Disassembly Procedure (E5515A/B/T)

Sept 14, 2000

This document provides the disassembly procedures for the replaceable assemblies and components of the test set. This document does not contain part numbers; for part numbers refer to "Replaceable Parts List".
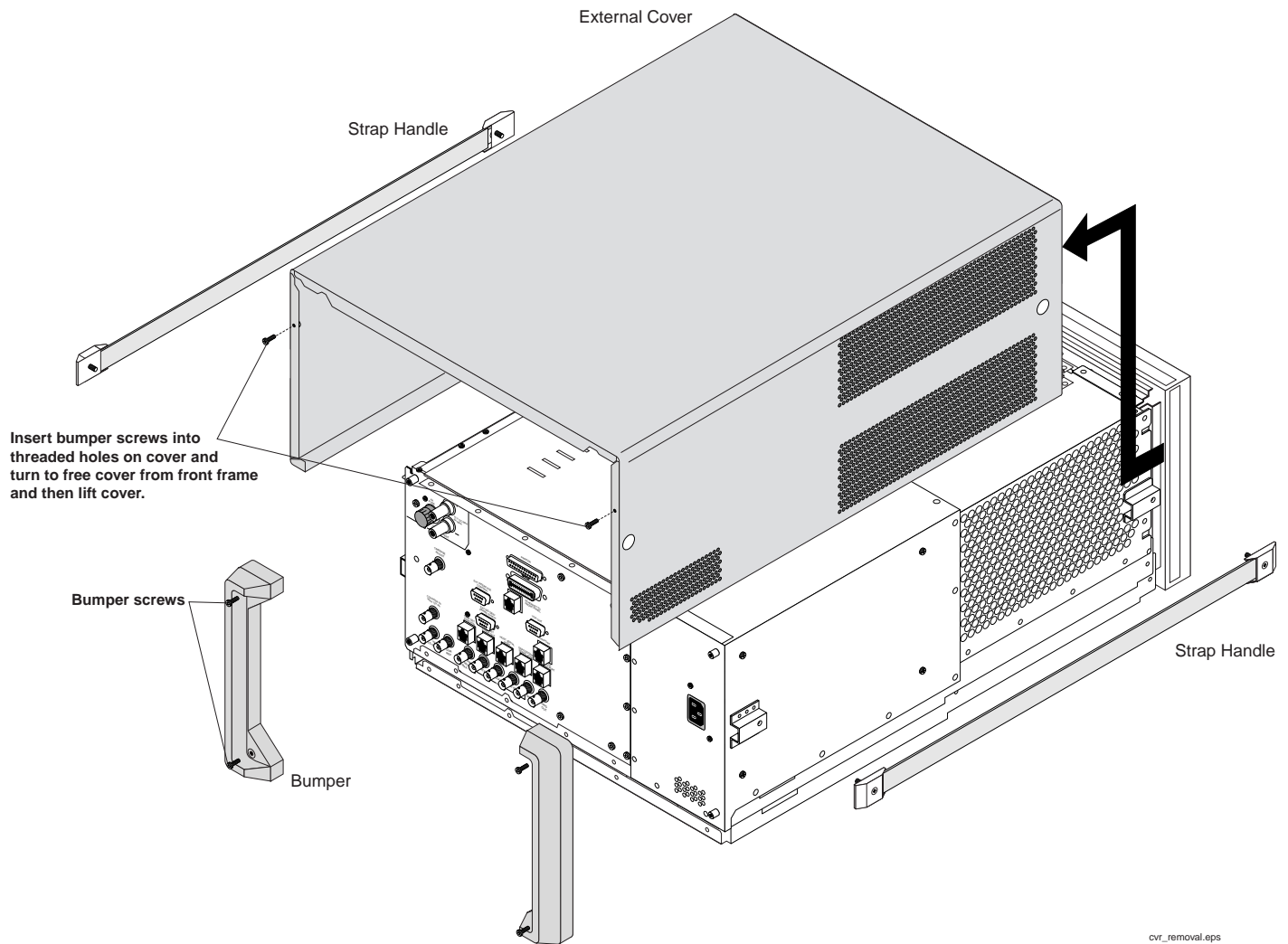
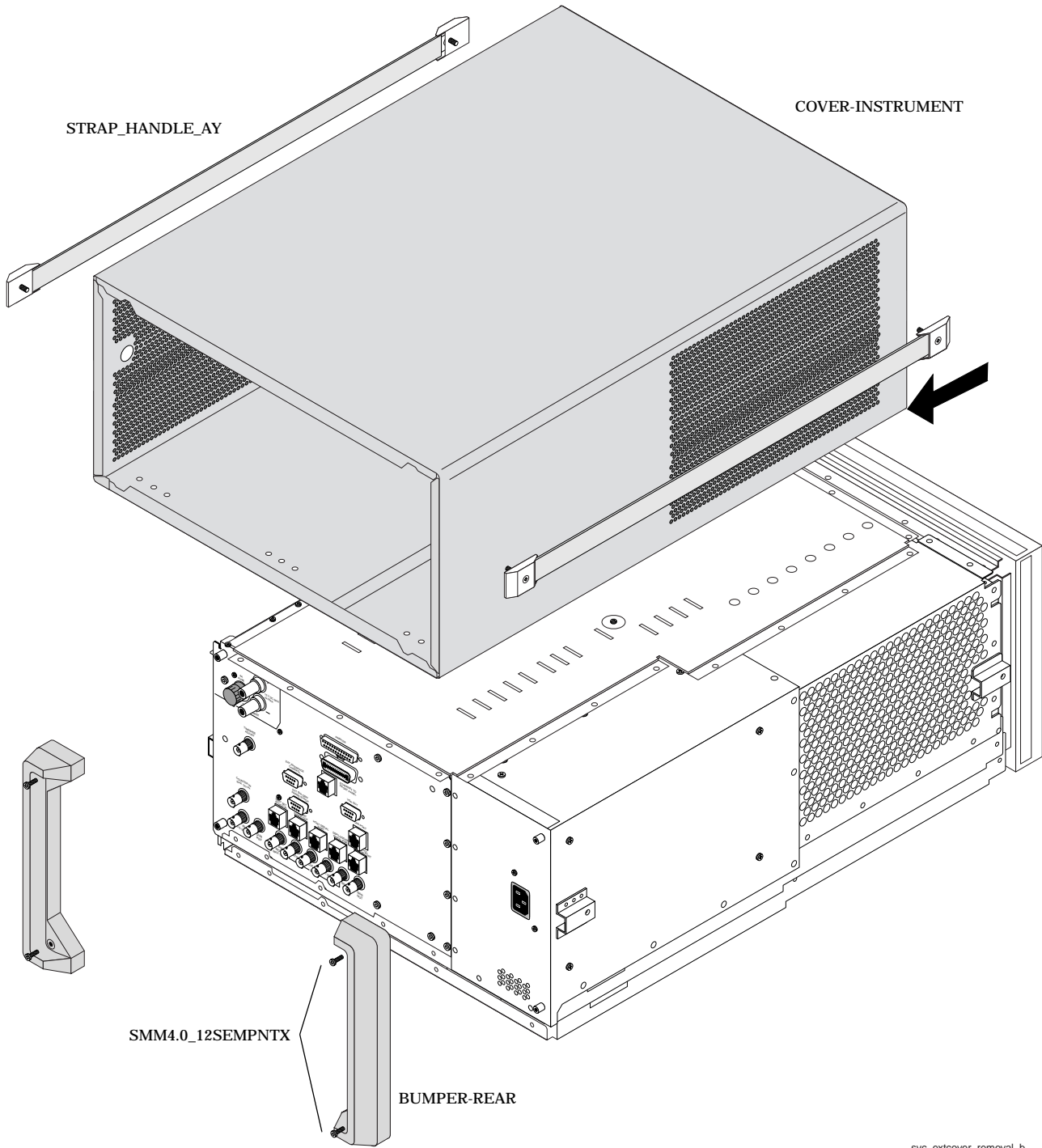## Table of Contents

External Cover

To remove the test set's external cover:

1. Disconnect all cables to the test set.

2. Remove the test set's strap handles and rear panel bumpers, see figure 1.

3. Using 2 of the screws used to secure the bumpers, insert these screws into the threaded holes on the external cover. Alternately turn the screws to slide the cover from the front-panel frame groove.

4. When the cover clears the groove, lift the cover from the test set.

Figure 1.   External Cover (E5515A)

External Cover

Strap Handle

Insert bumper screws into threaded holes on cover and turn to free cover from front frame and then lift cover.

Bumper screws

Bumper

Strap Handle

cvr_removal.eps

Figure 2.   **External Cover (E5515B/T)**

STRAP_HANDLE_AY

COVER-INSTRUMENT

SMM4.0_12SEMPNTX

BUMPER-REAR

svc_extcover_removal_b
.eps

Internal Top Cover

1. Remove the test set's external cover, see "External Cover" on page 2.

2. Remove the screws securing the internal top cover to the chassis and lift the cover from the chassis, see figure 3.
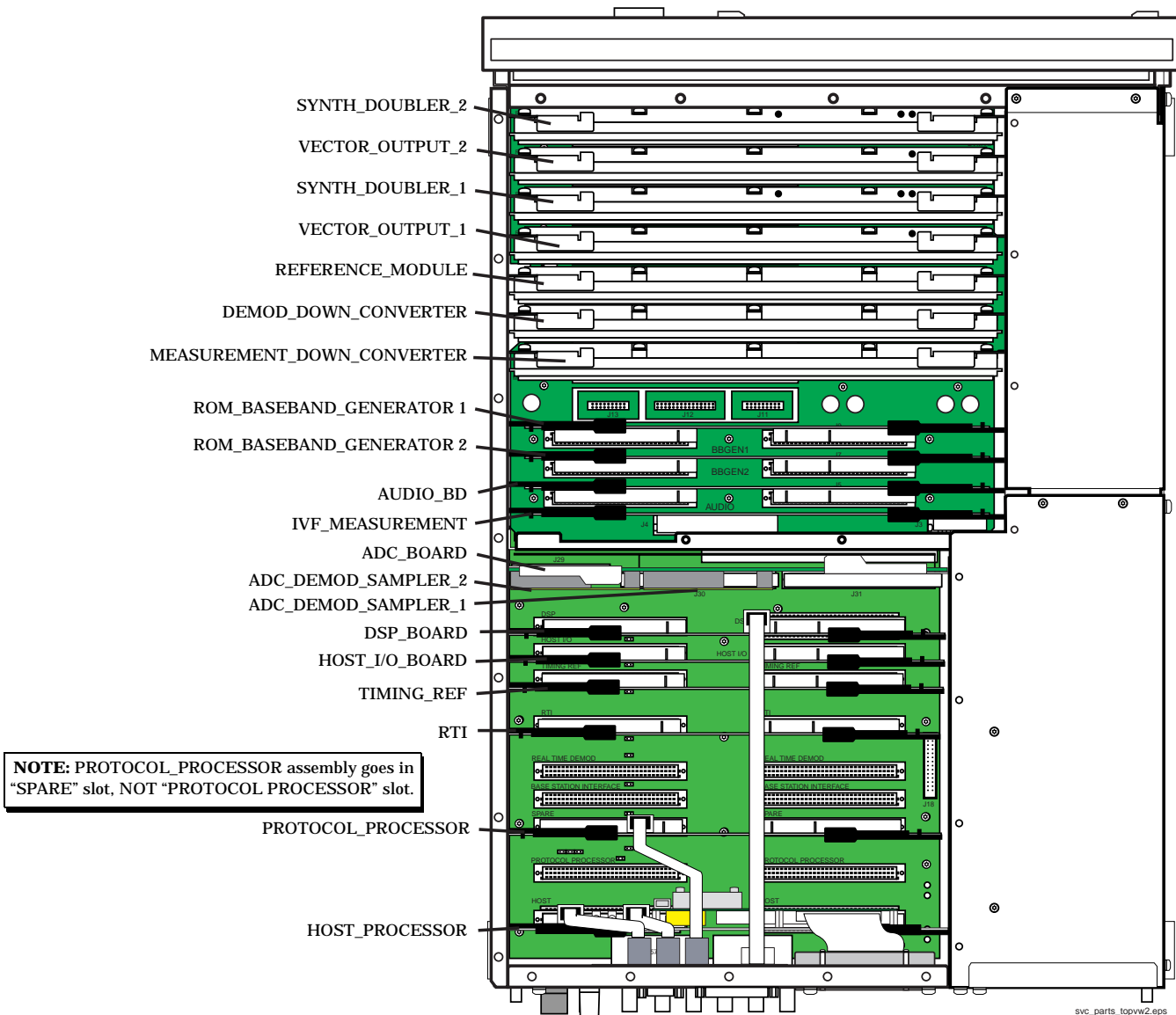
Figure 3   **Internal Top Cover**

Internal Top Cover

Lift tabs to remove module or board.

Fan Assembly

POWER_SUPPLY__INTERFACE

Power Supply Assembly

svc_parts_topvw1.eps
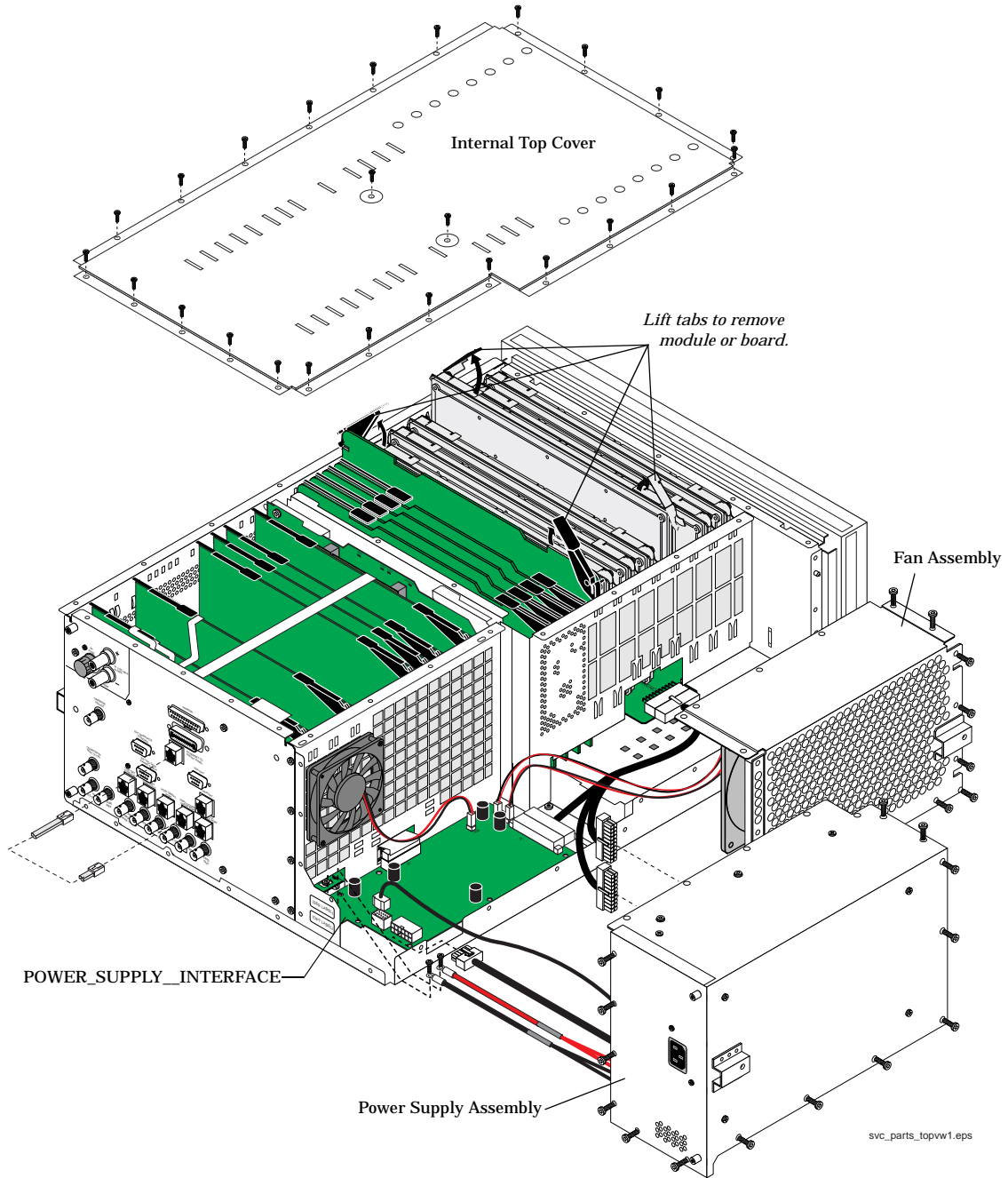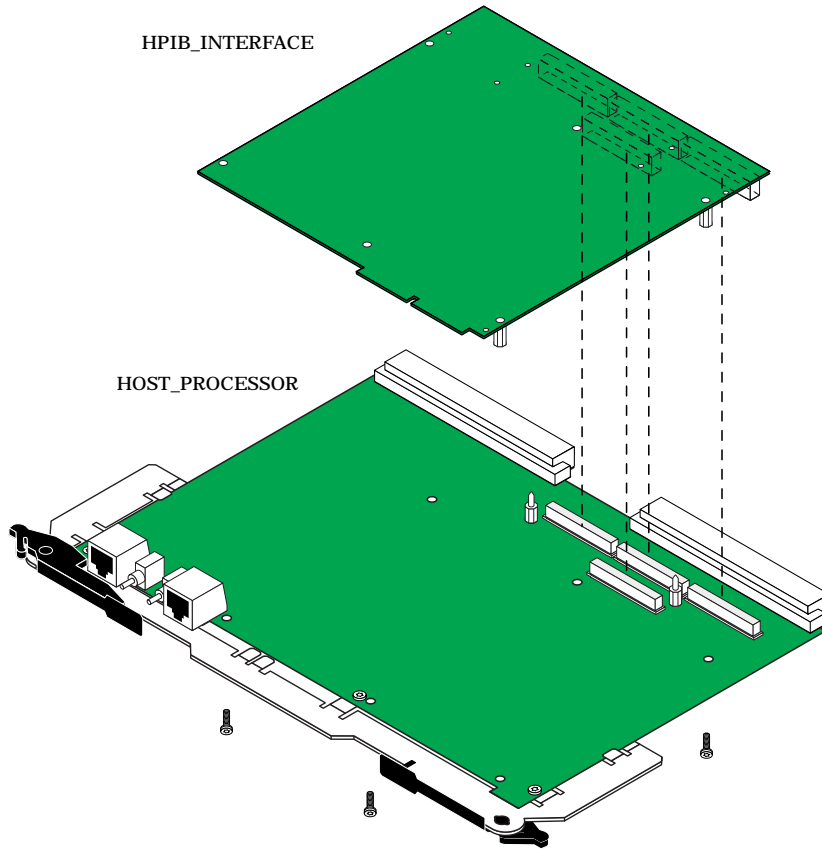
Digital and RF Modules

1. Remove the external and internal-top covers, see "External Cover" on page 2 and "Internal Top Cover" on page 4.

2. Refer to figure 4 and identify the module or board you want to remove.

3. To remove a module or board, simultaneously lift the tabs on each side of the module or board (see figure 3 on page 4), and lift it from the chassis.

For additional information regarding the HOST_PROCESSOR and ADC_BOARD assemblies, see figure 5 and figure 6 on page 6.

Figure 4　　　　　　**RF and Digital Modules**

svc_parts_topvw2.eps

Figure 5   **HOST_PROCESSOR Assembly**

HPIB_INTERFACE

HOST_PROCESSOR

Figure 6   **ADC_BOARD Assembly**

ADC_DEMOD_SAMPLER_2

ADC_BOARD

CA_AY-FLEX/M (yellow)

to MEASUREMENT_DOWN_CONVERTER J101

ADC_DEMOD_SAMPLER_1
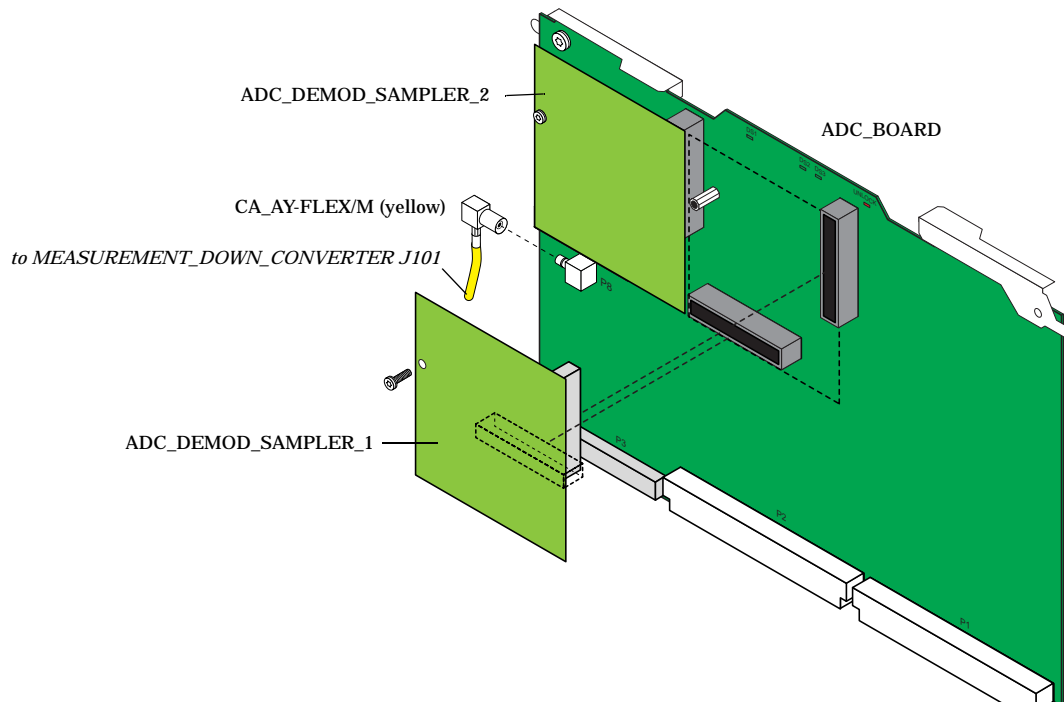
Internal Bottom Cover

1. Remove the test set's external cover, see "External Cover" on page 2.

2. Removal of the top internal cover is not necessary. Turn the test set over and remove the screws securing the bottom internal cover, see figure 7 (it is not necessary to remove the 3 forward feet from the bottom cover to remove the cover).

3. Lift the cover from the chassis.

Figure 7   **Internal Bottom Cover (E5515A)**
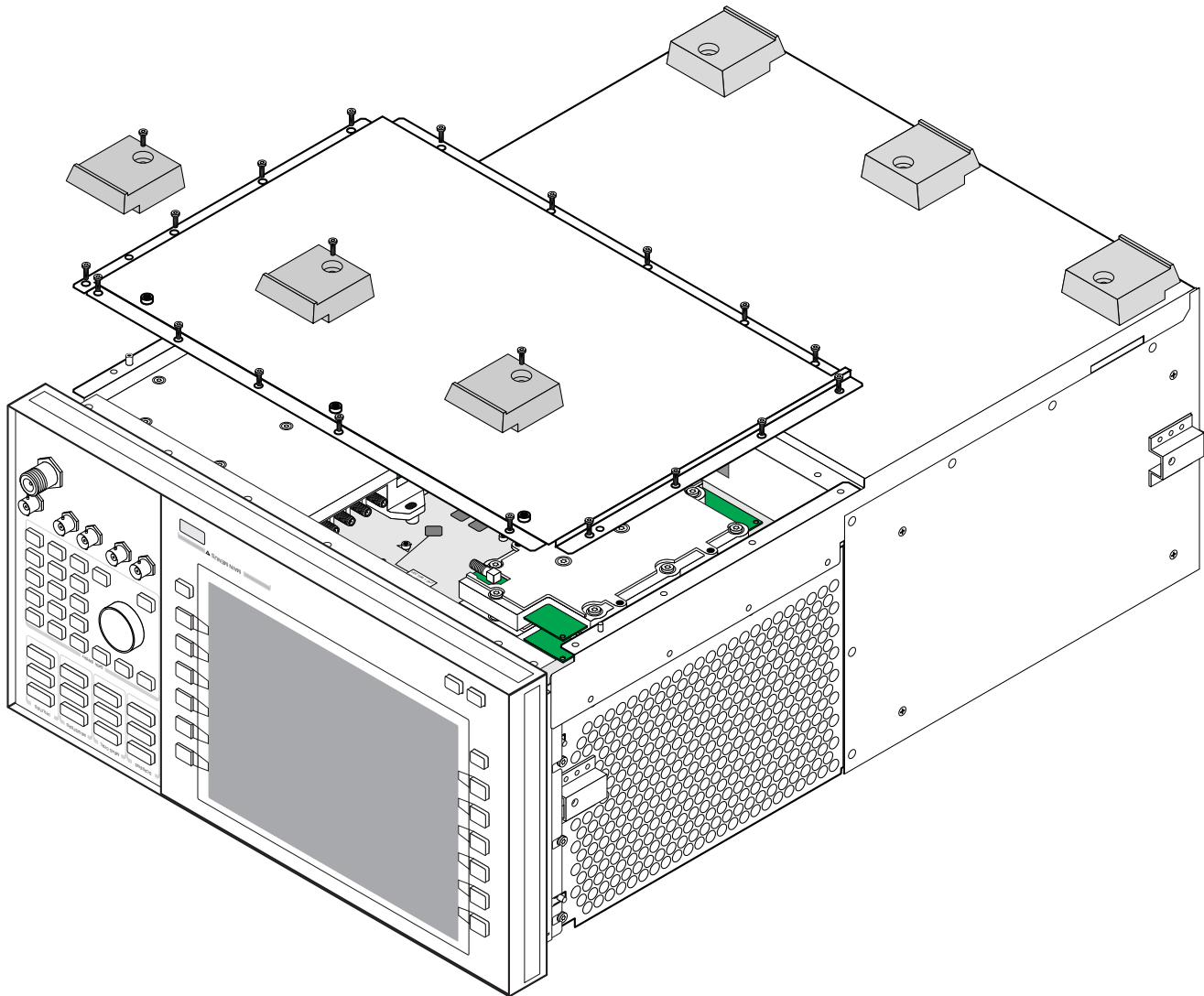
svc_btmcover_removal.eps

Figure 8   **Internal Bottom Cover (E5515B/T)**
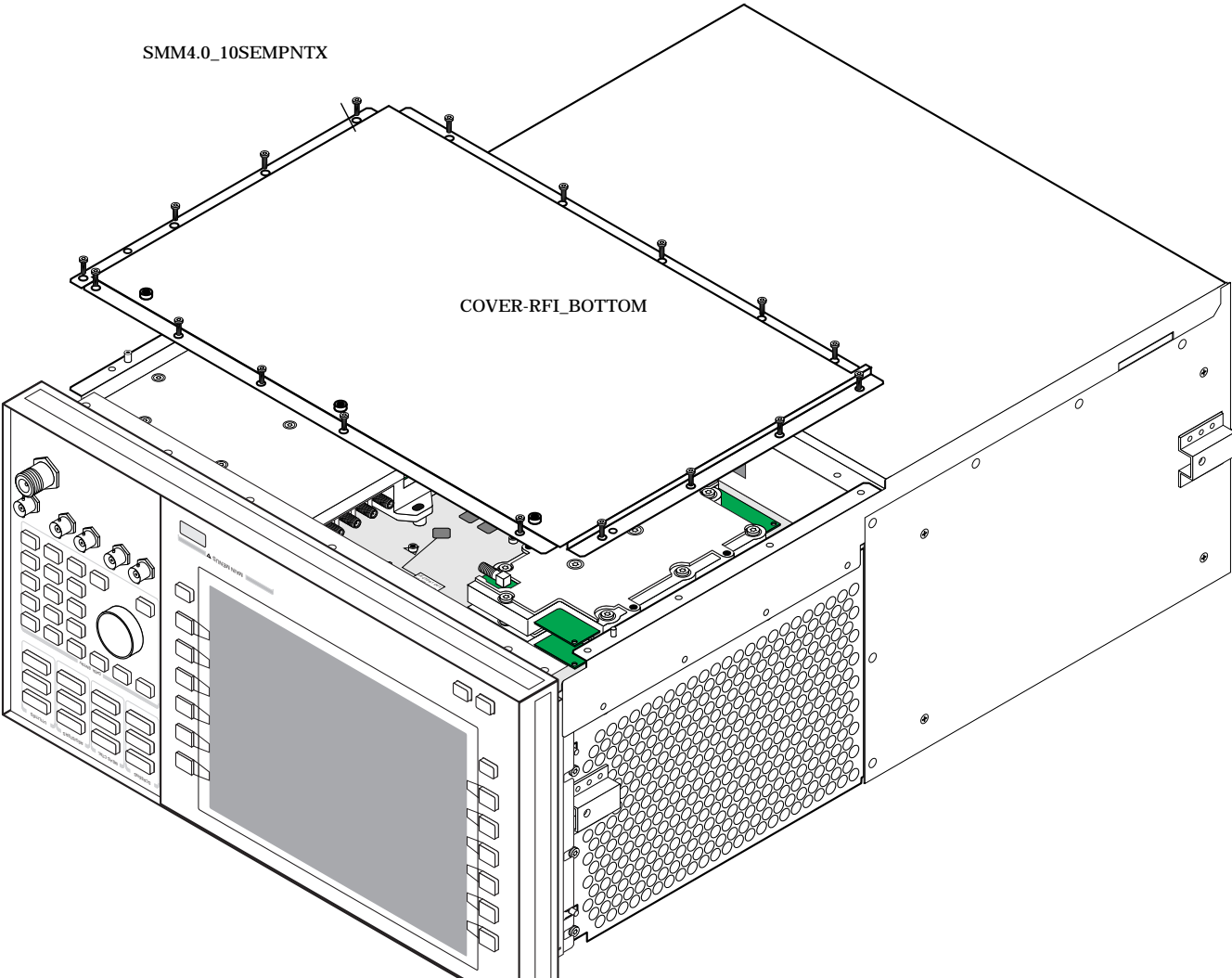
SMM4.0_10SEMPNTX

COVER-RFI_BOTTOM

3GHZ_ATTENUATOR and Other Assemblies

1. Remove the bottom internal cover, see "Internal Bottom Cover" on page 7.

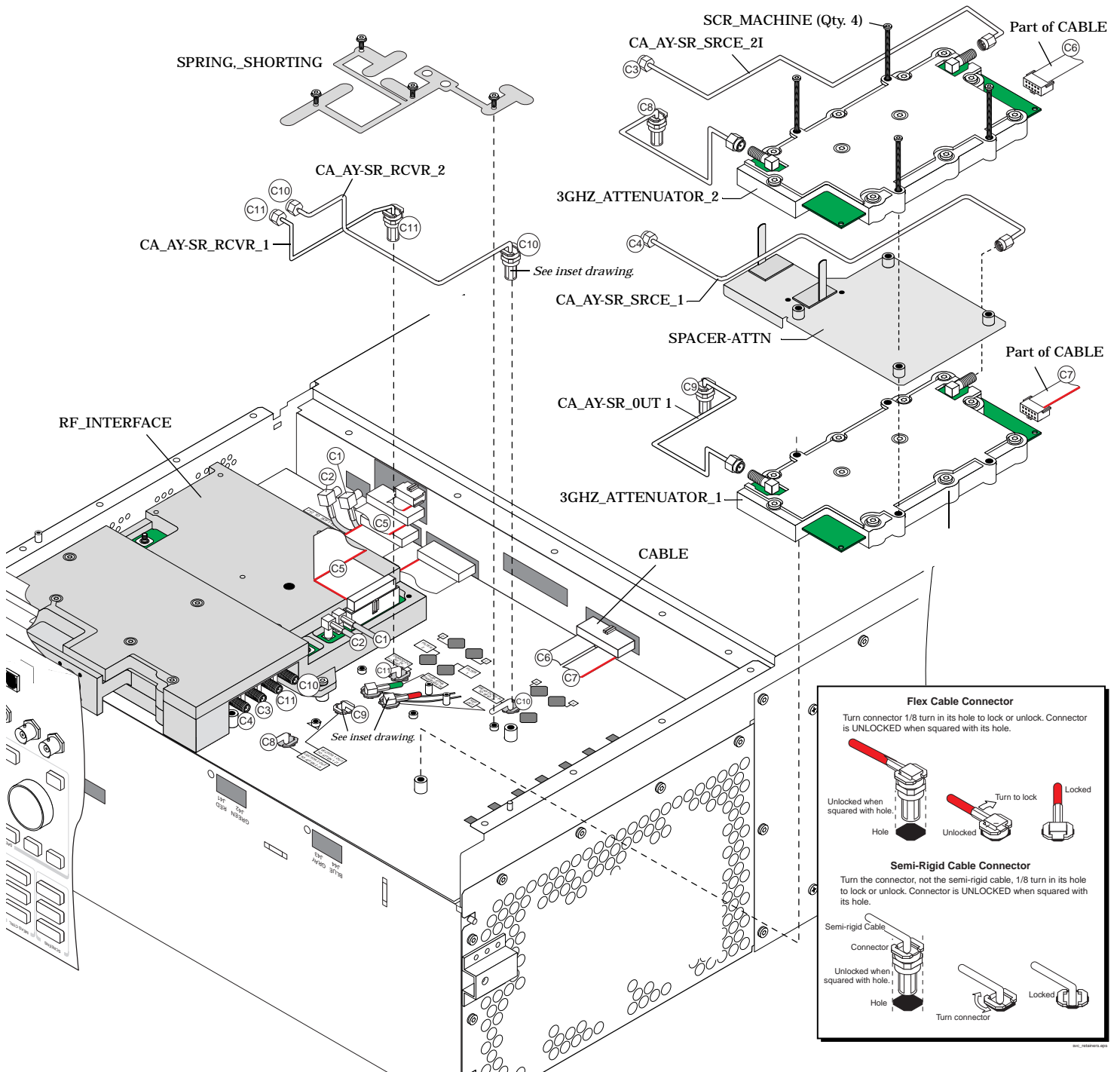2. Refer to figure 9 to remove the 3GHZ_ATTENUATOR (1 or 2) or other assemblies or components.

Figure 9   **3GHZ_ATTENUATOR and Other Assemblies**

RF_INTERFACE and Other Assemblies

1. Remove the bottom internal cover, see "Internal Bottom Cover" on page 7.

2. Disconnect the ribbon and semi-rigid cable connections to the RF_INTERFACE assembly, see figure 10 on page 11.

3. Remove the front-panel nut securing the RF_INTERFACE assembly, see figure 10.

4. Remove the 3 screws securing the assembly (1 screw is located on the side of the test set) and lift the RF_INTERFACE assembly.

See figure 10 to view the components located under the RF_INTERFACE assembly.

Figure 10 RF_INTERFACE and Other Assemblies

CA_AY-RBN_26CN C5

RF_INTERFACE

C1
C2

CA_AY-SR_RCVR_2

C10 *See inset drawing.*

C11

CA_AY-SR_RCVR_1

CA_AY-SR_SRCE_2I

CA_AY-SR_SRCE_1

SHIELD-CABLE   SPRING,_SHORTING

CA_AY-FLEX/M (Yellow) *See inset drawing.*

CA_AY-FLEX/M (Green) *See inset drawing.*

CA_AY-BNC/M (Red)

C1
C2

C5

Washer
Nut

C10 C6
C7

svc_basement_rfint.eps

Flex Cable Connector

Turn connector 1/8 turn in its hole to lock or unlock. Connector
is UNLOCKED when squared with its hole.

Unlocked when
squared with hole.

Turn to lock

Locked

Hole

Unlocked

Semi-Rigid Cable Connector

Turn the connector, not the semi-rigid cable, 1/8 turn in its hole
to lock or unlock. Connector is UNLOCKED when squared with
its hole.

Semi-rigid Cable

Connector

Unlocked when
squared with hole.

Hole

Locked

Turn connector

svc_retainers.eps
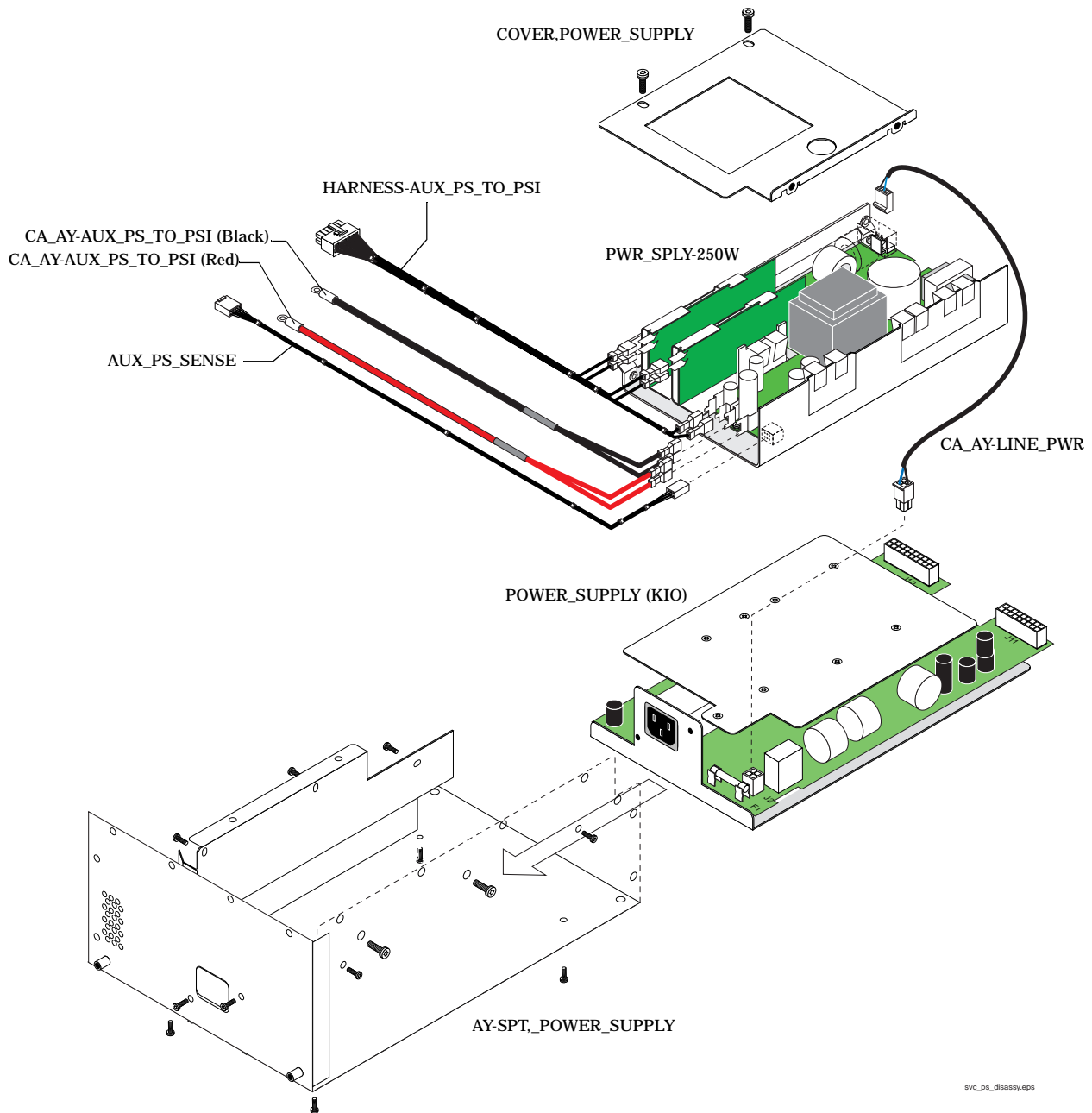
Power Supply Subassemblies

1. Remove the top internal covers, see "Internal Top Cover" on page 4.

2. Remove the screws securing the power supply assembly to the test set, see figure 3 on page 4.

3. Disconnect the connectors between the power supply assembly and the POWER_SUPPLY_INTERFACE assembly, see figure 3, figure 11, and figure 12.

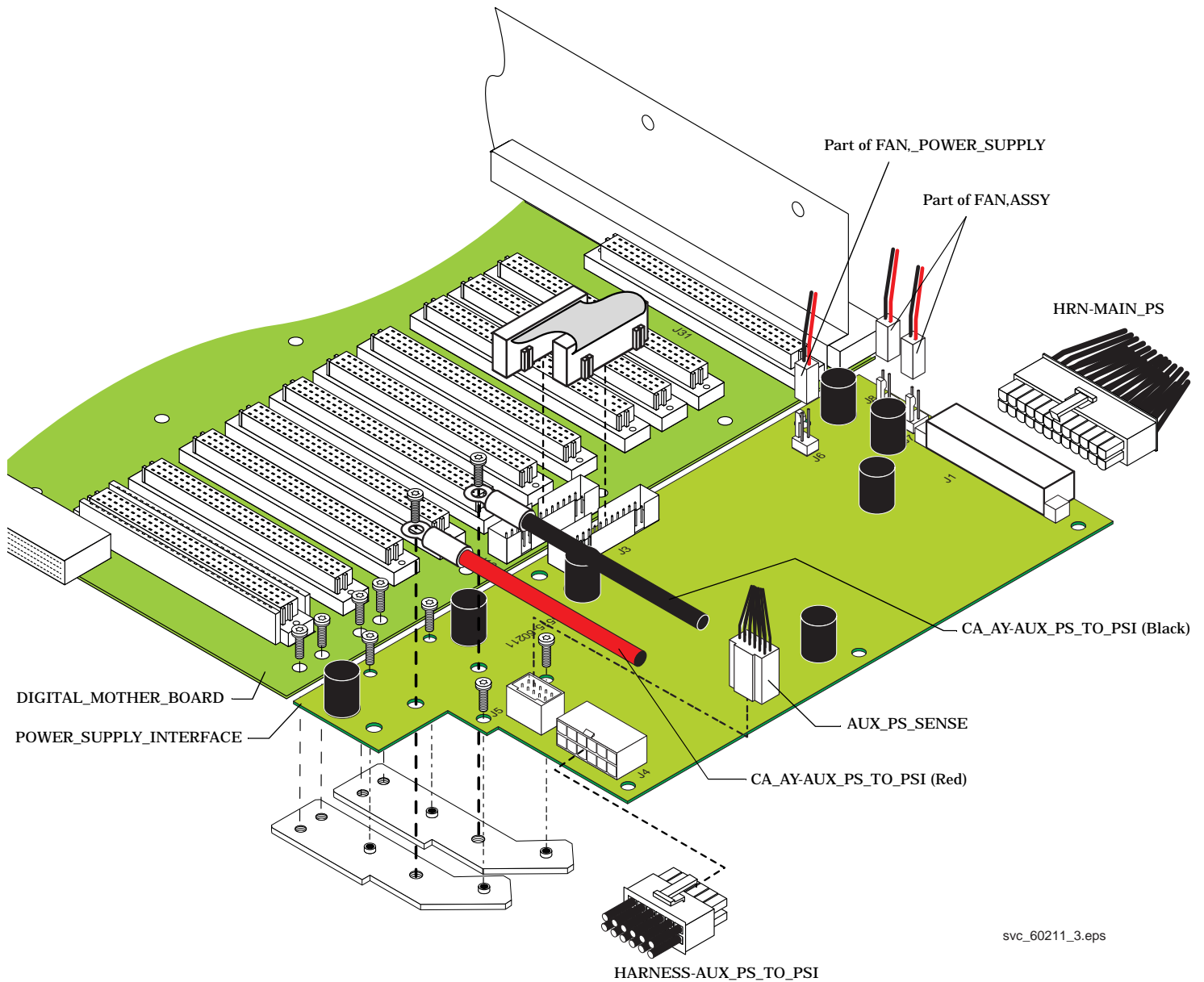4. Refer to figure 11 for the removal of power supply subassemblies.

Figure 11   **Power Supply Subassemblies**

POWER_SUPPLY_INTERFACE Assembly

1. Remove the top internal cover, see "Internal Top Cover" on page 4.

2. Remove the power supply assembly from the test set, see figure 3 on page 4.

3. Remove the cables and screws on the POWER_SUPPLY_INTERFACE assembly as shown in figure 12.

Figure 12   **Power Supply Interface Assembly**

svc_60211_3.eps

Fan Assemblies

1. Remove the top internal cover, see "Internal Top Cover" on page 4.

2. Remove the power supply and fan assemblies from the test set, see figure 3 on page 4.

3. Refer to figure 13 to remove the fan assemblies.

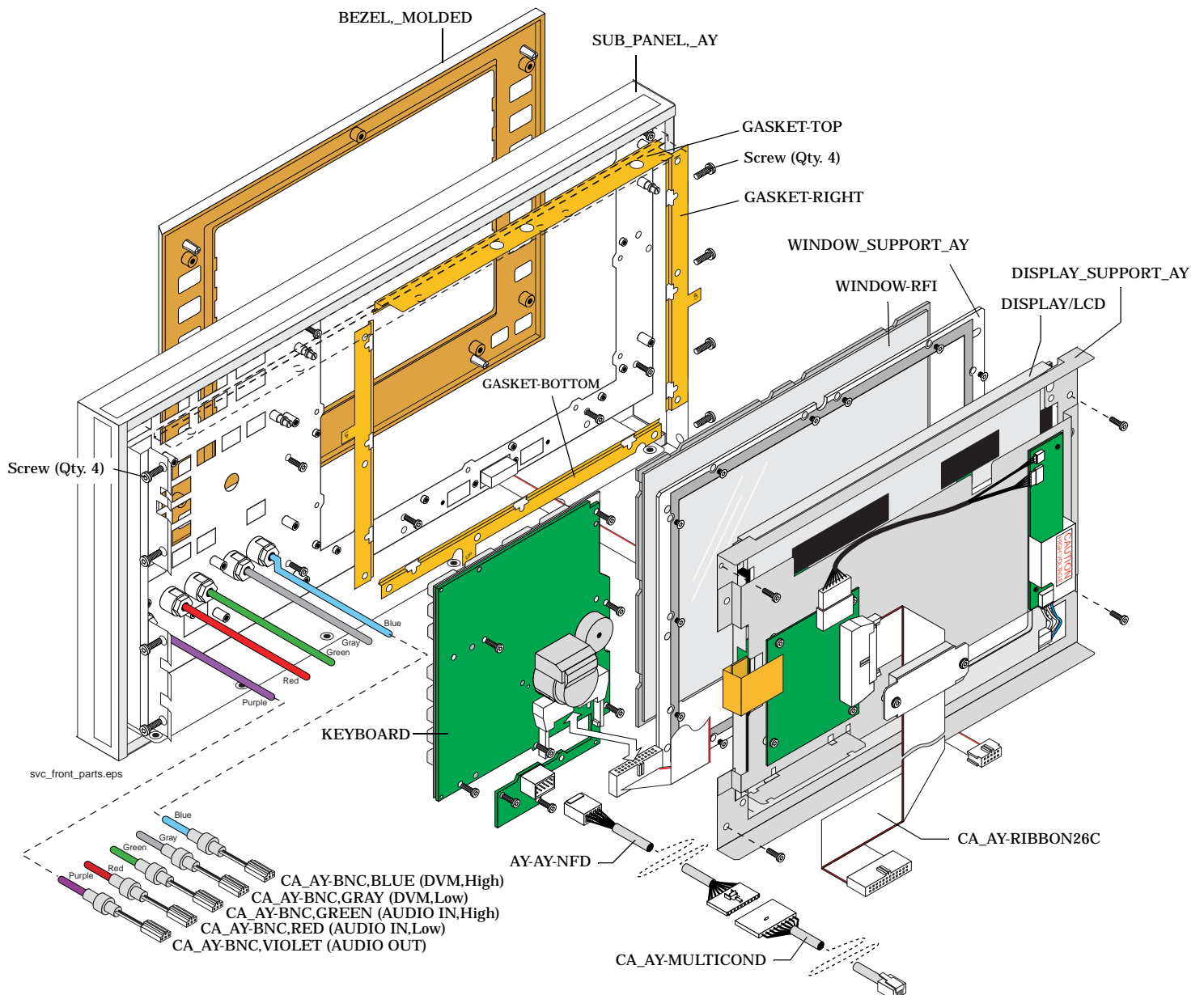**Figure 13**　　　　　　　**Fan Assemblies**

FAN,ASSY

FAN,ASSY

to POWER_SUPPLY_INTERFACE J7

to POWER_SUPPLY_INTERFACE J8

svc_fan_assy.eps
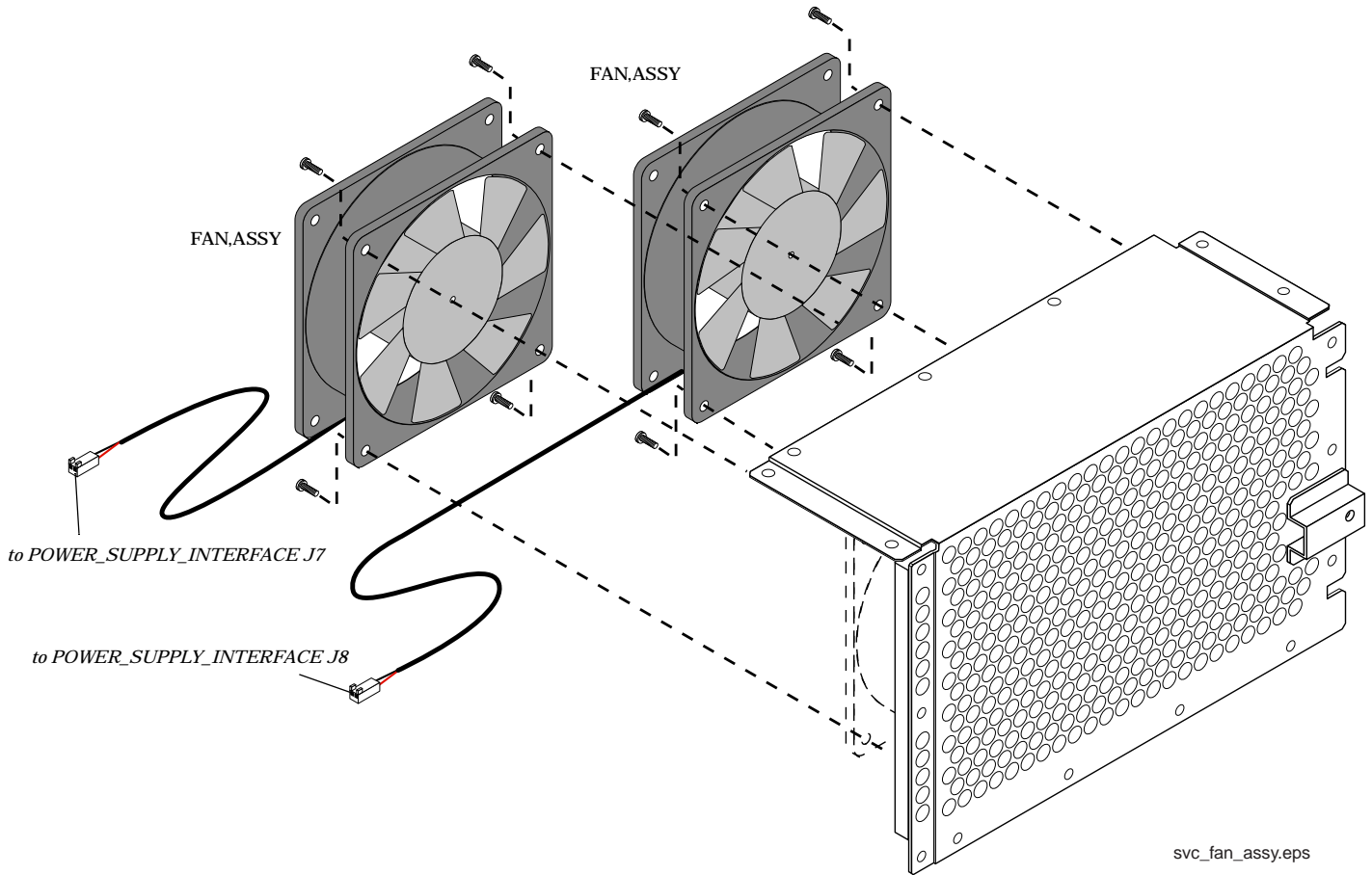
Front Panel Assemblies

1. Remove the top and bottom internal covers, see "Internal Top Cover" on page 4 and "Internal Bottom Cover" on page 7.

2. Remove the front-panel assembly from the test set by removing the 8 side screws (4 on each side) securing the sub-panel frame (SUB_PANEL,_AY) to the test set, see figure 14.

3. For front-panel subassembly removal see figure 14, figure 15, figure 16 (display subassemblies), figure 17 (display's bulb replacement), and figure 18 (keyboard assemblies).

Figure 14   **Front Panel Assemblies, Rear View**

BEZEL,_MOLDED
SUB_PANEL,_AY
GASKET-TOP
Screw (Qty. 4)
GASKET-RIGHT
WINDOW_SUPPORT_AY
WINDOW-RFI
DISPLAY_SUPPORT_AY
DISPLAY/LCD
GASKET-BOTTOM
Screw (Qty. 4)
Blue
Gray
Green
Red
Purple
KEYBOARD
svc_front_parts.eps
Blue
Gray
Green
Red
Purple
CA_AY-BNC,BLUE (DVM,High)
CA_AY-BNC,GRAY (DVM,Low)
CA_AY-BNC,GREEN (AUDIO IN,High)
CA_AY-BNC,RED (AUDIO IN,Low)
CA_AY-BNC,VIOLET (AUDIO OUT)
AY-AY-NFD
CA_AY-MULTICOND
CA_AY-RIBBON26C

Figure 15   **Front Panel Assemblies, Front View**

svc_front_parts1.eps

SUB_PANEL,_AY

FLEX_CIRCUIT

KEYPAD,_SOFT_KEYS

BEZEL,_MOLDED

GASKET_SOFTKEY

KEYPAD,_SOFT_KEYS

KNOB-31_DIA

NUT-HEX_5/8-24

NUT-HEX-DBL-CHAM

Figure 16   **Display Subassemblies**

DISPLAY/LCD

DISPLAY_SUPPORT_AY

BACKLIGHT_INVERTER_BD

CAUTION
HIGH VOLTAGE

CLAMP,RIBBON_CABLE

FLAT_PANEL_ADAPTER

CA_AY-RIBBON26C
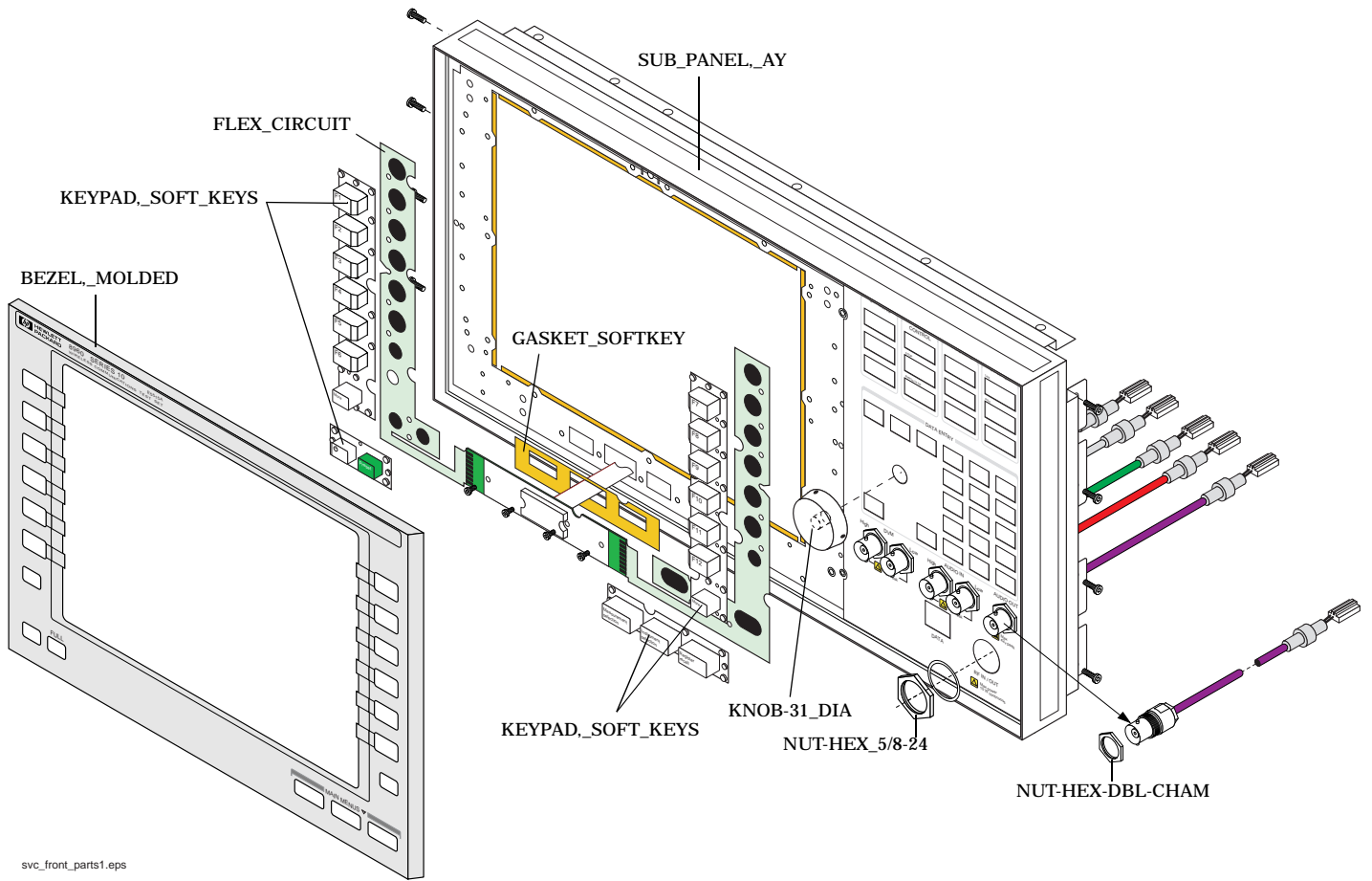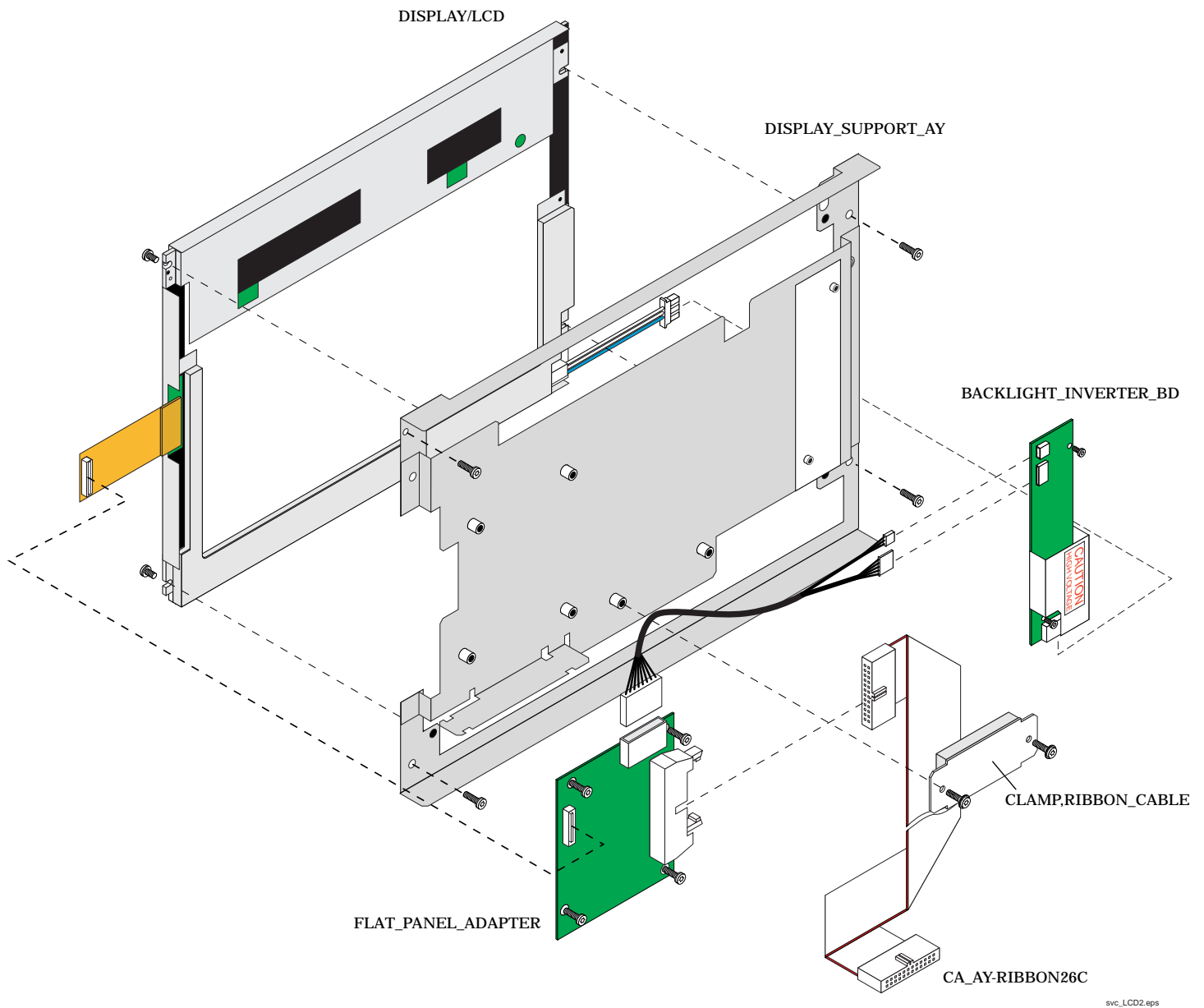
svc_LCD2.eps

Figure 17   **Display's Bulb Replacement**

DISPLAY_SUPPORT_AY

DISPLAY/LCD

display2.eps

See inset drawing.

BACKLIGHT

Push tab to release
backlight assembly.
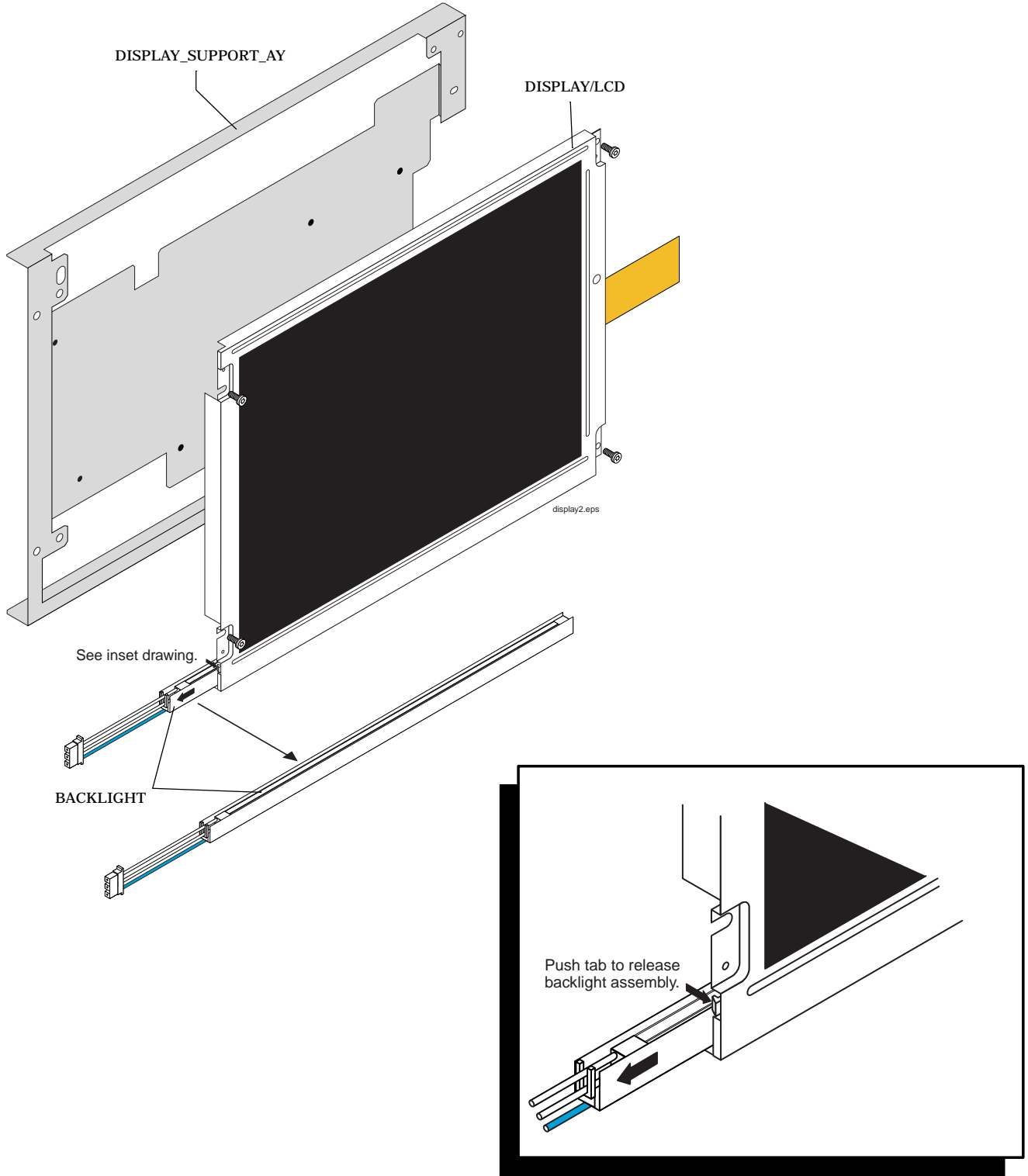
bliterem.eps

Figure 18 **Keypad Assemblies**

KEYBOARD
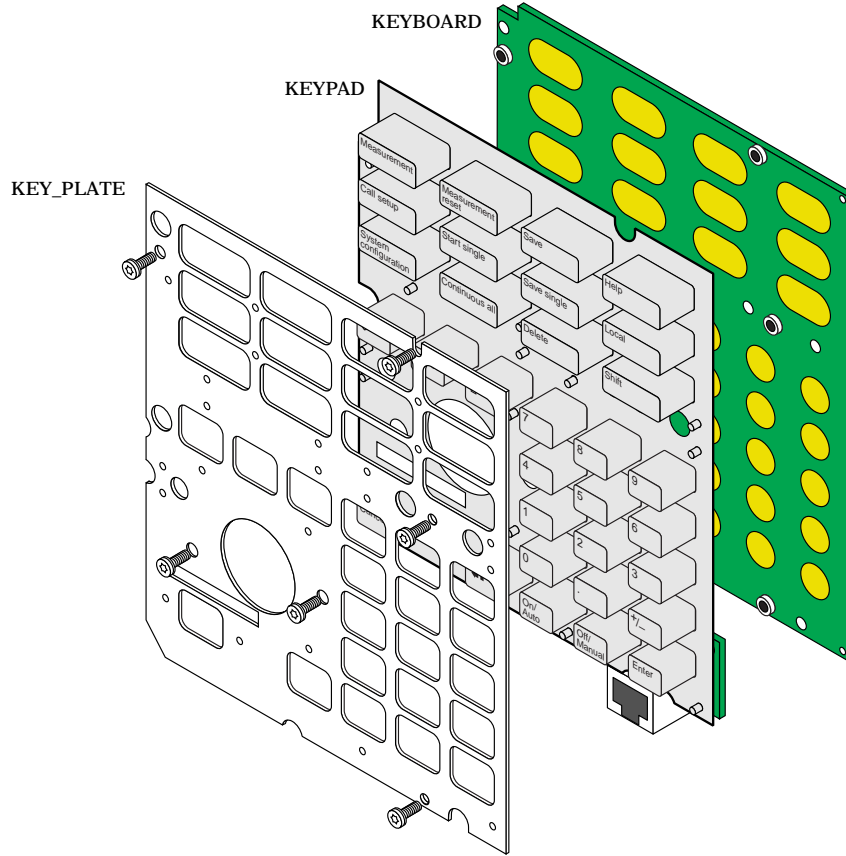
KEYPAD

KEY_PLATE

svc_kybd_parts.eps

Rear Panel Assemblies

1. Remove the top internal cover, see "Internal Top Cover" on page 4.

2. Remove the screws securing the rear panel to the test set, see figure 19.

3. Insert 2 screws into the thread holes shown in figure 19 and alternately turn the screws to pry the rear panel from the digital motherboard.

4. Refer to figure 20 for subassembly removal.
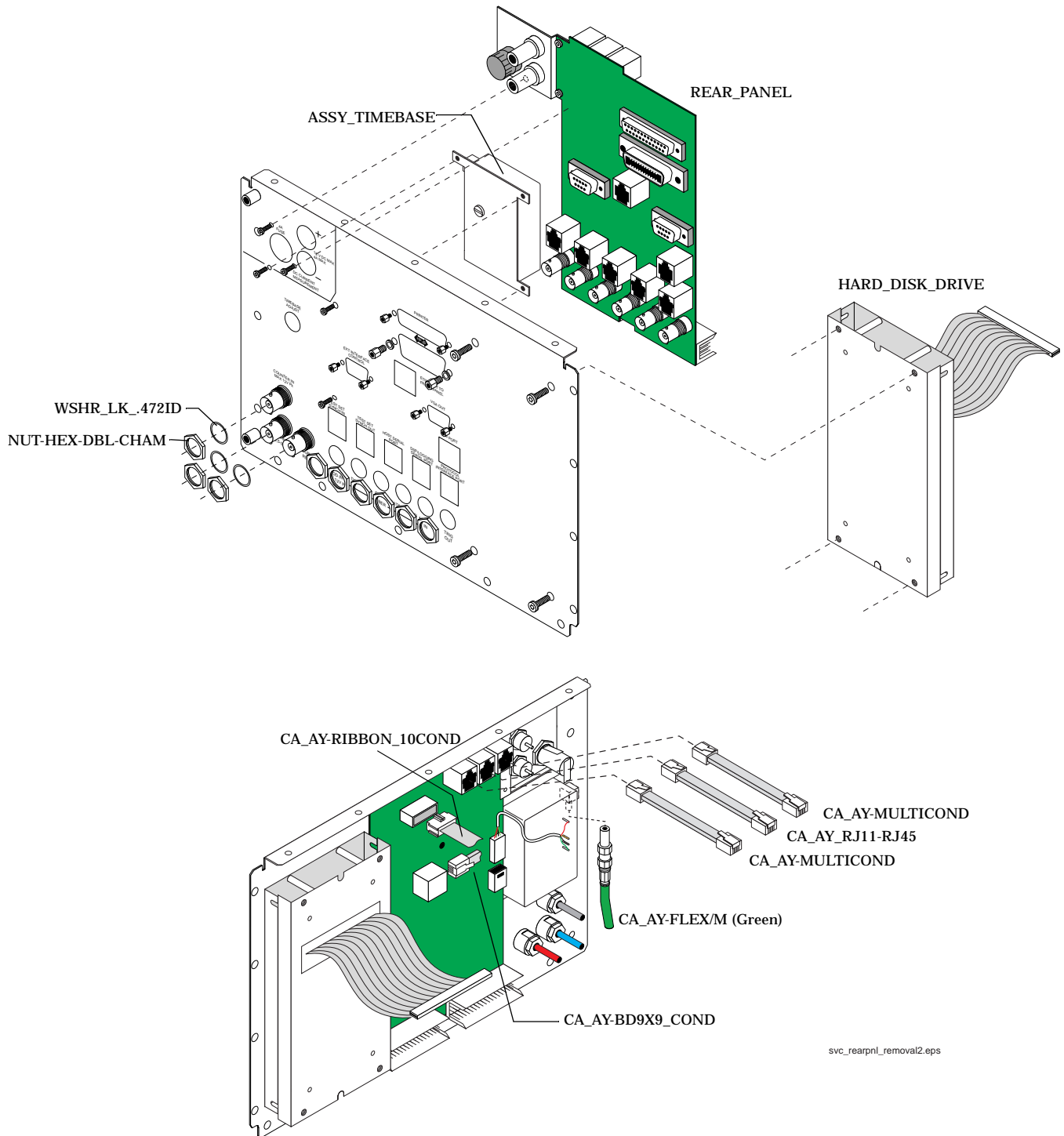
Figure 19   **Rear Panel Removal**
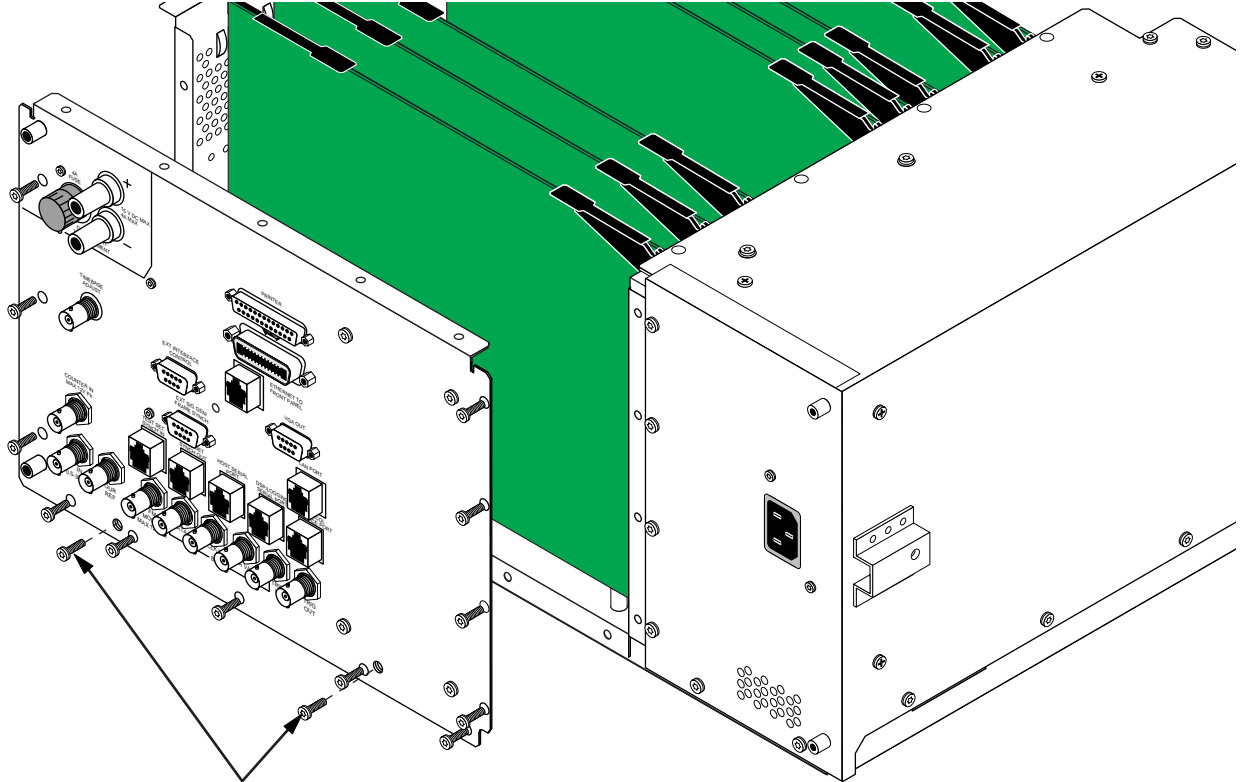
To remove rear panel, insert two screws into the
threaded holes on the rear panel as shown.
Alternate turning the screws to disconnect the connectors
between the rear panel and digital motherboard.

svc_rearpnl_removal.eps

Figure 20 **Rear Panel Subassemblies**

REAR_PANEL

ASSY_TIMEBASE

HARD_DISK_DRIVE

WSHR_LK_.472ID

NUT-HEX-DBL-CHAM

CA_AY-RIBBON_10COND

CA_AY-MULTICOND

CA_AY_RJ11-RJ45

CA_AY-MULTICOND

CA_AY-FLEX/M (Green)

CA_AY-BD9X9_COND

svc_rearpnl_removal2.eps

RF Motherboard Removal

1. Remove the top and bottom internal covers, see "Internal Top Cover" on page 4 and "Internal Bottom Cover" on page 7.

2. Remove all the RF modules and board assemblies from the test set.

3. Remove the power-supply assembly, see "POWER_SUPPLY_INTERFACE Assembly" on page 13.

4. Remove the fan assembly, see "Fan Assemblies" on page 14.

5. Remove the front-panel assembly, see "Front Panel Assemblies" on page 15.

6. Remove the semi-rigid cables on the bottom of the test set, see figure 9 on page 9 and figure 10 on page 11.

7. Remove the screws and cables on the RF motherboard (RF_MOTHER_BOARD), see figure 21.

8. Refer to figure 22 for additional instructions on removing the RF motherboard.

Figure 21   **Digital and RF Motherboards, and Jumper Board**
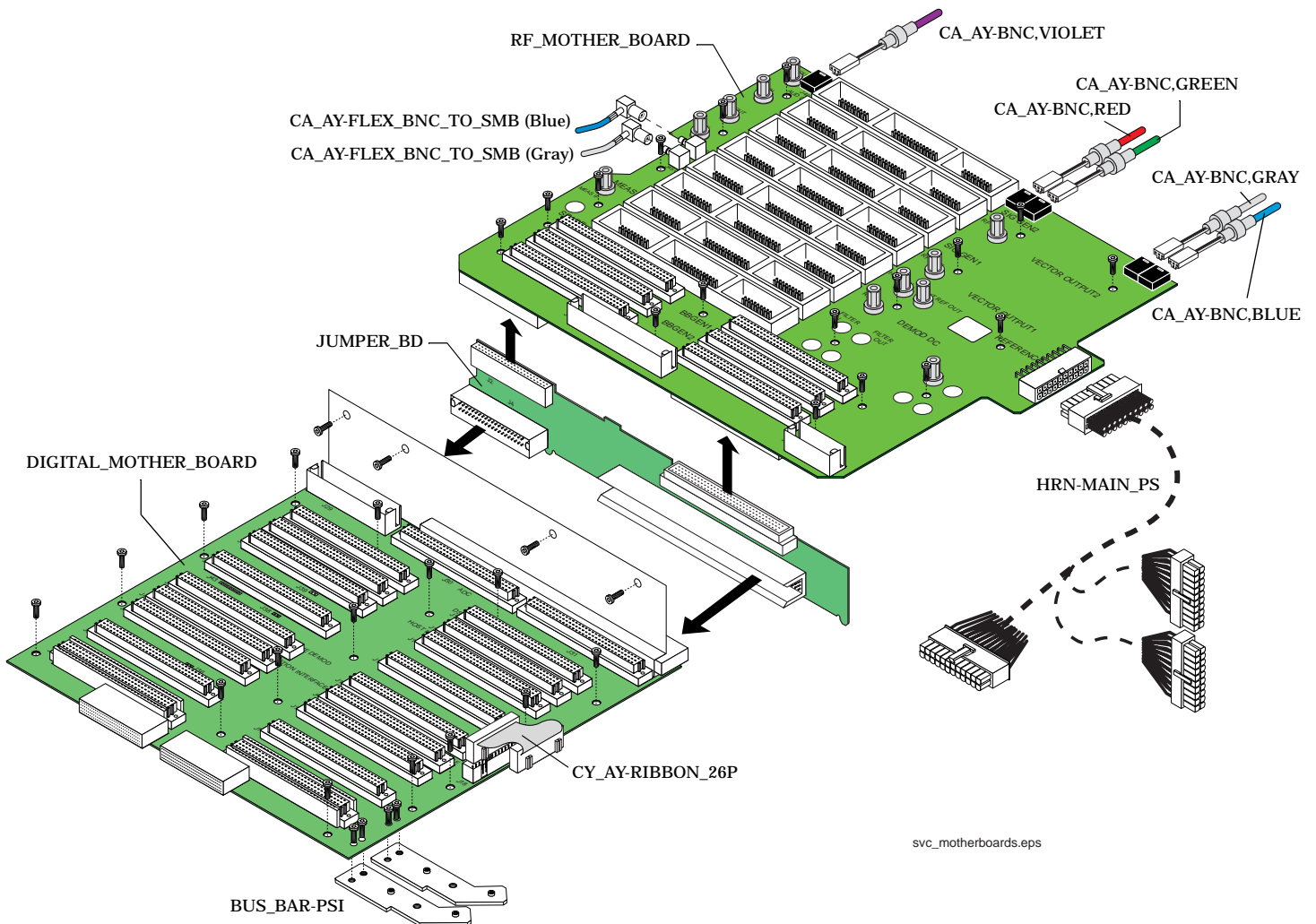
Figure 22   **RF Motherboard Removal**

Insert solder aids into the holes
of the bulkhead and insert
under the RF motherboard.

Using the bulkhead as a pivot
point, lift the RF motherboard to
disconnect it from the jumper
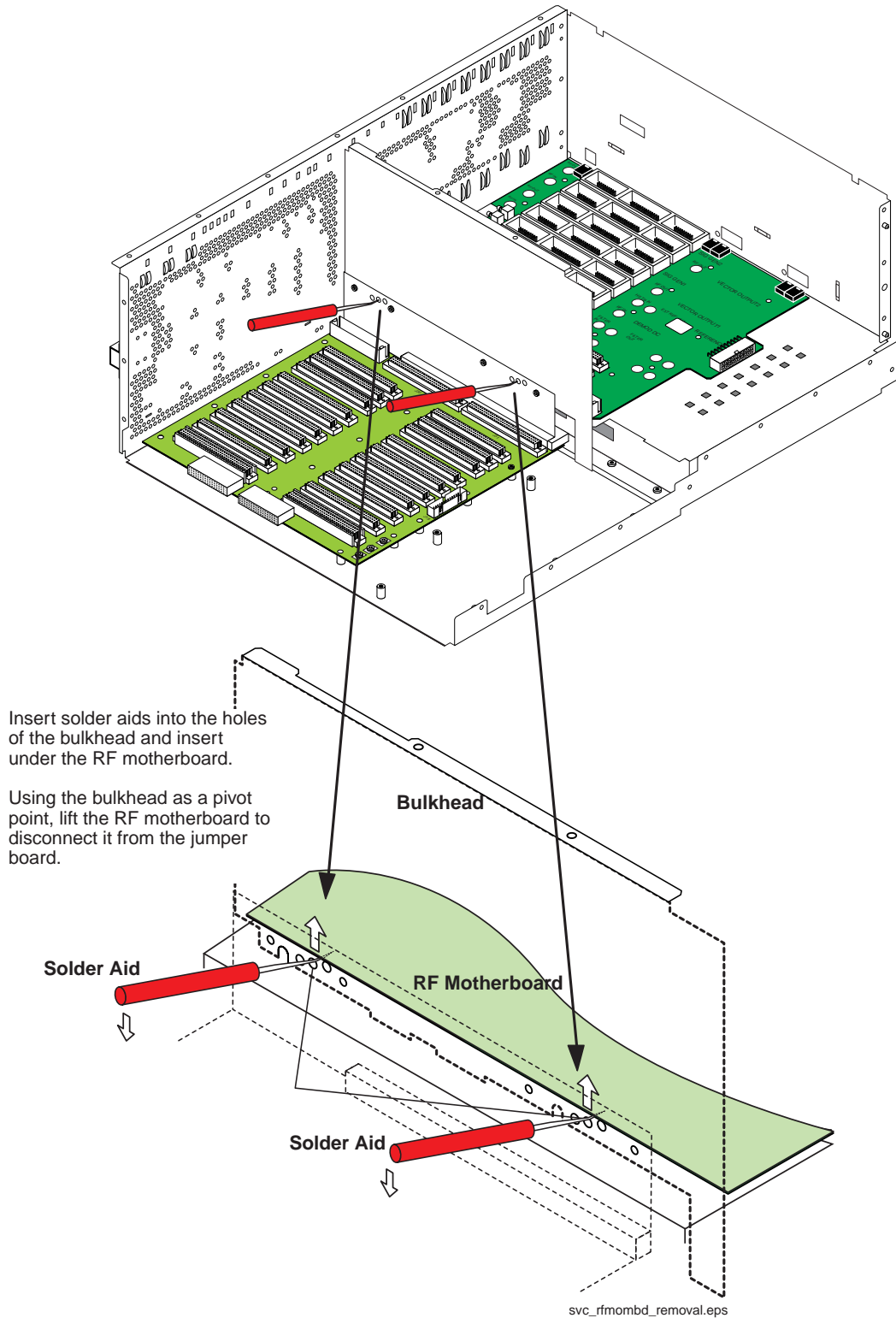board.

Bulkhead

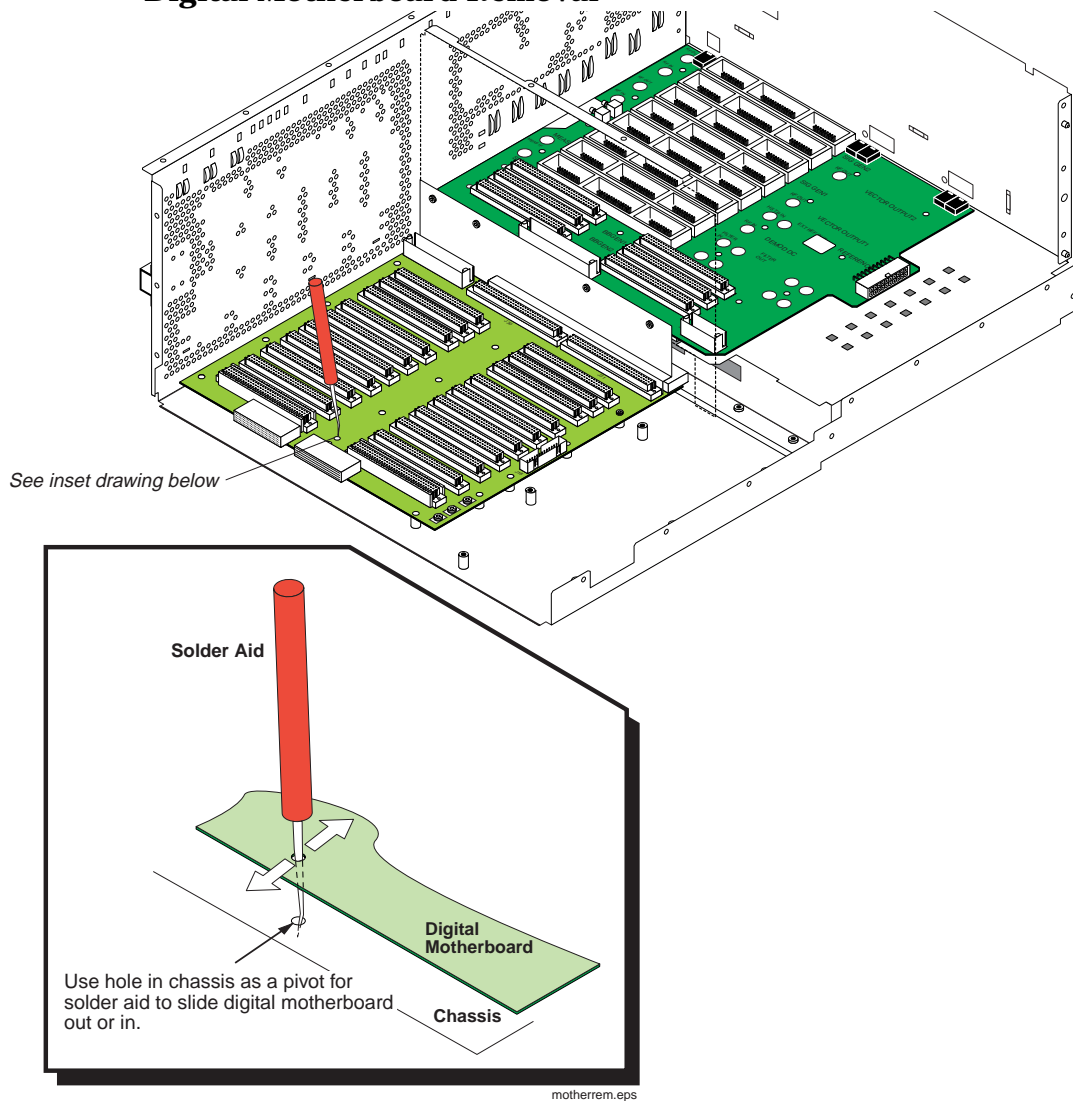**Solder Aid**

RF Motherboard

Solder Aid

svc_rfmombd_removal.eps

Digital Motherboard Removal

1. Remove the top and bottom internal covers, see "Internal Top Cover" on page 4 and "Internal Bottom Cover" on page 7.

2. Remove all the digital-board assemblies from the test set.

3. Remove the power-supply assembly, see "POWER_SUPPLY_INTERFACE Assembly" on page 13.

4. Remove the screws and cables on the digital motherboard (DIGITAL_MOTHER_BOARD), see figure 21.

5. Refer to figure 23 for additional instructions on removing the RF motherboard.

Figure 23   **Digital Motherboard Removal**

See inset drawing below

Solder Aid

Digital
Motherboard

Use hole in chassis as a pivot for
solder aid to slide digital motherboard
out or in.

Chassis

motherrem.eps

Jumper Board Removal

1. Remove the top and bottom internal covers, see "Internal Top Cover" on page 4 and "Internal Bottom Cover" on page 7.

2. Remove all the RF modules and board assemblies from the test set.

3. Remove the power-supply assembly, see "POWER_SUPPLY_INTERFACE Assembly" on page 13.

4. Remove the fan assembly, see "Fan Assemblies" on page 14.

5. Remove the front-panel assembly, see "Front Panel Assemblies" on page 15.

6. Remove the semi-rigid cables on the bottom of the test set, see figure 9 on page 9 and figure 10 on page 11.

7. Remove the screws and cables on the RF motherboard (RF_MOTHER_BOARD), see figure 21 on page 22.

8. Remove the digital motherboard (DIGITAL_MOTHER_BOARD), see figure 23 on page 24.

9. Using a solder aid, remove the jumper board as shown in figure 24.

Figure 24   **Jumper Board Removal**

svc_jumperbd_removal.eps