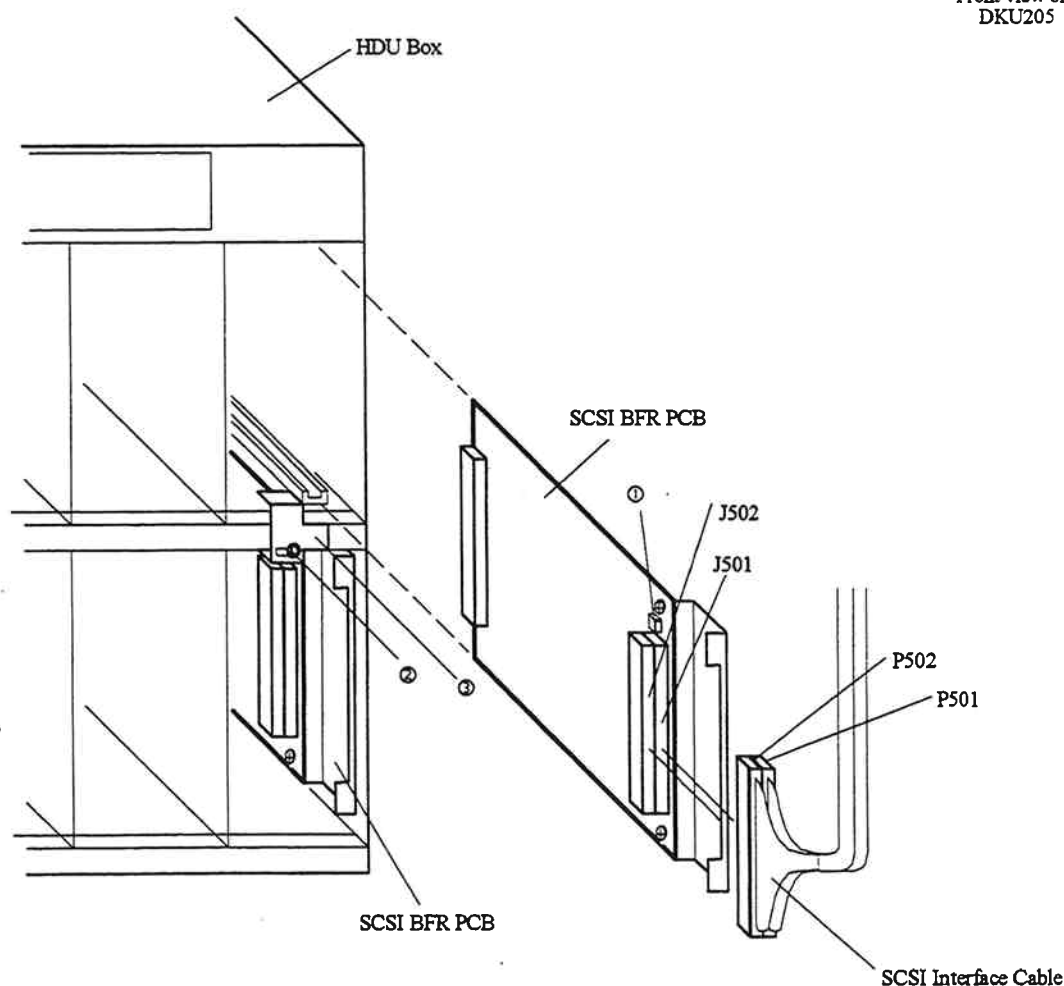


Fig. K-1 Replacement of SCSI BFR PCB

6 Refer to Table K-1 and K-2, connect the SCSI interface cables.

Table K-1 SCSI Interface Cable Connections (DKA through SCSI BFR PCB of Basic /2nd DKU)

Cable No.	DKA PCB			SCSI BFR PCB (Basic/2nd DKU)			Parts No.	Refer Page
	Location No.	Connector No.	Cable No.	Location No.	Connector No.	Cable No.		
1	DKA-1G	1·G1	1·G1	SCBFR-R10U	0U·J501	0U·P501	3240291-A	REP03-442A
2		1·G2	1·G2	SCBFR-R11U	1U·J501	1U·P501	3240291-B	REP03-442A
3		1·G3	1·G3	SCBFR-R12U	2U·J501	2U·P501	3240291-C	REP03-442A
4		1·G4	1·G4	SCBFR-R13U	3U·J501	3U·P501	3240291-D	REP03-442A
5	DKA-2L	2·L1	2·L1	SCBFR-R10L	0L·J501	0L·P501	3240291-E	REP03-442A
6		2·L2	2·L2	SCBFR-R11L	1L·J501	1L·P501	3240291-F	REP03-442A
7		2·L3	2·L3	SCBFR-R12L	2L·J501	2L·P501	3240291-G	REP03-442A
8		2·L4	2·L4	SCBFR-R13L	3L·J501	3L·P501	3240291-H	REP03-442A
9	DKA-1H	1·H1	1·H1	SCBFR-R14U	4U·J501	4U·P501	3240291-J	REP03-443A
10		1·H2	1·H2	SCBFR-R15U	5U·J501	5U·P501	3240291-K	REP03-443A
11		1·H3	1·H3	SCBFR-R16U	6U·J501	6U·P501	3240291-L	REP03-443A
12		1·H4	1·H4	SCBFR-R17U	7U·J501	7U·P501	3240291-M	REP03-443A
13	DKA-2M	2·M1	2·M1	SCBFR-R14L	4L·J501	4L·P501	3240291-N	REP03-443A
14		2·M2	2·M2	SCBFR-R15L	5L·J501	5L·P501	3240291-P	REP03-443A
15		2·M3	2·M3	SCBFR-R16L	6L·J501	6L·P501	3240291-Q	REP03-443A
16		2·M4	2·M4	SCBFR-R17L	7L·J501	7L·P501	3240291-R	REP03-443A
17	DKA-1J	1·J1	1·J1	SCBFR-L10U	0U·J501	0U·P501	5487066-A	REP03-444A
18		1·J2	1·J2	SCBFR-L11U	1U·J501	1U·P501	5487066-C	REP03-444A
19		1·J3	1·J3	SCBFR-L12U	2U·J501	2U·P501	5487066-E	REP03-444A
20		1·J4	1·J4	SCBFR-L13U	3U·J501	3U·P501	5487066-G	REP03-444A
21	DKA-2N	2·N1	2·N1	SCBFR-L10L	0L·J501	0L·P501	5487066-B	REP03-444A
22		2·N2	2·N2	SCBFR-L11L	1L·J501	1L·P501	5487066-D	REP03-444A
23		2·N3	2·N3	SCBFR-L12L	2L·J501	2L·P501	5487066-F	REP03-444A
24		2·N4	2·N4	SCBFR-L13L	3L·J501	3L·P501	5487066-H	REP03-444A
25	DKA-1K	1·K1	1·K1	SCBFR-L14U	4U·J501	4U·P501	5487066-J	REP03-445A
26		1·K2	1·K2	SCBFR-L15U	5U·J501	5U·P501	5487066-L	REP03-445A
27		1·K3	1·K3	SCBFR-L16U	6U·J501	6U·P501	5487066-N	REP03-445A
28		1·K4	1·K4	SCBFR-L17U	7U·J501	7U·P501	5487066-Q	REP03-445A
29	DKA-2P	2·P1	2·P1	SCBFR-L14L	4L·J501	4L·P501	5487066-K	REP03-445A
30		2·P2	2·P2	SCBFR-L15L	5L·J501	5L·P501	5487066-M	REP03-445A
31		2·P3	2·P3	SCBFR-L16L	6L·J501	6L·P501	5487066-P	REP03-445A
32		2·P4	2·P4	SCBFR-L17L	7L·J501	7L·P501	5487066-R	REP03-445A

Table K-2 SCSI Interface Cable Connections

(SCSI BFR PCB of Basic/2nd DKU through SCSI BFR PCB of 3rd/4th DKU)

Cable No.	SCSI BFR PCB (Basic/2nd DKU)			SCSI BFR PCB (3rd/4th DKU)			Parts No.
	Location No.	Connector No.	Cable No.	Location No.	Connector No.	Cable No.	
33	SCBFR-R10U	0U·J502	0U·P502	SCBFR-R20U	0U·J501	0U·P501	5487067-A
34	SCBFR-R11U	1U·J502	1U·P502	SCBFR-R21U	1U·J501	1U·P501	5487067-C
35	SCBFR-R12U	2U·J502	2U·P502	SCBFR-R22U	2U·J501	2U·P501	5487067-E
36	SCBFR-R13U	3U·J502	3U·P502	SCBFR-R23U	3U·J501	3U·P501	5487067-G
37	SCBFR-R10L	0L·J502	0L·P502	SCBFR-R20L	0L·J501	0L·P501	5487067-B
38	SCBFR-R11L	1L·J502	1L·P502	SCBFR-R21L	1L·J501	1L·P501	5487067-D
39	SCBFR-R12L	2L·J502	2L·P502	SCBFR-R22L	2L·J501	2L·P501	5487067-F
40	SCBFR-R13L	3L·J502	3L·P502	SCBFR-R23L	3L·J501	3L·P501	5487067-H
41	SCBFR-R14U	4U·J502	4U·P502	SCBFR-R24U	4U·J501	4U·P501	5487067-J
42	SCBFR-R15U	5U·J502	5U·P502	SCBFR-R25U	5U·J501	5U·P501	5487067-L
43	SCBFR-R16U	6U·J502	6U·P502	SCBFR-R26U	6U·J501	6U·P501	5487067-N
44	SCBFR-R17U	7U·J502	7U·P502	SCBFR-R27U	7U·J501	7U·P501	5487067-Q
45	SCBFR-R14L	4L·J502	4L·P502	SCBFR-R24L	4L·J501	4L·P501	5487067-K
46	SCBFR-R15L	5L·J502	5L·P502	SCBFR-R25L	5L·J501	5L·P501	5487067-M
47	SCBFR-R16L	6L·J502	6L·P502	SCBFR-R26L	6L·J501	6L·P501	5487067-P
48	SCBFR-R17L	7L·J502	7L·P502	SCBFR-R27L	7L·J501	7L·P501	5487067-R
49	SCBFR-L10U	0U·J502	0U·P502	SCBFR-L20U	0U·J501	0U·P501	5487067-A
50	SCBFR-L11U	1U·J502	1U·P502	SCBFR-L21U	1U·J501	1U·P501	5487067-C
51	SCBFR-L12U	2U·J502	2U·P502	SCBFR-L22U	2U·J501	2U·P501	5487067-E
52	SCBFR-L13U	3U·J502	3U·P502	SCBFR-L23U	3U·J501	3U·P501	5487067-G
53	SCBFR-L10L	0L·J502	0L·P502	SCBFR-L20L	0L·J501	0L·P501	5487067-B
54	SCBFR-L11L	1L·J502	1L·P502	SCBFR-L21L	1L·J501	1L·P501	5487067-D
55	SCBFR-L12L	2L·J502	2L·P502	SCBFR-L22L	2L·J501	2L·P501	5487067-F
56	SCBFR-L13L	3L·J502	3L·P502	SCBFR-L23L	3L·J501	3L·P501	5487067-H
57	SCBFR-L14U	4U·J502	4U·P502	SCBFR-L24U	4U·J501	4U·P501	5487067-J
58	SCBFR-L15U	5U·J502	5U·P502	SCBFR-L25U	5U·J501	5U·P501	5487067-L
59	SCBFR-L16U	6U·J502	6U·P502	SCBFR-L26U	6U·J501	6U·P501	5487067-N
60	SCBFR-L17U	7U·J502	7U·P502	SCBFR-L27U	7U·J501	7U·P501	5487067-Q
61	SCBFR-L14L	4L·J502	4L·P502	SCBFR-L24L	4L·J501	4L·P501	5487067-K
62	SCBFR-L15L	5L·J502	5L·P502	SCBFR-L25L	5L·J501	5L·P501	5487067-M
63	SCBFR-L16L	6L·J502	6L·P502	SCBFR-L26L	6L·J501	6L·P501	5487067-P
64	SCBFR-L17L	7L·J502	7L·P502	SCBFR-L27L	7L·J501	7L·P501	5487067-R

Cable No. 1-8 DKA-1G/2L through SC BFR-R10-R13U/L

(1) Remove the cable fixing wires and repeat binders.

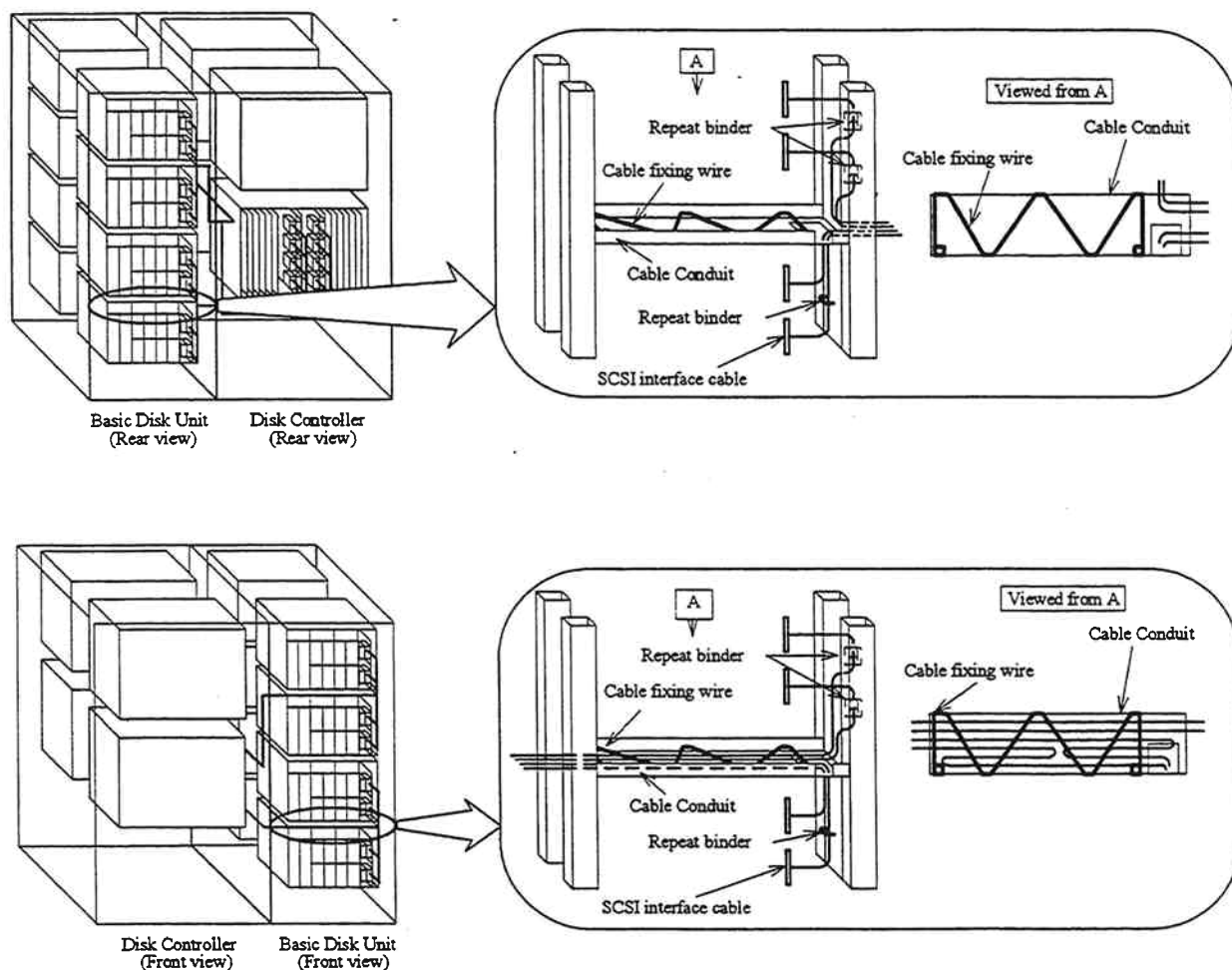


Fig. K-2 Removal of the cable fixing wires and repeat binders

(2) Remove the Logic Box covers. Refer to SECTION 3.3.1 HOW TO OPEN / CLOSE THE DOOR [INST03-10].

- (3) Since the SCSI interface cable shown in the table below is not detachable, it should be replaced after wiring a cable for maintenance parts in a different route. Other cables should be wired in the same way as the previous route.

Table K-3 SCSI Interface Cable Connections

DKA PCB			SCSI BFR PCB (Basic/2nd DKU)			Cable No.
Location No.	Connector No.	Cable No.	Location No.	Connector No.	Cable No.	
DKA-1G	1·G1	1·G1	SCBFR-R10U	0U·J501	0U·P501	3240291-A
	1·G2	1·G2	SCBFR-R11U	1U·J501	1U·P501	3240291-B
DKA-2L	2·L1	2·L1	SCBFR-R10L	0L·J501	0L·P501	3240291-E
	2·L2	2·L2	SCBFR-R11L	1L·J501	1L·P501	3240291-F

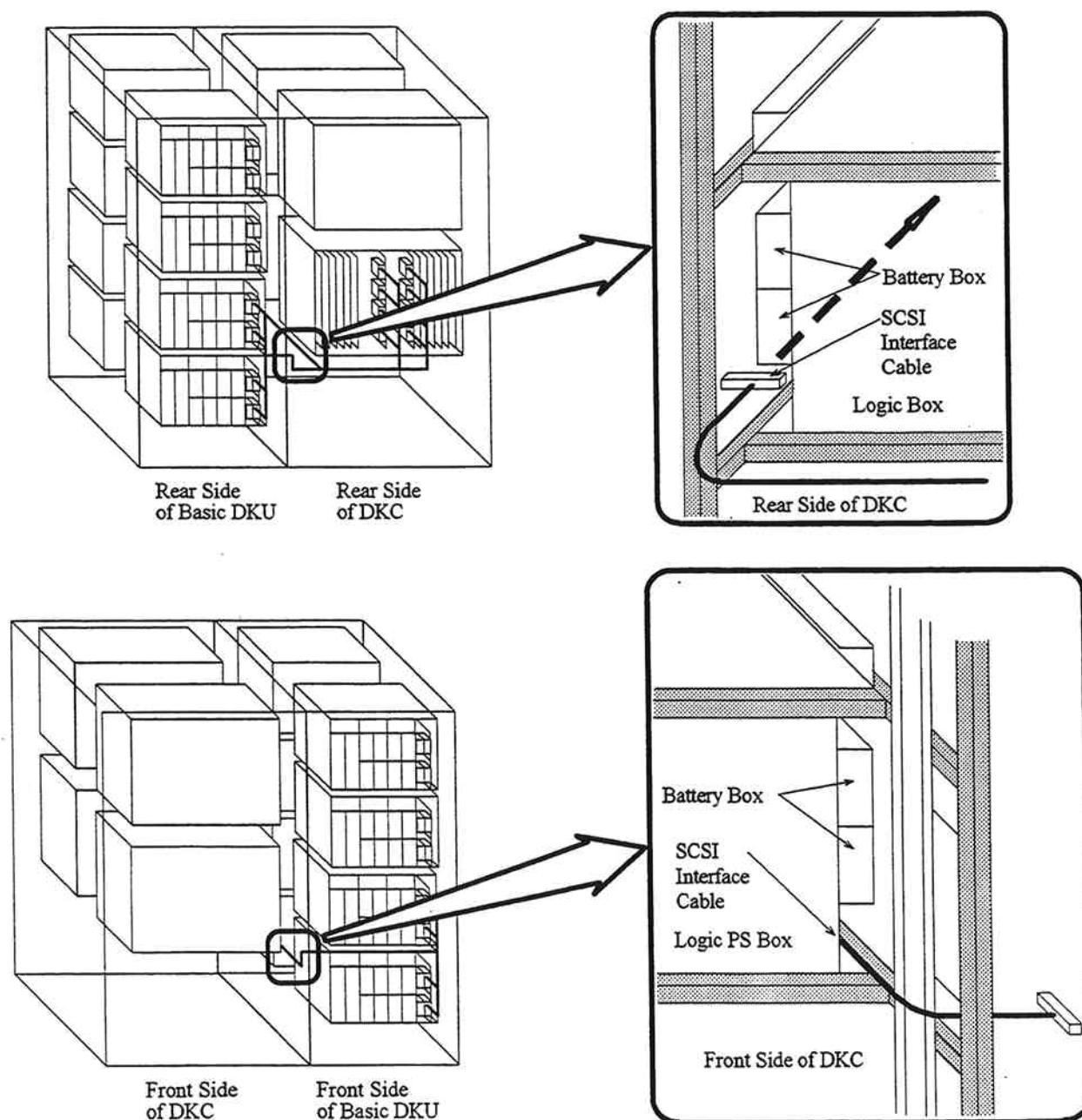


Fig. K-3 Routing of SCSI Interface Cable

(4) Replace the SCSI interface cable.

Cable No. 1 DKA-1G (1·G1) through SC BFR-R10U (0U·J501)

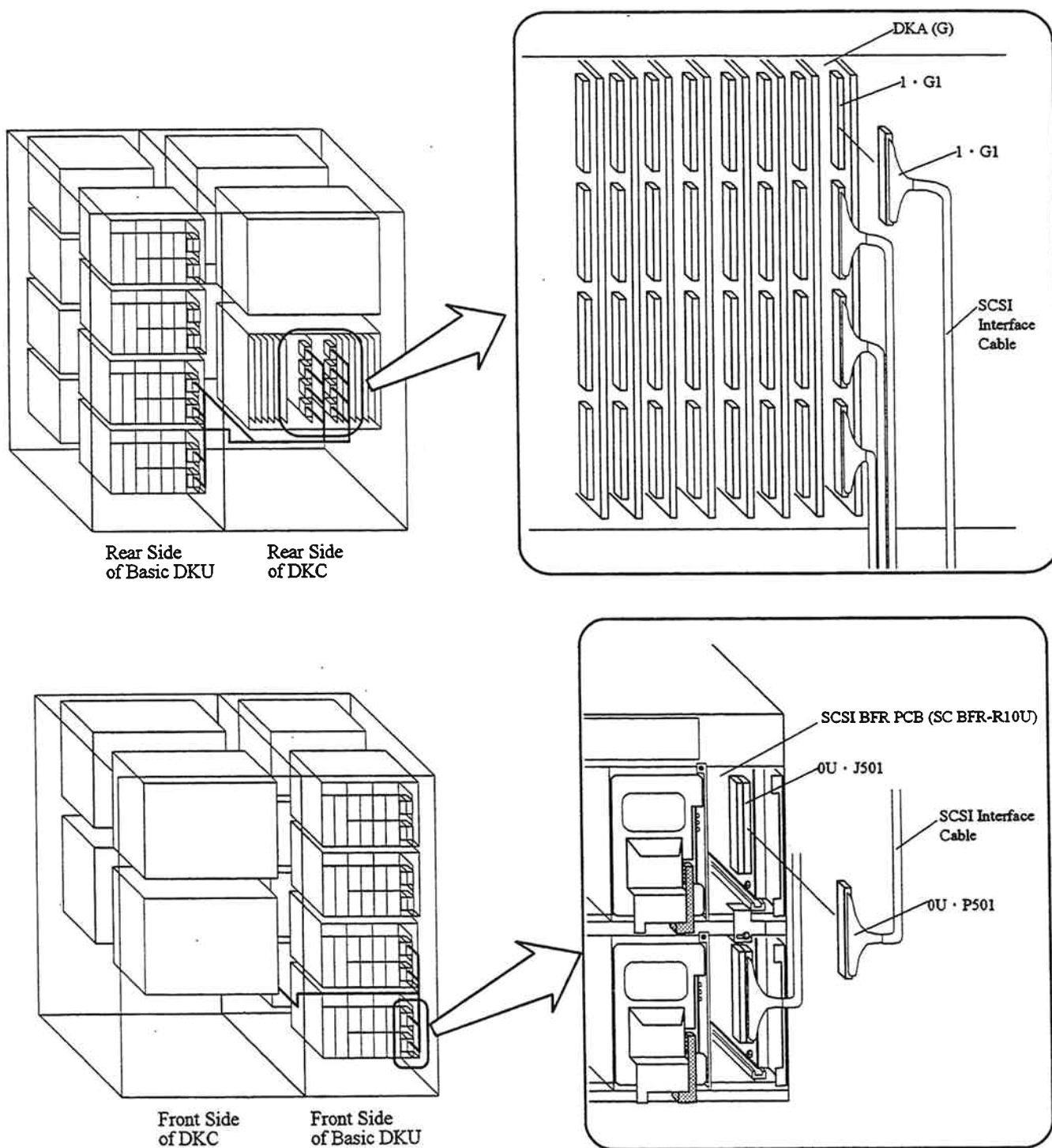


Fig. K-4 Replacement of SCSI Interface Cable

Cable No. 2 DKA-1G (1·G2) through SC BFR-R11U (1U·J501)

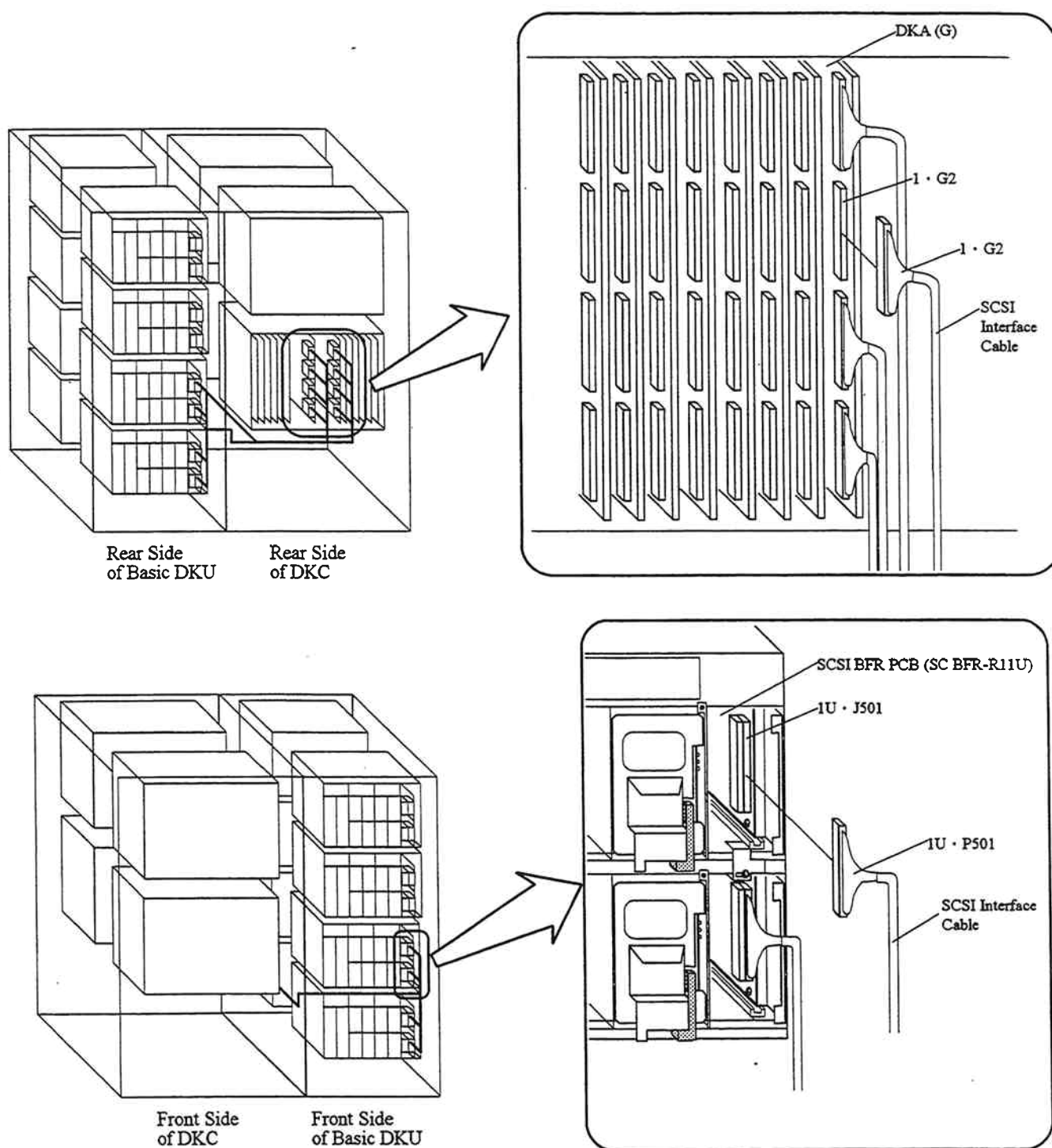


Fig. K-5 Replacement of SCSI Interface Cable

Cable No. 3 DKA-1G (1·G3) through SC BFR-R12U (2U·J501)

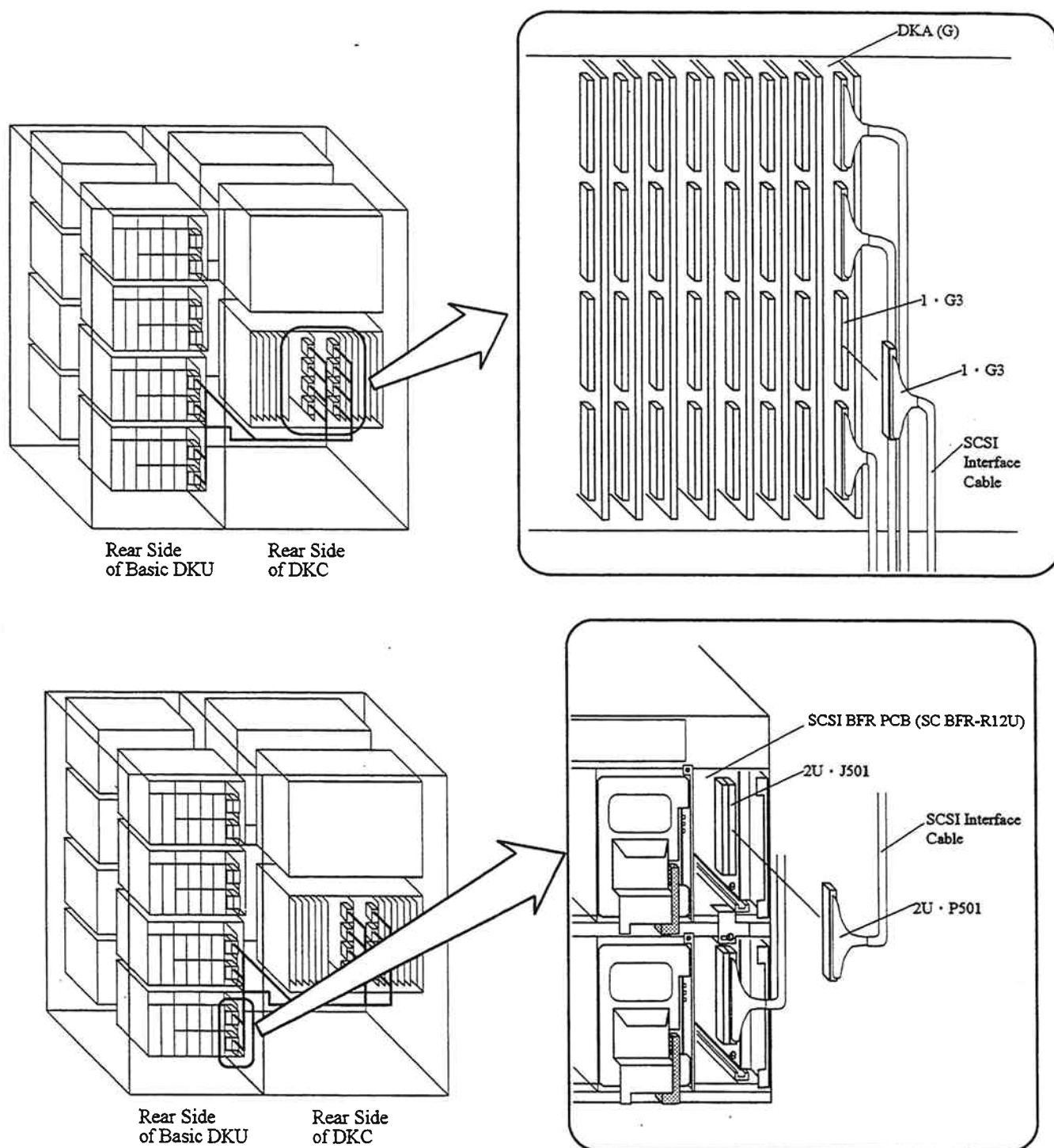


Fig. K-6 Replacement of SCSI Interface Cable

Cable No. 4 DKA-1G (1·G4) through SC BFR-R13U (3U·J501)

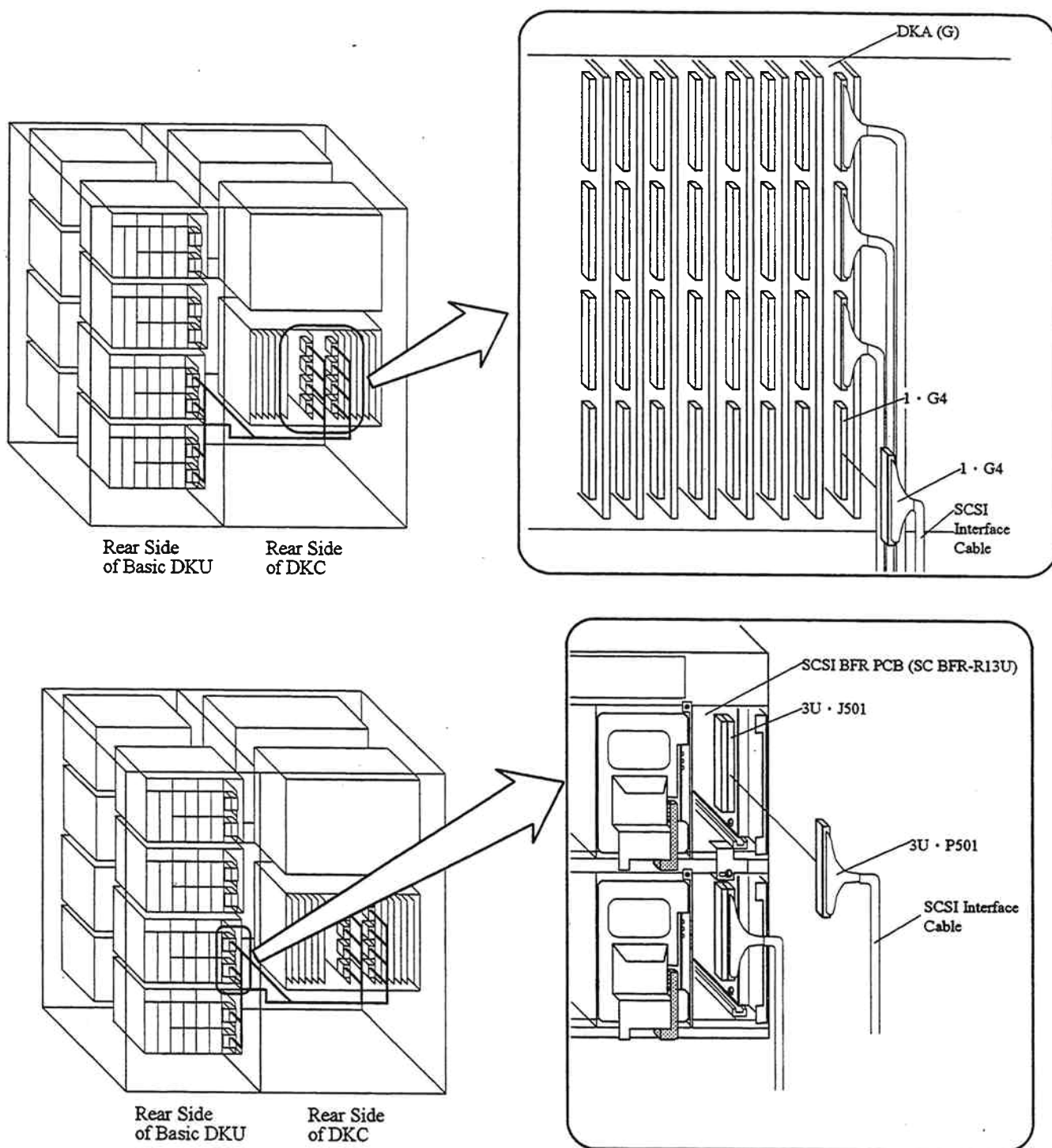


Fig. K-7 Replacement of SCSI Interface Cable

Cable No. 5 DKA-2L (2·L1) through SC BFR-R10L (0L·J501)

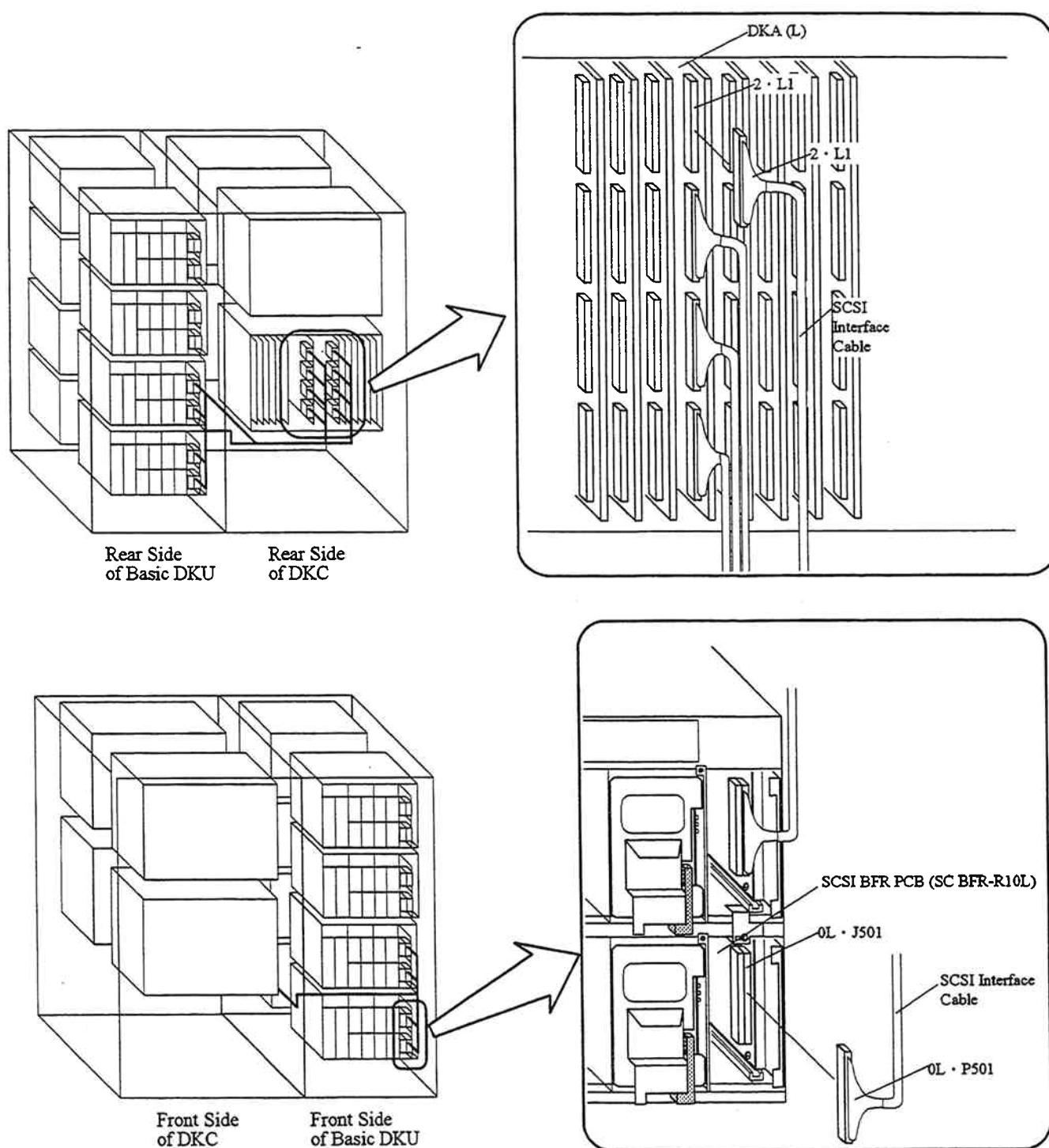


Fig. K-8 Replacement of SCSI Interface Cable

Cable No. 6 DKA-2L (2·L2) through SC BFR-R11L (1L·J501)

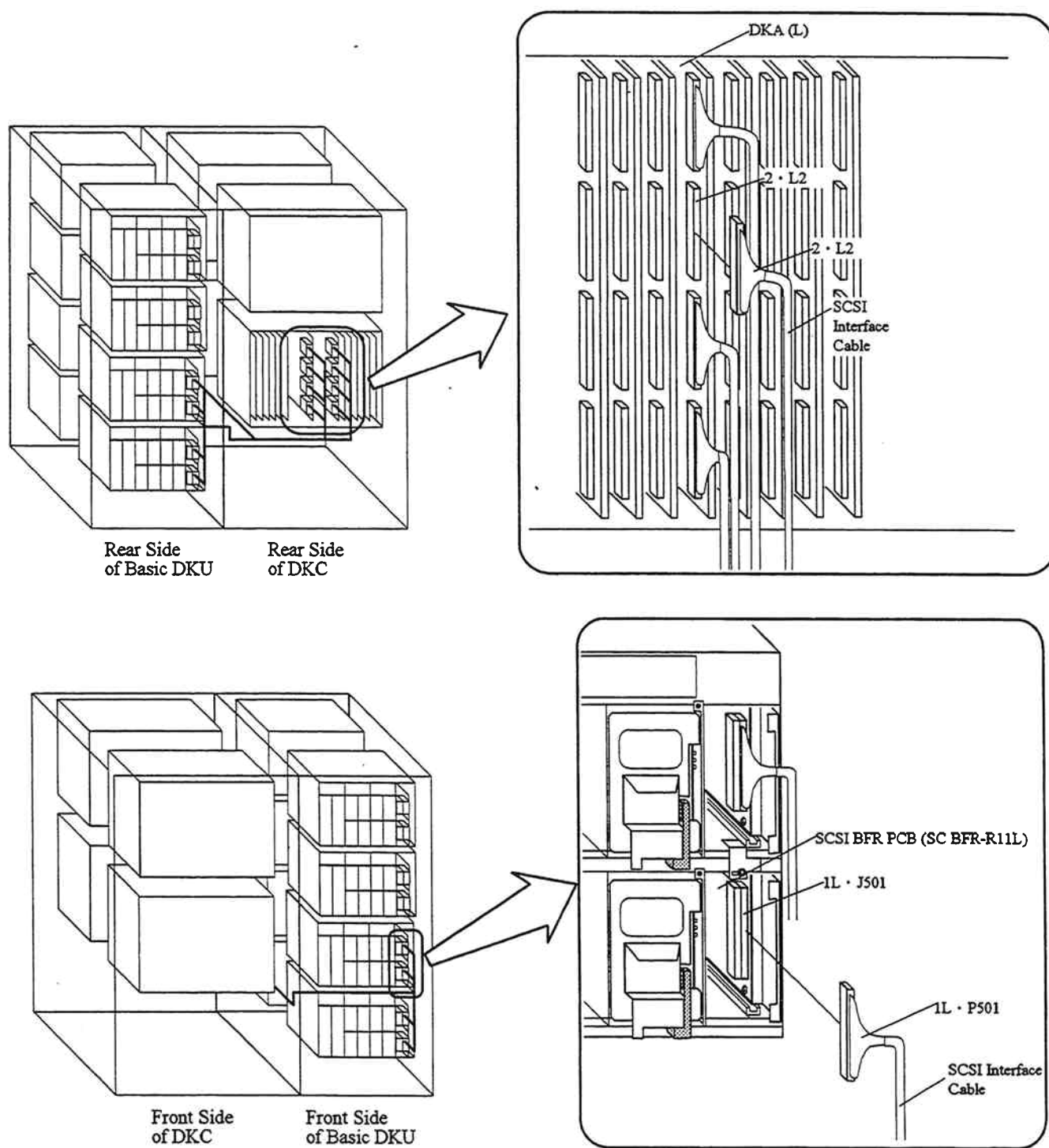


Fig. K-9 Replacement of SCSI Interface Cable

Cable No. 7 DKA-2L (2·L3) through SC BFR-R12L (2L·J501)

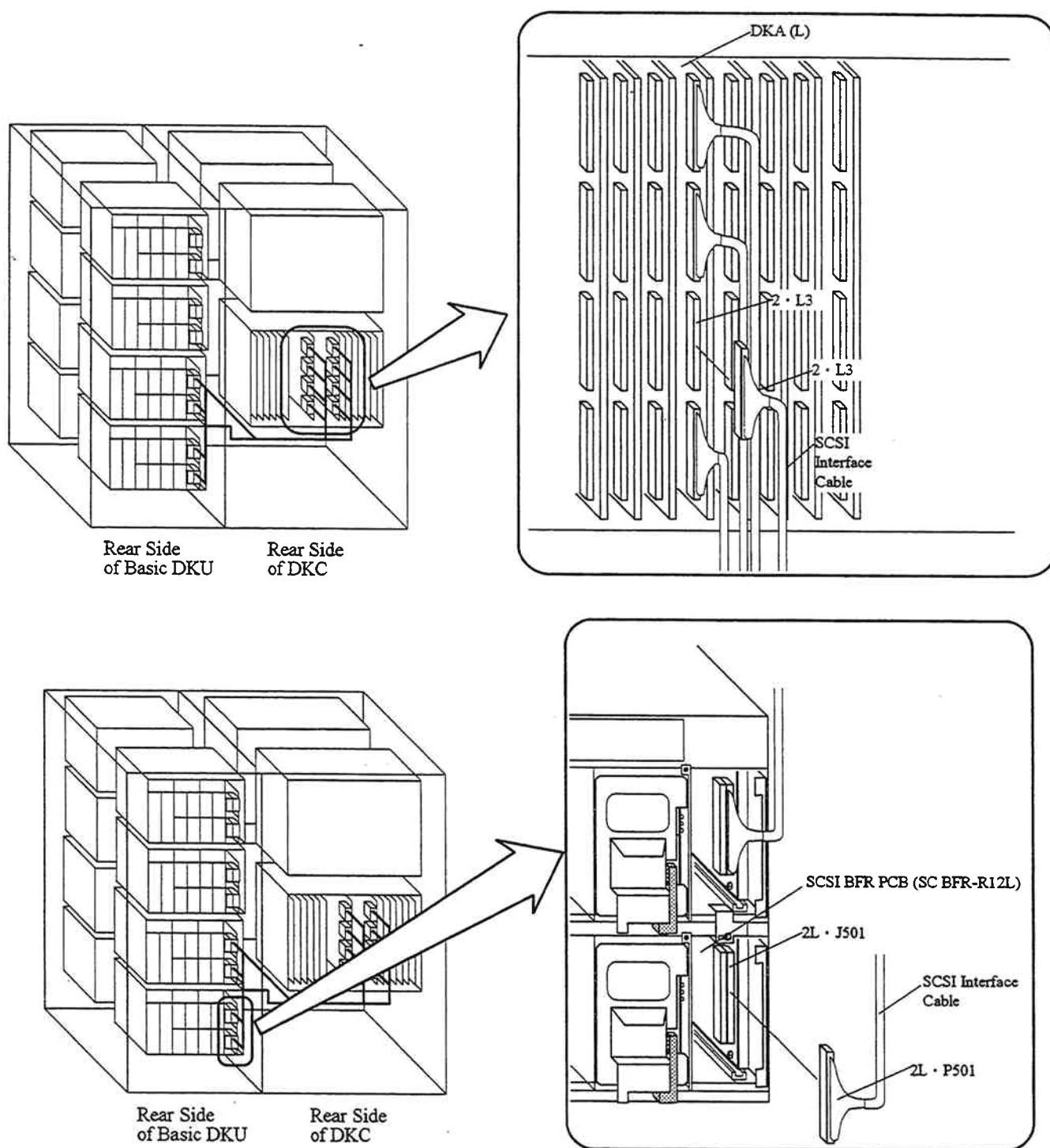


Fig. K-10 Replacement of SCSI Interface Cable

Cable No. 8 DKA-2L (2·L4) through SC BFR-R13L (3L·J501)

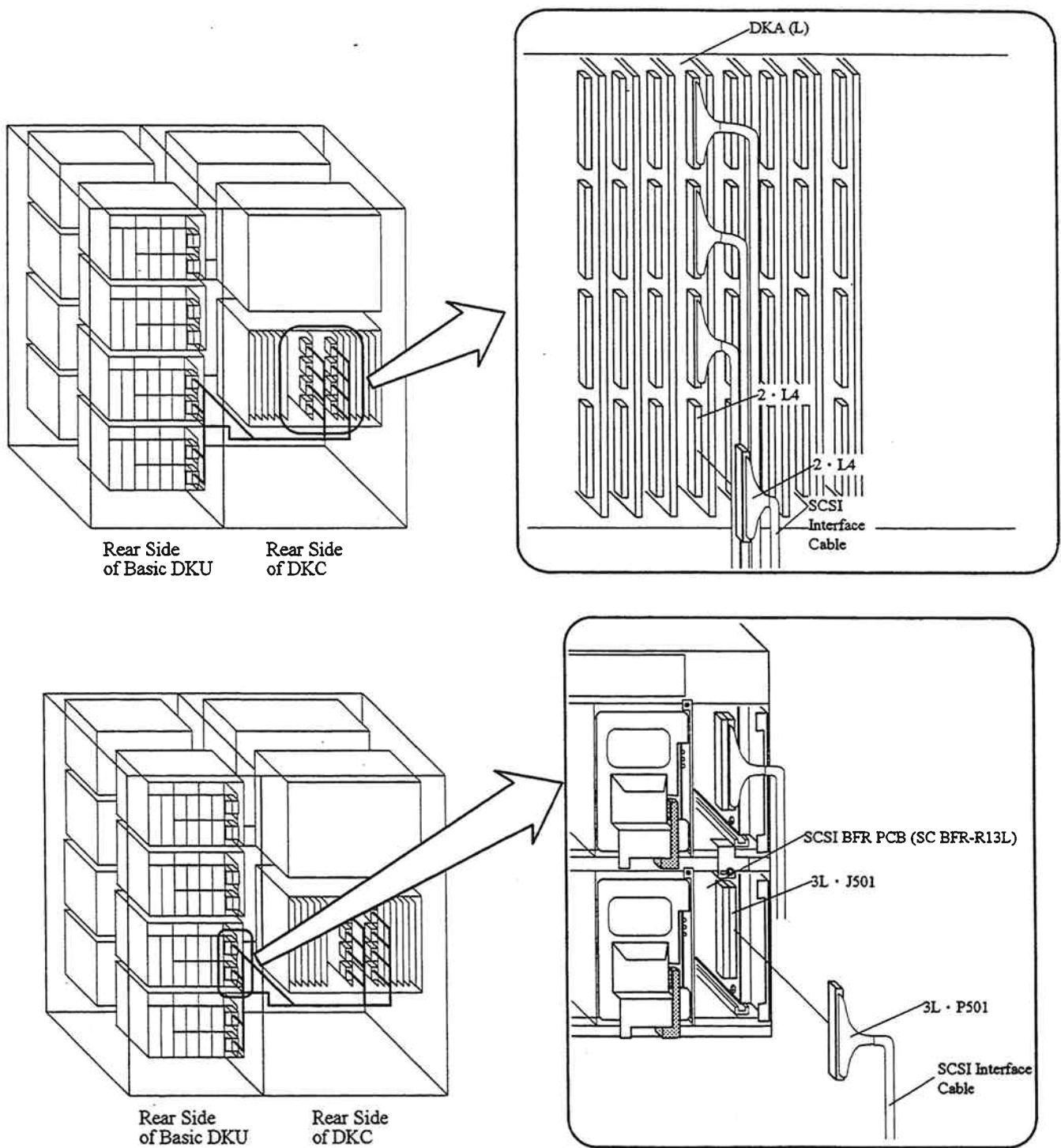


Fig. K-11 Replacement of SCSI Interface Cable

(5) Attach the Logic Box covers. Refer to SECTION 3.3.1 HOW TO OPEN / CLOSE THE DOOR [INST03-10].

(6) Fix the SCSI interface cables in the DKU chassis with the cable fixing wires and repeat binders.

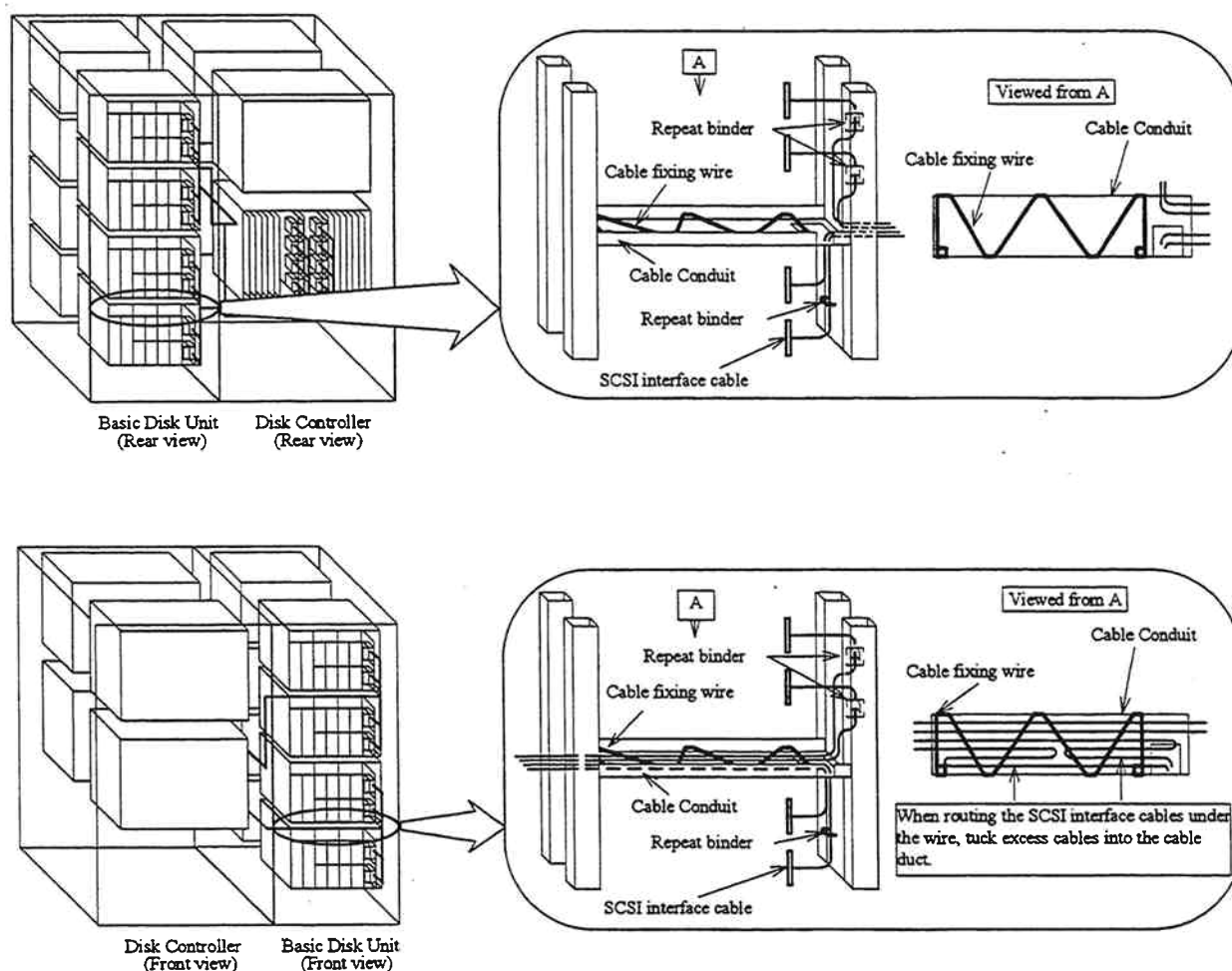


Fig. K-12 Fixation of the SCSI Interface Cables

(7) In case that there is 3rd/4th DKU, go to REP03-446A.

In case that there isn't 3rd/4th DKU, go to post-PROCEDURE h (REP04-190).

Cable No. 9-16 DKA-1H/2M through SC BFR-R14-R17U/L

(1) Remove the cable fixing wires and repeat binders.

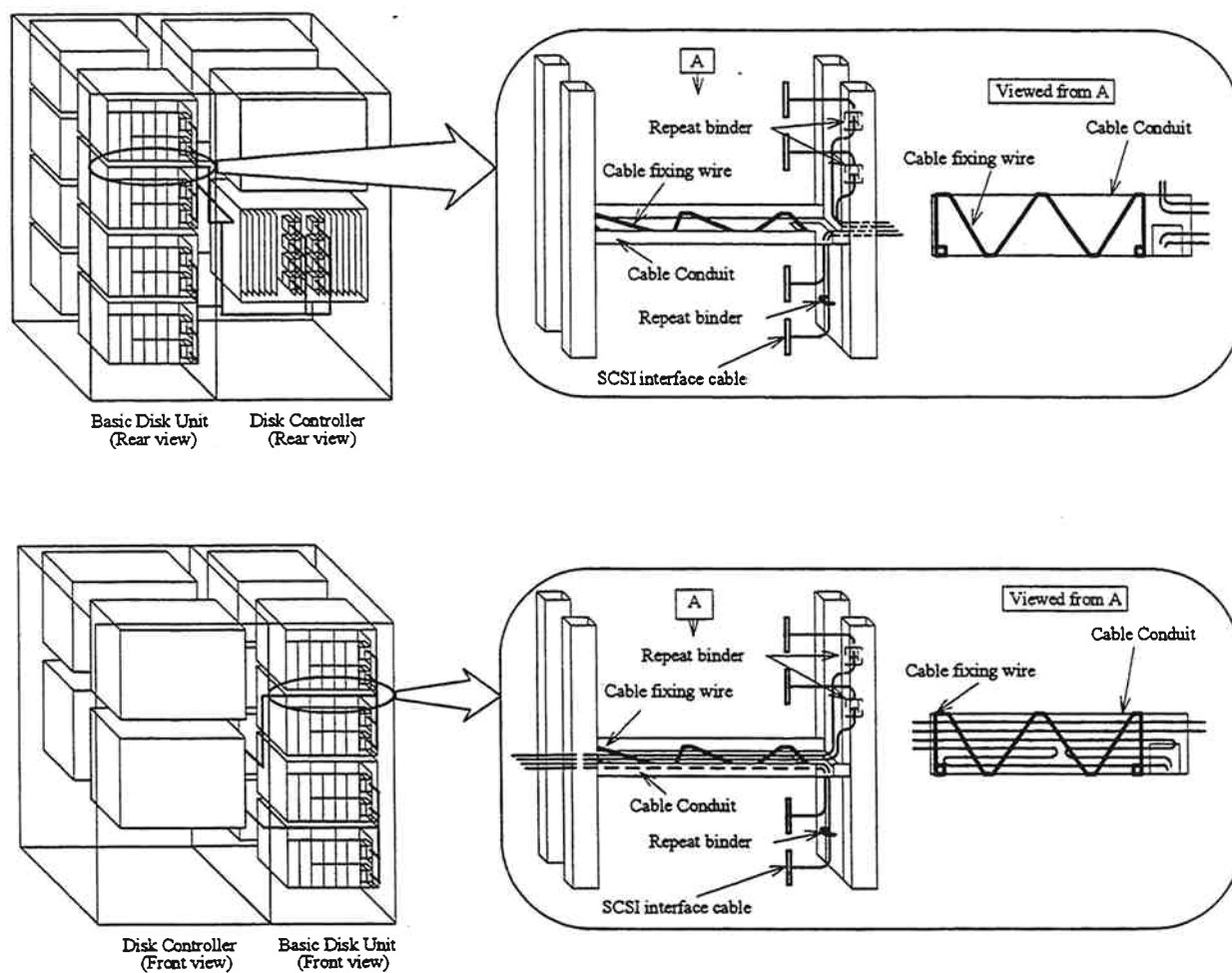


Fig. K-13 Removal of the cable fixing wires and repeat binders

(2) Remove the Logic Box covers. Refer to SECTION 3.3.1 HOW TO OPEN / CLOSE THE DOOR [INST03-10].

- (3) Since the SCSI interface cable shown in the table below is not detachable, it should be replaced after wiring a cable for maintenance parts in a different route. Other cables should be wired in the same way as the previous route.

Table K-4 SCSI Interface Cable Connections

DKA PCB			SCSI BFR PCB (Basic/2nd DKU)			Cable No.	Refer Fig.
Location No.	Connector No.	Cable No.	Location No.	Connector No.	Cable No.		
DKA-1H	1·H1	1·H1	SCBFR-R14U	4U·J501	4U·P501	3240291-J	Fig. K-14, 15
	1·H2	1·H2	SCBFR-R15U	5U·J501	5U·P501	3240291-K	Fig. K-14, 15
DKA-2M	2·M1	2·M1	SCBFR-R14L	4L·J501	4L·P501	3240291-N	Fig. K-14, 15
	2·M2	2·M2	SCBFR-R15L	5L·J501	5L·P501	3240291-P	Fig. K-14, 15

In case that there is Cache Boxes.

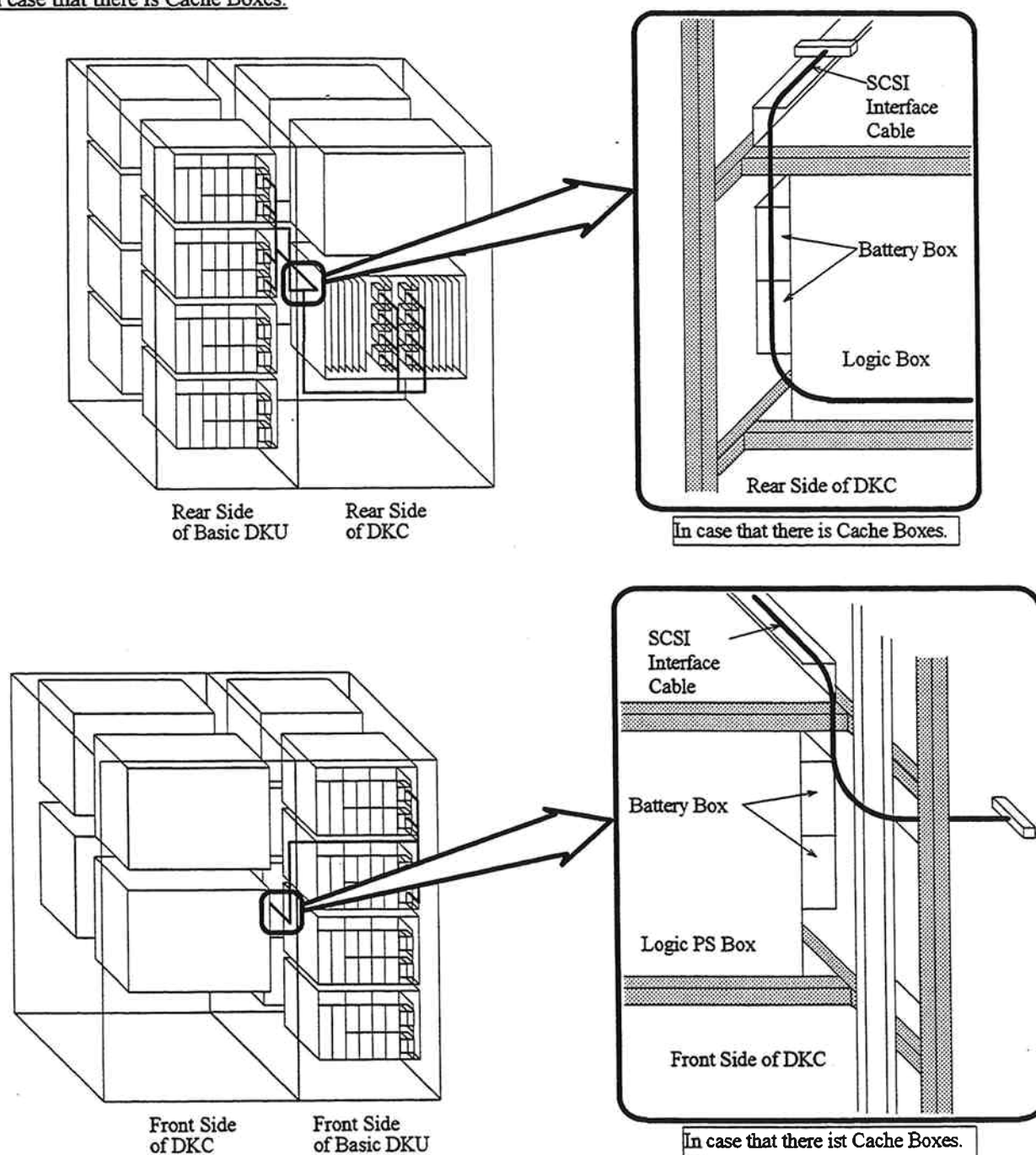


Fig. K-14 Routing of SCSI Interface Cable

In case that there isn't Cache Boxes.

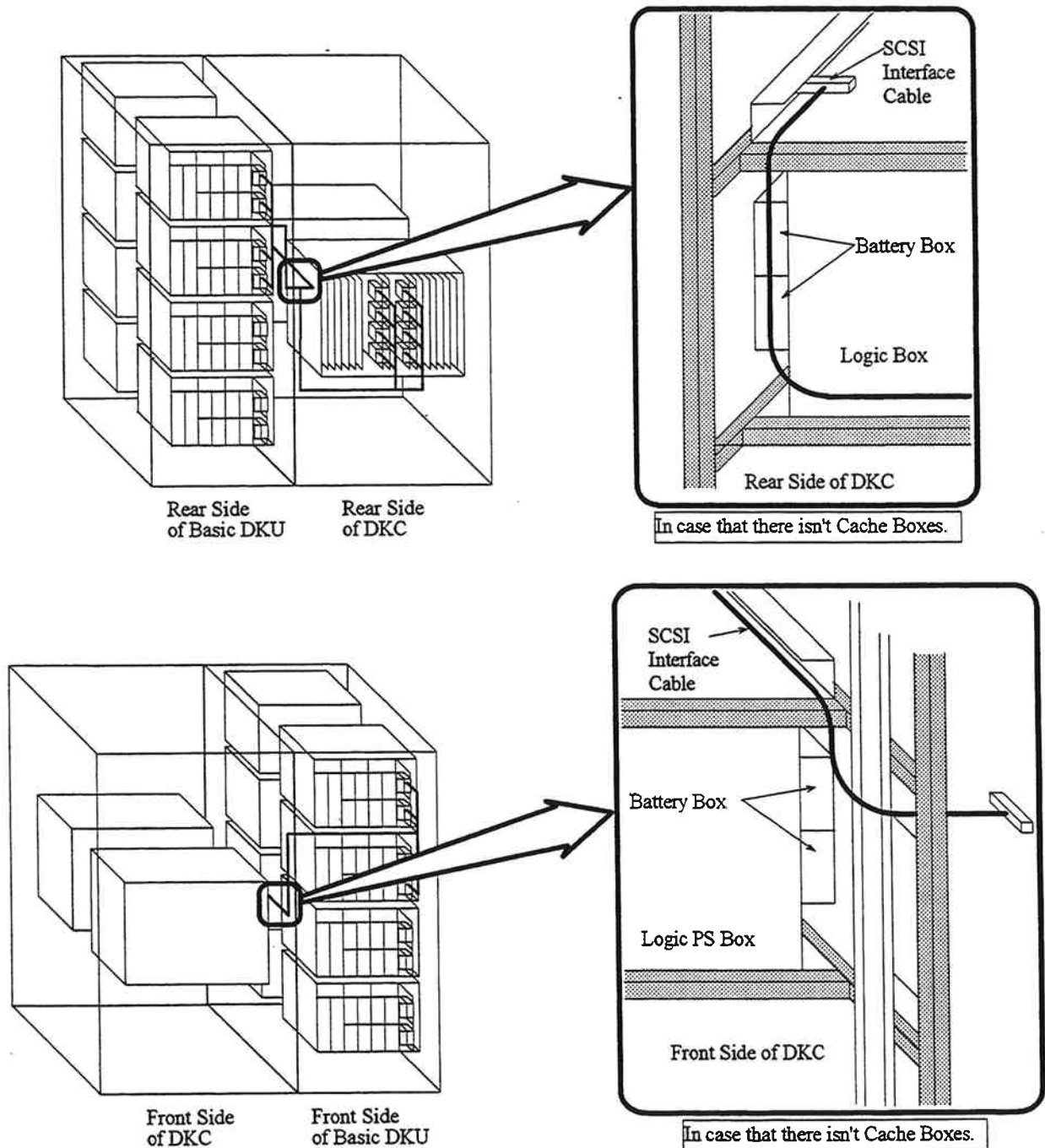


Fig. K-15 Routing of SCSI Interface Cable

(4) Replace the SCSI interface cable.

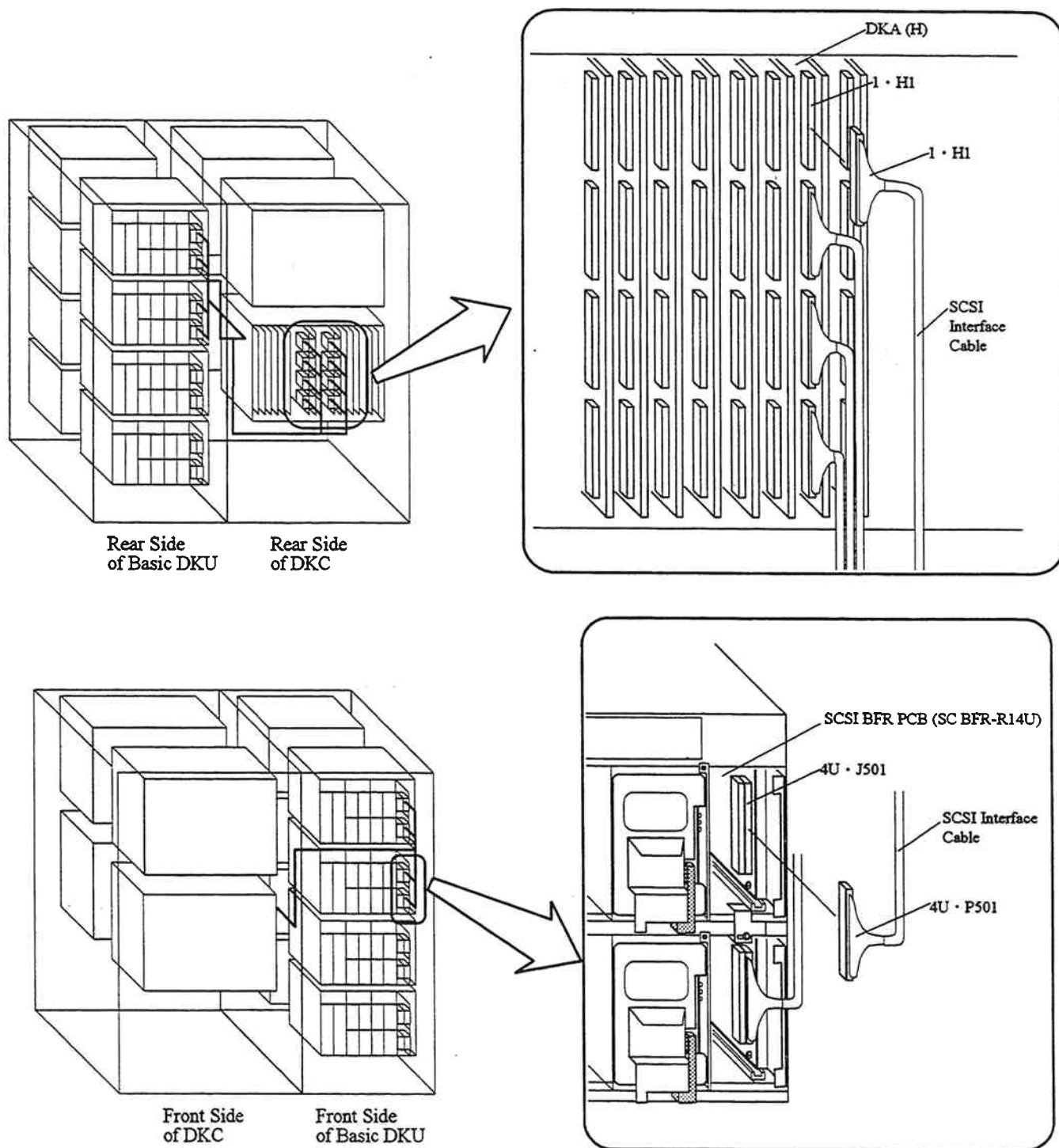
Cable No. 9 DKA-1H (1·H1) through SC BFR-R14U (4U·J501)

Fig. K-16 Replacement of SCSI Interface Cable

Cable No. 10 DKA-1H (1·H2) through SC BFR-R15U (5U·J501)

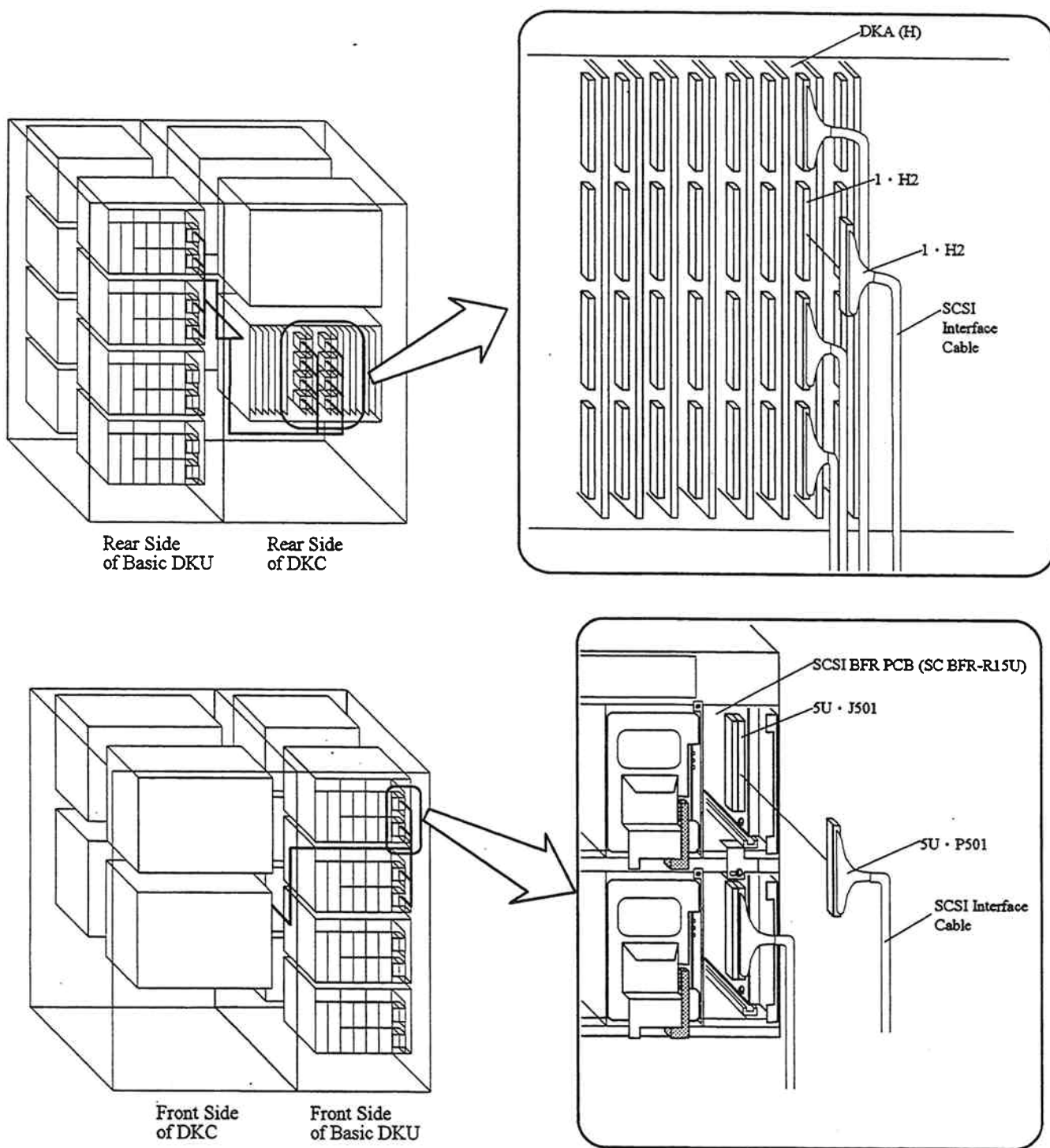


Fig. K-17 Replacement of SCSI Interface Cable

Cable No. 11 DKA-1H (1·H3) through SC BFR-R16U (6U·J501)

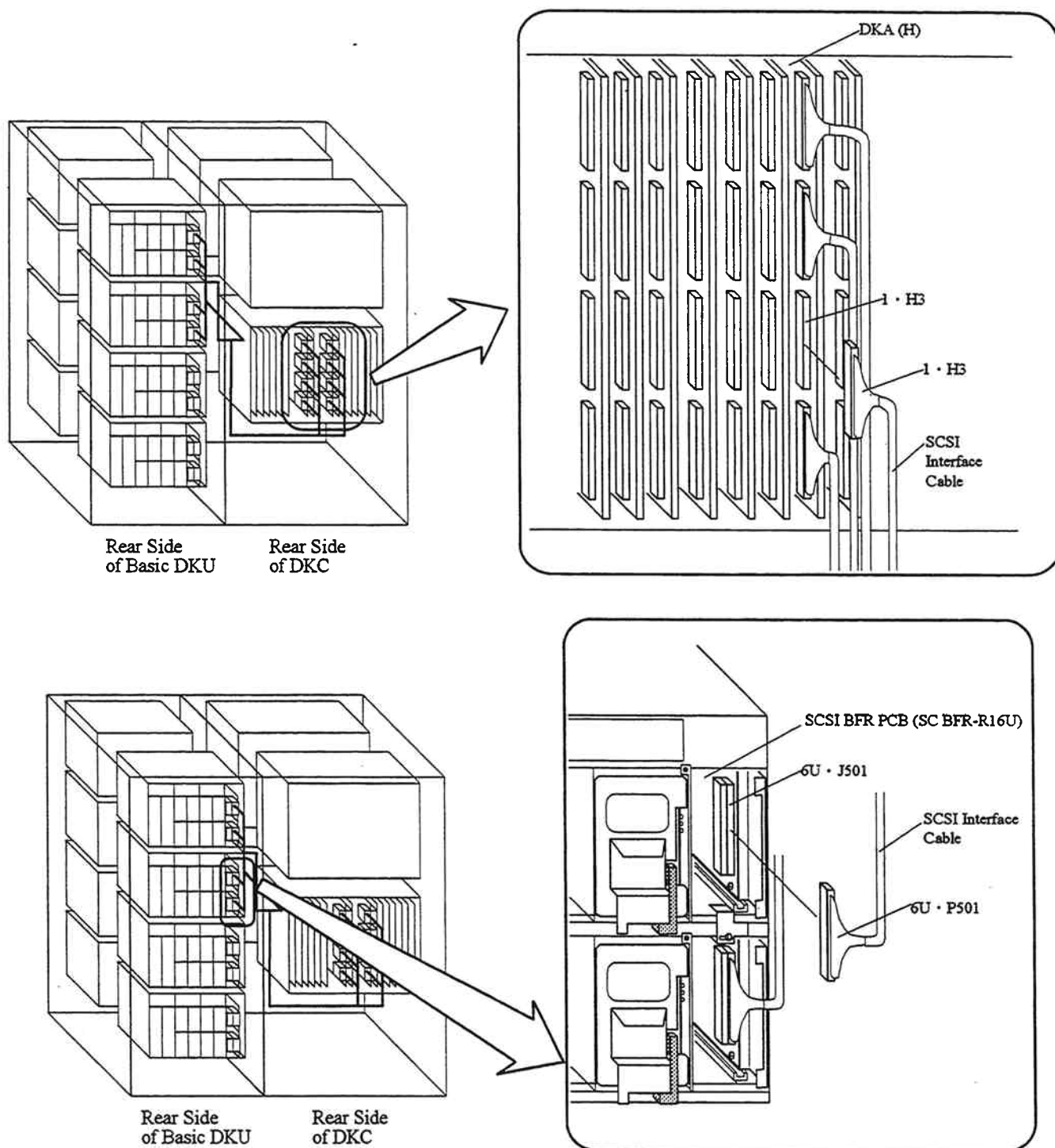


Fig. K-18 Replacement of SCSI Interface Cable

Cable No. 12 DKA-1H (1-H4) through SC BFR-R17U (7U-J501)

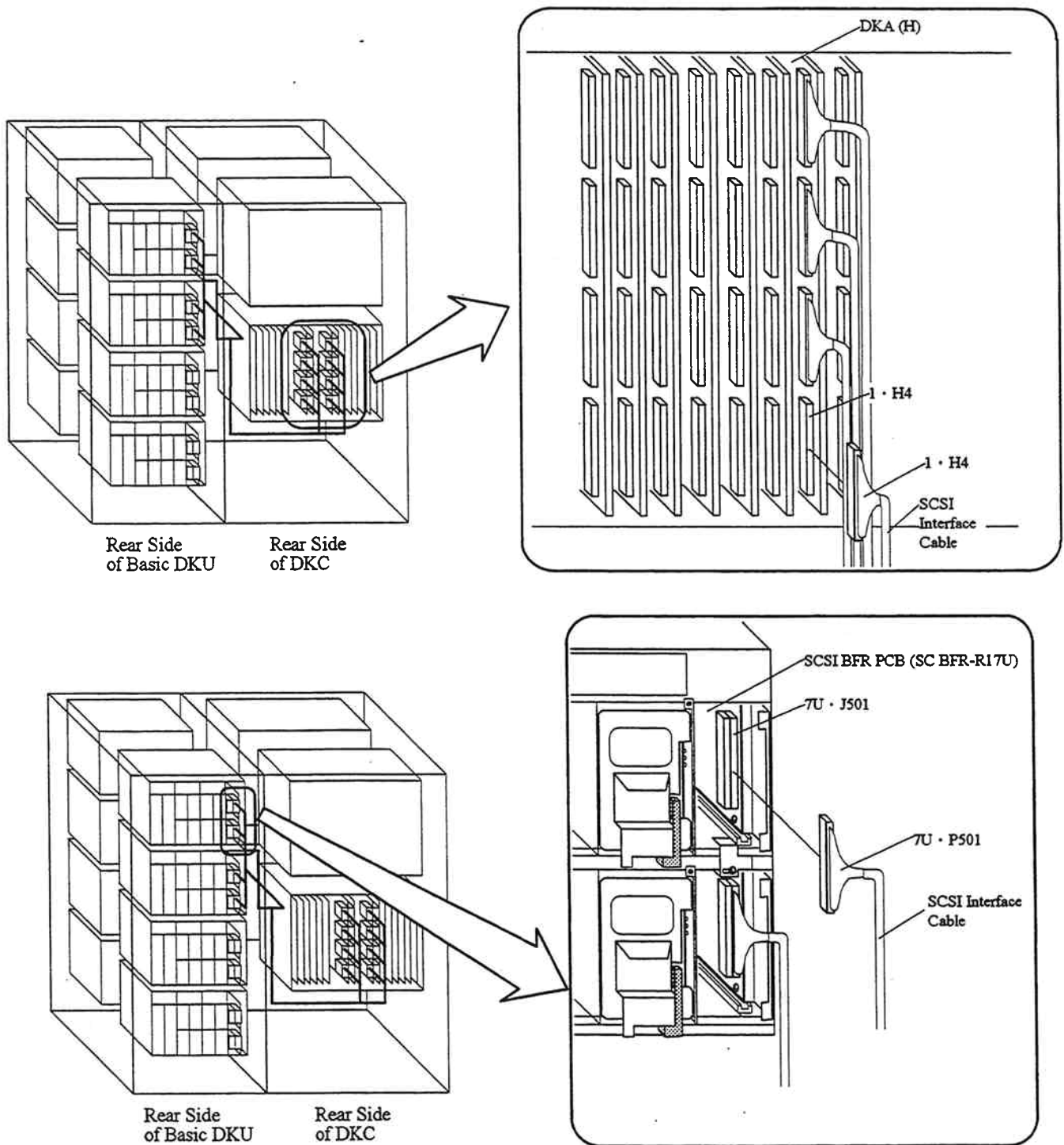


Fig. K-19 Replacement of SCSI Interface Cable

Cable No. 13 DKA-2M (2·M1) through SC BFR-R14L (4L·J501)

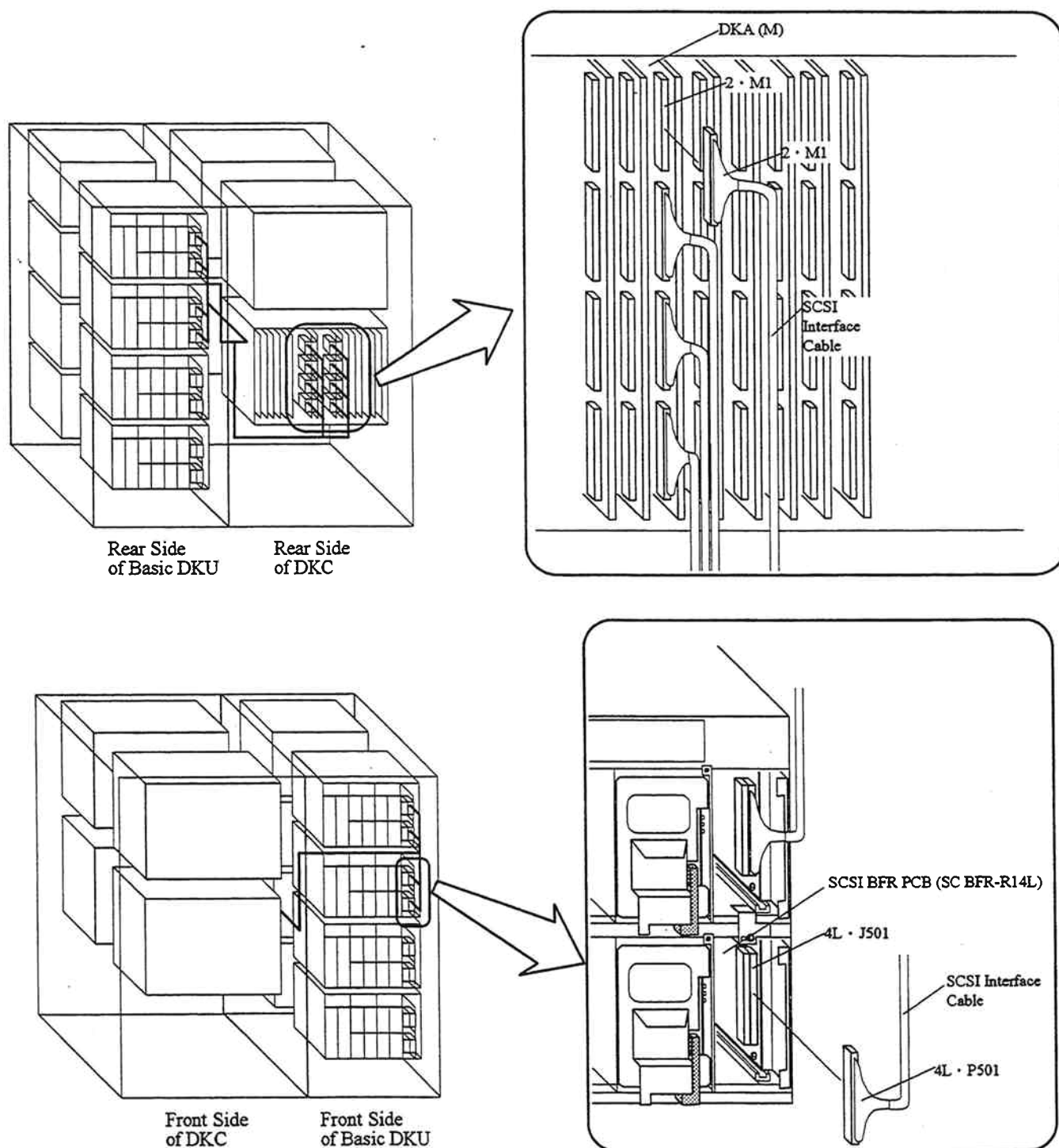


Fig. K-20 Replacement of SCSI Interface Cable

Cable No. 14 DKA-2M (2·M2) through SC BFR-R15L (5L·J501)

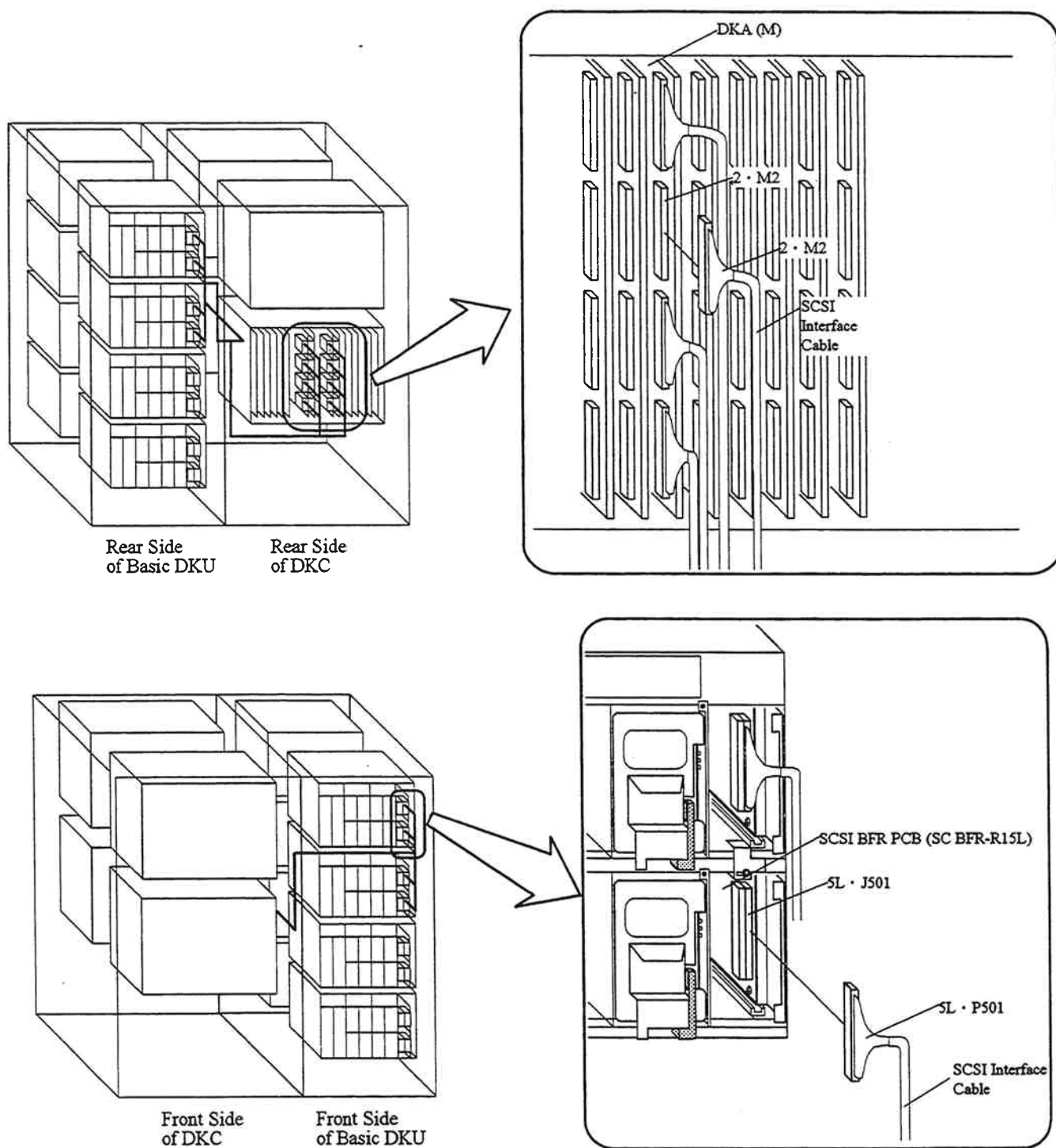


Fig. K-21 Replacement of SCSI Interface Cable

Cable No. 15 DKA-2M (2·M3) through SC BFR-R16L (6L·J501)

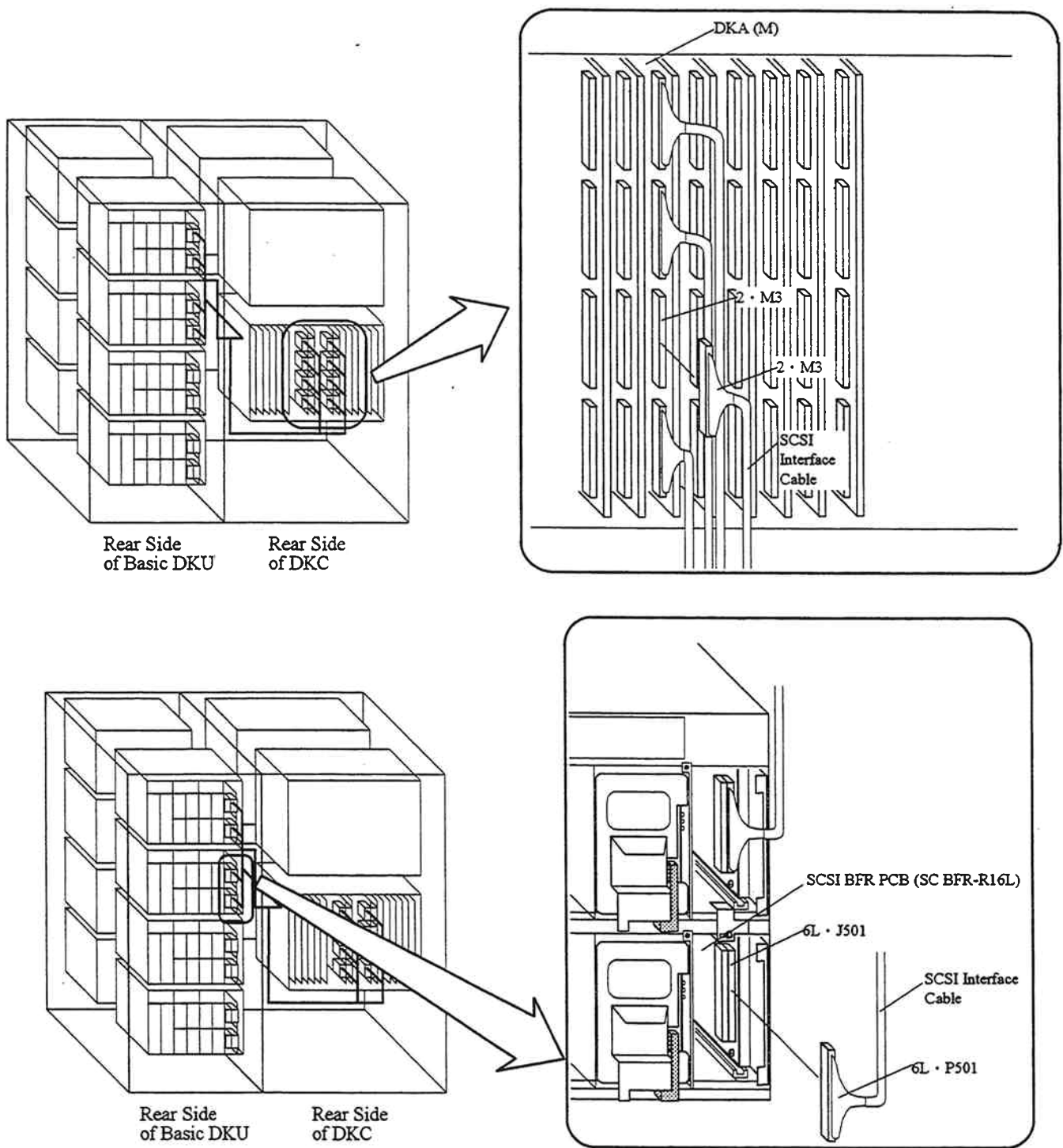


Fig. K-22 Replacement of SCSI Interface Cable

Cable No. 16 DKA-2M (2·M4) through SC BFR-R17L (7L·J501)

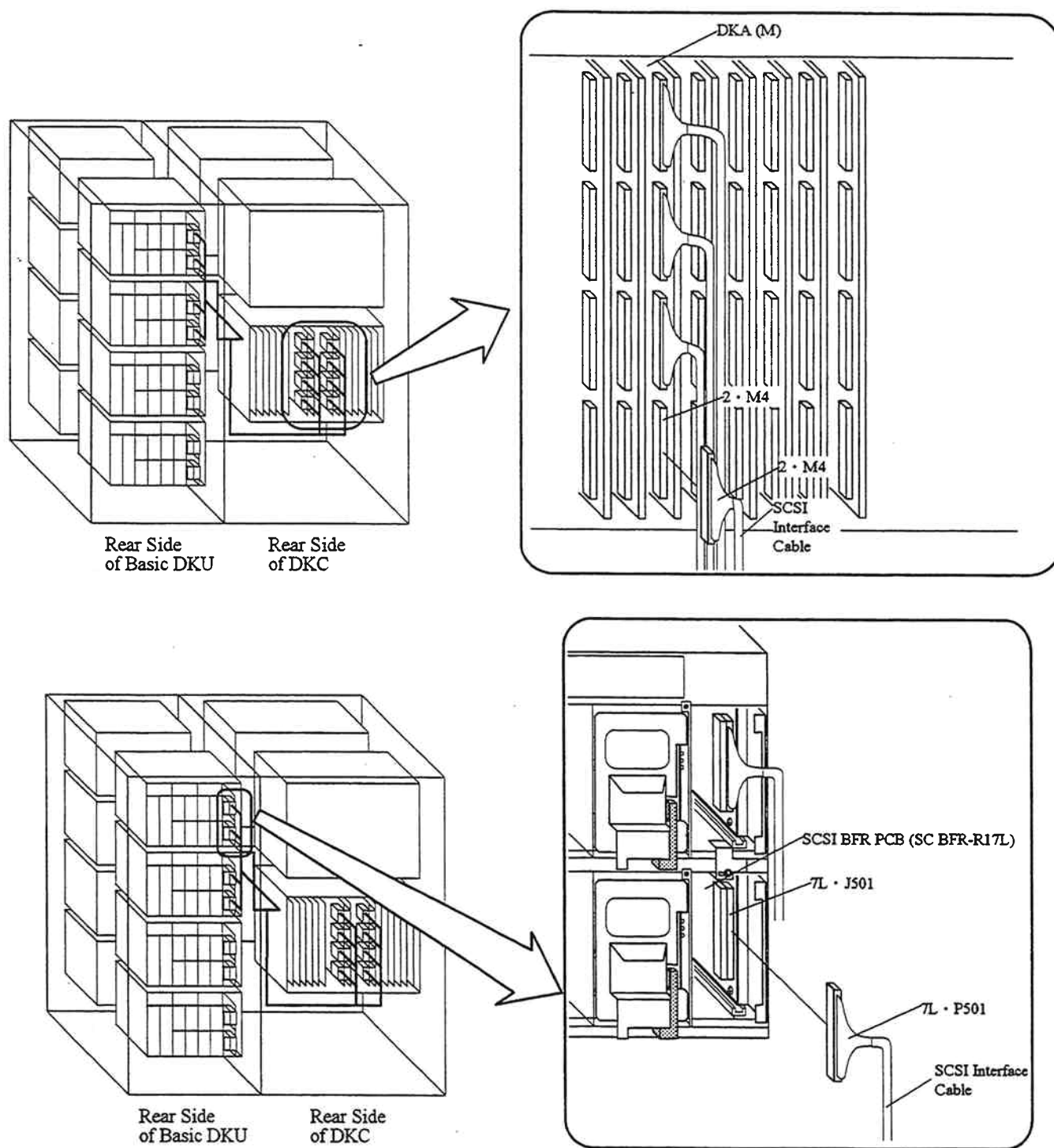


Fig. K-23 Replacement of SCSI Interface Cable

(5) Attach the Logic Box covers. Refer to SECTION 3.3.1 HOW TO OPEN / CLOSE THE DOOR [INST03-10].

(6) Fix the SCSI interface cables in the DKU chassis with the cable fixing wires and repeat binders.

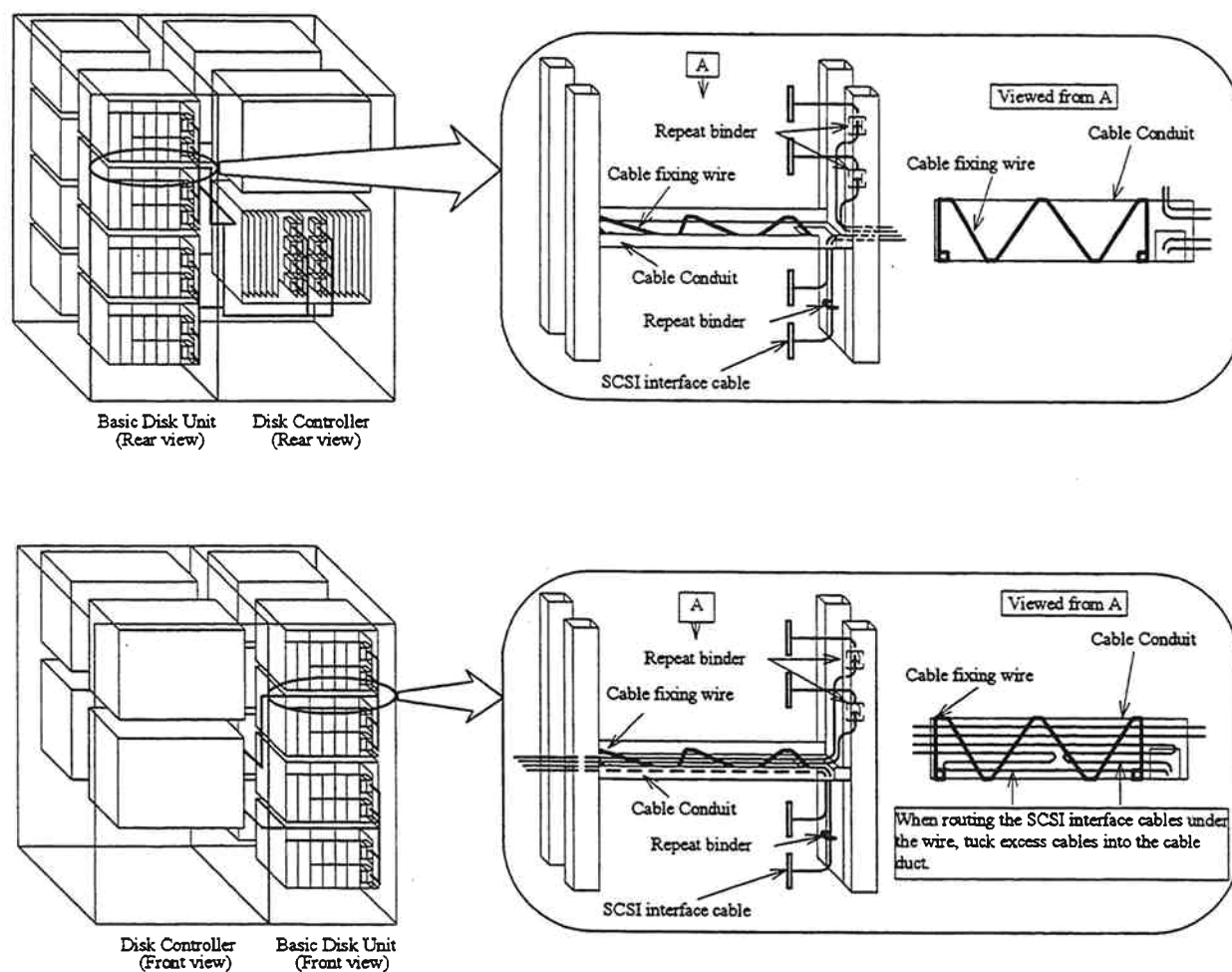


Fig. K-24 Fixation of the SCSI Interface Cables

(7) In case that there is 3rd/4th DKU, go to REP03-447A.

In case that there isn't 3rd/4th DKU, go to post-PROCEDURE h (REP04-190).

Cable No. 17-24 DKA-1J/2N through SC BFR-L10-L13U/L

(1) Remove the cable fixing wires and repeat binders.

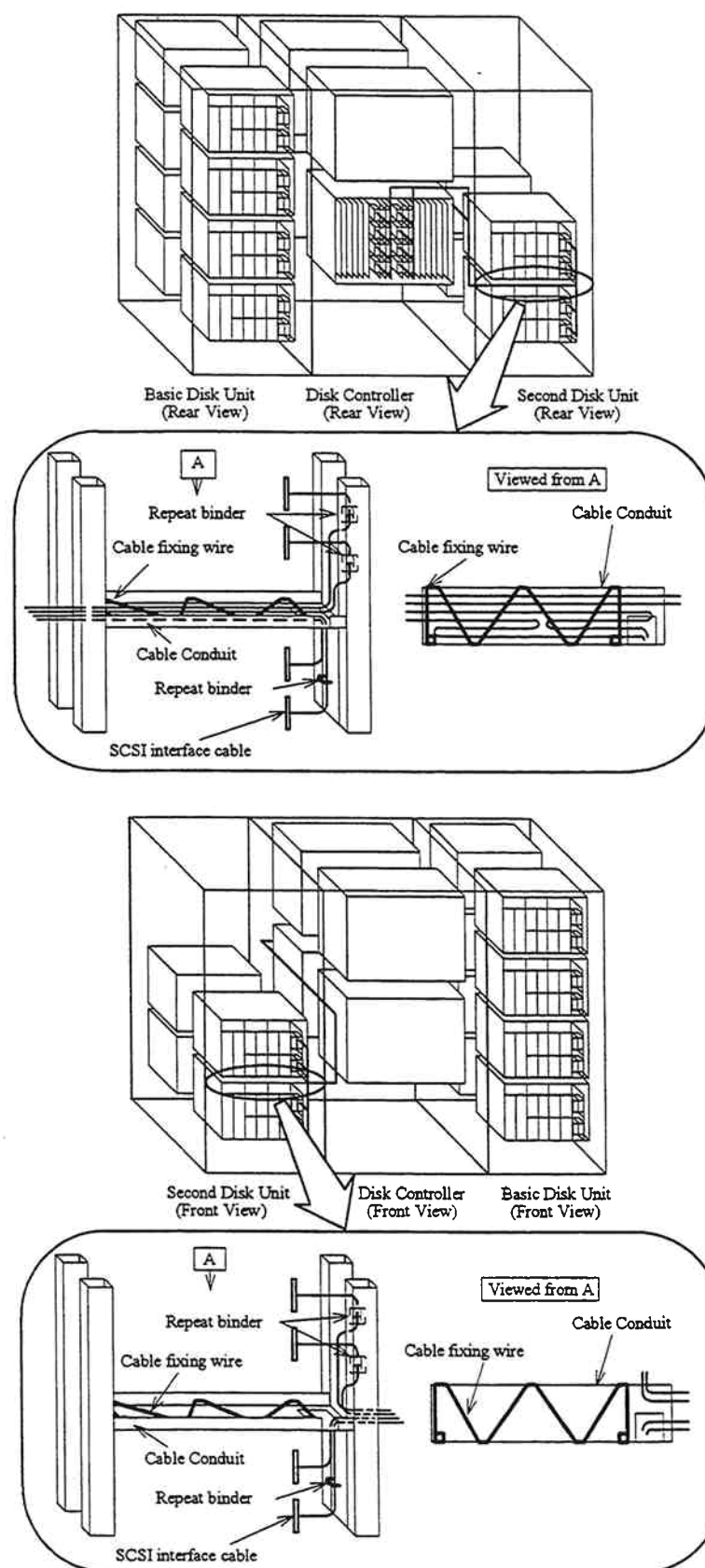


Fig. K-25 Removal of the cable fixing wires and repeat binders

(2) Remove the Logic Box covers. Refer to SECTION 3.3.1 HOW TO OPEN / CLOSE THE DOOR [INST03-10].

(3) Replace the SCSI interface cable. The SCSI interface cable should be wired in the same way as the previous route.

Cable No. 17 DKA-1J (1·J1) through SC BFR-L10U (0U·J501)

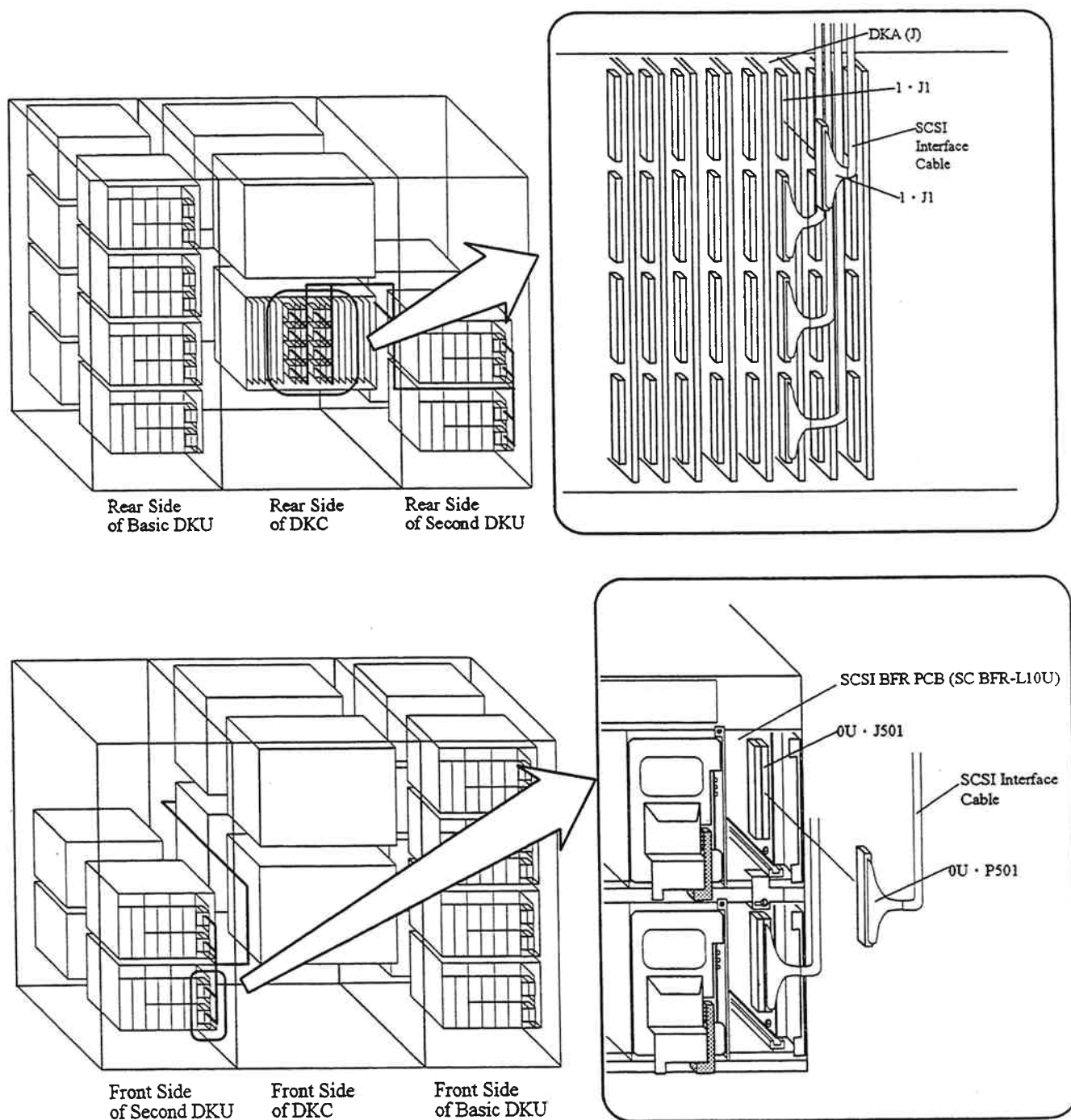


Fig. K-26 Replacement of SCSI Interface Cable

Cable No. 18 DKA-1J (1·J2) through SC BFR-L11U (1U·J501)

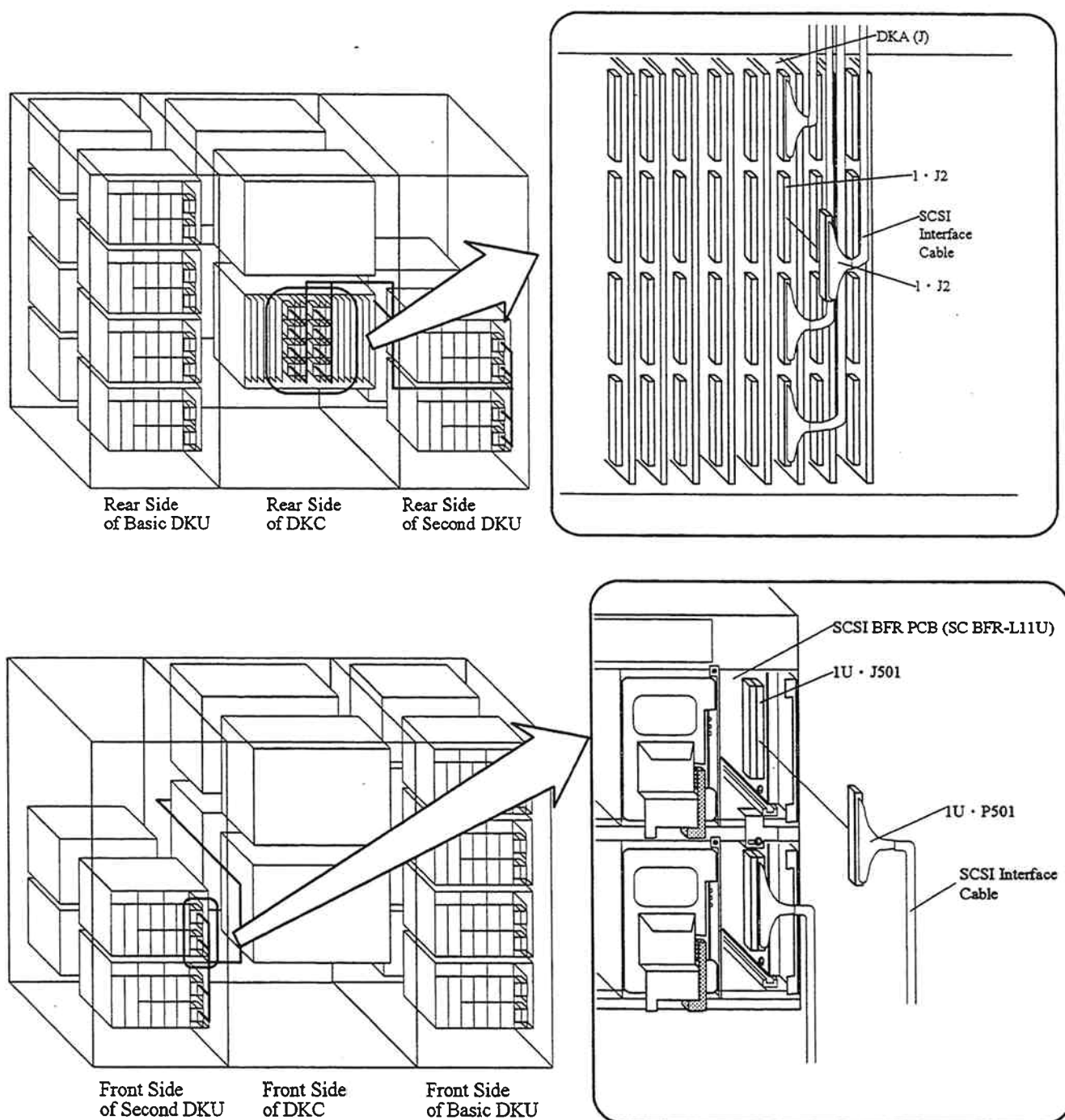


Fig. K-27 Replacement of SCSI Interface Cable

Cable No. 19 DKA-1J (1·J3) through SC BFR-L12U (2U·J501)

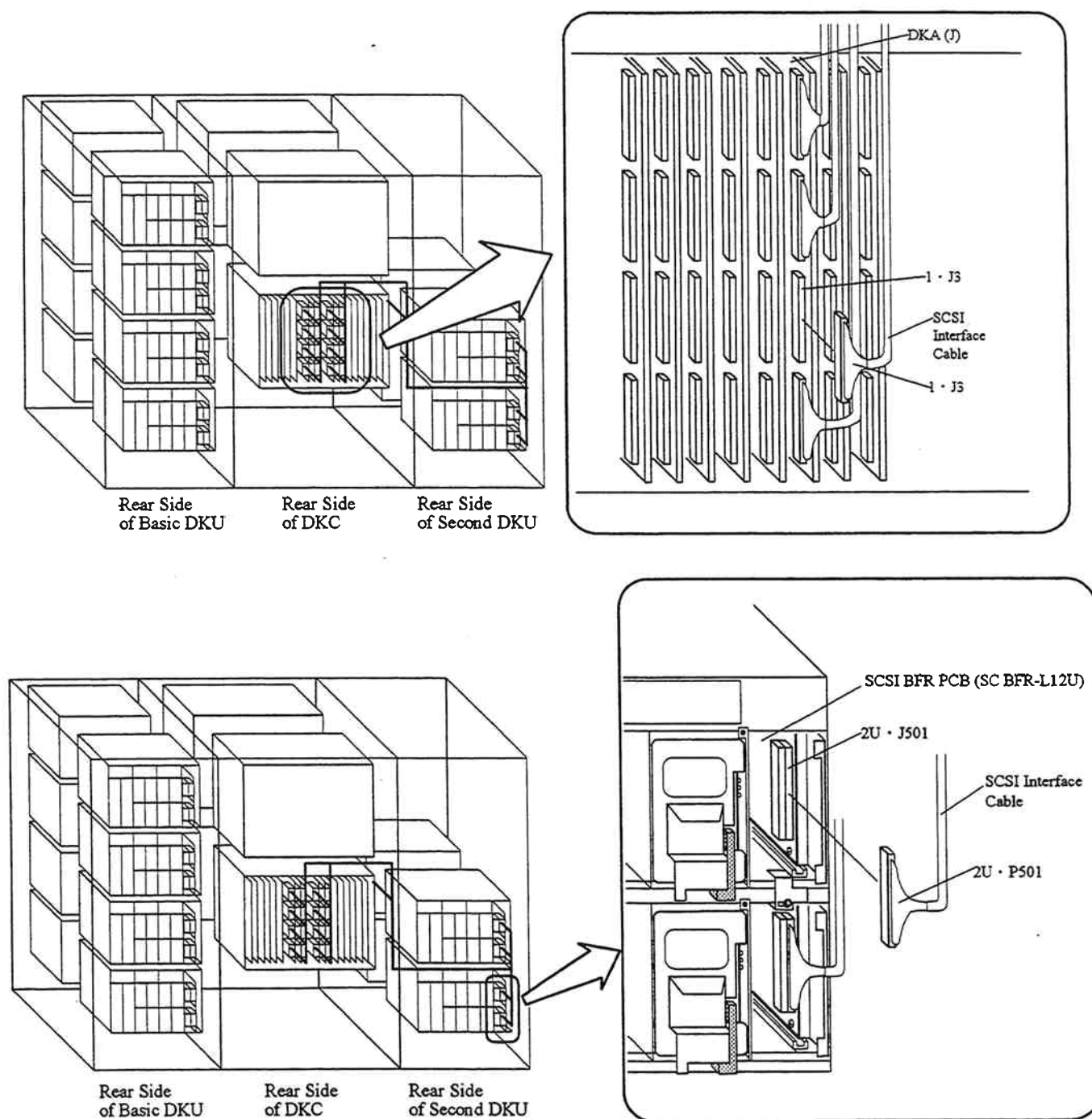


Fig. K-28 Replacement of SCSI Interface Cable

Cable No. 20 DKA-1J (1·J4) through SC BFR-L13U (3U·J501)

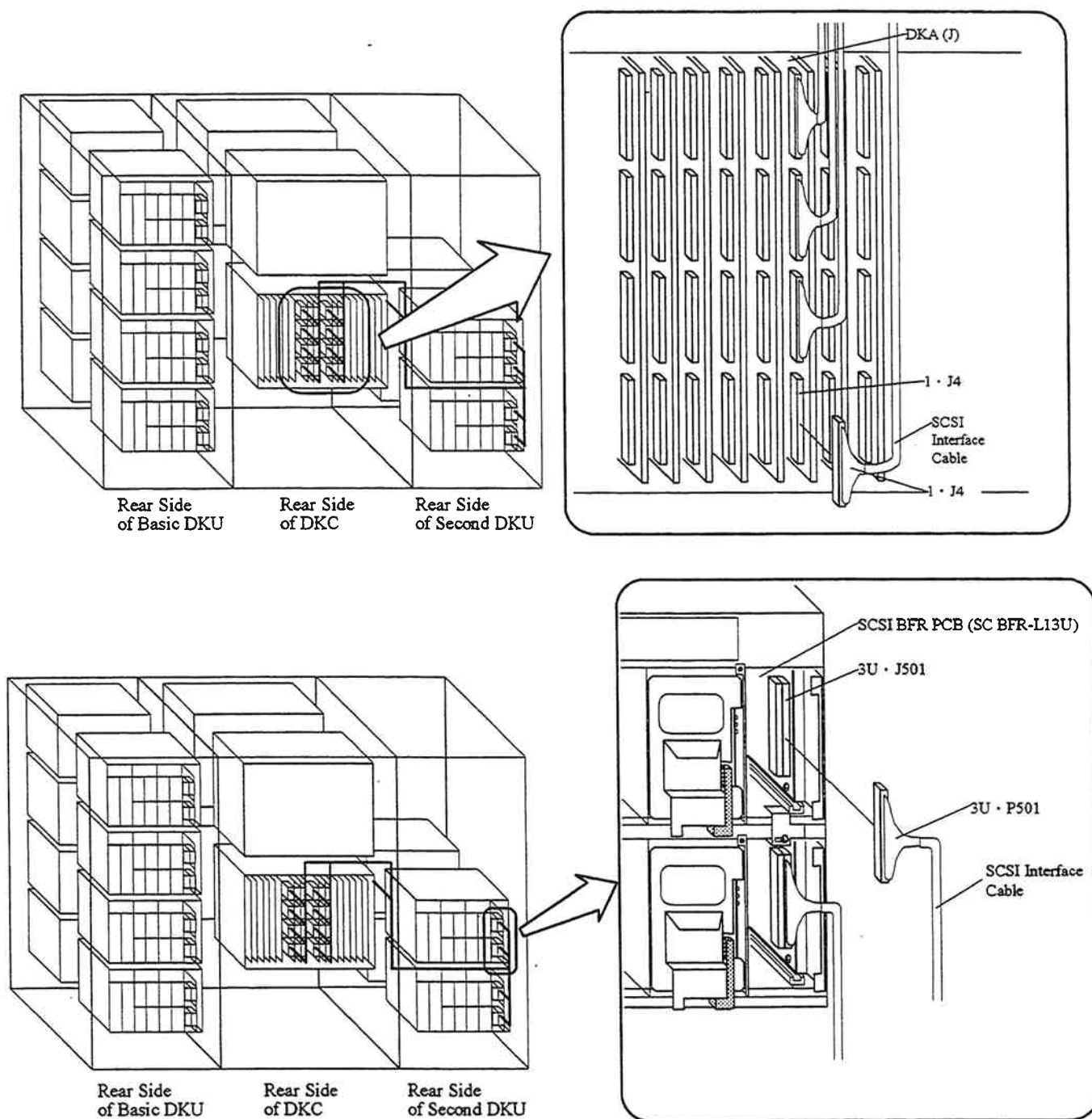


Fig. K-29 Replacement of SCSI Interface Cable

Cable No. 21 DKA-2N (2·N1) through SC BFR-L10L (0L·J501)

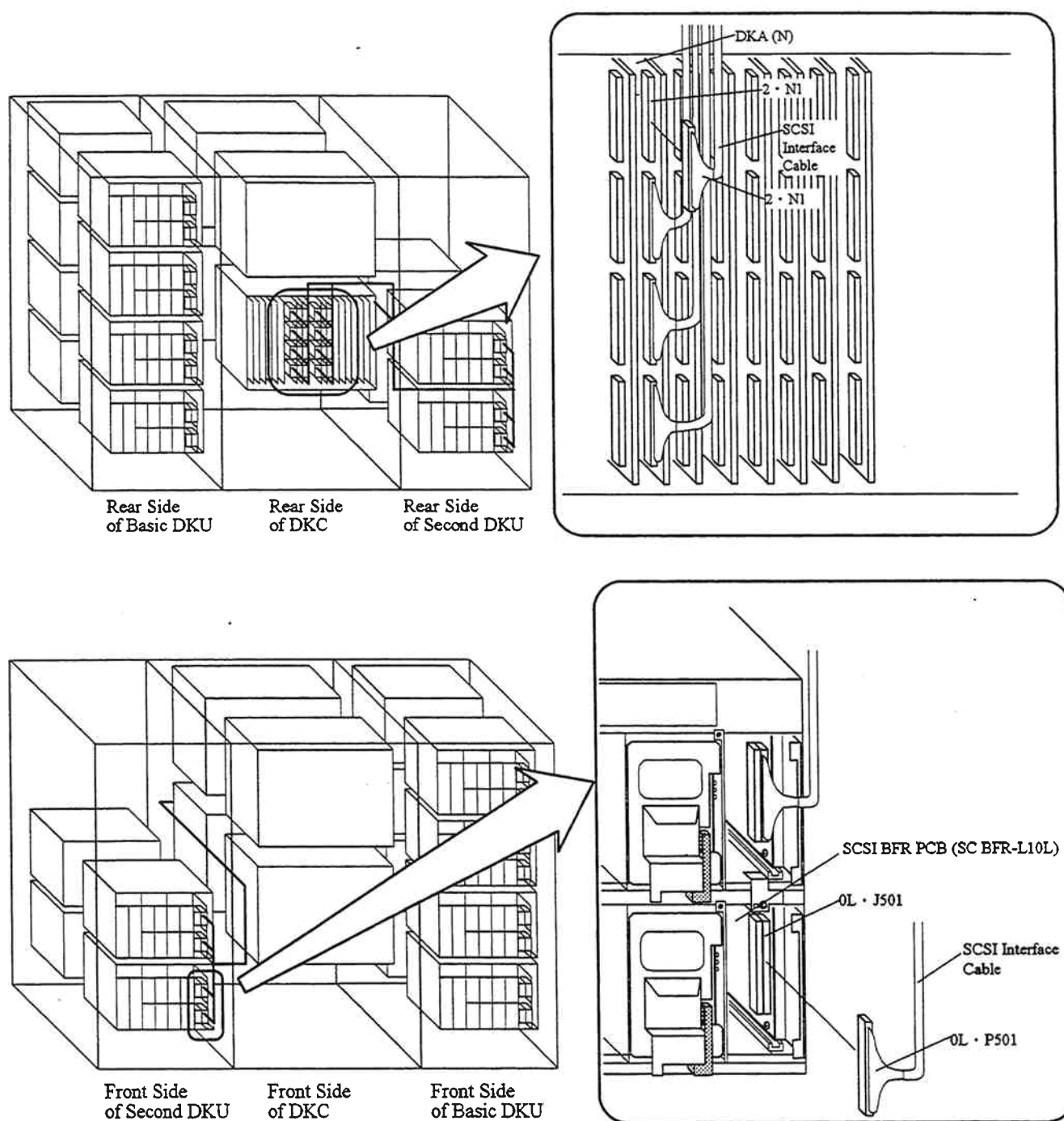


Fig. K-30 Replacement of SCSI Interface Cable

Cable No. 22 DKA-2N (2·N2) through SC BFR-L11L (1L·J501)

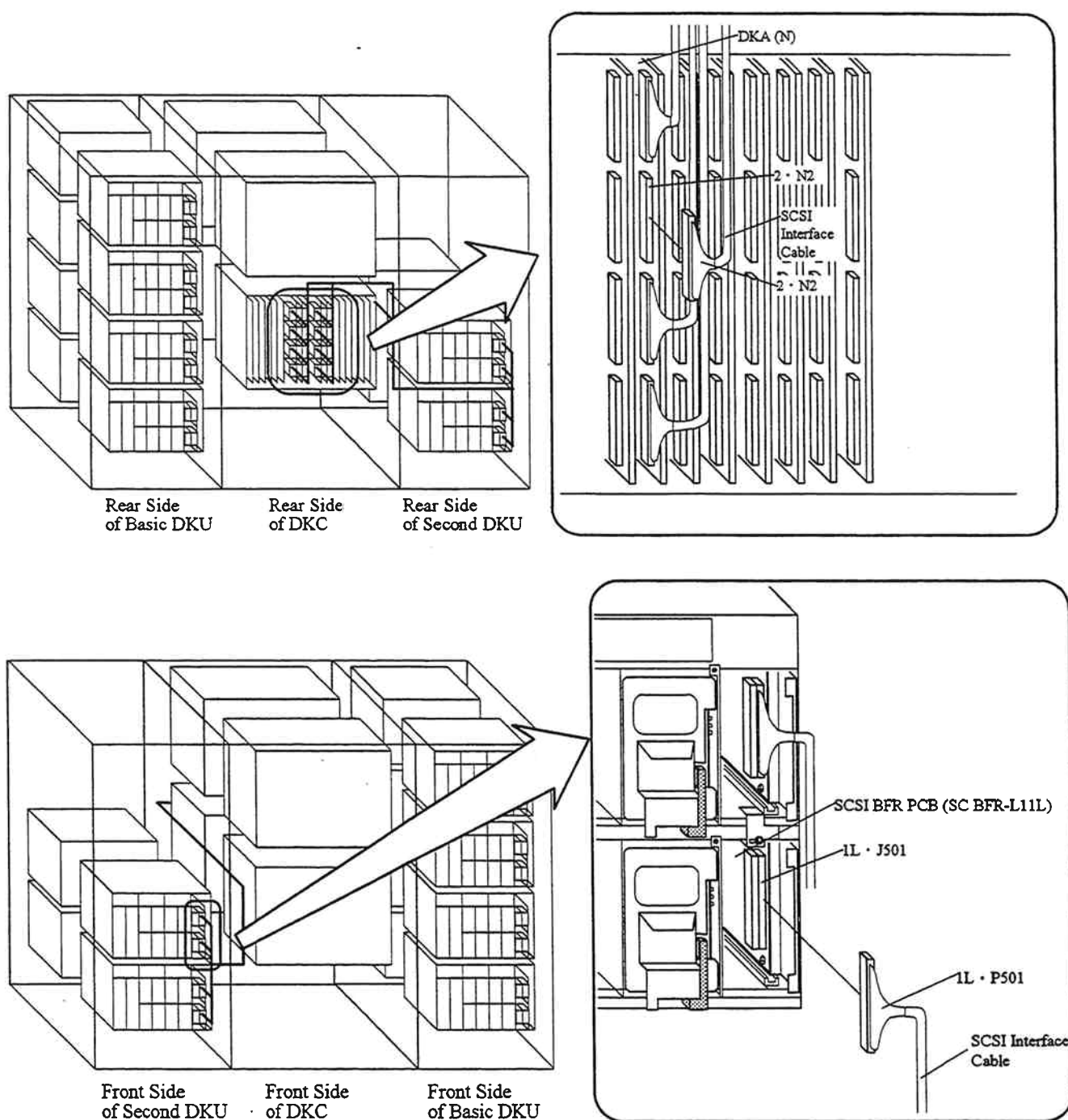


Fig. K-31 Replacement of SCSI Interface Cable

Cable No. 23 DKA-2N (2·N3) through SC BFR-L12L (2L·J501)

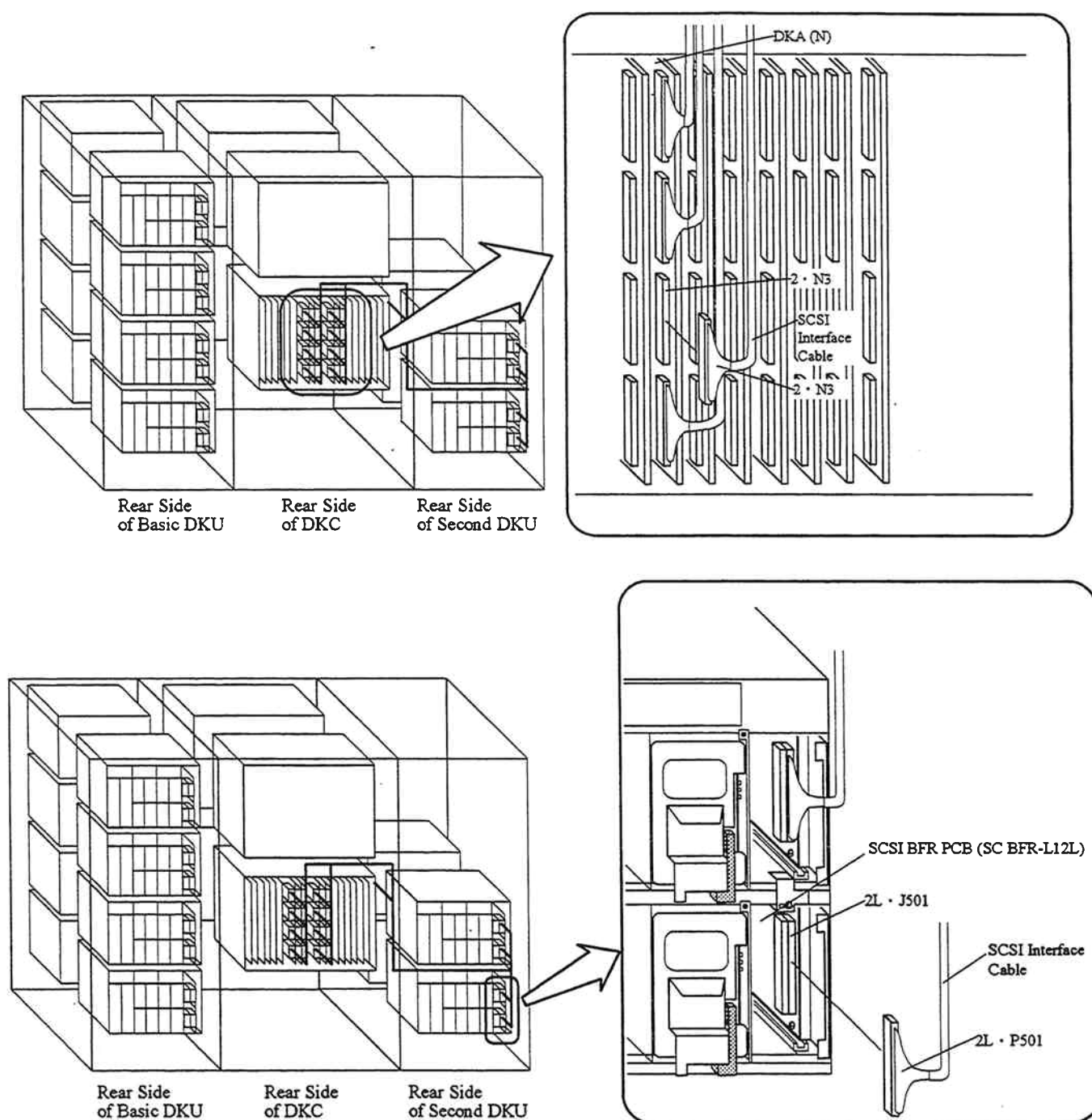


Fig. K-32 Replacement of SCSI Interface Cable

Cable No. 24 DKA-2N (2·N4) through SC BFR-L13L (3L·J501)

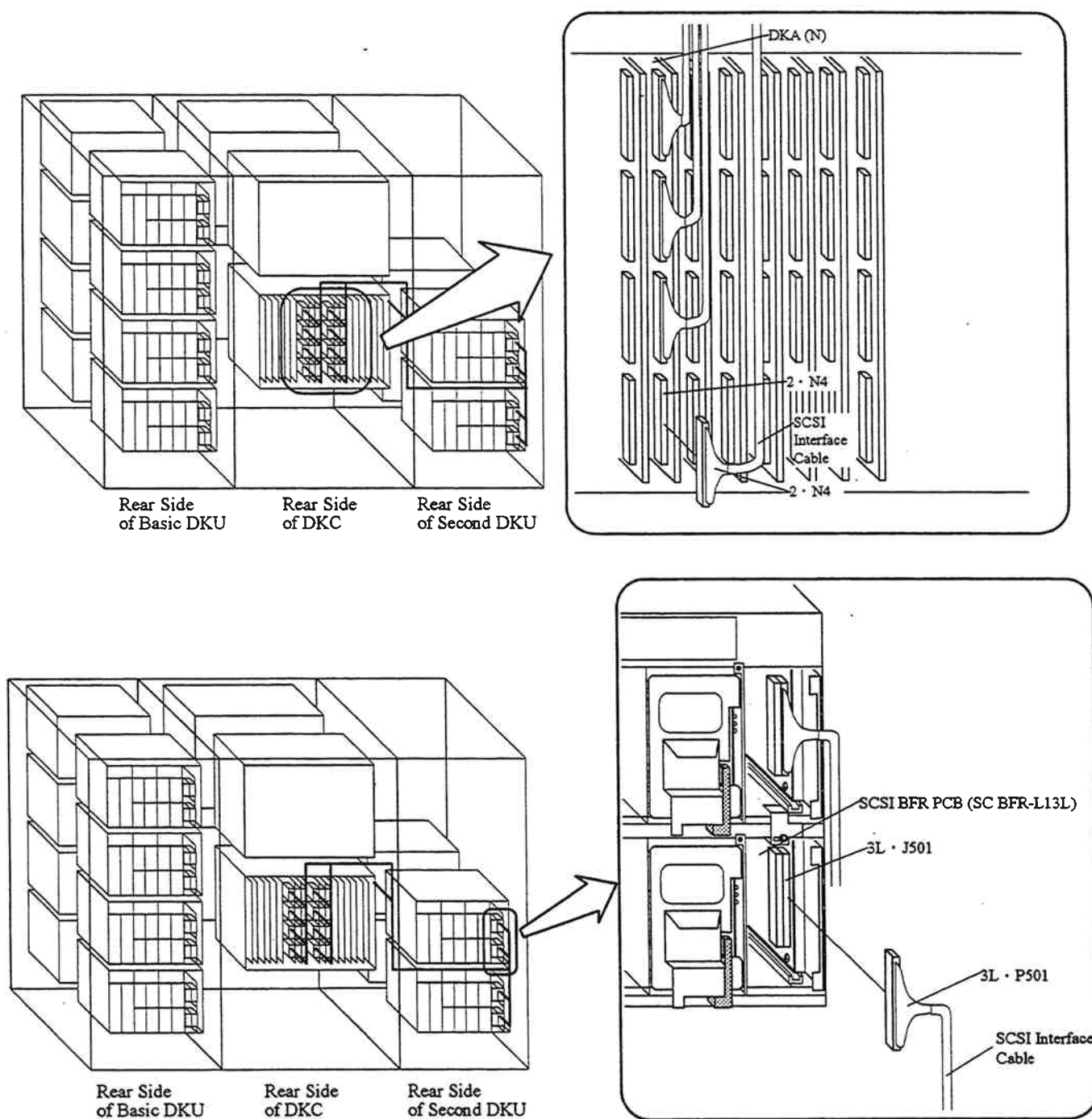


Fig. K-33 Replacement of SCSI Interface Cable

(4) Attach the Logic Box covers. Refer to SECTION 3.3.1 HOW TO OPEN / CLOSE THE DOOR [INST03-10].

(5) Fix the SCSI interface cables in the DKU chassis with the cable fixing wires and repeat binders.

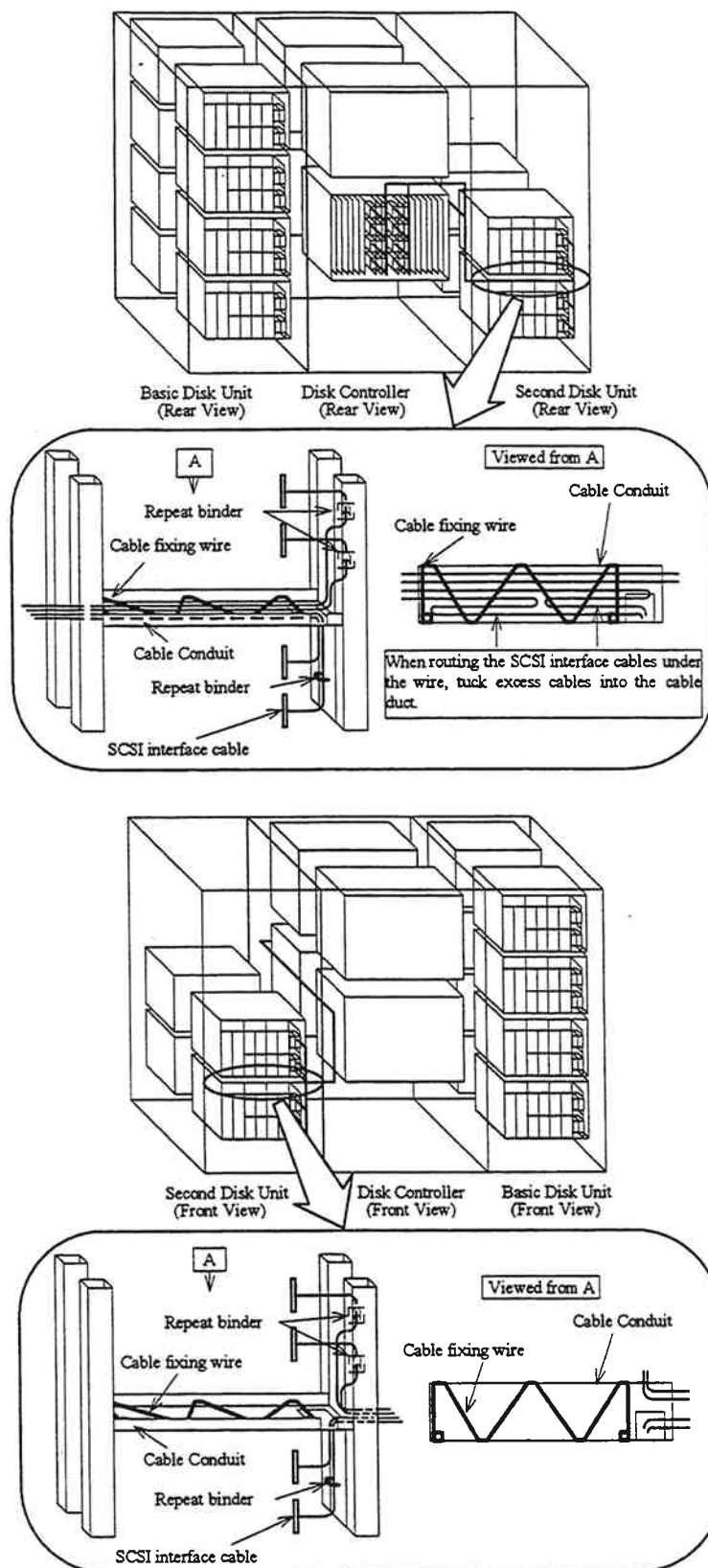


Fig. K-34 Fixation of the SCSI Interface Cables

(6) In case that there is 3rd/4th DKU, go to REP03-448A.

In case that there isn't 3rd/4th DKU, go to post-PROCEDURE h (REP04-190).

Cable No. 25-32 DKA-1K/2P through SC BFR-L14-L17U/L

(1) Remove the cable fixing wires and repeat binders.

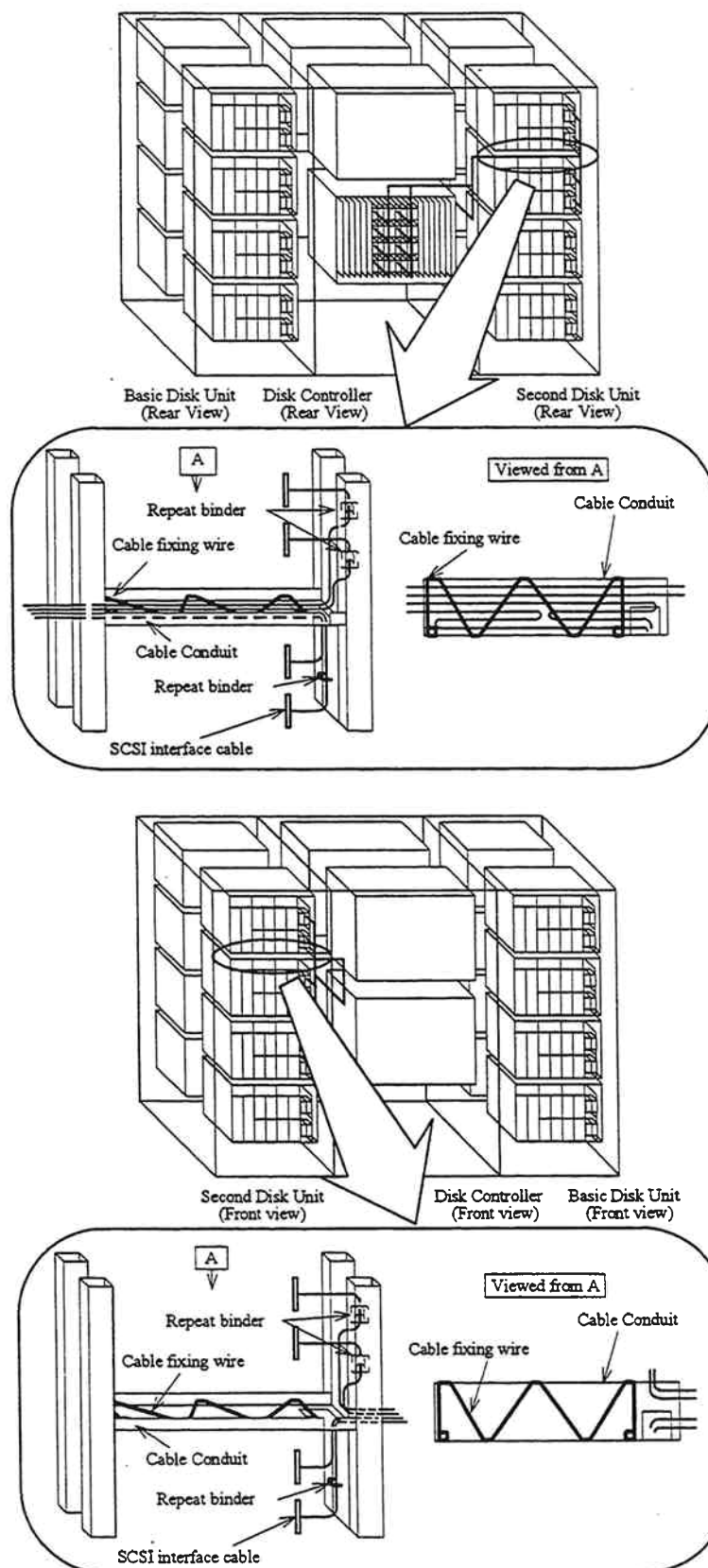


Fig. K-35 Removal of the cable fixing wires and repeat binders

- (2) Remove the Logic Box covers. Refer to SECTION 3.3.1 HOW TO OPEN / CLOSE THE DOOR [INST03-10].
- (3) Replace the SCSI interface cable. The SCSI interface cable should be wired in the same way as the previous route.

Cable No. 25 DKA-1K (1-K1) through SC BFR-L14U (4U-J501)

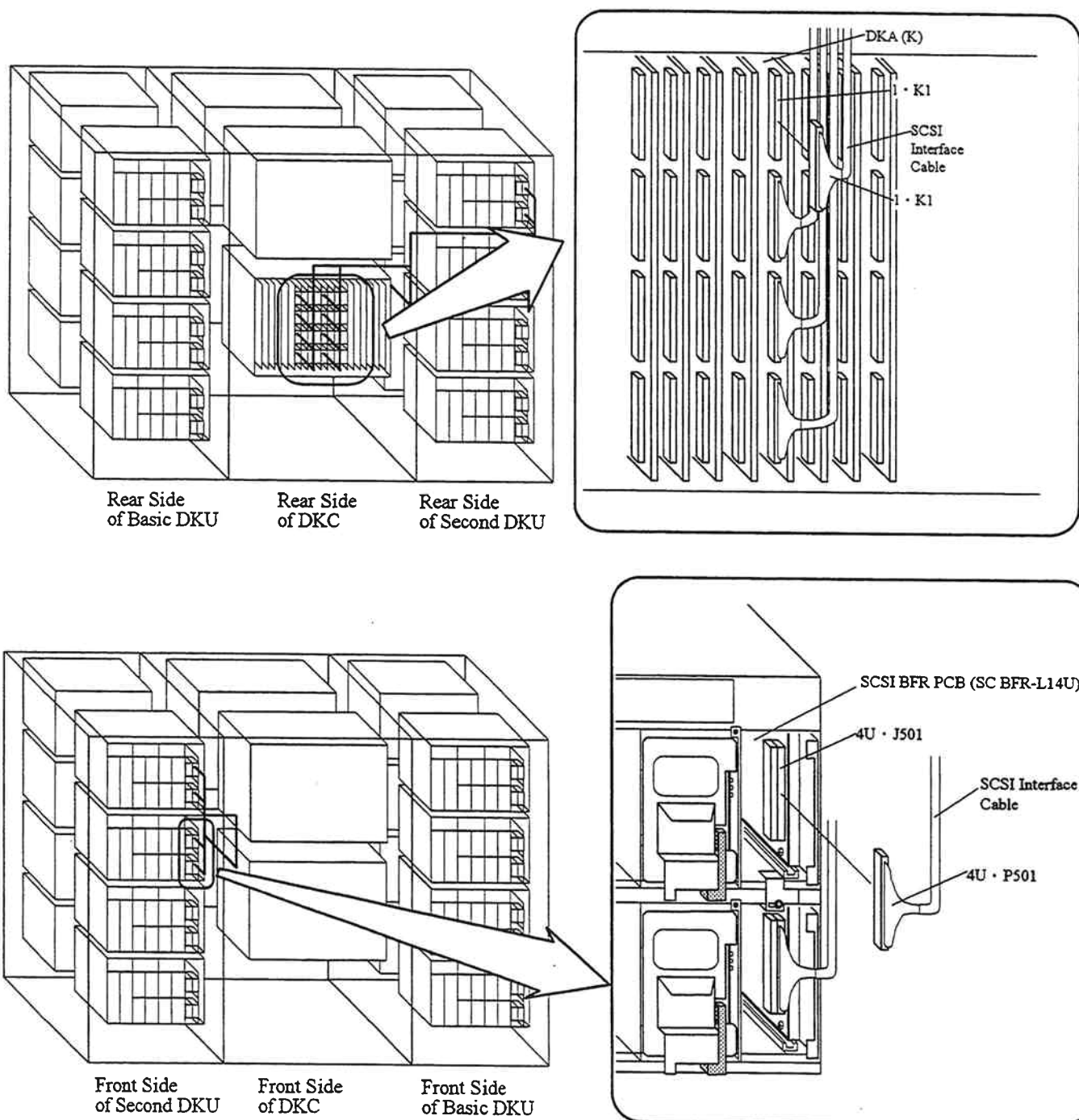


Fig. K-36 Replacement of SCSI Interface Cable

Cable No. 26 DKA-1K (1·K2) through SC BFR-L15U (5U·J501)

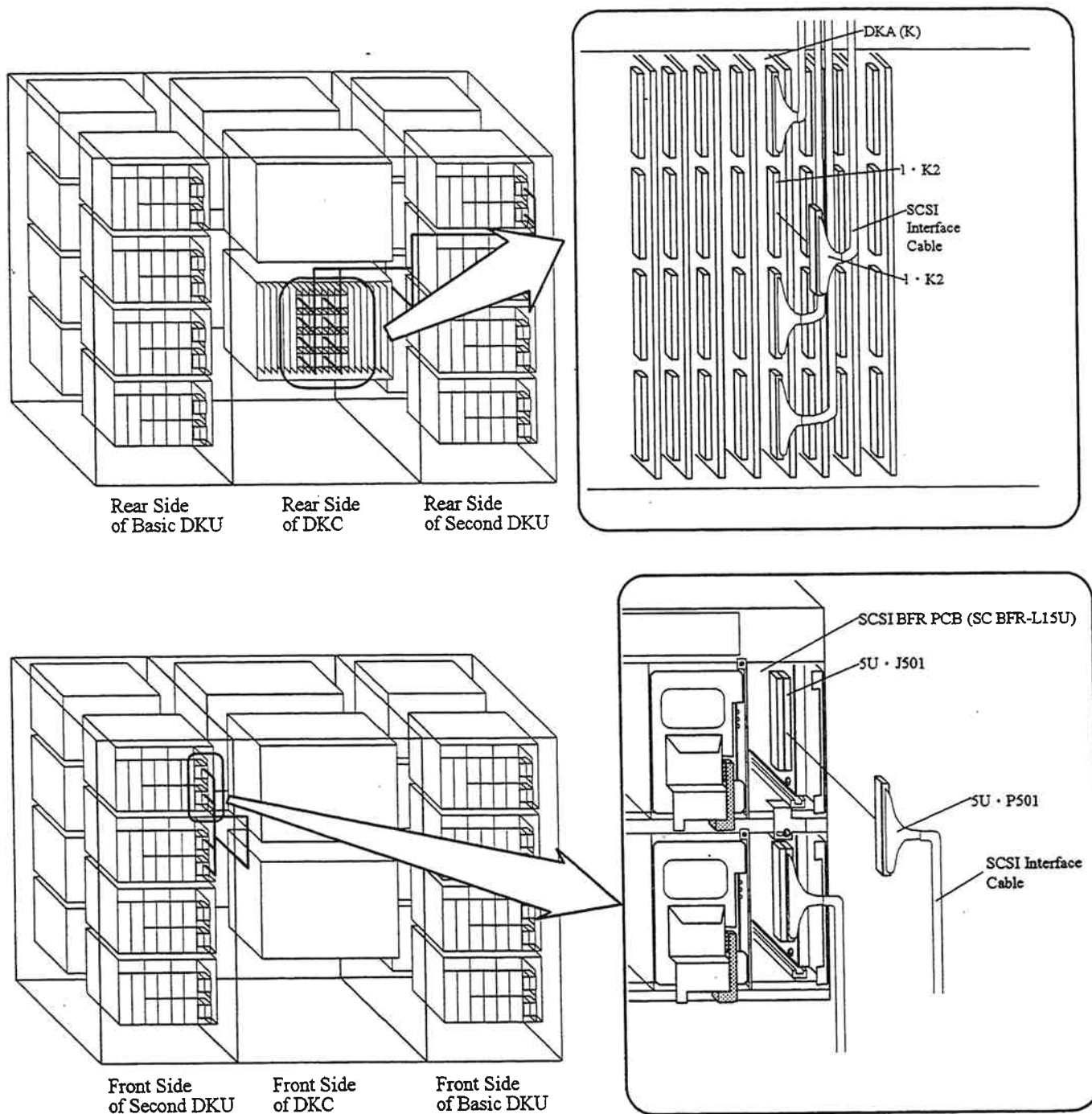


Fig. K-37 Replacement of SCSI Interface Cable

Cable No. 27 DKA-1K (1·K3) through SC BFR-L16U (6U·J501)

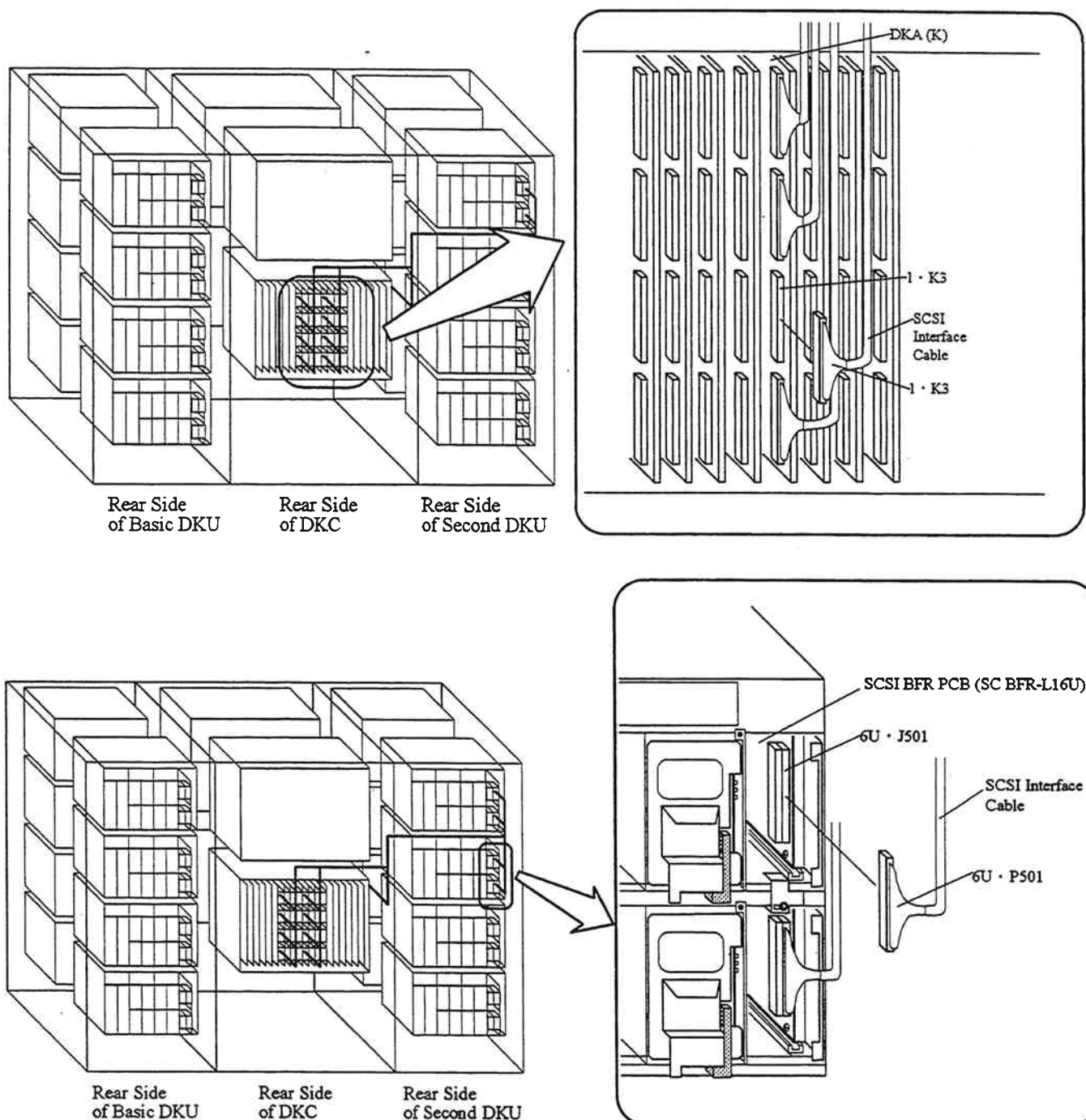


Fig. K-38 Replacement of SCSI Interface Cable

Cable No. 28 DKA-1K (1-K4) through SC BFR-L17U (7U-J501)

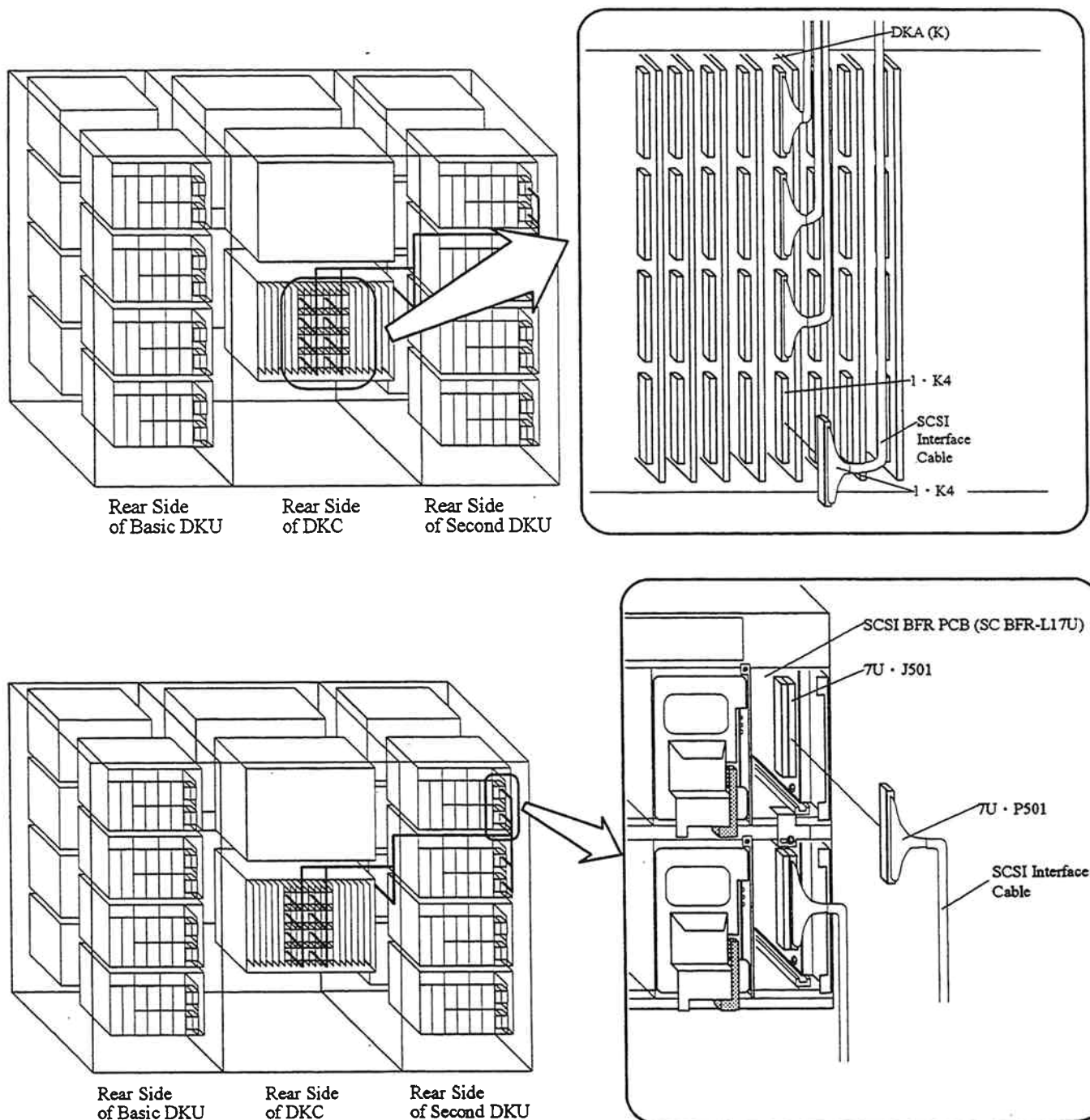


Fig. K-39 Replacement of SCSI Interface Cable

Cable No. 29 DKA-2P (2·P1) through SC BFR-L14L (4L·J501)

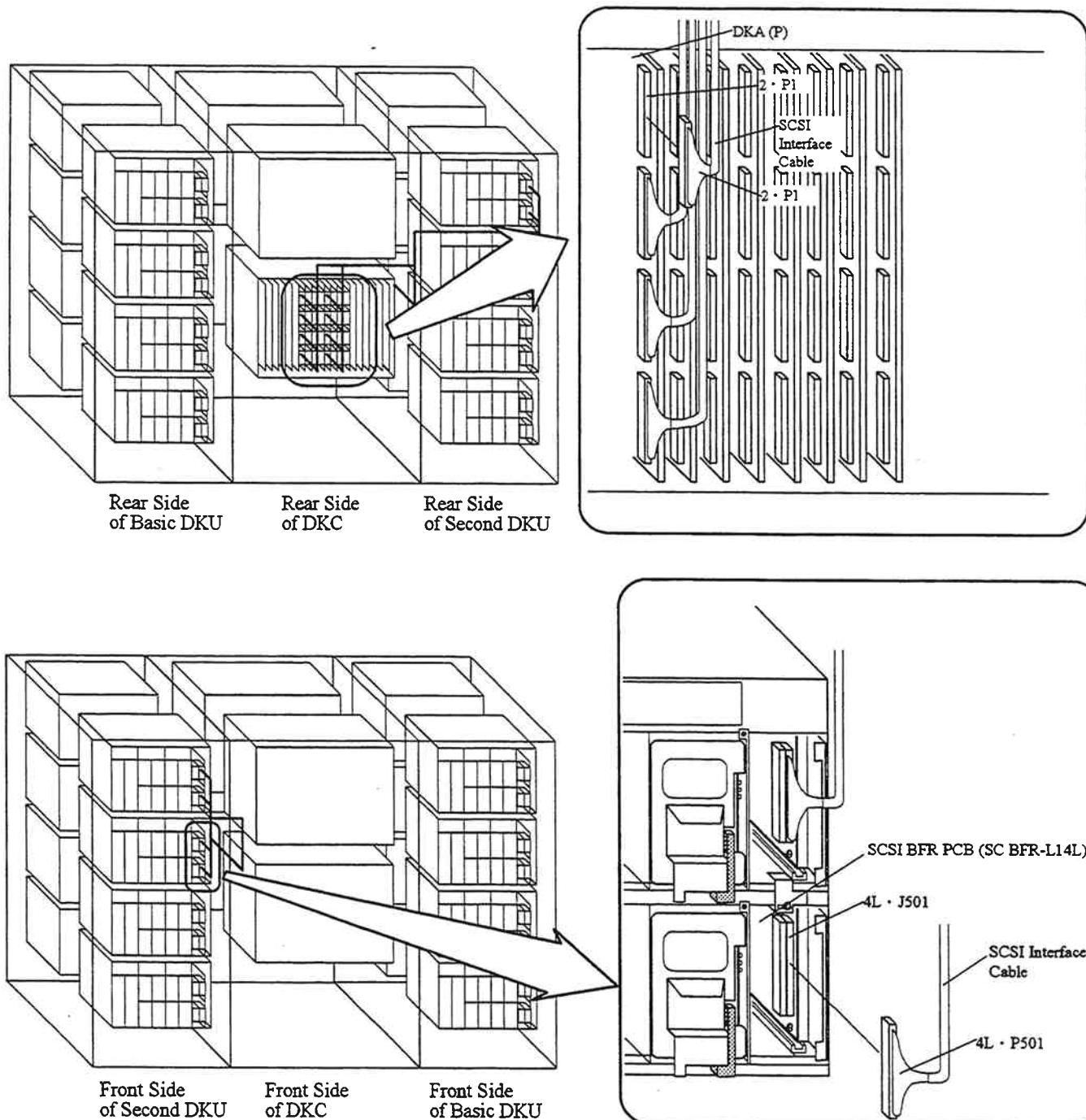


Fig. K-40 Replacement of SCSI Interface Cable

Cable No. 30 DKA-2P (2·P2) through SC BFR-L15L (5L·J501)

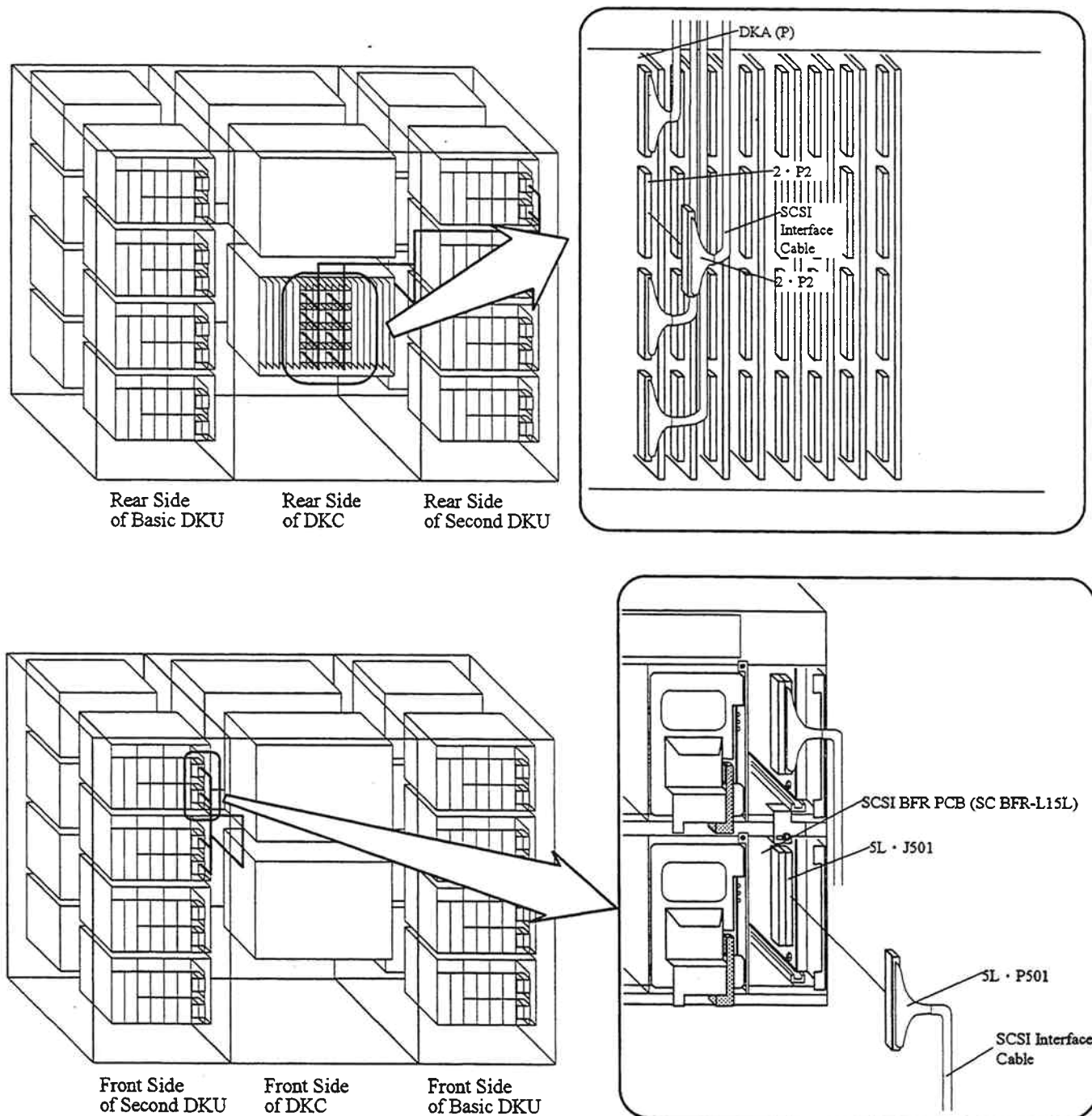


Fig. K-41 Replacement of SCSI Interface Cable