Compaq COBOL for OpenVMS VAX Systems

Installation Guide

Order Number: AA–K026S–TE

November 2000

This document contains instructions for installing Compaq COBOL for OpenVMS VAX (formerly known as DIGITAL VAX COBOL, or as VAX COBOL) on the OpenVMS VAX operating system. It also explains how to read the online release notes before or after installing the product. This document applies to Compaq COBOL Version 5.7 for OpenVMS VAX and any maintenance updates for that version.

Compaq's COBOL compilers are also available on other platforms, including OpenVMS Alpha, Compaq Tru64 UNIX, and Windows NT Alpha.

In this document, references to the name Compaq COBOL mean Compaq COBOL for OpenVMS VAX.

Revision/Update Information:	This revised manual supersedes the *Compaq COBOL for OpenVMS VAX Systems Installation Guide* (Order Number AA–K026R–TE).
Operating System and Version:	VAX/VMS Version 5.5-2, or OpenVMS VAX Version 6.1, or higher. Future releases may require higher versions.
Software Version:	Compaq COBOL Version 5.7

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ZK5514

This document was prepared using DECdocument, Version 3.3-1b.

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Preface

This guide describes how to install Compaq COBOL on the OpenVMS VAX operating system, or VAX/VMS, in the case of Version 5.5-2. It is intended for system managers. This document applies to Compaq COBOL Version 5.7 and any maintenance updates for that version.

For more information about installing Compaq COBOL on OpenVMS VAX or VAX/VMS systems, refer to your processor-specific installation or operations guide.

The installation procedure is described step-by-step and is, for the most part, self-explanatory. The system prompts you to answer questions and to change volumes, and waits for you to tell it to continue.

Associated Documentation

In addition to this guide, the Compaq COBOL documentation set includes:

- *Read Before Installing or Using Compaq COBOL for OpenVMS VAX Systems Version 5.7* letter
- *VAX COBOL Reference Manual* (not revised for this release)
- *VAX COBOL User Manual* (not revised for this release)
- *DIGITAL COBOL Multiplatform Overview & Compatibility Guide* (not revised for this release; new as of Version 5.5A)
- Compaq COBOL for OpenVMS VAX Systems Release Notes
- Compaq COBOL for OpenVMS VAX Systems Help

You may also find the following documentation useful:

- *Guide to Software License Management*
- *Guide to Sharing Software on a Local Area Network*
- *OpenVMS License Management Utility Manual*

- *OpenVMS System Manager's Manual*

Conventions

The following conventions are used in this guide:

Convention	Meaning
[YES] [NO]	Default answers to system questions are framed in square brackets. Simply press Return to accept the default response.
UPPERCASE	In text, uppercase letters indicate the name of a command, a file, a parameter, a procedure, or a Compaq COBOL utility.
$ **@SYS$UPDATE:VMSINSTAL saveset-name**	In interactive examples, prompts or displayed text appear in a monospace font. User input appears in bold monospace. Lowercase indicates a name that you supply. Uppercase is to be typed as shown.
$	The dollar sign is used to indicate the DCL prompt. This prompt may be different on your system.
Ctrl/x	In procedures, a sequence such as Ctrl/x indicates that you must hold down the key labeled Ctrl while you press another key.
n	The minor (point) release of Compaq COBOL for OpenVMS VAX in examples is shown by *n*, as in COBOL05*n*. For Version 5.7, you type COBOL057.

References

The following table shows certain references and their respective meanings in this manual:

Reference	Meaning
OpenVMS	OpenVMS VAX or VAX/VMS operating system
Tru64 UNIX	Compaq Tru64 UNIX operating system[1]
CDD/Plus	Oracle CDD/Repository[2]

[1]Compaq Tru64 UNIX was formerly known as DIGITAL UNIX or DEC OSF/1. As of Version 4.0F, the name DIGITAL UNIX is changed to Compaq Tru64 UNIX.

[2]Oracle CDD/Repository is a product of Oracle Corporation.

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  USA

1
Preparing to Install Compaq COBOL

Your bill of materials (BOM) and indented bills report (BIL) specify the number and contents of your media. Be sure to check the contents of your kit against this information. If your kit is damaged or if you find that parts of it are missing, call your Compaq representative.

Your distribution kit includes a letter titled *Read Before Installing or Using Compaq COBOL Version 5.7 for OpenVMS VAX Systems*. The letter discusses important information that might not be included in this guide. You should read this letter before beginning the installation.

Distribution media must be mounted in numerical order. The installation procedure prompts you to mount the volumes. For more information on how to mount distribution media, refer to your processor-specific installation or operations guide.

This guide also details several options to the installation procedure.

1.1 Accessing the Online Release Notes

Compaq COBOL provides online release notes. The prompt to display or print the release notes before installation appears in Step 4 of the installation procedure when you invoke VMSINSTAL with the OPTIONS N parameter. Please read the release notes before you install COBOL, as they may contain important information about changes.

After the installation, the release notes are available in text format and PostScript format in the following files:

SYS$HELP:COBOL05*n*.RELEASE_NOTES (text file)
SYS$HELP:COBOL05*n*_RELEASE_NOTES.PS

Where *n* represents version point release number.

Online help also directs you to the release notes file. After the installation, type the following:

```
$ HELP COBOL RELEASE_NOTES    Return
```

1.2 System Prerequisites

This is a complete kit for Compaq COBOL. You do not need to have installed any earlier versions of Compaq COBOL before installing Version 5.*n*. (Note that for *n* you should use the actual maintenance-update number after the decimal point, for example, 7 in Version 5.7, which appears on the title page as the Software Version.)

Compaq COBOL for OpenVMS VAX Version 5.7 requires VAX/VMS Version 5.5-2 or OpenVMS VAX Version 6.1 or higher. Certain Compaq COBOL features may require higher versions of OpenVMS VAX. See the SPD for information about specific system dependencies.

If you are installing Oracle Rdb or Oracle CDD/Repository, you should make certain that they have been successfully installed before you attempt to install Compaq COBOL. To eliminate possible installation errors, execute the following command procedure to start up Oracle CDD/Repository:

```
$ @SYS$STARTUP:CDDSTRTUP.COM    Return
```

1.3 Installation Procedure Requirements

The installation should take approximately 5 to 10 minutes, depending on the type of media and your system configuration. Before installing Compaq COBOL, you must have the following privileges and resources:

- SETPRV privileges, or CMKRNL, WORLD, and SYSPRV privileges.
- A minimum of 12,000 blocks of free disk space during installation. After the installation, approximately 4,000 blocks are used.
- A minimum of 950 free global pages plus the size (in number of disk blocks) of the file SYS$LIBRARY:DCLTABLES.EXE at installation. After the installation, 950 free global pages plus the size of SYS$LIBRARY:DCLTABLES.EXE are used.
- A minimum of 3 free global sections are needed at installation; 3 global sections are used after installation.

Note

You must ensure that your system has the necessary global page and global section SYSGEN quotas for the installation. Failure to do so could cause the DCL tables to be corrupted in some situations.

To determine the number of available global pages on your system, invoke the OpenVMS Install utility (INSTALL) by typing the following command:

```
$ INSTALL    Return
```

Then type the following command:

```
INSTALL> LIST/GLOBAL/SUMMARY    Return

        Summary of Local Memory Global Sections

     nn Global Sections Used,  nnn/nnnn Global Pages Used/Unused

INSTALL> EXIT    Return
```

When you issue these commands, the system displays a summary of the number of global sections used, the number of global pages used, and the number of global pages unused. To exit from the OpenVMS Install utility, type the EXIT command.

Compaq COBOL requires approximately 950 free global pages. If fewer than 950 pages are available, you can delete an existing known image using the OpenVMS Install utility, or you can increase the GBLPAGES system parameter with the OpenVMS System Generation utility (SYSGEN), as described below..

You can determine the number of available global sections by invoking SYSGEN as follows:

```
$ RUN SYS$SYSTEM:SYSGEN    Return
SYSGEN>USE CURRENT    Return
SYSGEN>SHOW GBLSECTIONS    Return

SYSGEN>EXIT    Return
```

The last number displayed is the maximum number of global sections. Compare this to the number of global sections in use displayed by the OpenVMS Install utility. Compaq COBOL requires 3 global sections. Therefore, if the number of global sections used plus 3 exceeds the current number of global sections, you must increase the number of available global sections before you can install Compaq COBOL.

To increase the number, you must increase the GBLSECTIONS system parameter with SYSGEN by editing the file SYS$SYSTEM:MODPARAMS.DAT and then invoking the SYS$UPDATE:AUTOGEN.COM procedure. For more information on the AUTOGEN.COM procedure, refer to your processor-specific installation or operations guide.

If the number of global sections used plus 3 is less than the maximum number of global sections, you can exit from SYSGEN and continue.

1.4 Special Requirements

A license Product Authorization Key (PAK) must be registered with the License Management Facility in order to use Compaq COBOL:

- If this is a new installation, please be sure to register the Compaq COBOL for OpenVMS VAX Systems PAK before starting the installation procedure.
- If this is an update to an existing installation, the PAK should already be registered in the license database and no further action needs to be taken.

You can register the information contained in the PAK that is shipped to new customers with Compaq COBOL by using either the OpenVMS License command procedure (VMSLICENSE) or the LICENSE REGISTER command, as described in the *OpenVMS License Management Utility Manual*.

Note

If you are missing your PAK and you have purchased a software support contract, you can obtain a Temporary Service PAK. For more information, call your Customer Support Center.

Hardware Requirements

Object modules produced by the Compaq COBOL compiler can be executed incorrectly if your OpenVMS VAX operating system does not meet the following requirements when you install the compiler:

- A VAX-11/780 computer must have the hardware engineering change order (ECO) status of system level 4 or higher.
- A VAX-11/730 must have the writable control store (WCS) status of system level 50 or higher.

The Compaq COBOL Installation Verification Procedure (IVP) checks for the presence or absence of these two ECO and WCS status requirements.

If you plan to use the Oracle Database Management System (Oracle DBMS), Oracle CDD/Repository, or both, refer to the installation guides for these products for information on their ECO requirements.

1.5 Backing Up Your System Disk

At the beginning of the installation, VMSINSTAL asks if you have backed up your system disk. Compaq recommends that you do a system disk backup before installing any software.

Use the backup procedures that are established at your site. For details on performing a system disk backup, see the section on backing up the system disk in the *OpenVMS System Manager's Manual*.

2
Installing Compaq COBOL

This chapter describes:

- Use of the VMSINSTAL command procedure
- Installation of Compaq COBOL step by step
- Installation on a VAXcluster
- Installation as a shared image
- Product registration in the POLYCENTER Software Installation utility (PCSI) database

2.1 Using VMSINSTAL

After you log in to a privileged account to install Compaq COBOL, set the default to SYS$UPDATE: and then invoke VMSINSTAL, the command procedure that installs this product, as follows:

```
$ SET DEFAULT SYS$UPDATE    Return
$ @VMSINSTAL COBOLver ddn: option-list    Return
```

The following paragraphs describe the command parameters.

ver
Represents the version and maintenance update number of Compaq COBOL (for example, 057). Refer to the label on the Compaq COBOL distribution kit or the Compaq COBOL BOM or BIL for the number.

ddn:
Represents a device name where the distribution volumes will be mounted for the Compaq COBOL installation media; *dd* is the device code and *n* is the unit number. It is not necessary to use the console drive to install Compaq COBOL. If you do use the console drive, you should replace any media you removed from the drive. MYCPU$MUA100: is the device name used in examples in this document.

option-list
The word OPTIONS followed by one or more of the option designators A, G, L, N, R, as shown in Table 2–1.

Table 2–1 Installation Option Designators

Option	Name	Description
A	**A**uto_answer	Initially creates a file that contains your answers to VMSINSTAL questions and prompts. You can then use the option (and the answer file) to save time during a reinstallation (typically after upgrading your system).
G	**G**et saveset G *device:[directory]*	Copies kit save set(s) to *device:[directory]*. Specifying a fast system storage device could speed up installations, if you install from there. Or this could be a group distribution resource.
L	File **L**og	Logs all activity to the terminal during installation.
N	Display or Print the Release **N**otes	Indicates that you want to see the installation question on release notes. If you do not include the N option, VMSINSTAL does not ask you about the release notes. You should review the release notes before proceeding with the installation in case they contain additional information about the installation. If you are restarting the installation and have already reviewed the release notes, you may omit the N option. (The Compaq COBOL Release Notes will be available regardless because VMSINSTAL copies them to the SYS$HELP directory.)
R	Alternate **R**oot	Lets you install Compaq COBOL to a system root other than that of the running system.

You can also type an asterisk (*) in place of COBOL and its version number if you are installing from magnetic tape to save installation time. The asterisk causes Compaq COBOL to be installed with a minimum of tape passes.

For example, the first parameter to VMSINSTAL for Compaq COBOL Version 5.7 could be either COBOL057 or *.

When you invoke VMSINSTAL, it checks the following:

- Whether or not you are logged in to a privileged account. Compaq recommends that you install software from the system manager's account with your default device and directory set to SYS$UPDATE.

- Whether or not you have adequate quotas for installation.

VMSINSTAL then checks whether or not the following conditions exist:

- DECnet is up and running.
- Any users are logged in to the system.

If VMSINSTAL detects either of these conditions, you will be asked whether or not you want to continue the installation. If you want to continue, type YES. If you want to stop the installation, press Return.

Note that if another user accesses the Help file during your installation, it will be locked and cannot be updated. In this case you will have to update Help manually after the installation. Informational messages will be displayed (see Step 9).

2.2 Step-by-Step Installation

This section contains excerpts from the installation procedure and explains each step.

Defaults appear in brackets throughout the installation procedure. To take a default, you can simply press Return. You can type Y or N for YES or NO.

To abort the installation procedure at any time, press Ctrl/Y. When you press Ctrl/Y, the installation procedure deletes all files it has created up to that point and then returns you to DCL level. If you want to retry the installation procedure after pressing Ctrl/Y, you must proceed from Step 2.

Step 1: Log in to a privileged account and set your default device and directory to SYS$UPDATE.

```
                    Return
Username: SYSTEM      Return
Password:           Return
$ SET DEFAULT SYS$UPDATE     Return
```

Step 2: Invoke VMSINSTAL.

```
$ @VMSINSTAL COBOLver MYCPU$MUA100: OPTIONS N     Return

      OpenVMS VAX Software Product Installation Procedure Vn.n


It is dd-mmm-yyyy at hh:mm.

Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your
   system disk [YES]? Return
```

If you are satisfied with the backup of your system disk, press Return. Otherwise, type NO and press Return to discontinue the installation.

Step 3: Insert the first installation kit volume.

Depending on your media, you may get the following prompts:

```
Please mount the first volume of the set on MYCPU$MUA100:.
* Are you ready? YES    Return
```

To indicate that you want to continue the installation:

1. Mount the installation volume.
2. Type YES.
3. Press Return.

```
The following products will be processed:

  COBOL V5.n

    Beginning installation of COBOL V5.n at hh:mm

%VMSINSTAL-I-RESTORE, Restoring product save set A...

    Release notes included with this kit are always copied to
    SYS$HELP.
```

Step 4: Select a release notes option.

This step applies only if you specified OPTIONS N in Step 2.

```
Additional Release Notes Options:

     1.  Display release notes
     2.  Print release notes
     3.  Both 1 and 2
     4.  None of the above


* Select option [2]:    Return
```

If you select option 1, VMSINSTAL displays the release notes on line immediately. They are lengthy. You can terminate the display at any time by pressing Ctrl/C.

If you select option 2, VMSINSTAL prompts you for a queue name. Either type a queue name or press Return to send the file to the default output print device.

```
* Queue name [SYS$PRINT]:    Return
```

If you select option 3, VMSINSTAL displays the release notes on line immediately and then prompts you for a queue name.

Note

This version of the release notes file installed by VMSINSTAL is labeled with the current product name and version number. Take care not to delete release notes for previous versions. They still may contain information that is useful to you.

Next, VMSINSTAL displays the following prompt:

```
* Do you want to continue the installation [NO]? Y    Return
%VMSINSTAL-I-RELMOVED, The product's release notes have been
 moved to SYS$HELP.
```

If you want to continue the installation, type YES and press Return. Otherwise, VMSINSTAL discontinues the installation. In either case, VMSINSTAL moves the release notes to SYS$HELP.

Step 5: Install the COBOL Run-Time Library image separately (if applicable).

Compaq COBOL allows you to install the COBOL Run-Time Library (COBRTL) image (COBRTL.EXE) separately from the full product installation. This option can be useful if your COBRTL has been overwritten or lost, or if you need to run a COBOL application compiled with Compaq COBOL V5.*n* on a system that does not have Compaq COBOL V5.*n* installed.

Type NO or press Return at the prompt to continue with the full installation of Compaq COBOL.

If you want to install the COBRTL image only, type YES and press Return in response to the prompt, as follows:

```
* Do you want to install only the COBRTL [NO]? Y    Return
```

In this case, the installation skips any subsequent inquiries, including the question about the PAK, and proceeds to install only the COBRTL image.

As in the full installation, the version of the current COBRTL.EXE is automatically checked.

If the version already installed on your system is later than the COBRTL.EXE you are attempting to install separately, the installation procedure issues the following message followed by another prompt:

```
%COBOL-I-IDNTCK, COBRTL found in SYS$SHARE has later ident than
 COBRTL to be installed.
Do you still want to install COBRTL from kit [NO]?   Return
```

Press Return at the prompt to terminate the installation without installing the COBRTL image supplied with your Compaq COBOL kit. Or type YES and press Return to install it.

```
* Do you still want to install COBRTL from kit [NO]? Y    Return
%COBOL-I-UPDIMG, Installing new COBRTL image
%PATCH-I-NOLCL, image does not contain local symbols
%PATCH-I-WRTFIL, updating image file ...
 DKB300:[SYS0.SYSUPD.COBOLver]COBRTL.EXE;2
%COBOL-I-UPDOBJ, Updating system object library
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target
 directories...
```

Note

If your system includes a later version of the COBRTL.EXE than the one that is supplied with your Compaq COBOL kit, it is highly recommended that you *not* install the earlier kit version. Backward compatibility for your applications is not guaranteed; that is, while applications compiled with older versions of COBOL will run compatibly with newer versions of the COBRTL, the reverse may not be true.

Remember to use the INSTALL utility to make the COBRTL.EXE that is replaced by the installation a known image. This must be done on every node in a VAXcluster. Use INSTALL REPLACE or use the OpenVMS System Management utility (SYSMAN) to facilitate the installation on multiple nodes (see Section 2.3).

Step 6: Respond to LMF queries.

This product supports the OpenVMS License Management Facility (LMF). For more information on LMF, see the *OpenVMS License Management Utility Manual*.

During the installation procedure, the Compaq COBOL Product Authorization Key (PAK) is invoked and the following questions are asked:

```
* Does this product have an authorization key registered and
   loaded? YES    Return
```

This step allows you to indicate whether or not your LMF license for Compaq COBOL is registered and loaded.

It is strongly recommended that you install the PAK for Compaq COBOL prior to installing the product.

If the PAK is not installed, you can still proceed with the installation and install the PAK after the installation is complete. However, a check for the PAK is done by the compiler during the IVP, and if the PAK is not installed, the IVP will fail. Also, the build of the REFORMAT utility (Step 7) requires prior installation of the PAK.

The following list summarizes the outcome of your responses to this query:

- If you answer YES and the PAK is installed, the installation proceeds normally.
- If you answer YES and the PAK is not installed, the IVP will fail.
- If you answer YES and the PAK is not installed, the installation fails if you selected the REFORMAT utility option.
- If you answer NO, the installation terminates.

In any case, the Compaq COBOL compiler will not execute until the PAK for Compaq COBOL is installed.

Step 7: Install the REFORMAT utility.

```
* Do you want the REFORMAT utility installed [YES]?   Return
```

Depending on your use of Compaq COBOL, you may want to install the optional REFORMAT utility.

Step 8: Respond to the message file query.

```
* Do you want to save the COBOL message file for
   modification [NO]?   Return
```

This query enables you to edit the Compaq COBOL message file COBOLMSG.MSG. Customized messages are often desirable for international users. If you plan to edit the message file, type YES and press Return. If you do not want to edit the message file, press Return. For more information, see Section 3.2.

Step 9: Respond to the purge files query.

If the installation is successful, the SYS$EXAMPLES, SYS$HELP, SYS$LIBRARY, SYS$MANAGER, SYS$UPDATE, SYS$MESSAGE, and SYS$SYSTEM directories may contain previous versions of the following Compaq COBOL files:

- [SYSEXE]COBOL.EXE
- [SYSEXE]REFORMAT.EXE

- [SYSLIB]DCLTABLES.EXE
- [SYSTEST.COBOL]COBOL$IVP.COM
- [SYSHLP]COBOLver.RELEASE_NOTES
- [SYSHLP]COBOLver_RELEASE_NOTES.PS
- [SYSMSG]COBOLMSG.EXE
- [SYSUPD]COBOLMSG.MSG
- [SYSLIB]LSE$SYSTEM_ENVIRONMENT.ENV

```
* Do you want to purge files replaced by this installation
[YES]?    Return
```

These files are replaced during the installation with new files, but the old files are not automatically purged. Purging is recommended. (Purging will not destroy earlier versions of the release notes, which you should retain.) In response to the purging prompt, press Return to purge the files or type NO to keep them. In either case, the system help files are updated.

Not purging these files allows you to go back to a previous version of a file, if necessary.

The installation may also create a new version of the following file, which is not purged along with the other files:

- [SYSLIB]COBRTL.EXE

The installation procedure may update the following files (it will not create new versions of them, nor will it purge them):

- [SYSLIB]IMAGELIB.OLB
- [SYSLIB]STARLET.OLB

The query on purging files is the last one you have to respond to during the installation. After you respond to this query, the following message is displayed:

```
  No more questions will be asked during this installation.
```

If another user has locked the Help file during the installation, the following three informational messages are issued:

```
%VMSINSTAL-I-DCLHLPINUSE, DCL HELP could not be updated.
-VMSINSTAL-I-DCLHLPINUSE, manually update HELP libraries after
installation.
-VMSINSTAL-I-DCLHLPINUSE, use SYS$COMMON:[SYSHLP]COBOLHLP.HLP for
providing new HELP.
```

You may need to mount additional distribution volumes depending on the media used. In this case, you will receive a prompt from VMSINSTAL to determine that you are ready to proceed. (See Step 10.)

Step 10: Insert the subsequent installation kit volumes as requested.

```
%BACKUP-I-READYREAD, mount volume 2
on _MYCPU$MUA100: for reading

Enter "YES" when ready: YES    Return
```

VMSINSTAL prompts you to insert the next volume and waits for you to type YES after inserting it. If you type NO, VMSINSTAL displays the prompt again. This prompt is displayed only if your installation kit contains more than one volume. Exactly when these prompts appear depends on the type of media that you are using.

Step 11: Read the informational messages.

The Compaq COBOL installation procedure produces a number of informational messages that report on the progress of the installation.

The success of the installation is indicated by the following message:

```
%VMSINSTAL-I-MOVEFILES, files will now be moved to their
target directories...
```

If the installation procedure is successful, the new or modified files are moved to their target directories.

The SYS$HELP:HELPLIB.HLB and SYS$LIBRARY:DCLTABLES.EXE files are updated to include the new versions of the Compaq COBOL Help text and the Compaq COBOL command line definition.

Step 12: Observe the Installation Verification Procedure.

VMSINSTAL now calls the IVP to verify that Compaq COBOL was installed successfully.

```
Start of Compaq COBOL for OpenVMS VAX Installation
Verification Procedure

Successful test of Compaq COBOL for OpenVMS VAX V5.n-cc
Installation of COBOL V5.n completed at hh:mm
```

If another user has locked the Help file during your installation, the following messages are displayed:

```
%VMSINSTAL-I-REFDCLHLP, DCL HELP could not be updated.
-VMSINSTAL-I-REFDCLHLP, Reference SYS$UPDATE:DODCLHELP.VMI
for information on -VMSINSTAL-I-REFDCLHLP, updating DCL HELP.
```

Step 13: End the installation procedure.

```
   VMSINSTAL procedure done at hh:mm

$ LOGOUT    Return
SYSTEM      logged out at dd-mmm-yyyy hh:mm:ss.ss
```

When the product installation procedure is complete, you can choose to install more products or to log out (as shown here). If you removed any media from the console drive before beginning the installation, you should replace it now.

Note that VMSINSTAL deletes or changes entries in the process symbol tables during the installation. Therefore, if you are going to continue using the system manager's account and you want to restore these symbols, you should log out and log in again.

2.3 Installing Compaq COBOL on a VAXcluster

You can use the OpenVMS System Management utility (SYSMAN) to facilitate running Compaq COBOL on multiple nodes in a cluster. With SYSMAN, you can define a system management environment so that operations performed on one node are automatically executed on all other nodes in the VAXcluster. (See the OpenVMS VAX documentation for more information.)

Always check first to see that you have the appropriate software license. Once you have installed Compaq COBOL on one system disk in the VAXcluster, you can update the version of the DCL tables and the version of the COBRTL installed on the other nodes in the cluster. Do the following:

1. Log in to a privileged account on a node on the VAXcluster. Invoke SYSMAN and enter the following command at the SYSMAN> prompt:

   ```
   SYSMAN>SET ENVIRONMENT/CLUSTER    Return
   ```

2. If you are a new customer, ensure that the PAK has been registered before attempting to install Compaq COBOL. To load the PAK on all nodes in your cluster environment simultaneously, invoke SYSMAN and enter the following command at the SYSMAN> prompt:

   ```
   SYSMAN>LICENSE LOAD COBOL    Return
   ```

3. Enter the following commands at the SYSMAN> prompt:

   ```
   SYSMAN>DO INSTALL REPLACE SYS$SHARE:DCLTABLES.EXE    Return
   SYSMAN>DO INSTALL REPLACE SYS$SHARE:COBRTL.EXE    Return
   ```

2.4 Installing Compaq COBOL as a Shared Image

If Compaq COBOL will be used extensively on your system, you can reduce the system overhead and memory requirements by installing it as a shared image. To perform the installation on a system that is currently running, use the OpenVMS Install utility while you are logged in to a privileged account. If errors occur, consult the OpenVMS system messages documentation.

Do the following to install Compaq COBOL for OpenVMS VAX as a shared image:

1. Determine the number of available global pages and global sections on your system. See Section 1.3 for information on how to do this.
2. Invoke the OpenVMS Install utility and install Compaq COBOL as a shared image, as follows:

```
$ INSTALL    Return

INSTALL> ADD SYS$SYSTEM:COBOL.EXE/OPEN/SHARED    Return
INSTALL> ADD SYS$MESSAGE:COBOLMSG.EXE/OPEN/SHARED    Return
INSTALL> EXIT    Return
```

3. Update the system startup file to install Compaq COBOL.

To ensure that Compaq COBOL is installed as a shared image each time the system is bootstrapped, include the following lines in the site-specific startup file SYS$MANAGER:SYSTARTUP_V5.COM or SYS$MANAGER:SYSTARTUP_VMS.COM (SYS$MANAGER:SYSTARTUP_V5.COM has been changed to SYS$MANAGER:SYSTARTUP_VMS.COM for OpenVMS V6.2 and higher).

```
$ INSTALL ADD SYS$SYSTEM:COBOL.EXE/OPEN/SHARED
$ INSTALL ADD SYS$MESSAGE:COBOLMSG.EXE/OPEN/SHARED
```

2.5 Using the PCSI Transition Kit to Register Compaq COBOL V5.7 and the COBRTL

After the installation of Compaq COBOL V5.7 has been completed, the installer on OpenVMS VAX V6.2 and higher can use five new files delivered with this kit to register the COBOL compiler and the COBRTL in the POLYCENTER Software Installation utility (PCSI) database. These files are placed in your SYS$UPDATE directory. These files are:

```
DEC-VAXVMS-COBOL-V0507--6.PCSI$DESCRIPTION
DEC-VAXVMS-COBOL-V0507--6.PCSI$TLB
DEC-VAXVMS-COBRTL-V0506--6.PCSI$DESCRIPTION
DEC-VAXVMS-COBRTL-V0506--6.PCSI$TLB
COBOL_PCSI_REGISTER.COM
```

The first four files provide binary product information for the product registrations. They constitute a PCSI transition kit for the COBOL compiler and another for the COBRTL. The fifth file, COBOL_PCSI_REGISTER.COM, contains two DCL PRODUCT REGISTER commands, which accomplish the two registrations.

After the successful completion of the kit using VMSINSTAL as shown in the Installation Guide, you can execute the following @ command at the DCL prompt:

```
$ @COBOL_PCSI_REGISTER
```

The procedure will ask you twice if you wish to continue: once for COBOL V5.7 and once for COBRTL V5.6. Answer Y to both inquiries. This procedure will take approximately one minute to execute.

Note

The file COBOL_PCSI_REGISTER.COM is only for OpenVMS VAX V6.2 or higher, which has the PRODUCT command. A user of OpenVMS VAX V5.5-2 who attempts to execute this file will receive only diagnostic messages indicating that the PRODUCT command was not found by the command processor.

WARNING: You are strongly urged not to remove these two registrations from the PCSI database. They will not need to be redone. Their purpose is to tell PCSI that you have the COBOL and COBRTL software installed on your system. Further, the only PCSI command that could remove these database entries is the DCL command PRODUCT REMOVE, which would not only remove the references to the COBOL and COBRTL software from the database, but would also remove all traces of the named software from your system, and this software would have to be reinstalled from scratch.

3
After Installation

Compaq COBOL is now installed on your local system and can be invoked by all users with the COBOL command.

The installation procedure modifies the DCL command table so that the COBOL command is recognized and processed. However, the previous command table is still in effect for those users who are currently logged in. All logged in users who want to use the newly installed version of Compaq COBOL should issue the following command:

```
$ SET COMMAND/TABLE=SYS$LIBRARY:DCLTABLES    Return
```

If Compaq COBOL will be used extensively on your system, you can reduce system overhead and memory requirements by installing it as a shared image by using the OpenVMS Install utility. For more information, see Section 2.4.

3.1 Running the Installation Verification Procedure Separately

The Installation Verification Procedure (IVP) is run at installation. If you want to run the IVP separately to ensure the integrity of installed files, execute the following command procedure:

```
$ @SYS$COMMON:[SYSTEST.COBOL]COBOL$IVP.COM    Return
```

If the IVP fails for any reason, the following messages are displayed:

```
The Compaq COBOL for OpenVMS VAX V5.n Installation
Verification Procedure failed.

%VMSINSTAL-E-IVPFAIL, The IVP for Compaq COBOL for OpenVMS VAX
V5.n has failed.
```

What to Do If the Installation Fails During or After Running the IVP

Some causes of installation failure after running the IVP can produce error messages such as the following:

```
%CLI-F-SYNTAX, error parsing ...

%COBOL-F-BADVALUE ...
```

These errors indicate an incompatibility between SYS$SYSTEM:COBOL.EXE and the COBOL command syntax in SYS$LIBRARY:DCLTABLES. To understand the causes of such errors and to correct them, follow this procedure:

1. If either SYS$SYSTEM:COBOL.EXE or SYS$LIBRARY:DCLTABLES exists in SYS$SPECIFIC, the SYS$SPECIFIC file will override the file in SYS$COMMON (where the installation procedure places these files). Ensure that neither of these files exists in SYS$SPECIFIC.
2. Deassign any logical names for COBOL or DCLTABLES.
3. If neither 1 nor 2 applies and you are in the same account on the same node where Compaq COBOL was installed, this error indicates that DCLTABLES was not updated. This error usually occurs when another user had DCLTABLES locked during the installation procedure. To correct the error, you must reinstall Compaq COBOL.

Other causes of installation failure after running the IVP can produce RPC$SHARE error messages. Such errors occur because Compaq COBOL accesses RPC$SHARE indirectly through CDDSHR.EXE (if you have a version of CDD prior to Version 5.0) and usually indicate a problem with the Oracle CDD/Repository installation. To correct these errors, execute the following command procedure:

```
$ @SYS$STARTUP:CDDSTRTUP.COM     Return
```

If you encounter other errors after executing this command procedure, consult the Oracle CDD/Repository documentation for further information or contact your Customer Support Center.

3.2 Customizing Compaq COBOL Error Messages

If you choose to customize the Compaq COBOL message file, the installation procedure copies the Compaq COBOL message file COBOLMSG.MSG into the system directory [SYSUPD]. After the file is copied to the system directory, you can edit COBOLMSG.MSG to customize the error messages that users receive when using Compaq COBOL. Customized messages are often desirable for international users.

There are two prerequisites:

- You must install Compaq COBOL before editing the message file. If you install Compaq COBOL after editing the message file, the software installation's COBOLMSG.MSG file will supersede your revised message file in the [SYSMSG] directory.
- You must have the OpenVMS Message utility installed on your system before editing COBOLMSG.MSG. The edited version of COBOLMSG.MSG must be processed through the Message utility before the file can be accessed by Compaq COBOL.

The following steps explain how to edit the Compaq COBOL messages and install the customized message file on your system:

1. Run the Compaq COBOL installation procedure and answer YES to the question ''Do you want to save the COBOL message file for modification [NO]?''

   The installation procedure copies the message file, COBOLMSG.MSG, into the system directory [SYSUPD].

2. Edit the message file in [SYSUPD].

   Each error message appears on a separate line and is enclosed in angle brackets (< >). You can edit the text portion of the error messages, but for Compaq COBOL to correctly identify the error messages, you must not change the following:

   - The 3- to 9-character mnemonic that appears in the first column
   - The sequence in which the error messages appear in the file
   - The severity level of the error message
   - The number, type, and order of the formatted ASCII ouput (FAO) arguments that appear in the message

3. Run the OpenVMS Message utility.

   To translate the new message text into a file that Compaq COBOL can access, process the text file through the Message utility by entering the following command:

   ```
   $ MESSAGE COBOLMSG    Return
   ```

   The Message utility creates the object module COBOLMSG.OBJ.

4. Enter the LINK command with the /SHARE qualifier to create the shareable image COBOLMSG.EXE:

   ```
   $ LINK/SHARE COBOLMSG    Return
   ```

5. Copy COBOLMSG.EXE into the system directory [SYSMSG]:

   ```
   $ COPY COBOLMSG.EXE SYS$COMMON:[SYSMSG]/PROT=W:RE    Return
   ```

6. If Compaq COBOL is installed as a known image, you must reinstall COBOLMSG.EXE by entering the following command:

   ```
   $ INSTALL REPLACE SYS$MESSAGE:COBOLMSG    Return
   ```

Compaq COBOL will now generate your customized error messages.

3.3 Error Conditions

If the installation procedure fails for any reason, a message like the following is displayed:

```
%VMSINSTAL-E-INSFAIL, The installation of Compaq COBOL V5.n
has failed.
```

An error during the installation can occur if one or more of the following conditions exist:

- Operating system version is incorrect.
- Prerequisite software version is incorrect.
- Quotas necessary for successful installation are insufficient (see Section 1.3).
- Process quotas required by VMSINSTAL are incorrect (see Section 2.1).
- OpenVMS Help library is currently in use.
- Product Authorization Key (PAK) was registered incorrectly or not registered.

For descriptions of the error messages generated by these conditions, see the *OpenVMS System Messages and Recovery Procedures Reference Manual*, your processor-specific installation or operations guide, or the *OpenVMS License Management Utility Manual*.

If you are notified that any of these conditions exist, take the appropriate action as described in the message. You may need to change a system parameter or increase an authorized quota value.

If the installation fails, you must restart the installation procedure from Step 2. The installation may fail due to an IVP failure. If so, you should first consult the instructions in Section 3.1. If you still need assistance, contact your Compaq field service representative or the Customer Support Center if you have support.

3.4 Special Save Set for COBRTL Only

Within the COBOL057.C save set, there is another save set named COBRTL057.A containing files needed to install only the COBOL Run-Time Library (COBRTL) image. Although most users have no need of this, you may find this save set useful if you are a vendor distributing Compaq COBOL for OpenVMS VAX systems applications to your customers, and have experienced incompatibility problems with the version of the COBRTL on your customers' systems in the past. You can distribute the COBRTL057.A save set with your COBOL application to enable your customers to install the COBRTL on their VAX systems. Note that the COBRTL.EXE image is identical to the COBRTL.EXE image shipped on the main kit.

To extract the COBRTL057.A save set, copy the save set COBOL057.C from your media to your default directory, and do the following:

```
$ BACKUP COBOL057.C/SAVE/SELECT=COBRTL057.A destination-directory    Return
```

The COBRTL057.A save set can then be distributed to customers with your Compaq COBOL for OpenVMS VAX systems application and installed on their system with the VMSINSTAL utility, as described in Step 5 in Section 2.2. Note that there is no problem with licensing, as the COBRTL.EXE can be copied to any properly licensed OpenVMS VAX system.

3.5 Maintenance Updates

Compaq may periodically issue maintenance updates of Compaq COBOL. Each update consists of an installation kit. Install this kit as described in this document or in any documentation that may accompany the maintenance update.

Each time a maintenance update is released, the version number changes. For example, if the current version is 1.0, the version number of the first maintenance update will be 1.1. The maintenance update also includes new release notes that describe the changes that have been made to Compaq COBOL since the previous release.

The updated release notes are provided on line. You should read the release notes when you first install Compaq COBOL; they are also accessible at any time after the product is installed. For information on reading the release notes at the time that you install Compaq COBOL, follow the installation procedure through Step 4 in Chapter 2. To locate the release notes after Compaq COBOL is installed, display or print the file SYS$HELP:COBOLver.RELEASE_NOTES or type the following:

```
$ HELP COBOL RELEASE_NOTES    Return
```

A

Sample Installation

This appendix contains a sample listing of a regular installation of Compaq COBOL, followed by PCSI registration. Please note: this is only a sample. The installation procedure may be modified for maintenance updates of this product. Because this guide is not usually revised for maintenance updates, be sure to read the *Read Before Installing or Using Compaq COBOL Version 5.n for OpenVMS VAX Systems* letter before you install this product. This letter notes any significant changes in the installation that vary from this sample.

In the sample installation, the generic term "device::[directory]" replaces the actual device and directory names on the user's system.

```
Username: SYSTEM
Password:

 COBOL Cluster- (VAXstation 4000-96) - VMS V6.2

    Last interactive login on Monday, 23-OCT-2000 12:04
    Last non-interactive login on Wednesday, 30-AUG-2000 12:23

$ set def sys$update
$ Install

INSTALL> list/global/summary

 Summary of Local Memory Global Sections
    679 Global Sections Used,  85944/77456 Global Pages Used/Unused
INSTALL> exit

$ run sys$system:sysgen
SYSGEN>  USE CURRENT
SYSGEN>  SHO GBLSECTIONS
Parameter Name            Current    Default     Min.     Max.     Unit  Dynamic
--------------            -------    -------    -------  -------   ----  -------
GBLSECTIONS                  1000        250        60      4095 Sections
SYSGEN>  EXIT
$ @vmsinstal cobol057 device:[directory] options n

 OpenVMS VAX Software Product Installation Procedure V6.2

It is 23-OCT-2000 at 14:52.
```

```
Enter a question mark (?) at any time for help.

%VMSINSTAL-W-ACTIVE, The following processes are still active:
 UCX$REXE_BG5995
 DECW$TE_0418
 LPS_FTEST
 LPS_GUDWRK
 LPS_OB2PRT
 LPS_PROTON
 LPS_PS2
 UCX$PORTM
 SQLSRV$SERVER
 DCE$RPCD
 DECW$TE_0A74
 UCX$REXE_BG5449
 UCX$REXE_BG2177
 DECW$TE_0491
 DECW$TE_0DA3
 NOTES$0021_1*
 _FTA21:
 NOTES$000D_13*
 _FTA22:
* Do you want to continue anyway [NO]? y
* Are you satisfied with the backup of your system disk [YES]?

The following products will be processed:

  COBOL V5.7

 Beginning installation of COBOL V5.7 at 14:53

%VMSINSTAL-I-RESTORE, Restoring product save set A ...

    Release notes included with this kit are always copied to SYS$HELP.

    Additional Release Notes Options:

 1.  Display release notes
 2.  Print release notes
 3.  Both 1 and 2
 4.  None of the above

* Select option [2]: 2
* Do you want to continue the installation [NO]? y
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.
 +----------------------------------------------------------------------------+
 |                     Installation Command Procedure for                     |
 |                Compaq COBOL V5.7-63 Compiler for OpenVMS VAX.               |
 +----------------------------------------------------------------------------+

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```

```
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* Do you want to install only the COBRTL [NO]?

 Product:      COBOL
        Producer:     COMPAQ
        Version:      5.7
        Release Date: 23-OCT-2000

* Does this product have an authorization key registered and loaded? y

     The ANSI/Terminal-Format REFORMAT Utility may optionally be installed.

* Do you want the REFORMAT Utility installed  [YES]?
* Do you want to save the COBOL message file for modification  [NO]?

 This installation procedure creates a new version of, or updates
 some or all of the following files:

        [SYSEXE]COBOL.EXE
        [SYSEXE]REFORMAT.EXE
        [SYSLIB]DCLTABLES.EXE
        [SYSTEST.COBOL]COBOL$IVP.COM
        [SYSHLP]COBOL057.RELEASE_NOTES
        [SYSHLP]COBOL057_RELEASE_NOTES.PS
        [SYSMSG]COBOLMSG.EXE
        [SYSUPD]COBOLMSG.MSG
        [SYSUPD]DEC-VAXVMS-COBOL-V0507--6.PCSI$DESCRIPTION
        [SYSUPD]DEC-VAXVMS-COBOL-V0507--6.PCSI$TLB
        [SYSUPD]DEC-VAXVMS-COBRTL-V0506--6.PCSI$DESCRIPTION
        [SYSUPD]DEC-VAXVMS-COBRTL-V0506--6.PCSI$TLB
        [SYSUPD]COBOL_PCSI_REGISTER.COM

* Do you want to purge files replaced by this installation [YES]?

  The installation procedure may also create a new version of the
  following file, which is not purged along with the previously
  listed files:

        [SYSLIB]COBRTL.EXE

  This installation procedure additionally may update the following files
  (it will not create new versions of them, nor will it purge them):

        [SYSLIB]IMAGELIB.OLB
        [SYSLIB]STARLET.OLB


  No more questions will be asked during this installation.

  Installing Compaq COBOL for OpenVMS VAX and running the IVP requires
  approximately 5 to 10 minutes, depending on your system configuration.
```

```
%COBOL-I-UPDIMG, Installing new COBRTL image
%PATCH-I-NOLCL, image does not contain local symbols
%PATCH-I-WRTFIL, updating image file device:[directory]COBRTL.EXE;2
%COBOL-I-UPDOBJ, Updating system object library
%VMSINSTAL-I-RESTORE, Restoring product save set B ...

        The IVP has been moved to directory [SYSTEST.COBOL]

        To invoke the IVP, enter @SYS$COMMON:[SYSTEST.COBOL]COBOL$IVP.COM

%VMSINSTAL-I-RESTORE, Restoring product save set C ...

 The following PCSI-related files have been moved to [SYSUPD]
  DEC-VAXVMS-COBOL-V0507--6.PCSI$DESCRIPTION
  DEC-VAXVMS-COBOL-V0507--6.PCSI$TLB
  DEC-VAXVMS-COBRTL-V0506--6.PCSI$DESCRIPTION
  DEC-VAXVMS-COBRTL-V0506--6.PCSI$TLB
  COBOL_PCSI_REGISTER.COM

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

        Start of Installation Verification Procedure
 for Compaq COBOL for OpenVMS VAX


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 under vendor's standard commercial license.


        Successful test of Compaq COBOL V5.7-63
 Installation of COBOL V5.7 completed at 14:55

 VMSINSTAL procedure done at 14:55

$ @COBOL_PCSI_REGISTER.COM

The following product has been selected:
DEC VAXVMS COBOL V5.7

Do you want to continue? [YES]
The following product will be registered:
DEC VAXVMS COBOL V5.7
Portion Done: 0%...10%...20%...100%
The following product has been registered:
DEC VAXVMS COBOL V5.7-63

The following product has been selected:
DEC VAXVMS COBRTL V5.6
```

```
Do you want to continue? [YES]
The following product will be registered:
DEC VAXVMS COBRTL V5.6
Portion Done: 0%...10%...70%...100%
The following product has been registered:
DEC VAXVMS COBRTL V5.6-15
$ product show history cobol
PRODUCT                        OPERATION       DATE/TIME
-------                        ---------       ---------
DEC VAXVMS COBOL V5.7-63       REG. PRODUCT    23-OCT-2000 15:11:55

1 item found
$ product show history cobrtl
PRODUCT                        OPERATION       DATE/TIME
-------                        ---------       ---------
DEC VAXVMS COBRTL V5.6-15      REG. PRODUCT    23-OCT-2000 15:12:04

1 item found
$ install
INSTALL> add sys$system:cobol.exe/open/shared
INSTALL> add sys$message:cobolmsg.exe/open/shared
INSTALL> exit
$ @sys$common:[systest.cobol]cobol$ivp

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        Successful test of Compaq COBOL V5.7-63
$ lo
  SYSTEM      logged out at 23-OCT-2000 14:56:01.34
```

B

Files Installed on Your System

The Compaq COBOL installation procedure installs a number of files on your system. Table B–1 identifies the directories that contain the installed files.

Table B–1 Directories Containing Compaq COBOL Installed Files

Directory	File Name	File Content Summary
[SYSEXE]	COBOL.EXE	Compiler image
[SYSEXE]	REFORMAT.EXE	ANSI/Terminal-Format REFORMAT utility
[SYSMSG]	COBOLMSG.EXE	Message file
[SYSUPD]	COBOLMSG.MSG	Customizable source for message file[1]
[SYSHLP]	COBOL05*n*.RELEASE_NOTES	Release notes (ASCII file)
[SYSHLP]	COBOL05*n*_RELEASE_NOTES.PS	Release notes (POSTSCRIPT file)
[SYSLIB]	COBRTL.EXE	Compaq COBOL for OpenVMS VAX Systems Run-Time Support Library[2]
[SYSLIB]	DCLTABLES.EXE	Updates to the system DCL tables
[SYSLIB]	IMAGELIB.OLB	New run-time symbols
[SYSLIB]	STARLET.OLB	Updated with Compaq COBOL for OpenVMS VAX Systems RTL routines[2]
[SYSTEST.COBOL]	COBOL$IVP.COM	Installation Verification Procedure

[1] See Section 3.2 for information on customizing the Compaq COBOL for OpenVMS VAX systems message file.

[2] This file is added or updated if an RTL installation is performed.

C
Recovering from Errors

This appendix provides information to help you with failures or errors that might occur during product installation or product use.

C.1 Failures During Installation of Compaq COBOL for OpenVMS VAX Systems

If VMSINSTAL detects any problems during the installation, it notifies you and asks if you want to continue the installation. In some instances, you can enter YES to continue. To stop the installation process and correct the situation, enter NO and press Return. Then correct the problem and restart the installation.

If errors occur during the installation itself or when the Installation Verification Procedure (IVP) is running, VMSINSTAL displays failure messages. If the installation fails, you see the following message:

```
%VMSINSTAL-E-INSFAIL, The installation of Compaq COBOL V5.n
has failed.
```

If the IVP fails, you see these messages:

```
The Compaq COBOL for OpenVMS VAX V5.n Installation Verification
Procedure failed.
```

```
%VMSINSTAL-E-IVPFAIL, The IVP for Compaq COBOL for OpenVMS VAX
V5.n has failed.
```

Errors can occur during the installation if any of the following conditions exist:

- The operating system version is incorrect.
- A prerequisite software version is incorrect.
- Quotas necessary for successful installation are insufficient.
- System parameter values for successful installation are insufficient.
- The OpenVMS Help library is currently in use.

- The product license has not been registered and loaded.

For descriptions of the error messages generated by these conditions, see the OpenVMS VAX documentation on system messages, recovery procedures, and OpenVMS VAX software installation. If you are notified that any of these conditions exist, you should take the appropriate action as described in the message. Also see Section 3.1 and Section 3.3.

For information on installation requirements, see Chapter 1.

C.2 Diagnostic Message Table

Table C–1 shows the messages that can occur during your installation and the actions you can take in response:

Table C–1 Installation Messages

Warning-Level Messages	
`%DCL-W-ACTIMAGE, error activating image RPC$SHARE`	
Explanation:	**Solution or Action:**
RPC$SHARE image is not available.	Consult with your system manager to start up the CDD.

Error-Level Messages	
`%VMSINSTAL-E-IVPFAIL, The IVP for Compaq COBOL 5.`*n* `has failed.`	
Explanation:	**Solution or Action:**
Compaq COBOL Version 5.*n* has been installed but the IVP run was unsuccessful.	Rerun the IVP separately to determine the source of the failure.
`-CLI-E-IMGNAME, image file DISK$:[SYS0.SYSCOMMON.][SYSLIB]RPC$SHARE.EXE;1`	
Explanation:	**Solution or Action:**
Attempt to execute RPC$SHARE was unsuccessful.	Consult with your system manager to start up the CDD.
`%VMSINSTAL-E-INSFAIL, The installation of Compaq COBOL V5.`*n* `has failed.`	
Explanation:	**Solution or Action:**
Compaq COBOL Version 5.*n* has not been successfully installed.	Consult with your system manager for system resources required for installation.

(continued on next page)

Table C–1 (Cont.) Installation Messages

Fatal-Level Messages	
`%CLI-F-SYNTAX, error parsing ...`	
Explanation:	**Solution or Action:**
The DCL Command Line Interpreter encountered invalid syntax in a command.	Make sure you are using the correct .CLD, or log out and log back in again.
`%COBOL-F-BADVALUE ...`	
Explanation:	**Solution or Action:**
A value of invalid type or a value of invalid range was encountered.	Make sure you are using the correct .CLD, or log out and log back in again.
`SYSTEM-F-PROTINSTALL, protected images must be installed`	
Explanation:	**Solution or Action:**
Protected images must be installed.	Installation of protected images requires the /PROTECT qualifier. Consult with your system manager.
`SYSTEM-F-SHRIDMISMATCH, ident mismatch with shareable image`	
Explanation:	**Solution or Action:**
The global section ID in a shareable image does not match its executable image.	Consult with your system manager to relink the executable image.

C.3 Problems During Use of Compaq COBOL for OpenVMS VAX Systems

If you encounter a problem while using Compaq COBOL for OpenVMS VAX systems, please report it to Compaq. Depending on the type of support you have and the nature of the problem, take one of the following actions:

- If you have a Software Product Services Support Agreement, contact your Compaq Customer Support Center (CSC), either by telephone or by using the electronic means provided with your support agreement (such as DSNlink). The CSC provides telephone support for high-level advisory and remedial assistance. When you initially contact the CSC, please indicate the following:
  - The name (OpenVMS VAX) and the version number of the operating system you are using
  - The product name (Compaq COBOL for OpenVMS VAX) and the version number of Compaq COBOL for OpenVMS VAX you are using
  - The hardware system you are using, such as a model number

- A very brief description of the problem (one sentence if possible)
- How critical the problem is to your site

When you submit information electronically or speak on the phone to the appropriate Compaq COBOL for OpenVMS VAX support specialist, you can provide more detailed information. The information should include the specific commands used to compile and link the program, the error messages displayed, and relevant detailed information (possibly including source program listings). Please attempt to narrow the cause of the problem to a specific module or lines of code.

Please submit electronic copy of all source files required to demonstrate the problem. This includes source program code, source copy libraries and dictionaries, data files and databases, as well as .COM files to compile, link, and run the program.