AD-A163 363 ADA (TRADE NAME) COMPILER VALIDATION SUMMARY REPORT: 1/1
VERDIX ADA COMPILER (U) SOFTECH INC FAIRBORN OH
15 MAR 85 F33600-84-D-0280

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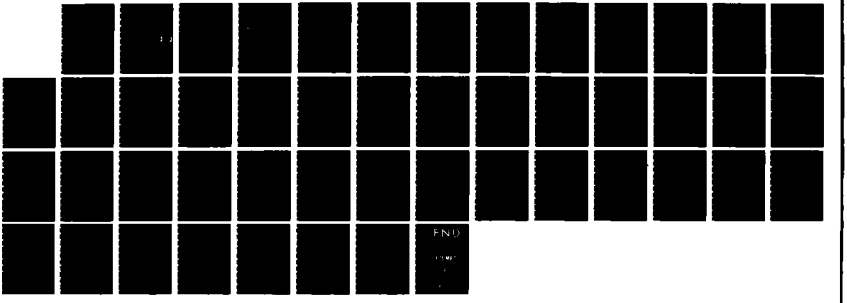

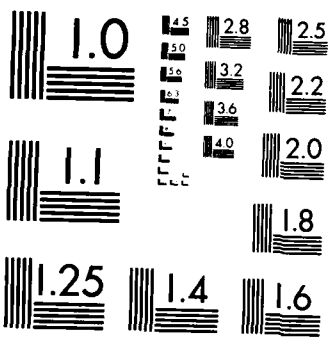

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Ada® Compiler Validation Summary Report:
Verdix Ada Compiler,
VAda-010-0101, Version V03.04
For VAX-11/750,
Using UNIX 4.2 BSD

(Final)

Contract F33600-84-D-0280
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15 March 1985

Prepared for:

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20 ABSTRACT (Continue on reverse side if necessary and identify by block number)

The purpose of this document is to present the results and conclusions of performing standardized tests on the Verdix Ada Compiler.by The Ada Validation Facility, according to the Ada Validation Office's policies and procedures. The Verdix Ada Compiler is hosted on the VAX-11/750 under UNIX 4.2 BSD. ACVC Version 1.5 was used.

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ABSTRACT

The purpose of this Validation Summary Report is to present the results and conclusions of performing standardized tests on the Verdix Ada Compiler. On-site testing was performed 10-12 DEC 84 at Verdix Western Operations in Aloha, Oregon, under the auspices of the Ada Validation Facility (AVF), according to the Ada Validation Office (AVO) policies and procedures. The Verdix Ada Compiler (VAda-010-0101) is hosted on the VAX-11/750 computer operating under UNIX 4.2 BSD. The suite of tests known as the Ada Compiler Validation Capability (ACVC), Version 1.5, was used. The ACVC suite of tests is used to validate conformance of the compiler to ANSI/MIL-STD-1815A (Ada). This standard is described in the ANSI Ada Reference Manual, January 1983. Not all tests in the ACVC test suite are applicable to a specific implementation. Also, known test errors in Version 1.5 are present in some tests; these tests were withdrawn. The purpose of the testing is to ensure that the compiler properly implements legal language constructs and that it identifies, rejects from processing, and labels illegal language constructs. The testing also identifies implementation-dependent behavior permitted by the standard. Six classes of tests are used. These tests are designed to perform checks at compile time, during execution, and at link time. The ACVC, Version 1.5, contains 2051 tests, of which 1836 were applicable to this implementation. Of the 1836 applicable tests, 66 were withdrawn due to the occurrence of errors in the tests. Results showed that all of the remaining 1770 valid tests were successfully passed by the Verdix Ada compiler. A complete list of tests and results is provided in this report. The AVF concluded that the results obtained show acceptable compliance to the January 1983 ANSI Ada Reference Manual.

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

1.1 PURPOSE OF THE VALIDATION SUMMARY REPORT

This report describes the results of the validation effort for the following Ada translator:

Host Machine:	VAX-11/750
Operating System:	UNIX 4.2 BSD
Host Disk System:	Eagle
Target Machine:	VAX-11/750
Operating System:	UNIX 4.2 BSD
Language Version:	ANSI/MIL-STD-1815A Ada
Translator Name:	VAda-010-0101
Translator Version:	V03.04
Validator Version:	1.5

Testing of this translator was conducted by SofTech, Inc. under the supervision of the Ada Validation Facility (AVF), Wright-Patterson AFB, Ohio, at the direction of the Ada Joint Program Office (AJPO). Testing was conducted from 10 DEC 84 through 12 DEC 84 at the Verdix Western Operations, Aloha, Oregon, in accordance with AJPO policies and Ada Validation Office (AVO) procedures.

The purpose of this report is to document the results of the testing performed on the compiler. Testing was carried out with specific emphasis on the following factors:

- to identify any language constructs supported by the translator that do not conform to the Ada Standard

- to identify any unsupported language constructs required by the Ada Standard
- to describe implementation-dependent behavior allowed by the Standard

1.2 USE OF THE VALIDATION SUMMARY REPORT

The Ada Validation Office may make full and free public disclosure of this report in accordance with the "Freedom of Information Act" (5 U.S.C. #552). The results of the validation are only for the purpose of satisfying United States Government requirements and apply only to the computers, operating systems, and compiler version identified in this report.

The Ada Compiler Validation Capability is used to determine, insofar as is practical, the degree to which the subject compiler conforms to the Ada Standard. Thus, this report is necessarily discretionary and judgmental. The United States Government does not represent or warrant that any statement or statements set forth in this report are accurate or complete, or that the subject compiler has no other nonconformances to the Ada Standard. This report is not meant to be used for the purpose of publicizing the findings summarized herein.

Questions regarding this report or the validation tests should be sent to:

Ada Validation Facility (ASD/SIOL)
Computer Operations Division
Information Systems and Technology Center
Wright-Patterson AFB OH 45433-6503

1.3 REFERENCES

Reference Manual for the Ada Programming Language, ANSI/MIL-STD-1815A, February 1983.

Ada Validation Organization: Policies and Procedures, Mitre Corporation, June 1982, PB 83-110601.

Ada Compiler Validation Implementers' Guide, SofTech, Inc., October 1980.

"The Ada Compiler Validation Capability," Computer, Vol. 14, No. 6, June 1981.

Using the ACVC Tests, SofTech, Inc., February 1984.

1.4 DEFINITIONS OF TERMS

Class A tests are passed if no errors are detected at compile time. Although these tests are constructed to be executable, no checks can be performed at run time to see if the test objective has been met; this distinguishes Class A from Class C tests. For example, a Class A test might check that keywords of other languages (other than those already reserved in Ada) are not treated as reserved words by an Ada implementation.

Class B tests are illegal programs. They are passed if all the errors they contain are detected at compile time (or link time) and no legal statements are considered illegal by the compiler.

Class C tests consist of executable self-checking programs. They are passed if they complete execution and do not report failure.

Class D tests are capacity tests. Since there are no firm criteria for the number of identifiers permitted in a compilation, number of units in a library, etc., a compiler may refuse to compile a Class D test. However, if such a test is successfully compiled, it should execute without reporting a failure.

Class E tests provide information about an implementation's interpretation of the Standard. Each test has its own pass/fail criterion.

Class L tests consist of illegal programs whose errors are expected to be detected at link time. They are passed if errors are detected prior to beginning execution of the main program.

CUSTOMER: The agency requesting the validation (Verdix Western Operations).

HOST: The computer on which the compiler executes (VAX-11/750).

ACVC: The Ada Compiler Validation Capability.

AVO: The Ada Validation Office. In the context of this report, the AVO is responsible for setting policies and procedures for compiler validations.

AVF: The Ada Validation Facility, Wright-Patterson Air Force Base. In the context of this report, the AVF is responsible for conducting compiler validations.

TARGET: The computer for which a compiler generates object code (VAX-11/750).

VALIDATION: The process of validating a compiler. The term is used interchangeably with test or compiler test.

VALIDATION TESTS: The generic form used to refer to a set of test programs which evaluate how closely a compiler conforms to its language specification. In this report, the term will be used (unqualified) to mean the ACVC tests.

CHAPTER 2

TEST ANALYSIS

The following table shows that Verdix Western Operations's VAda-010-0101 compiler passed all applicable correct tests.

	A	B	C	D	E	L	Support	Total
Processed	58	753	1200	14	7	9	10	2051
Inapplicable	0	5	206	0	0	4	0	215
Withdrawn	0	1	65	0	0	0	0	66
Passed	58	747	929	14	7	5	10	1770
Failed	0	0	0	0	0	0	0	0

215 tests in the suite were processed but were found to be not applicable to the VAda-010-0101 translator (see section 4.2.6).

In addition, 66 tests were withdrawn from the test suite because they did not conform to ANSI/MIL-STD-1815A, the Ada Language Standard (see section 4.2.5 for details).

2.1 CLASS A TESTING

Class A tests check to ensure that legal Ada programs can be successfully compiled. These tests are executed but contain no executable self-checking capabilities. There were 58 Class A test programs processed in this validation.

2.1.1 Class A Test Procedures

Each Class A test is separately compiled and executed. However, the only purpose of execution is to produce a message indicating that the test passed.

2.1.2 Class A Test Results

Successful compilation and execution without any error messages indicates that the tests passed. There were no Class A tests that were withdrawn because of errors in the tests, and all Class A tests were found to be applicable to this implementation. All 58 applicable Class A tests passed.

2.2 CLASS B TESTING

Class B tests check the ability to recognize illegal language usage. 753 Class B tests were processed.

2.2.1 Class B Test Procedures

Each Class B test is separately compiled. The resulting test compilation listings are manually examined to see whether every illegal construct in the test is detected. If all errors are not detected, a version of the test is created that contains only undetected illegal constructs. This "split" version is recompiled and the results analyzed. If all errors are still not detected, the revision process is repeated until a revised test contains only a single illegal construct.

A Class B test is considered to fail only if a version of the test containing a single illegal construct is accepted by the compiler (i.e., an illegal construct is not detected) or a version containing no errors is rejected (i.e., a legal construct is rejected).

2.2.2 Class B Test Results

753 Class B tests were presented to the compiler. Five of these tests were found to be inapplicable to this implementation (see section 4.2.6); one test was found to be incorrect (i.e., a conforming compiler would have failed the test - see section 4.2.5). All 747 remaining Class B tests passed.

Because all errors were not detected when compiling the original tests, the following 21 tests were modified by removing the detected errors:

B24104A.ADA	B43202A-B.ADA	B910ABA-B.ADA
B24104B.ADA	B43202B-B.ADA	B95001A.ADA
B24104C.ADA	B44001A-B.ADA	B95007B.ADA
B33004A.ADA	B48002A-B.ADA	B97101A-AB.ADA
B37201A.ADA	B64001A-B.ADA	B97101E-AB.ADA
B38008A.ADA	B64004A.ADA	B97102A-AB.ADA
B41202A.ADA	B67001A-B.ADA	B97103E-AB.ADA

For the modified tests, all illegal constructs were detected.

2.3 CLASS C TESTING

Class C tests check to ensure that legal Ada programs are correctly compiled and executed by an implementation. 1200 Class C tests were processed in this validation.

2.3.1 Class C Test Procedures

Each Class C test is separately compiled and executed. The tests are self-checking and produce PASS/FAIL messages. Any "failed" tests are individually checked to see if they are correct and if they are applicable to the implementation. Any tests that are inapplicable or that do not conform to the Ada Standard are withdrawn.

2.3.2 Class C Test Results

Of the 1200 Class C tests, 65 tests were withdrawn because of errors in the tests. All remaining Class C tests were processed except for 206 that were determined to be inapplicable. Included in the inapplicable tests were 201 tests requiring a floating point precision exceeding SYSTEM.MAX_DIGITS. The remaining 929 tests passed.

2.4 CLASS D TESTING

Class D tests are executable tests used to check an implementation's compilation and execution capacities. Fourteen Class D tests were used in this validation.

2.4.1 Class D Test Procedures

Each Class D test is separately compiled and executed. The tests are self-checking and produce PASS/FAIL messages.

2.4.2 Class D Test Results

All the 14 Class D tests passed. None of the tests were withdrawn because of errors and none of the tests were inapplicable. See section 4.2.7 for further information.

2.5 CLASS E TESTING

Class E tests are executable tests that provide information about an implementer's interpretation of the Standard in areas where the Standard permits implementations to differ. Each test has its own PASS/FAIL criterion. Seven Class E tests were used in this validation.

2.5.1 Class E Test Procedures

Each Class E test is separately compiled and executed. The tests are self-checking and produce commentary and PASS/FAIL messages.

2.5.2 Class E Test Results

All seven Class E tests passed. See section 4.2.7 for further information.

2.6 CLASS L TESTING

Class L tests check to ensure that incomplete or illegal Ada programs involving multiple, separately compiled source files are not allowed to execute. Nine test programs were processed in this validation attempt.

2.6.1 Class L Test Procedures

Each Class L test is separately compiled, and execution is attempted. The tests produce FAIL messages if executed.

2.6.2 Class L Test Results

Of the nine Class L tests, four were found to be inapplicable to this implementation (see section 4.2.6), and none of the tests were withdrawn due to errors in the tests. The remaining five tests passed.

2.7 SUPPORT UNITS

Three support packages are compiled to be used by the rest of the ACVC tests. The CHECK_FILE package is used by many of the chapter 14 tests to check the contents of a text file. The REPORT package provides the mechanism for reporting pass/fail/nonapplicable results of executable (classes A, C, D, E, and L) tests. The VAR_STRINGS package defines types and routines for manipulating varying-length character strings.

2.7.1 Support Unit Test Procedures

The CZ tests check the functions and procedures specified by the three packages.

2.7.2 Support Unit Test Results

All three packages compiled and passed.

CHAPTER 3

COMPILER NONCONFORMANCES

There were no nonconformances to the Ada Standard detected in this validation. The compiler passed all applicable correct tests.

CHAPTER 4

ADDITIONAL INFORMATION

This section describes in more detail how the validation was conducted.

4.1 COMPILER PARAMETERS

Certain tests do not apply to all Ada compilers; for example, compilers are not required to support several predefined floating point types; therefore, tests must be selected based on the predefined types an implementation actually supports. In addition, some tests are parameterized according to the maximum input source line length allowed by an implementation, the maximum floating point precision supported, etc. The implementation-dependent parameters used in performing this validation were:

- maximum lexical element length: 120
- maximum digits value for floating point types: 9
- SYSTEM.MIN_INT: -2_147_483_648
- SYSTEM.MAX_INT: 2_147_483_647
- predefined numeric types:
  FLOAT, INTEGER, SHORT_INTEGER, SHORT_FLOAT
- INTEGER'FIRST: -2_147_483_648
- INTEGER'LAST: 2_147_483_647
- source character set: ASCII
- extended ASCII characters:
  "abcdefghijklmnopqrstuvwxyz!$%?@[\]^`{}~"
- non-ASCII char type: (NON_NULL)

- TEXT_IO.COUNT'LAST: 2_147_483_647
- TEXT_IO.FIELD'LAST: 2_147_483_647
- illegal external file name1:
  NO/SUCH/DIRECTORY/ILLEGAL_EXTERNAL_FILE_NAME_1
- illegal external file name2:
  NO/SUCH/DIRECTORY/ILLEGAL_EXTERNAL_FILE_NAME_2
- SYSTEM.PRIORITY'FIRST: 0
- SYSTEM.PRIORITY'LAST: 7

4.2 TESTING INFORMATION

Tests were compiled and executed at the office of Verdix Western Operations in Aloha, Oregon. The tests were executed on a VAX-11/750 operating under UNIX 4.2 BSD using command procedures prepared by Verdix and reviewed by the validation team.

4.2.1 Pre-Test Procedures

Prior to traveling to Oregon to run the validation suite, the validation team performed a pre-validation review of the Verdix VAda-010-0101 compiler. The validation team received listings from Verdix containing the ACVC Version 1.5 test results of the compiler. The validation team examined the test results from each test and determined the acceptability of the test results.

Prior to testing, appropriate values for the compiler-dependent parameters were determined. These values were used to adapt tests that depend on the values. A magnetic tape containing the adapted tests was prepared and brought to the testing site.

4.2.2 Control Files

The Verdix Western Operations provided command procedures that compiled and executed tests automatically.

4.2.3 Test Procedures

Two ANSI format test tapes containing ACVC Version 1.5 were taken on-site by the validation team to load the ACVC tests to disk on a VAX-11/750. The contents of these test tapes were transferred to disk on a VAX-11/750 with a tape drive, and subsequently transferred to the disk on the test computer via Ethernet. (The computer used to run the tests had no tape drive.)

When loading the test files from tape to disk, only the first four files could be read from the first volume of the two test tapes for a still undetermined reason. Among the four that could be read were the specification and body for the support package REPORT.

The tests on the second volume of the test tapes (those for chapters 7 through 14) were run first, using the REPORT package from the test tape. Since the CHECK_FILE support unit was on the first volume of the test tapes (which could not be read), the validation team substituted a CHECK_FILE package from an earlier ACVC 1.5 distribution (used by Verdix for the pre-validation) so testing could continue.

The problem in reading the test tape was suspected to be the tape itself. Consequently, a second copy of the test tape was mailed to the validation site from the AVF. However, it could not be read either. The validation team decided to try a different tape drive at Verdix's suggestion. The tape was taken to the Oregon Graduate Center (OGC) where it was successfully loaded onto a VAX and written back to a tape in UNIX tar (tape archive) format. This tar tape was successfully transferred to the test machine. Because of the delay involved in the use of the OGC computer, tests for chapters 2 and 3 were run using the files from the ACVC 1.5 distribution tape.

All files taken from the distribution tape were compared to the corresponding files on the test tape read at OGC to verify that the proper tests were run.

All applicable tests were run and tests results were saved on tape in UNIX tar format.

4.2.4 Test Analysis Procedures

On completion of testing, all results were analyzed for failed Class A, C, D, E, or L programs, and all Class B compilation results were individually analyzed. Analysis procedures are described for each test class in chapter 2.

Tests found to contain errors were withdrawn.

4.2.5 Description Of Errors In Withdrawn Tests

The following tests in Version 1.5 of the ACVC did not conform to the ANSI Ada Standard and were withdrawn for the reasons given below:

- C38104A-B: An incomplete type with discriminants was constrained before its full declaration occurred. An implementation is allowed to reject such subtype indications because of an ambiguity in the language.

- C43103B-B: A non-null range had a bound that was outside the index subtype.

- C45321*-B., C45521*-B: Incorrect values were used for values assigned to variables having a floating point subtype.

- C52001B-AB: An equality comparison for nonmodel numbers (e.g., 23.4#=#23.4) has an implementation defined value.

- C52007A-B: A comparison of INTEGER'LAST with SYSTEM.MAX_INT will raise NUMERIC_ERROR if SYSTEM.MAX_INT exceeds INTEGER'LAST, since the implicit conversion of SYSTEM.MAX_INT to INTEGER will raise NUMERIC_ERROR.

- C52102A-AB, C52102B-AB: The result of concatenating slices of an array of characters had an upper bound that did not belong to the array's index subtype because the array was declared to have an index subtype 1..10 (or 1..9) instead of subtype INTEGER.

- C52103X-B: A test assumed that a slice would be performed even if it raised NUMERIC_ERROR.

- C55B15A-B: If SYSTEM.MAX_INT is greater than INTEGER'LAST, the discrete range INTEGER range -SYSTEM.MAX_INT#+#10# .. #-SYSTEM.MAX_INT will raise NUMERIC_ERROR.

- C87B10A-B: Literal values were used that were outside an integer base type for some implementations.

- B87B23B-B: A tricky case of overload resolution marked OK was actually ambiguous.

- C930BDA-B: An attempt to activate a task before its body is elaborated should raise TASKING_ERROR, not PROGRAM_ERROR.

- C95008A: It was possible for an entry call to call a terminated task, depending on the implementation.

- C95009A: An unintended race condition in a tasking test allowed a null access value to be dereferenced before the access variable was assigned the access value of an allocated task.

- CE3103A-B: A test would print a failed message if RESET raised USE_ERROR.

- CE3804E-B: A test contained a nonmodel number (1.35) for which an equality comparison was expected to always yield true.

4.2.6 Description Of Inapplicable Tests

201 tests were not processed because SYSTEM.MAX_DIGITS is nine. These tests were:

C24113F,G,...,Y-B	C35708F,G,...,Y-B	C45421F,G,...,Y-B
C35705F,G,...,Y-B	C35802F,G,...,Y-B	C45424F,G,...,Y-B
C35706F,G,...,Y-B	C45241F,G,...,Y-B	C45621F,G,...,Z-B
C35707F,G,...,Y-B		

Eight tests were inapplicable because the implementation does not support LONG_FLOAT or LONG_INTEGER:

LONG_FLOAT	C34001G-B, C35702B-AB, B86001CQ-AB
LONG_INTEGER	C34001E-B, B52004D-AB, B55B09C-AB, C55807A-AB, B86001DS-AB

C24113I, C24113J, and C24113K are inapplicable because of a literal length greater than the maximum line length of 120 characters.

B43201B-B is inapplicable because its status as a valid test was in question at the time of the validation.

C86001F redeclares a package system.

Two tests were inapplicable because the implementation does not support the PRAGMA INLINE:

LA3004A-AB
LA3004B-B

For two tests the results of compilation did not conform to those expected by the tests. The two tests were inapplicable, however, because they involve an issue of semantics that is currently before the Language Maintenance Committee for consideration as Commentary AI-00199:

LA3006B-AB.ADA
LA3007A-AB.ADA

4.2.7 Information Derived From The Tests

Processing of the following tests indicated support as described below for a variety of implementation options examined by the tests.

- E24101A-B.TST: If a based integer literal has a value exceeding SYSTEM.MAX_INT, an implementation may either reject the compilation unit at compile time or raise NUMERIC_ERROR at run time. This test showed that the Verdix compiler raises NUMERIC_ERROR at run time.

- B26005A.ADA: This test contains all the ASCII control characters in string literals. The system replaced the control characters corresponding to format effectors with a space in the listing file. All occurrences were identified with a diagnostic message by the Verdix compiler.

- D29002K-B.ADA: This test declares 713 identifiers and was passed by the Verdix compiler.

- E36202A-B.ADA and E36202B-B.ADA: These tests declare multidimensional null BOOLEAN arrays in which 'LENGTH of one dimension exceeds INTEGER'LAST and SYSTEM.MAX_INT, respectively. An implementation can accept this, or it can raise NUMERIC_ERROR or STORAGE_ERROR at run time. The Verdix compiler did accept the declarations and raised NUMERIC_ERROR during execution.

- D4A002A-AB.ADA, D4A002B.ADA, D4A004A-AB.ADA, and D4A004B.ADA: These tests contain universal integer calculations requiring 32 and 64 bits of accuracy, i.e., values that exceed SYSTEM.MAX_INT are used. An implementation is allowed to reject programs requiring such calculations. The Verdix compiler passed all four tests.

- E43211B-B.ADA: If a bound in a non-null range of a non-null aggregate does not belong to an index subtype, then all choices may or may not be evaluated before CONSTRAINT_ERROR is raised. The Verdix compiler evaluates all choices before CONSTRAINT_ERROR is raised.

- E43212B-B.ADA: This test examines whether or not all choices are evaluated before subaggregates are checked for identical bounds. The Verdix compiler evaluates all subaggregates first.

- E52103Y-B.ADA, C52104X-B.ADA, C52104Y-B.ADA: These tests declare BOOLEAN arrays with INTEGER'LAST+3 components. An implementation may raise NUMERIC_ERROR at the type declaration or STORAGE_ERROR when array objects of these types are declared, or it may accept the type and object declarations. The Verdix compiler raised NUMERIC_ERROR when the type was declared in C52104X-B and C52104Y-B, but it did not raise NUMERIC_ERROR for null array with one dimension of length

greater than INTEGER'LAST in E52103Y-B.

- A series of tests (D55A03*-AB.ADA) checks to see what level of loop nesting is allowed by an implementation. Tests containing up to 65 nested loops passed without exceeding the implementation's capacity.

- D56001B-AB.ADA contains blocks nested 65 levels deep. This test was passed.

- C94004A-B.ADA: This test checks to see what happens when a library unit initiates a task and a main program terminates without ensuring that the library unit's task is terminated. An implementation is allowed to terminate the library unit task or it is allowed to leave the task in execution. This test showed that such library tasks do terminate when the main program terminates.

- CA1012A4M-B.DEP: This test checks whether an implementation requires generic library unit bodies to be compiled in the same compilation as the generic declaration. The Verdix compiler does allow generic declarations and bodies to be compiled in completely separate compilations.

- BC3204C*-B.ADA and BC3205D*-B.ADA: These tests contain a separately compiled generic declaration, some instantiations, and a body. An implementation must reject either the instantiations or the body. The Verdix compiler generated errors when compiling the generic package body.

- CE2106A-B.DEP and CE3110A-B.DEP: These tests confirm that dynamic creation and deletion of files is supported.

- CE2107*.DEP: These tests showed that more than one internal file may be associated with the same external file.

- AE101C-B.DEP: This test makes use of sequential and direct I/O instantiated with unconstrained array types and record types with discriminants. The Verdix compiler does permit instantiation of sequential and direct I/O with unconstrained array types and record types with discriminants.

- CE2110B-B.DEP: This test confirmed that an external file associated with more than one internal file can be deleted.

- EE3102C-B.ADA: This test confirmed that an Ada program can open an existing file in OUT_FILE mode, and can create an existing file in either OUT_FILE or IN_FILE mode.

- CE3111A-B.DEP showed that two internal files may read the same external file.

- CE3111B-B.DEP and CE3111C-B.DEP showed that the Verdix compiler does allow two internal TEXT_IO files to be associated with the same external file when one or both internal files are opened for writing.

CHAPTER 5

SUMMARY AND CONCLUSIONS

The Ada Validation Facility identified 2051 tests of the ACVC Version 1.5 as being applicable to the validation of the Verdix compiler hosted on the VAX-11/750. Of these, 66 were withdrawn due to test errors, and 215 were determined to be inapplicable after they were processed. The compiler passed the remaining 1770 tests.

The AVF considers these results to show acceptable compliance to the January 1983 ANSI Ada Reference Manual.

APPENDIX A

COMPLETE LIST OF TESTS AND RESULTS

This Appendix gives a complete list of the ACVC test files used in the validation attempt, presented in order by ACVC Implementers' Guide (Ada Reference Manual) section and objective.

To obtain more information about a test itself, the reader may refer to the test name which indicates the class of the test and which test objective in the ACVC Implementers' Guide applies to the test. The name is interpreted as follows, where the first column below indicates the character position in the name and the second column, the meaning of that position:

1	Class of test (A, B, C, D, E, L).
2	Implementers' Guide chapter number (in hexadecimal).
3	Implementers' Guide section number within a chapter (in hexadecimal).
4	Implementers' Guide subsection number or letter.
5, 6	Implementers' Guide Test Objective number (two-digit decimal number).
7	Test sequence letter (A-Z).
8	Compilation sequence digit or letter (0-9,A-Z).
9	When there are several compilation units, "M" indicates the main program.

Characters 8 and 9 are only present for tests that consist of several separately compiled units. A series of separately compiled units is counted as one test for reporting purposes. The eighth character indicates the order in which the units are to be compiled (unit 0 is compiled first). The ninth character is only present for the main program and is always "M".

The suffix -AB means the test was written prior to release of the ANSI Standard and is also valid for the version of Ada published in July 1980. The suffix -B means the test was written specifically for the ANSI Standard. Tests without a suffix have not yet had their names revised to -AB.

A file name ending with .TST means the test depends on one or more of the implementation-dependent parameters listed in section 4.1. A file name ending with .DEP means the test is not necessarily applicable

to all implementations.

The result for each file is also given, where:

P = passed.
F = failed.
N/A = not applicable to this implementation.
W = withdrawn due to test errors.
C = compiled without error.

Indented names are separately compiled units (subtests) of the test under which they appear. A sequence of indented subtest names comprise one test for reporting purposes.

The results for each test file were as follows:

Support Units

CHECK_FILE-B	P
REPORT	P
REPORT_BODY-B	C
REPORT_SPEC-AB	C
VAR_STRINGS	P
VAR_STRINGS_SPEC	C
VAR_STRINGS_BODY	C
CZ1101A-AB.ADA	P
CZ1102A-AB.ADA	P
CZ1103A-B.ADA	P
CZ1201A-AB.ADA	P
CZ1201B-AB.ADA	P
CZ1201C-AB.ADA	P
CZ1201D-AB.ADA	P

Chapter 2

A21001A.ADA	P	B23002A.ADA	P	C24113C-B.DEP	P
A22002A.ADA	P	B23003D-AB.TST	P	C24113D-B.DEP	P
A26004A.TST	P	B23003E-AB.TST	P	C24113E-B.DEP	P
A29002A-B.ADA	P	B23003F-AB.TST	P	C24113F-B.DEP	N/A
A29002B-B.ADA	P	B23004A.ADA	P	C24113G-B.DEP	N/A
A29002C-B.ADA	P	B23004B.ADA	P	C24113H-B.DEP	N/A
A29002D-B.ADA	P	B24001A.ADA	P	C24113I-B.DEP	N/A
A29002E-B.ADA	P	B24001B.ADA	P	C24113J-B.DEP	N/A
A29002F-B.ADA	P	B24001C.ADA	P	C24113K-B.DEP	N/A
A29002G-B.ADA	P	B24005A.ADA	P	C24113L-B.DEP	N/A
A29002H-B.ADA	P	B24005B.ADA	P	C24113M-B.DEP	N/A
A29002I-B.ADA	P	B24104A.ADA	P	C24113N-B.DEP	N/A
A29002J-B.ADA	P	B24104B.ADA	P	C24113O-B.DEP	N/A
B22001A-AB.TST	P	B24104C.ADA	P	C24113P-B.DEP	N/A
B22001B-AB.TST	P	B26002A.ADA	P	C24113Q-B.DEP	N/A
B22001C-AB.TST	P	B26005A.ADA	P	C24113R-B.DEP	N/A
B22001D-AB.TST	P	B29001A-B.ADA	P	C24113S-B.DEP	N/A
B22001E-AB.TST	P	C23001A.ADA	P	C24113T-B.DEP	N/A
B22001F-AB.TST	P	C23003A.TST	P	C24113U-B.DEP	N/A
B22001G-AB.TST	P	C24002A.ADA	P	C24113V-B.DEP	N/A
B22001H-AB.ADA	P	C24002B.ADA	P	C24113W-B.DEP	N/A
B22001I-AB.TST	P	C24002C.ADA	P	C24113X-B.DEP	N/A
B22001J-AB.TST	P	C24003A.TST	P	C24113Y-B.DEP	N/A
B22001K-AB.TST	P	C24003B.TST	P	C26002B.ADA	P
B22001L-AB.TST	P	C24003C.TST	P	C26006A-AB.ADA	P
B22001M-AB.TST	P	C24102A.ADA	P	C26008A-AB.ADA	P
B22001N-AB.TST	P	C24102B.ADA	P	C27001A-AB.ADA	P
B22003A.ADA	P	C24102C.ADA	P	C27002A-B.ADA	P
B22004A.ADA	P	C24103A.ADA	P	D29002K-B.ADA	P
B22004B.ADA	P	C24113A-B.DEP	P	E24101A-B.TST	P
B22004C.ADA	P	C24113B-B.DEP	P		

Chapter 3

A32203B-B.A	P	B37004G-B.ADA	P	C34001Q-B.ADA	P
A32203C-B.ADA	P	B37101A.ADA	P	C34001R-B.ADA	P
A32203D-B.ADA	P	B37201A.ADA	P	C34001T-B.ADA	P
A34008B-B.ADA	P	B37202A.ADA	P	C34002A-B.ADA	P
A38106D-B.ADA	P	B37202B.ADA	P	C34002B-B.ADA	P
A38106E-B.ADA	P	B37203A.ADA	P	C35104A.ADA	P
B32103A-AB.ADA	P	B37204A-AB.ADA	P	C35504A-AB.ADA	P
B32106A-B.ADA	P	B37205A-AB.ADA	P	C35504B-B.ADA	P
B32201A-B.ADA	P	B37301A.ADA	P	C35505A.ADA	P
B32202A-B.ADA	P	B37301B.ADA	P	C35505B.ADA	P
B32202B-B.ADA	P	B37302A-AB.ADA	P	C35508A-AB.ADA	P
B32202C-B.ADA	P	B37303A.ADA	P	C35508B-B.ADA	P
B33001A.ADA	P	B37307B-AB.ADA	P	C35702A-AB.DEP	P
B33002A.ADA	P	B37309B-AB.ADA	P	C35702B-AB.DEP	N/A
B33003A.ADA	P	B37310B-B.ADA	P	C35703A.ADA	P
B33003B-AB.ADA	P	B37311A-AB.ADA	P	C35704A-AB.ADA	P
B33003C-AB.ADA	P	B38001A.ADA	P	C35704B-AB.ADA	P
B33004A.ADA	P	B38003A-AB.ADA	P	C35704C-AB.ADA	P
B33006A-B.ADA	P	B38008A-B.ADA	P	C35704D-AB.ADA	P
B34001S-AB.ADA	P	B38008B-AB.ADA	P	C35705A-B.DEP	P
B34008A-B.ADA	P	B38101A-B.ADA	P	C35705B-B.DEP	P
B35101A.ADA	P	B38101B-AB.ADA	P	C35705C-B.DEP	P
B35301A.ADA	P	B38103A-B.ADA	P	C35705D-B.DEP	P
B35501A.ADA	P	B38103B-B.ADA	P	C35705E-B.DEP	P
B35506A.ADA	P	B38103C-B.ADA	P	C35705F-B.DEP	N/A
B35506B.ADA	P	B38103C0	C	C35705G-B.DEP	N/A
B35701A.TST	P	B38103C1	C	C35705H-B.DEP	N/A
B35709A.ADA	P	B38103C2	C	C35705I-B.DEP	N/A
B35A03A-B.ADA	P	B38103C3M	C	C35705J-B.DEP	N/A
B36101A-AB.ADA	P	B38105A-AB.ADA	P	C35705K-B.DEP	N/A
B36102A.ADA	P	B38105B-AB.ADA	P	C35705L-B.DEP	N/A
B36103A.ADA	P	B38106A-B.ADA	P	C35705M-B.DEP	N/A
B36105A-B.ADA	P	B38106B-B.ADA	P	C35705N-B.DEP	N/A
B36171A-B.ADA	P	C32107B-B.ADA	P	C35705O-B.DEP	N/A
B36171B-B.ADA	P	C32203A-B.ADA	P	C35705P-B.DEP	N/A
B36171C-AB.ADA	P	C34001A-B.ADA	P	C35705Q-B.DEP	N/A
B36171D-AB.ADA	P	C34001B-B.ADA	P	C35705R-B.DEP	N/A
B36171E-AB.ADA	P	C34001C-B.ADA	P	C35705S-B.DEP	N/A
B36171F-AB.ADA	P	C34001D-B.DEP	P	C35705T-B.DEP	N/A
B36171G-AB.ADA	P	C34001E-B.DEP	N/A	C35705U-B.DEP	N/A
B36171H-AB.ADA	P	C34001F-B.DEP	P	C35705V-B.DEP	N/A
B36171I-AB.ADA	P	C34001G-B.DEP	N/A	C35705W-B.DEP	N/A
B36201A-B.ADA	P	C34001H-B.ADA	P	C35705X-B.DEP	N/A
B37003A-AB.ADA	P	C34001I-B.ADA	P	C35705Y-B.DEP	N/A
B37004A-B.ADA	P	C34001K-B.ADA	P	C35706A-B.DEP	P
B37004B-B.ADA	P	C34001L-B.ADA	P	C35706B-B.DEP	P
B37004C-B.ADA	P	C34001M-B.ADA	P	C35706C-B.DEP	P
B37004D-B.ADA	P	C34001N-B.ADA	P	C35706D-B.DEP	P
B37004E-B.ADA	P	C34001O-B.ADA	P	C35706E-B.DEP	P
B37004F-B.ADA	P	C34001P-B.ADA	P	C35706F-B.DEP	N/A

Chapter 3 (Continued)

C35706G-B.DEP	N/A	C35708E-B.DEP	P	C36172A-B.ADA	P	
C35706H-B.DEP	N/A	C35708F-B.DEP	N/A	C36174A-B.ADA	P	
C35706I-B.DEP	N/A	C35708G-B.DEP	N/A	C36204A-B.ADA	P	
C35706J-B.DEP	N/A	C35708H-B.DEP	N/A	C36205A.ADA	P	
C35706K-B.DEP	N/A	C35708I-B.DEP	N/A	C36205B.ADA	P	
C35706L-B.DEP	N/A	C35708J-B.DEP	N/A	C36205C.ADA	P	
C35706M-B.DEP	N/A	C35708K-B.DEP	N/A	C36205D.ADA	P	
C35706N-B.DEP	N/A	C35708L-B.DEP	N/A	C36205E.ADA	P	
C35706O-B.DEP	N/A	C35708M-B.DEP	N/A	C36205F.ADA	P	
C35706P-B.DEP	N/A	C35708N-B.DEP	N/A	C36205G.ADA	P	
C35706Q-B.DEP	N/A	C35708O-B.DEP	N/A	C36205H.ADA	P	
C35706R-B.DEP	N/A	C35708P-B.DEP	N/A	C36205I.ADA	P	
C35706S-B.DEP	N/A	C35708Q-B.DEP	N/A	C36205J.ADA	P	
C35706T-B.DEP	N/A	C35708R-B.DEP	N/A	C36205K.ADA	P	
C35706U-B.DEP	N/A	C35708S-B.DEP	N/A	C36301A-B.ADA	P	
C35706V-B.DEP	N/A	C35708T-B.DEP	N/A	C36301B-AB.ADA	P	
C35706W-B.DEP	N/A	C35708U-B.DEP	N/A	C36302A.ADA	P	
C35706X-B.DEP	N/A	C35708V-B.DEP	N/A	C36303A.ADA	P	
C35706Y-B.DEP	N/A	C35708W-B.DEP	N/A	C36304A-B.ADA	P	
C35707A-B.DEP	P	C35708X-B.DEP	N/A	C36305A-AB.ADA	P	
C35707B-B.DEP	P	C35708Y-B.DEP	N/A	C37005A.ADA	P	
C35707C-B.DEP	P	C35711A-B.ADA	P	C37007A-AB.ADA	P	
C35707D-B.DEP	P	C35802A-B.DEP	P	C37008A-B.ADA	P	
C35707E-B.DEP	P	C35802B-B.DEP	P	C37008B-B.ADA	P	
C35707F-B.DEP	N/A	C35802C-B.DEP	P	C37011A-B.ADA	P	**
C35707G-B.DEP	N/A	C35802D-B.DEP	P	C37012A-AB.ADA	P	
C35707H-B.DEP	N/A	C35802E-B.DEP	P	C37013A-AB.ADA	P	
C35707I-B.DEP	N/A	C35802F-B.DEP	N/A	C37103A-AB.ADA	P	
C35707J-B.DEP	N/A	C35802G-B.DEP	N/A	C37105A.ADA	P	
C35707K-B.DEP	N/A	C35802H-B.DEP	N/A	C37208A-B.ADA	P	
C35707L-B.DEP	N/A	C35802I-B.DEP	N/A	C37208B-AB.ADA	P	
C35707M-B.DEP	N/A	C35802J-B.DEP	N/A	C37209A.ADA	P	
C35707N-B.DEP	N/A	C35802K-B.DEP	N/A	C37304A-AB.ADA	P	
C35707O-B.DEP	N/A	C35802L-B.DEP	N/A	C37305A.ADA	P	
C35707P-B.DEP	N/A	C35802M-B.DEP	N/A	C37306A.ADA	P	
C35707Q-B.DEP	N/A	C35802N-B.DEP	N/A	C37307A-AB.ADA	P	
C35707R-B.DEP	N/A	C35802O-B.DEP	N/A	C37309A-AB.ADA	P	
C35707S-B.DEP	N/A	C35802P-B.DEP	N/A	C37310A-AB.ADA	P	
C35707T-B.DEP	N/A	C35802Q-B.DEP	N/A	C38004A.ADA	P	
C35707U-B.DEP	N/A	C35802R-B.DEP	N/A	C38005A-B.ADA	P	
C35707V-B.DEP	N/A	C35802S-B.DEP	N/A	C38006A-B.ADA	P	
C35707W-B.DEP	N/A	C35802T-B.DEP	N/A	C38007A-B.ADA	P	
C35707X-B.DEP	N/A	C35802U-B.DEP	N/A	C38102A-AB.ADA	P	
C35707Y-B.DEP	N/A	C35802V-B.DEP	N/A	C38102B-B.ADA	P	
C35708A-B.DEP	P	C35802W-B.DEP	N/A	C38102C-B.ADA	P	
C35708B-B.DEP	P	C35802X-B.DEP	N/A	C38104A-B.ADA	W	
C35708C-B.DEP	P	C35802Y-B.DEP	N/A	E36202A-B.ADA	P	
C35708D-B.DEP	P	C35904A-B.ADA	P	E36202B-B.ADA	P	

** Test C37011A-B.ADA was passed on the basis of pre-validation results. The test was not run on-site because at the time it was withdrawn.

Chapter 4

B41101A-B.A	P	B45208A-AB.ADA	P	C41303G-B.ADA	P
B41101C-AB.ADA	P	B45208B-B.ADA	P	C41303I-B.ADA	P
B41102A-AB.ADA	P	B45208C-B.ADA	P	C41303J-B.ADA	P
B41102B-B.ADA	P	B45208G-AB.ADA	P	C41303K-B.ADA	P
B41102C-B.ADA	P	B45208H-B.ADA	P	C41303M-B.ADA	P
B41201A-B.ADA	P	B45208I-B.ADA	P	C41303N-B.ADA	P
B41201C.ADA	P	B45208M-AB.ADA	P	C41303O-B.ADA	P
B41202A-B.ADA	P	B45208N-AB.ADA	P	C41303Q-B.ADA	P
B41202B-AB.ADA	P	B45208S-AB.ADA	P	C41303R-B.ADA	P
B41202C-B.ADA	P	B45208T-AB.ADA	P	C41303S-B.ADA	P
B41202D-B.ADA	P	B45261A-AB.ADA	P	C41303U-B.ADA	P
B41302A-AB.ADA	P	B45261B-AB.ADA	P	C41303V-B.ADA	P
B41302B-AB.ADA	P	B45261C-AB.ADA	P	C41303W-B.ADA	P
B42004A-B.ADA	P	B45261D-AB.ADA	P	C41304A-B.ADA	P
B43101A-B.ADA	P	B45402A.ADA	P	C41306A-B.ADA	P
B43201A-B.ADA	P	B45522A.ADA	P	C41306B-B.ADA	P
B43201B-B.ADA	N/A	B45533A-AB.ADA	P	C41306C-B.ADA	P
B43201C-B.ADA	P	B48001A-B.ADA	P	C42005A-B.ADA	P
B43201D-B.ADA	P	B48001B-B.ADA	P	C42006A-B.ADA	P
B43202A-B.ADA	P	B48001C-AB.ADA	P	C43103A-B.ADA	P
B43202B-B.ADA	P	B48001D-B.ADA	P	C43103B-B.ADA	W
B43202C-B.ADA	P	B48002A-B.ADA	P	C43107A-B.ADA	P
B43203A-B.ADA	P	B48002B-AB.ADA	P	C43205A-B.ADA	P
B43203B-B.ADA	P	B48002C-B.ADA	P	C43205B-B.ADA	P
B44001A-B.ADA	P	B48002D-B.ADA	P	C43205C-B.ADA	P
B44002A-B.ADA	P	B48002E-AB.ADA	P	C43205D-B.ADA	P
B44002B-B.ADA	P	B48002F-AB.ADA	P	C43205E-B.ADA	P
B44002C.ADA	P	B48002G-AB.ADA	P	C43205F-B.ADA	P
B45102A-AB.ADA	P	B48002I-B.ADA	P	C43205G-B.ADA	P
B45203A.ADA	P	B48002J-B.ADA	P	C43205H-B.ADA	P
B45203B-AB.ADA	P	B4A006A-B.ADA	P	C43205I-B.ADA	P
B45205A-AB.ADA	P	B4A016A.ADA	P	C43205J-B.ADA	P
B45206A-AB.ADA	P	C41101D-B.ADA	P	C43205K-B.ADA	P
B45206B-B.ADA	P	C41103A-B.ADA	P	C43206A-B.ADA	P
B45207A-AB.ADA	P	C41103B-B.ADA	P	C43207A-B.ADA	P
B45207B-B.ADA	P	C41105A-B.ADA	P	C43207B-B.ADA	P
B45207C-B.ADA	P	C41106A-B.ADA	P	C43207C-B.ADA	P
B45207D-B.ADA	P	C41107A-AB.ADA	P	C43207D-B.ADA	P
B45207G-B.ADA	P	C41201D-B.ADA	P	C43208A-B.ADA	P
B45207H-B.ADA	P	C41203A-B.ADA	P	C43208B-B.ADA	P
B45207I-B.ADA	P	C41203B-B.ADA	P	C43210A-B.ADA	P
B45207J-B.ADA	P	C41204A.ADA	P	C43211A-B.ADA	P
B45207M-AB.ADA	P	C41205A-B.ADA	P	C43212A-B.ADA	P
B45207N-AB.ADA	P	C41206A.ADA	P	C43212C-B.ADA	P
B45207O-AB.ADA	P	C41301A-B.ADA	P	C43213A-B.ADA	P
B45207P-B.ADA	P	C41303A-B.ADA	P	C43214A-B.ADA	P
B45207S-AB.ADA	P	C41303B-B.ADA	P	C43214B-B.ADA	P
B45207T-AB.ADA	P	C41303C-B.ADA	P	C43214C-B.ADA	P
B45207U-AB.ADA	P	C41303E-B.ADA	P	C43214D-B.ADA	P
B45207V-B.ADA	P	C41303F-B.ADA	P	C43214E-B.ADA	P

Chapter 4 (Continued)

C43214F-B.ADA	P	C45241Y-B.DEP	N/A	C45421O-B.DEP	N/A
C43215A-B.ADA	P	C45264A-B.ADA	P	C45421P-B.DEP	N/A
C43215B-B.ADA	P	C45274A-AB.ADA	P	C45421Q-B.DEP	N/A
C45101A.ADA	P	C45274B-AB.ADA	P	C45421R-B.DEP	N/A
C45101B.ADA	P	C45274C-AB.ADA	P	C45421S-B.DEP	N/A
C45101C.ADA	P	C45303A-B.ADA	P	C45421T-B.DEP	N/A
C45101E.ADA	P	C45321A-B.DEP	W	C45421U-B.DEP	N/A
C45101G-AB.ADA	P	C45321B-B.DEP	W	C45421V-B.DEP	N/A
C45101H-AB.ADA	P	C45321C-B.DEP	W	C45421W-B.DEP	N/A
C45101I.ADA	P	C45321D-B.DEP	W	C45421X-B.DEP	N/A
C45103A-AB.ADA	P	C45321E-B.DEP	W	C45421Y-B.DEP	N/A
C45103B-AB.ADA	P	C45321F-B.DEP	W	C45424A-B.DEP	P
C45103C-AB.ADA	P	C45321G-B.DEP	W	C45424B-B.DEP	P
C45104A.ADA	P	C45321H-B.DEP	W	C45424C-B.DEP	P
C45105A-AB.ADA	P	C45321I-B.DEP	W	C45424D-B.DEP	P
C45105B-B.ADA	P	C45321J-B.DEP	W	C45424E-B.DEP	P
C45106A.ADA	P	C45321K-B.DEP	W	C45424F-B.DEP	N/A
C45201A.ADA	P	C45321L-B.DEP	W	C45424G-B.DEP	N/A
C45201B.ADA	P	C45321M-B.DEP	W	C45424H-B.DEP	N/A
C45202A-AB.ADA	P	C45321N-B.DEP	W	C45424I-B.DEP	N/A
C45210A.ADA	P	C45321O-B.DEP	W	C45424J-B.DEP	N/A
C45220A.ADA	P	C45321P-B.DEP	W	C45424K-B.DEP	N/A
C45220B.ADA	P	C45321Q-B.DEP	W	C45424L-B.DEP	N/A
C45220C.ADA	P	C45321R-B.DEP	W	C45424M-B.DEP	N/A
C45220D.ADA	P	C45321S-B.DEP	W	C45424N-B.DEP	N/A
C45220E-B.ADA	P	C45321T-B.DEP	W	C45424O-B.DEP	N/A
C45241A-B.DEP	P	C45321U-B.DEP	W	C45424P-B.DEP	N/A
C45241B-B.DEP	P	C45321V-B.DEP	W	C45424Q-B.DEP	N/A
C45241C-B.DEP	P	C45321W-B.DEP	W	C45424R-B.DEP	N/A
C45241D-B.DEP	P	C45321X-B.DEP	W	C45424S-B.DEP	N/A
C45241E-B.DEP	P	C45321Y-B.DEP	W	C45424T-B.DEP	N/A
C45241F-B.DEP	N/A	C45345A-AB.ADA	P	C45424U-B.DEP	N/A
C45241G-B.DEP	N/A	C45345B-AB.ADA	P	C45424V-B.DEP	N/A
C45241H-B.DEP	N/A	C45401A.ADA	P	C45424W-B.DEP	N/A
C45241I-B.DEP	N/A	C45401B-AB.ADA	P	C45424X-B.DEP	N/A
C45241J-B.DEP	N/A	C45413A-B.ADA	P	C45424Y-B.DEP	N/A
C45241K-B.DEP	N/A	C45421A-B.DEP	P	C45505A-B.ADA	P
C45241L-B.DEP	N/A	C45421B-B.DEP	P	C45521A-B.DEP	W
C45241M-B.DEP	N/A	C45421C-B.DEP	P	C45521B-B.DEP	W
C45241N-B.DEP	N/A	C45421D-B.DEP	P	C45521C-B.DEP	W
C45241O-B.DEP	N/A	C45421E-B.DEP	P	C45521D-B.DEP	W
C45241P-B.DEP	N/A	C45421F-B.DEP	N/A	C45521E-B.DEP	W
C45241Q-B.DEP	N/A	C45421G-B.DEP	N/A	C45521F-B.DEP	W
C45241R-B.DEP	N/A	C45421H-B.DEP	N/A	C45521G-B.DEP	W
C45241S-B.DEP	N/A	C45421I-B.DEP	N/A	C45521H-B.DEP	W
C45241T-B.DEP	N/A	C45421J-B.DEP	N/A	C45521I-B.DEP	W
C45241U-B.DEP	N/A	C45421K-B.DEP	N/A	C45521J-B.DEP	W
C45241V-B.DEP	N/A	C45421L-B.DEP	N/A	C45521K-B.DEP	W
C45241W-B.DEP	N/A	C45421M-B.DEP	N/A	C45521L-B.DEP	W
C45241X-B.DEP	N/A	C45421N-B.DEP	N/A	C45521M-B.DEP	W

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C45521N-B.DEP	W	C45621H.DEP	N/A	C48003C-B.ADA	P
C45521O-B.DEP	W	C45621I.DEP	N/A	C48003D-B.ADA	P
C45521P-B.DEP	W	C45621J.DEP	N/A	C48003E-B.ADA	P
C45521Q-B.DEP	W	C45621K.DEP	N/A	C48003F.ADA	P
C45521R-B.DEP	W	C45621L.DEP	N/A	C48003G-B.ADA	P
C45521S-B.DEP	W	C45621M.DEP	N/A	C48004A-B.ADA	P
C45521T-B.DEP	W	C45621N.DEP	N/A	C48005A-B.ADA	P
C45521U-B.DEP	W	C45621O.DEP	N/A	C48005B-B.ADA	P
C45521V-B.DEP	W	C45621P.DEP	N/A	C48005C-AB.ADA	P
C45521W-B.DEP	W	C45621Q.DEP	N/A	C48005D-AB.ADA	P
C45521X-B.DEP	W	C45621R.DEP	N/A	C4A001A.ADA	P
C45521Y-B.DEP	W	C45621S.DEP	N/A	C4A003A.ADA	P
C45521Z-B.DEP	W	C45621T.DEP	N/A	C4A010A-B.ADA	P
C45526A-B.ADA	P	C45621U.DEP	N/A	C4A011A.ADA	P
C45621A.DEP	P	C45621V.DEP	N/A	C4A013A.ADA	P
C45621B.DEP	P	C45621W.DEP	N/A	D4A002A-AB.ADA	P
C45621C.DEP	P	C45621X.DEP	N/A	D4A002B.ADA	P
C45621D.DEP	P	C45621Y.DEP	N/A	D4A004A-AB.ADA	P
C45621E.DEP	P	C45621Z.DEP	N/A	D4A004B.ADA	P
C45621F.DEP	N/A	C48003A-B.ADA	P	E43211B-B.ADA	P
C45621G.DEP	N/A	C48003B-B.ADA	P	E43212B-B.ADA	P

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A55B12A-AB.ADA	P	B54A27B-AB.ADA	P	B57001C-AB.ADA	P
A55B13A-AB.ADA	P	B54A27D-AB.ADA	P	B57001D-AB.ADA	P
A55B14A-AB.ADA	P	B54B01B-B.TST	P	B58001A-AB.ADA	P
B51001A-AB.ADA	P	B54B01C-B.ADA	P	B58002A-B.ADA	P
B51003A-AB.ADA	P	B54B02B-B.ADA	P	B58002B-AB.ADA	P
B51004B-B.ADA	P	B54B02C-B.ADA	P	B58002C-AB.ADA	P
B51004C-B.ADA	P	B54B02D-B.ADA	P	B58003A-B.ADA	P
B52002A-B.ADA	P	B54B04A-AB.ADA	P	B58003B-AB.ADA	P
B52002B-AB.ADA	P	B54B04B-AB.ADA	P	B59001A-AB.ADA	P
B52002C-AB.ADA	P	B54B05A-AB.ADA	P	B59001C-AB.ADA	P
B52002D-AB.ADA	P	B55A01A-AB.ADA	P	B59001D-AB.ADA	P
B52002E-AB.ADA	P	B55A01B-AB.ADA	P	B59001E-AB.ADA	P
B52002F-B.ADA	P	B55A01C-AB.ADA	P	B59001F-AB.ADA	P
B52002G-AB.ADA	P	B55A01D-AB.ADA	P	B59001G-AB.ADA	P
B52003A-AB.ADA	P	B55A01E-AB.ADA	P	B59001H-AB.ADA	P
B52003B-AB.ADA	P	B55A01F-AB.ADA	P	B59001I-AB.ADA	P
B52003C-AB.ADA	P	B55A01G-AB.ADA	P	C51002A-AB.ADA	P
B52004A-B.ADA	P	B55A01H-AB.ADA	P	C51004A-B.ADA	P
B52004B-AB.ADA	P	B55A01I-AB.ADA	P	C52001A-B.ADA	P
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B52004D-AB.DEP	N/A	B55A01K-AB.ADA	P	C52001C-AB.ADA	P
B52004E-AB.DEP	P	B55A01L-AB.ADA	P	C52005A-AB.ADA	P
B52006A-AB.ADA	P	B55A01M-AB.ADA	P	C52005B-AB.ADA	P
B53001A-AB.ADA	P	B55A01N-AB.ADA	P	C52005C-AB.ADA	P
B53001B-AB.ADA	P	B55A01O-AB.ADA	P	C52005D-AB.ADA	P
B53002A-AB.ADA	P	B55A01P-AB.ADA	P	C52005E-AB.ADA	P
B53002B-AB.ADA	P	B55A01Q-AB.ADA	P	C52005F-AB.ADA	P
B53003A-AB.ADA	P	B55A01R-AB.ADA	P	C52007A-B.ADA	W
B53004A-AB.ADA	P	B55A01S-AB.ADA	P	C52008A-AB.ADA	P
B53009A-AB.ADA	P	B55A01T-AB.ADA	P	C52008B-B.ADA	P
B53009B-AB.ADA	P	B55A01U-AB.ADA	P	C52009A-B.ADA	P
B53009C-AB.ADA	P	B55A01V-AB.ADA	P	C52009B-B.ADA	P
B54A01A-AB.ADA	P	B55B01A-AB.ADA	P	C52010A-AB.ADA	P
B54A01B-AB.ADA	P	B55B01B-AB.ADA	P	C52011A-B.ADA	P
B54A01C-AB.ADA	P	B55B09B-AB.ADA	P	C52011B-AB.ADA	P
B54A01D-AB.ADA	P	B55B09C-AB.DEP	N/A	C52102A-AB.ADA	W
B54A01E-AB.ADA	P	B55B09D-AB.DEP	P	C52102B-AB.ADA	W
B54A01F-AB.ADA	P	B55B12B-B.ADA	P	C52103A-AB.ADA	P
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B54A01H-AB.ADA	P	B55B14B-B.ADA	P	C52103C-AB.ADA	P
B54A01I-AB.ADA	P	B55B18A-B.ADA	P	C52103F-AB.ADA	P
B54A01J-AB.ADA	P	B56001A-AB.ADA	P	C52103G-AB.ADA	P
B54A01K-AB.ADA	P	B56001C-AB.ADA	P	C52103H-AB.ADA	P
B54A01L-AB.ADA	P	B56001D-AB.ADA	P	C52103K-AB.ADA	P
B54A05A.ADA	P	B56001E-AB.ADA	P	C52103L-AB.ADA	P
B54A05B.ADA	P	B56001F-AB.ADA	P	C52103M-AB.ADA	P
B54A08A-B.ADA	P	B56001G-AB.ADA	P	C52103P-AB.ADA	P
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C52103X-B.ADA	W	C54A27A-AB.ADA	P	C57004B-AB.ADA	P
C52104A-AB.ADA	P	C54A41A.ADA	P	C57004C-AB.ADA	P
C52104B-AB.ADA	P	C54A42A.ADA	P	C57005A-B.ADA	P
C52104C-AB.ADA	P	C54A42B.ADA	P	C58004A-AB.ADA	P
C52104F-AB.ADA	P	C54A42C.ADA	P	C58004B-AB.ADA	P
C52104G-AB.ADA	P	C54A42D.ADA	P	C58004C-AB.ADA	P
C52104H-AB.ADA	P	C54A42E.ADA	P	C58004D-B.ADA	P
C52104K-AB.ADA	P	C54A42F.ADA	P	C58004F-AB.ADA	P
C52104L-AB.ADA	P	C54A42G.ADA	P	C58004G-AB.ADA	P
C52104M-AB.ADA	P	C55B03A-AB.ADA	P	C58005A-AB.ADA	P
C52104P-AB.ADA	P	C55B04A-AB.ADA	P	C58005B-AB.ADA	P
C52104Q-AB.ADA	P	C55B05A-AB.ADA	P	C58005H-AB.ADA	P
C52104R-AB.ADA	P	C55B06A-AB.ADA	P	C58006A-AB.ADA	P
C52104X-B.ADA	P	C55B06B-AB.ADA	P	C58006B-AB.ADA	P
C52104Y-B.ADA	P	C55B07A-AB.DEP	N/A	C59001B-AB.ADA	P
C53004B-B.ADA	P	C55B07B-AB.DEP	P	C59002A-AB.ADA	P
C53005A-AB.ADA	P	C55B08A-B.ADA	P	C59002B-AB.ADA	P
C53005B-AB.ADA	P	C55B09A-AB.ADA	P	C59002C-B.ADA	P
C53006A-AB.ADA	P	C55B15A-B.ADA	W	D55A03A-AB.ADA	P
C53006B-AB.ADA	P	C55B16A-AB.DEP	P	D55A03B-AB.ADA	P
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C54A03A.ADA	P	C55C02B-AB.ADA	P	D55A03E-AB.ADA	P
C54A04A-AB.ADA	P	C55C03A-AB.ADA	P	D55A03F-AB.ADA	P
C54A06A-AB.ADA	P	C55C03B-AB.ADA	P	D55A03G-AB.ADA	P
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C54A22A-AB.ADA	P	C56002A-AB.ADA	P	D56001B-AB.ADA	P
C54A23A-B.ADA	P	C57002A-AB.ADA	P	E52103Y-B.ADA	P
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B61001A-AB.ADA	P	B63102A-B.ADA	P	C64104G-AB.ADA	P
B61001B-AB.ADA	P	B64001A-B.ADA	P	C64104H.ADA	P
B61001C-AB.ADA	P	B64002A.ADA	P	C64104I.ADA	P
B61001D-AB.ADA	P	B64003A.ADA	P	C64104J.ADA	P
B61001E-AB.ADA	P	B64004A.ADA	P	C64104K-AB.ADA	P
B61001F-AB.ADA	P	B64005A-AB.ADA	P	C64104L-AB.ADA	P
B61001G-AB.ADA	P	B64006A.ADA	P	C64104M-AB.ADA	P
B61001H-AB.ADA	P	B64101A-B.ADA	P	C64105A.ADA	P
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B61001J-AB.ADA	P	B65002A-AB.ADA	P	C64105C-AB.ADA	P
B61001K-AB.ADA	P	B65002B-AB.ADA	P	C64105D-AB.ADA	P
B61001L-AB.ADA	P	B66001A-B.ADA	P	C64106A-B.ADA	P
B61001M-AB.ADA	P	B66001C.ADA	P	C64106B-B.ADA	P
B61003A-AB.ADA	P	B67001A-B.ADA	P	C64106C-B.ADA	P
B61005A-B.ADA	P	B67001B-AB.ADA	P	C64106D-B.ADA	P
B61005B-B.ADA	P	B67004A-B.ADA	P	C64107A-B.ADA	P
B61012A-B.ADA	P	C61003B-AB.ADA	P	C64108A-B.ADA	P
B62001A.ADA	P	C61008A-B.ADA	P	C64202A-B.ADA	P
B62001B-AB.ADA	P	C61009A-B.ADA	P	C65003A-B.ADA	P
B62001C-AB.ADA	P	C61010A-AB.ADA	P	C65003B-B.ADA	P
B62001D-AB.ADA	P	C62002A-B.ADA	P	C66002A-B.ADA	P
B62006B-B.ADA	P	C62003A-B.ADA	P	C66002C.ADA	P
B62006C-B.ADA	P	C62003B-B.ADA	P	C66002D.ADA	P
B62006E-B.ADA	P	C62004A.ADA	P	C66002E-AB.ADA	P
B62006F-B.ADA	P	C62006A-B.ADA	P	C66002F.ADA	P
B63001A.ADA	P	C63004A-AB.ADA	P	C66002G-B.ADA	P
B63005A-AB.ADA	P	C64002B-B.ADA	P	C67002A.ADA	P
B63005B-AB.ADA	P	C64004B.ADA	P	C67003A-B.ADA	P
B63009A-B.ADA	P	C64007A.ADA	P	C67003B.ADA	P
B63009B-B.ADA	P	C64104A-AB.ADA	P	C67003C-AB.ADA	P
B63009C.ADA	P	C64104B-AB.ADA	P	C67003D-B.ADA	P
B63009C0	C	C64104C-AB.ADA	P	C67003E-AB.ADA	P
B63009C1	C	C64104D-AB.ADA	P	C67005A-B.ADA	P
B63009C2	C	C64104E-AB.ADA	P	C67005B-B.ADA	P

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A71004A-AB.ADA	P	B71001R-AB.ADA	P	B74105C-B.ADA	P
A72001A-AB.ADA	P	B71001T-AB.ADA	P	B74201A-AB.ADA	P
A74006A-AB.ADA	P	B71001U-AB.ADA	P	B74205A-B.ADA	P
A74105B-B.ADA	P	B71001V-AB.ADA	P	B74205B-B.ADA	P
A74106A-AB.ADA	P	B71001W-AB.ADA	P	B74207A-B.ADA	P
A74106B-AB.ADA	P	B71002B-AB.ADA	P	B74301A-B.ADA	P
A74106C-AB.ADA	P	B73001A-AB.ADA	P	B74301B-B.ADA	P
A74205E-B.ADA	P	B73001B-AB.ADA	P	B74304A-B.ADA	P
A74205F-B.ADA	P	B73001C-B.ADA	P	B74304C-B.ADA	P
B71001A-AB.ADA	P	B73001D-B.ADA	P	B74401A-B.ADA	P
B71001B-AB.ADA	P	B73001E-AB.ADA	P	B74409A-B.ADA	P
B71001C-AB.ADA	P	B73001F-AB.ADA	P	C72001B-AB.ADA	P
B71001D-AB.ADA	P	B73001G-B.ADA	P	C73002A-B.ADA	P
B71001E-AB.ADA	P	B73001H-B.ADA	P	C74203B-B.ADA	P
B71001F-AB.ADA	P	B73006A-AB.ADA	P	C74206A-B.ADA	P
B71001G-AB.ADA	P	B74001A-AB.ADA	P	C74209A-AB.ADA	P
B71001H-AB.ADA	P	B74001B-AB.ADA	P	C74210A-AB.ADA	P
B71001I-AB.ADA	P	B74003A-B.ADA	P	C74211A-B.ADA	P
B71001J-AB.ADA	P	B74101A-B.ADA	P	C74211B-B.ADA	P
B71001K-AB.ADA	P	B74102B-B.ADA	P	C74302A-B.ADA	P
B71001L-AB.ADA	P	B74103A-B.ADA	P	C74305A-B.ADA	P
B71001M-AB.ADA	P	B74103B-B.ADA	P	C74305B-B.ADA	P
B71001N-AB.ADA	P	B74103C-B.ADA	P	C74402A-B.ADA	P
B71001O-AB.ADA	P	B74103D-B.ADA	P	C74409B-B.ADA	P
B71001P-AB.ADA	P	B74104A-B.ADA	P		

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A83A02A.ADA	P	B86001BK-B.ADA	P	C86002A1	C
A83A02B.ADA	P	B86001BL-B.ADA	P	C86002A2M	C
A83A06A-B.ADA	P	B86001BM-B.ADA	P	C86002B.ADA	P
A83C01C.ADA	P	B86001BO-B.ADA	P	C86002B1	C
A83C01D.ADA	P	B86001BU-B.ADA	P	C86002B2M	C
A83C01E.ADA	P	B86001BV-B.ADA	P	C86003A-B.ADA	P
A83C01F.ADA	P	B86001BW-B.ADA	P	C87A05A-B.ADA	P
A83C01G.ADA	P	B86001BX-B.ADA	P	C87A05B-B.ADA	P
A83C01H.ADA	P	B86001COM-AB.DEP	P	C87B02A-B.ADA	P
A83C01I.ADA	P	B86001CP-AB.DEP	P	C87B02B-B.ADA	P
A83C01J.ADA	P	B86001CQ-AB.DEP	N/A	C87B03A-B.ADA	P
A85007D-B.ADA	P	B86001CR-AB.DEP	P	C87B04A-B.ADA	P
A85013B-B.ADA	P	B86001CS-AB.DEP	N/A	C87B04B-B.ADA	P
B83A01A-AB.ADA	P	B86001DOM-AB.TST	P	C87B04C-B.ADA	P
B83A01B-B.ADA	P	B86001DT-AB.TST	P	C87B05A-B.ADA	P
B83A01C.ADA	P	B87B23B-B.ADA	W	C87B06A-B.ADA	P
B83A05A-AB.ADA	P	B87B48C-B.ADA	P	C87B07A-B.ADA	P
B83A06B-B.ADA	P	C83B02A.ADA	P	C87B07B-B.ADA	P
B83A06H-B.ADA	P	C83B02B.ADA	P	C87B07C-B.ADA	P
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B83B02C.ADA	P	C83E02A.ADA	P	C87B07E-B.ADA	P
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B83C02A.ADA	P	C83E03A.ADA	P	C87B09A-B.ADA	P
B83E02C-B.ADA	P	C83E04A.ADA	P	C87B09B-B.ADA	P
B83F02A.ADA	P	C83F01A.ADA	P	C87B09C-B.ADA	P
B83F02B.ADA	P	C83F01B.ADA	P	C87B10A-B.ADA	W
B83F04A-AB.ADA	P	C83F01C.ADA	P	C87B11A-B.ADA	P
B84001A-AB.ADA	P	C83F01C0	C	C87B11B-B.ADA	P
B84002B-B.ADA	P	C83F01C1	C	C87B13A-B.ADA	P
B84004A-B.ADA	P	C83F01C2M	C	C87B14A-B.ADA	P
B84006A-B.ADA	P	C83F01D.ADA	P	C87B14B-B.ADA	P
B85007B-B.ADA	P	C83F01D0M	C	C87B14C-B.ADA	P
B85007C-B.ADA	P	C83F01D1	C	C87B14D-B.ADA	P
B85012A-B.ADA	P	C83F03A.ADA	P	C87B15A-B.ADA	P
B85013C-B.ADA	P	C83F03B.ADA	P	C87B16A-B.ADA	P
B85015A-B.ADA	P	C83F03C.ADA	P	C87B17A-B.ADA	P
B86001A-AB.ADA	P	C83F03C0	C	C87B18A-B.ADA	P
B86001A0	C	C83F03C1	C	C87B18B-B.ADA	P
B86001A1M	C	C83F03C2M	C	C87B19A-B.ADA	P
B86001B0M-B.ADA	P	C83F03D.ADA	P	C87B23A-B.ADA	P
B86001BA-B.ADA	P	C83F03D0M	C	C87B24A-B.ADA	P
B86001BB-B.ADA	P	C83F03D1	C	C87B24B-B.ADA	P
B86001BC-B.ADA	P	C84002A-B.ADA	P	C87B26B-B.ADA	P
B86001BD-B.ADA	P	C85007A-B.ADA	P	C87B27A-B.ADA	P
B86001BE-B.ADA	P	C85007E-B.ADA	P	C87B28A-B.ADA	P
B86001BF-B.ADA	P	C85013A-B.ADA	P	C87B29A-B.ADA	P
B86001BG-B.ADA	P	C86001E-B.ADA	P	C87B30A-B.ADA	P
B86001BH-B.ADA	P	C86001F-B.DEP	N/A	C87B31A-B.ADA	P
B86001BI-B.ADA	P	C86002A.ADA	P	C87B32A-B.ADA	P
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C87B35A-B.ADA	P	C87B39A-B.ADA	P	C87B48B-B.ADA	P
C87B35B-B.ADA	P	C87B40A-B.ADA	P	C87B54A-B.ADA	P
C87B35C-B.ADA	P	C87B41A-B.ADA	P	C87B57A-B.ADA	P
C87B37A-B.ADA	P	C87B42A-B.ADA	P	C87B62A-B.DEP	P
C87B37B-B.ADA	P	C87B43A-B.ADA	P	C87B62B-B.DEP	P
C87B37C-B.ADA	P	C87B44A-B.ADA	P	C87B62C-B.DEP	P
C87B37D-B.ADA	P	C87B45A-B.ADA	P		

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A91002M-B.A	P	B950ADA-B.ADA	P	C910BAC-B.ADA	P
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A97106A-AB.ADA	P	B950AHA-B.ADA	P	C910BDA-B.ADA	P
B91001A-AB.ADA	P	B950AJA-B.ADA	P	C910BDB-B.ADA	P
B91001B-AB.ADA	P	B950BAA-B.ADA	P	C910BDC-B.ADA	P
B91001C-AB.ADA	P	B950DHA-B.ADA	P	C92002A.ADA	P
B91001D-AB.ADA	P	B97101A-AB.ADA	P	C92003A.ADA	P
B91001E-AB.ADA	P	B97101B-AB.ADA	P	C920AJA-B.ADA	P
B91001F-AB.ADA	P	B97101C-AB.ADA	P	C920BAA-B.ADA	P
B91001G-B.ADA	P	B97101D-AB.ADA	P	C920BBA-B.ADA	P
B91002A-B.ADA	P	B97101E-AB.ADA	P	C920BIA-B.ADA	P
B91002B-B.ADA	P	B97102A-AB.ADA	P	C93001A-B.ADA	P
B91002C-B.ADA	P	B97102B-AB.ADA	P	C93002A-B.ADA	P
B91002D-B.ADA	P	B97102C-AB.ADA	P	C93003A-B.ADA	P
B91002E-B.ADA	P	B97102D-AB.ADA	P	C93005A-B.ADA	P
B91002F-B.ADA	P	B97102E-AB.ADA	P	C93005B-B.ADA	P
B91002G-B.ADA	P	B97102F-AB.ADA	P	C93005C-B.ADA	P
B91002H-B.ADA	P	B97102G-AB.ADA	P	C93006A-AB.ADA	P
B91002I-B.ADA	P	B97102H-AB.ADA	P	C930ABA-B.ADA	P
B91002J-B.ADA	P	B97102I-AB.ADA	P	C930AEA-B.ADA	P
B91002K-B.ADA	P	B97103A-AB.ADA	P	C930AFA-B.ADA	P
B91002L-B.ADA	P	B97103B-AB.ADA	P	C930AJA-B.ADA	P
B91003A-AB.ADA	P	B97103D-AB.ADA	P	C930BAA-B.ADA	P
B91004A-B.ADA	P	B97103E-AB.ADA	P	C930BDA-B.ADA	W
B910ABA-B.ADA	P	B97104A-AB.ADA	P	C94001A-B.ADA	P
B910ACA-B.ADA	P	B97104B-AB.ADA	P	C94002A-B.ADA	P
B910AEA-B.ADA	P	B97104C-AB.ADA	P	C94002B-B.ADA	P
B910BCA-B.ADA	P	B97104D-AB.ADA	P	C94003A-B.ADA	P
B920ACA-B.ADA	P	B97104E-AB.ADA	P	C94004A-B.ADA	P
B920BDA-B.ADA	P	B97104F-AB.ADA	P	C94005A-B.ADA	P
B920BJA-B.ADA	P	B97104G-AB.ADA	P	C94005B-B.ADA	P
B95001A.ADA	P	B97107A-AB.ADA	P	C94006A-B.ADA	P
B95001B-AB.ADA	P	B97108A-AB.ADA	P	C94007A-B.ADA	P
B95002A.ADA	P	B97108B-AB.ADA	P	C94007B-B.ADA	P
B95004A-AB.ADA	P	B97109A-AB.ADA	P	C94020A-B.ADA	P
B95004B-AB.ADA	P	B97110A-AB.ADA	P	C94021A-B.ADA	P
B95006A.ADA	P	B97110B-AB.ADA	P	C940ABA-B.ADA	P
B95006B-AB.ADA	P	B97111A-AB.ADA	P	C940ACA-B.ADA	P
B95006C-AB.ADA	P	B99001A-AB.ADA	P	C940ACB-B.ADA	P
B95006D-AB.ADA	P	B99001B-B.ADA	P	C940ADA-B.ADA	P
B95007A-AB.ADA	P	B99002A-B.ADA	P	C940AGA-B.ADA	P
B95007B-AB.ADA	P	B99002B-B.ADA	P	C940AGB-B.ADA	P
B95020A-B.ADA	P	B99002C-B.ADA	P	C940AHA-B.ADA	P
B95020B-B.ADA	P	B99003A-AB.ADA	P	C940AIA-B.ADA	P
B95020B0	C	B9A001A-AB.ADA	P	C940BAA-B.ADA	P
B95020B1	C	B9A001B-AB.ADA	P	C940BBA-B.ADA	P
B95020B2M	C	C900ACA-B.ADA	P	C95008A.ADA	W
B950ABA-B.ADA	P	C910AHA-B.ADA	P	C95009A.ADA	W
B950ABB-B.ADA	P	C910BAA-B.ADA	P	C95009B.ADA	P
B950ACA-B.ADA	P	C910BAB-B.ADA	P	C95010A.ADA	P

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C95013A-B.ADA	P	C97114A-B.ADA	P	C9A003A-B.ADA	P
C95021A-B.ADA	P	C97115A-B.ADA	P	C9A004A-B.ADA	P
C95022A-B.ADA	P	C97201A-AB.ADA	P	C9A005A-B.ADA	P
C95022B-B.ADA	P	C97201D-AB.ADA	P	C9A006A-B.ADA	P
C950ACB-B.ADA	P	C97201E-AB.ADA	P	C9A007A-B.ADA	P
C950BGA-B.ADA	P	C97201G-AB.ADA	P	C9A009A-B.ADA	P
C950BHA-B.ADA	P	C97201H-AB.ADA	P	C9A009B-B.ADA	P
C950BJA-B.ADA	P	C97201X-AB.ADA	P	C9A009C-B.ADA	P
C950CAA-B.ADA	P	C97202A-AB.ADA	P	C9A009D-B.ADA	P
C950CBA-B.ADA	P	C97203A-AB.ADA	P	C9A009E-B.ADA	P
C950CHA-B.ADA	P	C97203B-AB.ADA	P	C9A009F-B.ADA	P
C950CHC-B.ADA	P	C97204A-B.ADA	P	C9A009G-B.ADA	P
C950DEA-B.ADA	P	C97303A-AB.ADA	P	C9A009H-B.ADA	P
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BA1020B2	C	BA3001D-AB.ADA	P	CA1013A1	C
BA1020B3	C	BA3001D0M	C	CA1013A2	C
BA1020B4	C	BA3001D1	C	CA1013A3	C
BA1020B5	C	BA3001E-AB.ADA	P	CA1013A4	C
BA1020B6M	C	BA3001E0M	C	CA1013A5	C
BA1101A-AB.ADA	P	BA3001E1	C	CA1013A6M	C
BA1101B.ADA	P	BA3001E2	C	CA1014A-AB.ADA	P
BA1101B0M	C	BA3001E3	C	CA1014A0M	C
BA1101B1	C	BA3001F-AB.ADA	P	CA1014A1	C
BA1101B2	C	BA3001F0M	C	CA1014A2	C
BA1101B3	C	BA3001F1	C	CA1014A3	C
BA1101B4	C	BA3001F2	C	CA1016A.ADA	P
BA1101C.ADA	P	BA3001F3	C	CA1016A0	C
BA1101C0	C	CA1002A-B.ADA	P	CA1016A1	C
BA1101C1M	C	CA1002A0	C	CA1016A2M	C
BA1101D.ADA	P	CA1002A1	C	CA1020A-B.ADA	P
BA1101E.ADA	P	CA1002A2	C	CA1020A0	C
BA1101H-B.ADA	P	CA1002A3M	C	CA1020A1	C
BA1101H0	C	CA1002A4	C	CA1020A2	C
BA1101H1M	C	CA1002A5	C	CA1020A3	C
BA2001A-AB.ADA	P	CA1002A6	C	CA1020A4	C
BA2001B.ADA	P	CA1002A7	C	CA1020A5	C
BA2001C.ADA	P	CA1002A8	C	CA1020A6	C
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BA2001E.ADA	P	CA1003A-AB.ADA	P	CA1020A8M	C
BA2001F.ADA	P	CA1003B-AB.ADA	P	CA1105A.ADA	P
BA2001F0M	C	CA1004A.ADA	P	CA1105A0	C
BA2001F1	C	CA1005A.ADA	P	CA1105A1M	C
BA2001F2	C	CA1006A-AB.ADA	P	CA1105B.ADA	P
BA2001G.ADA	P	CA1008A.ADA	P	CA1105B0	C
BA2001G0M	C	CA1008A0	C	CA1105B1	C
BA2001G1	C	CA1008A1M	C	CA1105B2	C
BA2002A.ADA	P	CA1009A.ADA	P	CA1105B3M	C
BA2002A0M	C	CA1009A0	C	CA1105B4	C
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BA2002A2	C	CA1009A2	C	CA1107A.ADA	P
BA2003B.ADA	P	CA1009A3	C	CA1107A0	C
BA2003B0M	C	CA1009A4M	C	CA1107A1M	C
BA2003B1	C	CA1012A.DEP	P	CA1107A2	C
BA3001A-AB.ADA	P	CA1012A0	C	CA2001H.ADA	P
BA3001A0M	C	CA1012A1	C	CA2001H0	C
BA3001A1	C	CA1012A2	C	CA2001H1	C
BA3001A2	C	CA1012A3	C	CA2001H2	C
BA3001A3	C	CA1012A4M	C	CA2001H3M	C
BA3001B.ADA	P	CA1012B-B.ADA	P	CA2003A.ADA	P
BA3001B0M	C	CA1012B0	C	CA2003A0M	C
BA3001B1	C	CA1012B2	C	CA2003A1	C

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CA2004A0M	C	CA5003A3	C	LA3007A3-AB	N/A
CA2004A1	C	CA5003A4	C	LA3007A4M	N/A
CA2004A2	C	CA5003A5	C	LA3007B.ADA	P
CA2007A-AB.ADA	P	CA5003A6M	C	LA3007B0	C
CA2007A0M	C	LA3004A-AB.ADA	N/A	LA3007B1	C
CA2007A1	C	LA3004A0-AB	N/A	LA3007B2	C
CA2007A2	C	LA3004A1-AB	N/A	LA3007B3	C
CA2007A3	C	LA3004A2-AB	N/A	LA3007B4	C
CA2008A-B.ADA	P	LA3004A3-AB	N/A	LA3007B5	C
CA2008A0M	C	LA3004A4-AB	N/A	LA3007B6	C
CA2008A1	C	LA3004A5-AB	N/A	LA3007B7	C
CA2008A2	C	LA3004A6M	N/A	LA3007B8M	C
CA3002A-B.ADA	P	LA3004B-B.ADA	N/A	LA3008A-AB.ADA	P
CA3002A0	C	LA3004B0-B	N/A	LA3008A0	C
CA3002A1	C	LA3004B1-B	N/A	LA3008A1	C
CA3002A2M	C	LA3004B2-B	N/A	LA3008A2	C
CA3002A3	C	LA3004B3-B	N/A	LA3008A3	C
CA3006C-B.ADA	P	LA3004B4-B	N/A	LA3008A4	C
CA3006C0	C	LA3004B5-B	N/A	LA3008A5M	C
CA3006C1	C	LA3004B6M	N/A	LA3008B.ADA	P
CA3006C2	C	LA3006A-AB.ADA	P	LA3008B0	C
CA3006C3	C	LA3006A0	C	LA3008B1	C
CA3006C4	C	LA3006A1	C	LA3008B2	C
CA3006C5M	C	LA3006A2	C	LA3008B3	C
CA5002A-B.ADA	P	LA3006A3	C	LA3008B4	C
CA5002B-B.ADA	P	LA3006A4	C	LA3008B5	C
CA5002B0	C	LA3006A5	C	LA3008B6M	C
CA5002B1	C	LA3006A6M	C	LA5001A-B.ADA	P
CA5002B2	C	LA3006B-AB.ADA	N/A	LA5001A0	C
CA5002B3	C	LA3006B0	N/A	LA5001A1	C
CA5002B4	C	LA3006B1	N/A	LA5001A2	C
CA5002B5	C	LA3006B2	N/A	LA5001A3	C
CA5002B6	C	LA3006B3-AB	N/A	LA5001A4	C
CA5002B7M	C	LA3006B4M	N/A	LA5001A5	C
CA5003A-B.ADA	P	LA3007A-AB.ADA	N/A	LA5001A6	C
CA5003A0	C	LA3007A0	N/A	LA5001A7M	C
CA5003A1	C	LA3007A1	N/A		

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BB2002A-AB.ADA	P	CB1004A-AB.ADA	P	CB4003A-AB.ADA	P
BB2003A-AB.ADA	P	CB2004A-B.ADA	P	CB4004A-B.ADA	P
BB2003B-AB.ADA	P	CB2005A-B.ADA	P	CB4005A-AB.ADA	P
BB2003C-AB.ADA	P	CB2006A-AB.ADA	P	CB4006A-B.ADA	P
BB3001A-B.ADA	P	CB2007A-AB.ADA	P	CB4008A-AB.ADA	P
BB3002A-AB.ADA	P	CB3003A-B.ADA	P	CB4009A-AB.ADA	P
BB3005A-AB.ADA	P	CB3004A-AB.ADA	P	CB5001A-B.ADA	P
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BC1008A-AB.ADA	P	BC20ABA-B.ADA	P	BC3205E-B.ADA	P
BC1008B-AB.ADA	P	BC3002A-AB.ADA	P	BC3205F-B.ADA	P
BC1008C-AB.ADA	P	BC3002B-AB.ADA	P	BC32ABA-B.ADA	P
BC1009A-AB.ADA	P	BC3002C-AB.ADA	P	BC32ADA-B.ADA	P
BC1011A-AB.ADA	P	BC3002D-AB.ADA	P	BC3301A-AB.ADA	P
BC1011B-AB.ADA	P	BC3002E-AB.ADA	P	BC3301B-AB.ADA	P
BC1012A-AB.ADA	P	BC3003A-AB.ADA	P	BC3302A-AB.ADA	P
BC1013A-B.ADA	P	BC3003B-AB.ADA	P	BC3302B-AB.ADA	P
BC10ABA-B.ADA	P	BC3005A-AB.ADA	P	BC3303A-AB.ADA	P
BC10ABB-B.ADA	P	BC3006A-AB.ADA	P	BC3304A-AB.ADA	P
BC10ACA-B.ADA	P	BC3009A-B.ADA	P	BC33ABA-B.ADA	P
BC10ADA-B.ADA	P	BC3009B-B.ADA	P	BC33ACA-B.ADA	P
BC10AEA-B.ADA	P	BC3009C-B.ADA	P	BC33ADA-B.ADA	P
BC10AEB-B.ADA	P	BC3011B-B.ADA	P	BC33AEA-B.ADA	P
BC10AEC-B.ADA	P	BC3011C-AB.ADA	P	BC3401A-AB.ADA	P
BC10AED-B.ADA	P	BC3013A-AB.ADA	P	BC3401B-AB.ADA	P
BC10AFA-B.ADA	P	BC3018A-B.ADA	P	BC3402A-AB.ADA	P
BC10AGA-B.ADA	P	BC30ABA-B.ADA	P	BC3402B-AB.ADA	P
BC1101A-AB.ADA	P	BC30ACA-B.ADA	P	BC3403A-AB.ADA	P
BC1102A-B.ADA	P	BC3101A-B.ADA	P	BC3403B-AB.ADA	P
BC1103A-B.ADA	P	BC3101B-B.ADA	P	BC3403C-AB.ADA	P
BC1104A-B.ADA	P	BC3102A-B.ADA	P	BC3404A-AB.ADA	P
BC1104B-B.ADA	P	BC3102B-B.ADA	P	BC3404B-B.ADA	P
BC1106A-AB.ADA	P	BC3103A-AB.ADA	P	BC3404C-AB.ADA	P
BC1107A-B.ADA	P	BC3103B-AB.ADA	P	BC3404D-AB.ADA	P
BC11ABA-B.ADA	P	BC31ABA-B.ADA	P	BC3404E-AB.ADA	P
BC11ACA-B.ADA	P	BC31ACA-B.ADA	P	BC3404F-AB.ADA	P
BC1201A-AB.ADA	P	BC31ADA-B.ADA	P	BC3405A-AB.ADA	P
BC1201B-AB.ADA	P	BC3201A-B.ADA	P	BC3405B-B.ADA	P
BC1201C-AB.ADA	P	BC3201B-AB.ADA	P	BC3405D-AB.ADA	P
BC1201D-AB.ADA	P	BC3201C-B.ADA	P	BC3405E-AB.ADA	P
BC1202A-AB.ADA	P	BC3202A-B.ADA	P	BC3405F-AB.ADA	P
BC1202B-AB.ADA	P	BC3202B-B.ADA	P	BC3501A-AB.ADA	P
BC1202C-AB.ADA	P	BC3202C-B.ADA	P	BC3501B-AB.ADA	P
BC1202D-AB.ADA	P	BC3203B-B.ADA	P	BC3501C-AB.ADA	P
BC1203A-AB.ADA	P	BC3204A-B.ADA	P	BC3501D-AB.ADA	P
BC1207A-B.ADA	P	BC3204B-B.ADA	P	BC3501E-AB.ADA	P
BC1226A-B.ADA	P	BC3204C-B.ADA	P	BC3501F-AB.ADA	P
BC12ABA-B.ADA	P	BC3204C0	C	BC3501G-AB.ADA	P
BC12ACA-B.ADA	P	BC3204C1M	C	BC3501H-AB.ADA	P
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BC1303A-AB.ADA	P	BC3204D-B.ADA	P	BC3501J-AB.ADA	P
BC1303B-AB.ADA	P	BC3204E-B.ADA	P	BC3501K-AB.ADA	P
BC1303C-AB.ADA	P	BC3205A-B.ADA	P	BC3502A-AB.ADA	P
BC1303D-AB.ADA	P	BC3205B-B.ADA	P	BC3502B-AB.ADA	P
BC1303E-AB.ADA	P	BC3205C-B.ADA	P	BC3502C-AB.ADA	P
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BC3502H-AB.ADA	P	CC1310A-AB.ADA	P	CC3407C-AB.ADA	P
BC3502I-AB.ADA	P	CC2002A-AB.ADA	P	CC3407D-AB.ADA	P
BC3502J-AB.ADA	P	CC3004A-B.ADA	P	CC3407E-AB.ADA	P
BC3502K-AB.ADA	P	CC3007A-AB.ADA	P	CC3407F-AB.ADA	P
BC3502L-AB.ADA	P	CC3011A-B.ADA	P	CC3408A-AB.ADA	P
BC3502M-AB.ADA	P	CC3011D-B.ADA	P	CC3408B-AB.ADA	P
BC3502N-AB.ADA	P	CC3012A-AB.ADA	P	CC3408C-AB.ADA	P
BC3502O-AB.ADA	P	CC3120A-AB.ADA	P	CC3408D-B.ADA	P
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BC3503B-B.ADA	P	CC3125A-B.ADA	P	CC3504B-B.ADA	P
BC3503C-B.ADA	P	CC3203A-B.ADA	P	CC3504C-B.ADA	P
BC3503D-B.ADA	P	CC3208A-AB.ADA	P	CC3504D-B.ADA	P
BC3503F-B.ADA	P	CC3208B-AB.ADA	P	CC3504E-B.ADA	P
CC1004A-AB.ADA	P	CC3305A-AB.ADA	P	CC3504F-B.ADA	P
CC1010A-AB.ADA	P	CC3305B-AB.ADA	P	CC3504G-B.ADA	P
CC1010B-AB.ADA	P	CC3305C-AB.ADA	P	CC3504H-B.ADA	P
CC1220A-B.ADA	P	CC3305D-AB.ADA	P	CC3504I-B.ADA	P
CC1301A-B.ADA	P	CC3406A-AB.ADA	P	CC3504J-B.ADA	P
CC1302A-AB.ADA	P	CC3406B-AB.ADA	P	CC3504K-B.ADA	P
CC1304A-AB.ADA	P	CC3406C-AB.ADA	P	CC3601C-AB.ADA	P
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AE3101A-B.ADA	P	CE2111C-B.ADA	P	CE3202A-B.ADA	P
AE3702A-B.ADA	P	CE2111D-B.ADA	P	CE3203A-B.ADA	P
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BE2112A-B.ADA	P	CE2201C-B.ADA	P	CE3301A-B.ADA	P
BE2112B-B.ADA	P	CE2201D-B.DEP	P	CE3301B-B.ADA	P
BE2112C-B.ADA	P	CE2201E-B.DEP	P	CE3301C-B.ADA	P
BE2114A-B.ADA	P	CE2201F-B.ADA	P	CE3302A-B.ADA	P
BE2208A-B.ADA	P	CE2202A-B.ADA	P	CE3303A-B.ADA	P
BE3001A-B.ADA	P	CE2204A-B.ADA	P	CE3305A-B.ADA	P
BE3002A-B.ADA	P	CE2204B-B.ADA	P	CE3402A-B.ADA	P
BE3002E-B.ADA	P	CE2210A-B.ADA	P	CE3402B-B.ADA	P
BE3105A-B.ADA	P	CE2401A-B.ADA	P	CE3402C-B.ADA	P
BE3205A-B.ADA	P	CE2401B-B.ADA	P	CE3402D-B.ADA	P
BE3501A-B.ADA	P	CE2401C-B.ADA	P	CE3402E-B.ADA	P
BE3606C-B.ADA	P	CE2401D-B.DEP	P	CE3403A-B.ADA	P
BE3703A-B.ADA	P	CE2401E-B.ADA	P	CE3403B-B.ADA	P
BE3802A-B.ADA	P	CE2401F-B.ADA	P	CE3403C-B.ADA	P
BE3803A-B.ADA	P	CE2402A-B.ADA	P	CE3403D-B.ADA	P
BE3902A-B.ADA	P	CE2404A-B.ADA	P	CE3403E-B.ADA	P
BE3903A-B.ADA	P	CE2405B-B.ADA	P	CE3403F-B.ADA	P
CE2102A-B.ADA	P	CE2406A-B.ADA	P	CE3404A-B.ADA	P
CE2102B-B.ADA	P	CE2407A-B.ADA	P	CE3404B-B.ADA	P
CE2102C-B.ADA	P	CE2408A-B.ADA	P	CE3404C-B.ADA	P
CE2102D-B.ADA	P	CE2409A-B.ADA	P	CE3405A-B.ADA	P
CE2102E-B.ADA	P	CE2410A-B.ADA	P	CE3405B-B.ADA	P
CE2102F-B.ADA	P	CE3002B-B.TST	P	CE3405C-B.ADA	P
CE2102G-B.ADA	P	CE3002C-B.TST	P	CE3405D-B.ADA	P
CE2103A-B.TST	P	CE3002D-B.ADA	P	CE3406A-B.ADA	P
CE2103B-B.TST	P	CE3002F-B.ADA	P	CE3406B-B.ADA	P
CE2104A-B.ADA	P	CE3102A-B.ADA	P	CE3406C-B.ADA	P
CE2104B-B.ADA	P	CE3102B-B.TST	P	CE3406D-B.ADA	P
CE2105A-B.ADA	P	CE3103A-B.ADA	W	CE3407A-B.ADA	P
CE2106A-B.ADA	P	CE3104A-B.ADA	P	CE3407B-B.ADA	P
CE2107A-B.ADA	P	CE3107A-B.TST	P	CE3407C-B.ADA	P
CE2107B-B.ADA	P	CE3108A-B.ADA	P	CE3408A-B.ADA	P
CE2107C-B.ADA	P	CE3108B-B.ADA	P	CE3408B-B.ADA	P
CE2107D-B.ADA	P	CE3109A-B.ADA	P	CE3408C-B.ADA	P
CE2107E-B.ADA	P	CE3110A-B.ADA	P	CE3409A-B.ADA	P
CE2108A-B.ADA	P	CE3111A-B.ADA	P	CE3409B-B.ADA	P
CE2108B-B.ADA	P	CE3111B-B.ADA	P	CE3409C-B.ADA	P
CE2108C-B.ADA	P	CE3111C-B.ADA	P	CE3409D-B.ADA	P
CE2108D-B.ADA	P	CE3111D-B.ADA	P	CE3409E-B.ADA	P
CE2108E-B.ADA	P	CE3111E-B.ADA	P	CE3409F-B.ADA	P
CE2108F-B.ADA	P	CE3112A-B.ADA	P	CE3410A-B.ADA	P
CE2109A-B.ADA	P	CE3112B-B.ADA	P	CE3410B-B.ADA	P

Chapter 14 (Continued)

CE3410C-B.ADA	P	CE3704A-B.ADA	P	CE3804M-B.ADA	P
CE3410D-B.ADA	P	CE3704B-B.ADA	P	CE3805A-B.ADA	P
CE3410E-B.ADA	P	CE3704C-B.ADA	P	CE3805B-B.ADA	P
CE3410F-B.ADA	P	CE3704D-B.ADA	P	CE3806A-B.ADA	P
CE3411A-B.ADA	P	CE3704E-B.ADA	P	CE3806C-B.ADA	P
CE3411C-B.ADA	P	CE3704F-B.ADA	P	CE3806D-B.ADA	P
CE3412A-B.ADA	P	CE3704M-B.ADA	P	CE3806E-B.ADA	P
CE3412C-B.ADA	P	CE3704O-B.ADA	P	CE3809A-B.ADA	P
CE3413A-B.ADA	P	CE3706C-B.ADA	P	CE3809B-B.ADA	P
CE3413C-B.ADA	P	CE3706D-B.ADA	P	CE3810A-B.ADA	P
CE3601A-B.ADA	P	CE3706F-B.ADA	P	CE3901A-B.ADA	P
CE3602A-B.ADA	P	CE3706G-B.ADA	P	CE3905A-B.ADA	P
CE3602B-B.ADA	P	CE3707A-B.ADA	P	CE3905B-B.ADA	P
CE3602C-B.ADA	P	CE3708A-B.ADA	P	CE3905C-B.ADA	P
CE3602D-B.ADA	P	CE3801A-B.ADA	P	CE3905L-B.ADA	P
CE3603A-B.ADA	P	CE3804A-B.ADA	P	CE3906A-B.ADA	P
CE3604A-B.ADA	P	CE3804B-B.ADA	P	CE3906B-B.ADA	P
CE3605A-B.ADA	P	CE3804C-B.ADA	P	CE3906C-B.ADA	P
CE3605B-B.ADA	P	CE3804D-B.ADA	P	CE3906D-B.ADA	P
CE3605C-B.ADA	P	CE3804E-B.ADA	W	CE3906E-B.ADA	P
CE3605D-B.ADA	P	CE3804F-B.ADA	P	CE3906F-B.ADA	P
CE3605E-B.ADA	P	CE3804G-B.ADA	P	CE3907A-B.ADA	P
CE3606A-B.ADA	P	CE3804I-B.ADA	P	CE3908A-B.ADA	P
CE3606B-B.ADA	P	CE3804K-B.ADA	P	EE3102C-B.ADA	P
CE3701A-B.ADA	P				

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