

ADVANCED TERMINAL PROCESSOR  
DSN/ATP  
INSTALLATION MANUAL SUPPLEMENT

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PREFACE

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This manual contains supplementary installation and servicing information for the Advanced Terminal Processor (ATP) and should be used in conjunction with the Advanced Terminal Processor (DSN/ATP) Installation Manual, 30144-90002, here after referred to as the ATP Installation Manual. It was written for the HP service engineer with the assumption that the reader has a good working knowledge of the HP 3000 system environment, and is specifically trained in installing HP 3000 products. The contents of this manual will eventually be added to the ATP Installation Manual.



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SECTION 1  
GENERAL INFORMATION  
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INTENDED PURPOSE OF THIS MANUAL

The intent of this manual is to assist the HP service engineer in installing the ATP subsystem into a Series 64, and, in particular the pre-assembled ATP Junction Panel hardware where, the installation of the pre-assembled ATP Junction Panel is not covered in the ATP Installation Manual.

EQUIPMENT SUPPLIED

In order to purchase an ATP subsystem, the customer orders one (1) HP 30144A (which is the HP3000 System Interface Board (SIB)), and any combination of the the 30145A's and/or 30155A's (Direct Connect or Modem Connect Port Controllers, respectively).

Each one of the Port Controller products (30145A or 30155A) contain:

- o One (1) Asynchronous Interface Board (AIB)
- o One (1) Mother Board (either Direct Connect or Modem Connect
- o From three (3) to six (6) Mini Boards
- o One (1) AIB to Junction Panel Cable

The SIB and the AIB's are installed in the I/O Card Cage of the Series 64. The Mother Boards and Mini Boards are installed in the I/O Side Panel which is sheet metal composed of several cutouts, and, is removable from the I/O Card Cage. The AIB/JP cable connects the Junction panel hardware (Mother and Mini boards) to their respective AIB.

For ATP add-ons, all of these parts arrive individually boxed and must be assembled on site using the procedure found in the ATP Installation Manual.

For HP 3000 Series 64 installations the SIB and the AIB will still arrive separately boxed. However, the Mother Boards and Mini Boards and the AIB/JP cable will be pre-assembled into the I/O Side Panel, in the factory, then boxed as an assembled unit. Therefore, what is actually shipped to the customer's site will be the SIB, the AIB's and a pre-assembled I/O Side Panel containing the number of Mother and Mini boards

ordered under products 30145A and 30155A.

Also included with the pre-assembled I/O Side Panel will be the cable trough which will need to be attached once the I/O Side Panels are installed.

+-----+  
!NOTE: The mother board and mini boards assembled for AIB #0 |  
!will not have an AIB/JP cable attached. The cable for this AIB|  
!is special and is shipped with the Series 64. Instructions for|  
!its attachment are included in this document. |  
+-----+

For a complete list of parts and their respective part numbers, refer to the ATP Installation Manual starting on page 1-7.



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SECTION II  
INSTALLATION  
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WARNING

ALL ACTUAL WORK ON THE SYSTEM OR JUNCTION PANEL HARDWARE MUST BE DONE WITH SOME FORM OF ESD PROTECTION. YOU MUST BE GROUNDED TO THE SYSTEM WITH A WRIST STRAP OR OTHER FORM OF GROUNDING TO PREVENT ESD DAMAGE.

UNPACKING AND INITIAL INSPECTION

Follow instructions starting on page 2-1 of the ATP Installation manual. In addition, please use the "CHECK LIST" form (30145-90007), shipped with this product, to verify the arrival of all necessary parts.

POWER REQUIREMENT VERIFICATION

Follow instructions starting on page 2-2 of the ATP Installation Manual.

ATP THUMBWHEEL SWITCH SETTINGS

Follow instructions starting on page 2-3 of the ATP Installation Manual.

HARDWARE INSTALLATION PROCEDURES FOR THE SERIES 64

The following major components are to be installed:

- o System Interface Board (SIB) (either 1 or 2) - to be installed in the Series 64 I/O Card Cage.
- o Asynchronous Interface Board (AIB) (1 or more up to 12) - to be installed in the Series 64 I/O Card Cage.
- o I/O Side Panels - to be installed in the side opening of the I/O Card Cage.
- o Cable Troughs - to be attached to the I/O Side Panels.

Installing the SIB

In the Series 64 environment there can be more than one ATP subsystem, thus there can be more than one SIB. Since the SIB must be able to

communicate with the CPU via the Inter-Module Bus (IMB) it must be physically inserted in a slot of an active IMB (the I/O card cage of a Series 64 has two IMB's). The AIB's, on the other hand, only require power from the I/O card cage backplane. Therefore, if more than one (1) SIB is to be shipped to the customer's site, the factory takes the liberty of assuming that both SIB's are to reside in IMB #1. In this instance, SIB #1 will only have four (4) AIB's associated with it and SIB #4 will have the remaining AIB's associated with it. Making this assumption allows for a variety of combinations of GIC's, INP's, Translator PCA's, SIB's, and AIB's, such that both SIB's can communicate using IMB #1.

Follow instructions starting on page 2-14 of the ATP Installation Manual for each SIB that is to be installed.

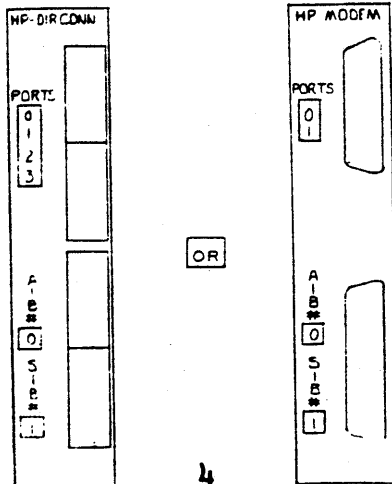
### Installing the AIB

Follow instructions starting on page 2-16 of the ATP Installation Manual. Note: In the instructions there is a NOTE in step C. IGNORE THIS NOTE. The "Installation of I/O Side Panels", immediately following, replaces the Direct and Modem Port Controller installation procedures in the ATP Installation Manual.

### Installation of I/O Side Panels

There are two I/O Side Panels to be installed; where, the first side panel is to be placed in the lower opening of the side of the I/O card cage and the second side panel is to be placed in the upper opening of the side of the I/O card cage (refer to Figure 2-1 for orientation). Figure 2-2 provides a view of an I/O side panel with correct orientation previous to inserting into the I/O card cage side openings. Keep these two figures in mind, perform the following procedure:

1. Determine which of the two side panels is the first side panel by
  - o locating the system console ATP junction panel which will have the first mini board (located top left) marked as shown below,



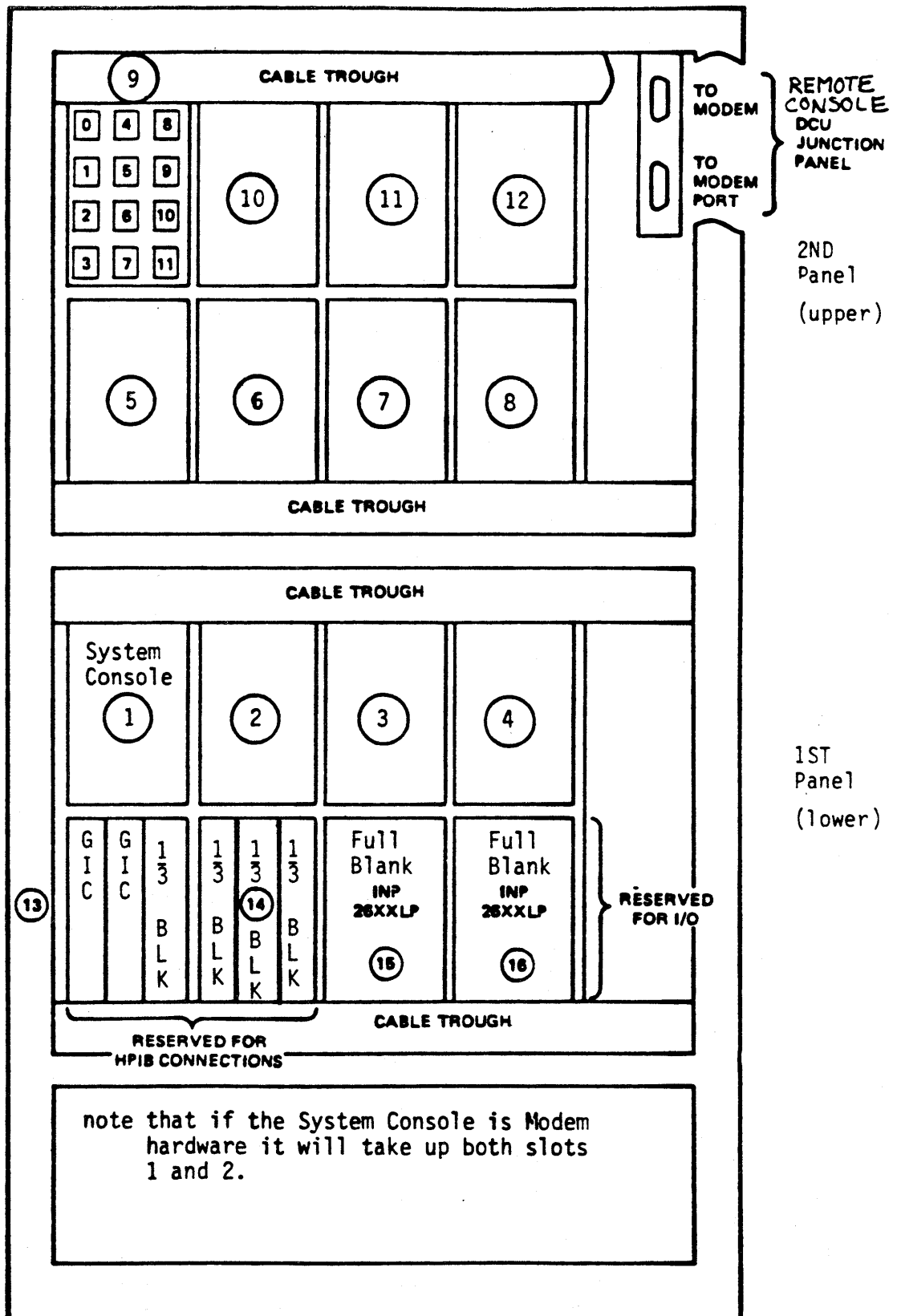


Figure 2-1 Series 64 I/O Card Cage Side Panel

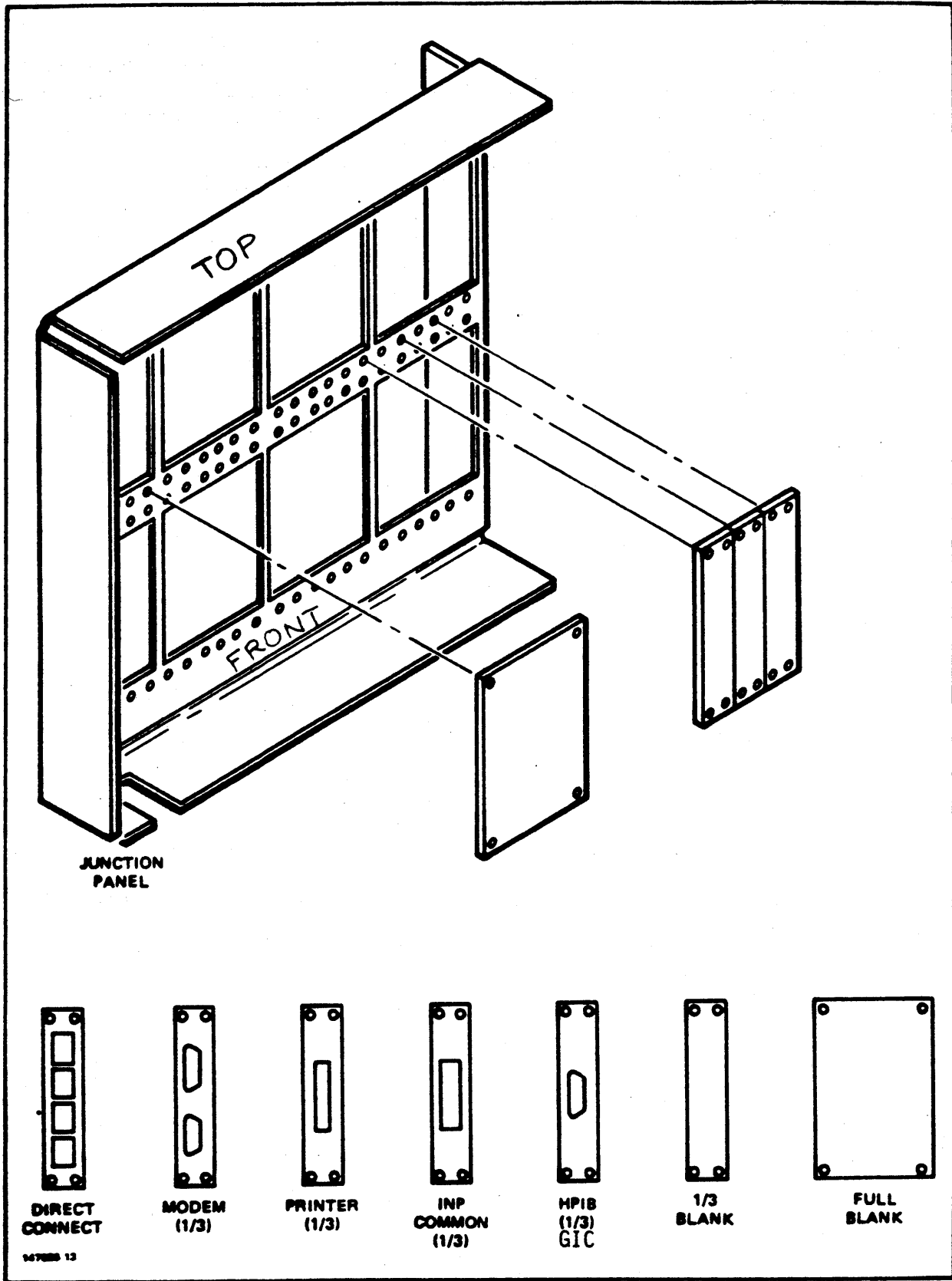


Figure 2-2 Junction Panel and Mounting Plates

- o assuring that the AIB/JP cable is not attached for this junction panel assembly (this junction panel will be using the DCU AIB/JP cable shipped with the Series 64),
  - o and, assuring that the bottom row of cutouts contain "1/3 BLANK" cover plates and "FULL BLANK" cover plates, which will be removed later in order to insert HP-IB junction panel connections.
2. Run AIB/JP cables through the I/O card cage lower opening and then to the right such that the AIB/JP cables now protrude out the rear of the Series 64 I/O card cage (Refer to Figure 2-7 of the ATP Installation Manual).
  3. Seat the I/O Side Panel appropriately and attach to the opening with the 12 screws provided (P/N 2680-0274) and 12 washers (P/N 3050-0226) (3 for the top, 3 for the left side, 3 for the right side, and 3 for the bottom).
  4. Remove the mini boards for the system console junction panel. If console junction panel is a Direct Connect then remove the left most and the middle mini boards. If it is a Modem Connect then remove the mini boards marked "PORTS 4/5, and 6/7.
  5. Locate the mother board end of the DCU AIB/JP cable (it should be already attached to the DCU and to the rear of the Remote Console Modem port (See Figure 2-8 of the ATP Installation Manual).
  6. Insert the mother board end of the DCU AIB/JP cable through the cable opening made by the bottom of the mother board and the lower card guide and attach with the screws provided (2200-0514).
  7. Re-insert the system console junction panel mini boards and attach with the earlier removed screws.
- NOTE: It is possible that there will be no ATP junction panels pre-assembled into the Second I/O Side Panel. If so, merely install the second I/O Side Panel as per step 3.
8. Run the AIB/JP cables of the Second I/O Side Panel through the upper opening of the side of the I/O card cage and then to the right such that these cables also protrude out the rear of the I/O card cage.
  9. Attach the second I/O Side Panel as in step 3.
  10. Locate the AIB end of the DCU AIB/JP cable for the system console junction panel and attach it to the AIB #0 that is connected to SIB #1.

11. Attach the Cable Troughs (quantity 4, 2/panel) in the locations shown in Figure 2-1 with the screws (4/trough) P/N 2510-0301 and washers P/N 3050-0139 provided.

**NOTE:** The AIB/JP cables should not have been connected yet. This omission is necessary to facilitate the following verification procedures.

#### HARDWARE VERIFICATION PROCEDURES

Follow instructions starting on page 2-24 of the ATP Installation Manual with the following exceptions:

Step F should read "Plug the console into port 0 of AIB 0."

In addition, specifically perform the following ATPDIAG testing:

1. After loading the DUS and receiving a prompt enter

ATPDIAG

to start ATP diagnostic testing.

2. Using the ATP Offline Diagnostic Manual P/N 30144-90003 as reference, run all the SIB tests (outputting the results to the line-printer) for a total of 10 times on all SIB's installed.

If the SIB testing passes, perform the remaining steps. If the SIB testing does not pass, replace the appropriate SIB and repeat this step.

3. Now setup a test to perform all tests, except Loopback, to every AIB installed in the I/O card cage by entering,

ALL N (indicates all testing is to be performed except loopback)

If the AIB testing in this step passes, perform the remaining steps. If the testing does not pass, replace the failing AIB with a known good AIB and repeat this step.

4. Perform loopback testing for all AIB's except AIB #0 remembering to flip the POWER switch on the AIB to its OFF position and ON position every time you remove and replace hood connectors (including loopback hood connector) from the front plan of the AIB's. To do this, use the AIB Loopback Connector P/N 30145-60005.

If an AIB fails this test, replace it and repeat the test. If it passes, continue with step 5.

5. Connect all AIB/JP cables to their respective AIB's, remembering to place the POWER switch in the OFF position first.

6. After placing the POWER switches of all AIB's in their ON position, perform a manual selftest of the MSC chip on all Modem Mother PCA's. The switch for this purpose is on the back upper left of the Mother board and is accompanied by an LED. Pressing this momentary switch will cause the self test to execute.

If the self-test passes, continue with step 7. If this test fails, either the Modem Mother board can be replaced, or the ports connected to this mother board cannot be used with modems but can be used with direct connected terminals (not recommended).

7. Perform loopback testing out to each port by first placing an appropriate loopback port connector on the port to be tested.

NOTE: A set of these loopback connectors should have been shipped with the system so that you can test more than one port at a time. They can be located in the Support Log.

If any port fails loopback testing on AIB's other than AIB #0, then a problem exists with either the AIB/JP cable, the mother board, or the appropriate mini board. In the case of a direct connect junction panel (RS232 3-pin) it's probably the mini board. If it is a direct connect (RS422 5-pin) port, the problem could be the AIB/JP cable or the 12 volt power supplied by the AIB. If the port is a modem port, the problem could be the 12 volt supply, the AIB/JP cable, the mother board, or the mini boards.

Replace the failed module.

If a port fails on AIB #0, you may have to swap in a known good AIB to verify that the AIB is not at fault. In this instance, the Series 64 I/O Card Cage must be powered down. Therefore, you will have to reload the DUS and setup testing for just this particular AIB as in steps 3 and 4. If the original AIB #0 passes, then, the problem is in the junction panel assembly connected to AIB #0.

#### SOFTWARE INSTALLATION PROCEDURES FOR SERIES 64

Follow the instructions starting on page 2-27 of the ATP Installation Manual. Note that this part of the installation procedure is usually performed by the SE.

#### SOFTWARE VERIFICATION PROCEDURE

Follow the instructions starting on page 2-30 of the ATP Installation Manual. Note that this part of the procedure is usually performed by the SE.

