AD-A167 547 ADA (TRADE NAME) COMPILER VALIDATION SUMMARY REPORT: 1/1
ALSYS INC ALSYCOMP 0..(U) INFORMATION SYSTEMS AND
TECHNOLOGY CENTER W-P AFB OH ADA VALI.. 05 DEC 85
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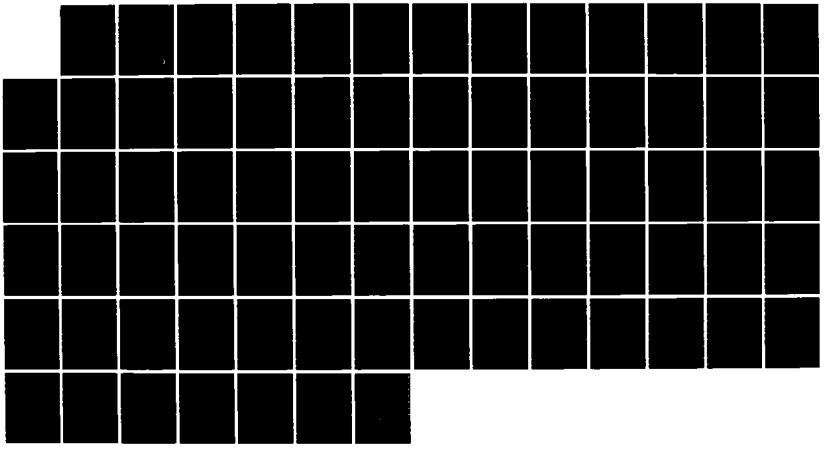

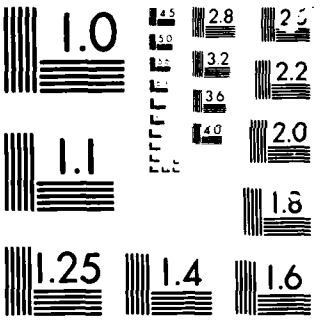

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See attached.



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AVF-VSR-18.0286

# Ada® COMPILER VALIDATION SUMMARY REPORT:
Alsys, Inc.
AlsyComp_008/V1.0
VAX-11/750 Host and IBM PC-AT Target

Completion of On-Site Validation:
5 DEC 1985

Prepared By:
Ada Validation Facility
Information Systems & Technology Center
ASD/SIOL
Wright-Patterson AFB OH 45433-6503

Prepared For:
Ada Joint Program Office
United States Department of Defense
Washington, D.C.

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Ada® Compiler Validation Summary Report:

Compiler Name: AlsyComp_008/V1.0

| Host Computer | Target Computer |
|---|---|
| VAX-11/750 | IBM PC-AT |
| under | under |
| VMS 4.1 | MS-DOS 3.1 |

Testing Completed 5 DEC 1985 Using ACVC 1.6

This report has been reviewed and approved:

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Director
Washington, D.C.

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## EXECUTIVE SUMMARY

The Validation Summary Report presents the results and conclusions of testing performed on the AlsyComp_008/V1.0. Standardized tests serve as input to an Ada® compiler, producing results which are evaluated by the validation team. This summary briefly states the highlights of the AlsyComp_008/V1.0 validation.

On-site testing was performed 2 DEC 1985 through 5 DEC 1985 at Alsys, Inc. in Boston, MA under the auspices of the Ada Validation Facility (AVF), according to Ada Validation Office (AVO) policies and procedures. The AlsyComp_008/V1.0 is hosted on a VAX-11/750 operating under VMS 4.1. The suite of tests known as the Ada Compiler Validation Capability (ACVC), Version 1.6, was used. The ACVC is used to validate conformance of a compiler to ANSI/MIL-STD-1815A Ada. The purpose of testing is to ensure that a compiler properly implements legal language constructs and that it identifies and rejects illegal language constructs. The testing also identifies behavior that is implementation dependent but permitted by the Ada Standard. Six classes of tests are used. These tests are designed to perform checks at compile time, at link time, or during execution.

The results of validation are summarized in the following table.

| RESULT | TEST CLASS | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | L | |
| Passed | 61 | 778 | 953 | 14 | 8 | 1 | 1815 |
| Failed | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Inapplicable | 0 | 3 | 273 | 3 | 0 | 2 | 281 |
| Anomalous | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Withdrawn | 0 | 19 | 47 | 0 | 0 | 0 | 66 |
| TOTAL | 61 | 800 | 1273 | 17 | 8 | 3 | 2162 |

---

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Tests found to contain errors were withdrawn from Version 1.6 of the ACVC. When validation was completed, the following tests had been withdrawn:

| | | |
|---|---|---|
| C35904A-B | B38105B-AB | C45521A-B through C45521Y-B (25 tests) |
| C48005C-B | C48006B-B | C64103C-B |
| C64103D-B | C64105E-AB | C64105F-AB |
| B66001A-B | B67001A-B | B67004A-B |
| B74103F-B | B74207A-B | C93005A-B |
| C93005B-B | C93005C-B | C93007B-B |
| CA1003B-AB | CA1011A-B | CA1108A-B |
| CA1108B-B | BA2001E-AB | CA2009B-B |
| CA2009E-B | CA2009F-B | BC1013A-B |
| BC3204A-B | BC3204B-B | BC3204C-B |
| BC3204D-B | BC3205A-B | BC3205B-B |
| BC3205C-B | BC3205D-B | BC3220B-B |
| BC3405B-B | BC3503A-B | CE2107E-B |
| CE3603A-B | CE3604A-B | CE3704M-B |

Some tests demonstrate that language features are not supported by an implementation. For this implementation the tests determined the following.

- SHORT_INTEGER is supported:

  B52004E-AB.DEP  B55B09D-AB.DEP  B86001CR-AB.DEP
  C34001D-B.DEP  C55B07B-AB.DEP

- LONG_INTEGER is supported:

  B52004D-AB.DEP  B55B09C-AB.DEP  B86001CS-AB.DEP
  C34001E-B.DEP  C55B07A-AB.DEP

- SHORT_FLOAT is not supported:

  B86001CP-AB.DEP  C34001F-B.DEP  C35702A-AB.DEP

- LONG_FLOAT is not supported:

  B86001CQ-AB.DEP  C34001G-B.DEP  C35702B-AB.DEP

- Representation specifications for noncontiguous enumeration representations are not allowed:

  C55B16A-AB.DEP

- No other integer type other than INTEGER, SHORT_INTEGER, and LONG_INTEGER is supported:

  B86001DT-AB.DEP

- The package SYSTEM is used by package TEXT_IO:

  C86001F-B.DEP

- The 'SIZE clause is not supported:

  C87B62A-B.DEP

- The 'STORAGE_SIZE clause is not supported:

  C87B62B-B.DEP

- The 'SMALL clause is not supported:

  C87B62C-B.DEP

- Generic subroutine declarations and bodies can be compiled in separate compilation units:

  CA1012A-B.DEP

- Pragma INLINE is not supported for procedures:

  LA3004A-AB.ADA

- Pragma INLINE is not supported for functions:

  LA3004B-AB.ADA

- Direct and sequential files can be created and opened in both IN_FILE and OUT_FILE modes. Direct files can be opened in INOUT_FILE mode. Resetting of files from OUT_FILE to IN_FILE mode and OUT_FILE to INOUT_FILE mode is also supported. Resetting of files from IN_FILE to OUT_FILE mode is not supported:

  CE2102D-B.ADA  CE2102E-B.ADA  CE2102F-B.ADA

- RESET and DELETE with no mode changes are supported for sequential and direct files:

  CE2102G-B.ADA

- Dynamic creation and deletion of files are allowed:

  CE2106A-B.ADA  CE3110A-B.ADA

- Instantiation of package SEQUENTIAL_IO with unconstrained array types is allowed:

  CE2201D-B.DEP

- Instantiation of package SEQUENTIAL_IO with unconstrained record types with discriminants is allowed:

  CE2201E-B.DEP

- Dynamic creation and resetting of files are supported:

  CE2210A-B.ADA

- Instantiation of package DIRECT_IO with unconstrained array types and unconstrained types with discriminants is supported:

  CE2401D-B.DEP

- An external file associated with more than one internal file cannot be reset:

  CE3115A-B.ADA

- Illegal filenames can exist:

  CE2102C-B.TST

ACVC Version 1.6 was taken on-site via magnetic tape to Alsys, Inc. in Boston, MA. The tape was loaded, and all tests, except the withdrawn tests and any executable tests which make use of a floating-point precision greater than SYSTEM.MAX_DIGITS, were compiled on a VAX-11/750. Class A, C, D, and E tests were executed on a IBM PC-AT.

On completion of testing, all results were analyzed for failed Class A, C, D, or E programs, and all Class B and L compilation results were individually analyzed.

The ACVC, Version 1.6, contains 2162 tests of which 1815 were applicable to AlsyComp_008/V1.0. No anomalies were found in the testing of this compiler. Testing demonstrated that all applicable tests were passed by this compiler and conformed to the Ada Standard. The AVF concluded that the results show acceptable compliance to ANSI/MIL-STD-1815A Ada.

TABLE OF CONTENTS

# CHAPTER 1

# INTRODUCTION

The Validation Summary Report describes how an Ada compiler conforms to the language standard. This report explains all technical terms used within it and thoroughly reports the Ada Compiler Validation Capability (ACVC) test results. Ada compilers must be written according to the language specification as given in ANSI/MIL-STD-1815A Ada. All implementation-defined features must be included for the compiler to conform to the Standard. Following the guidelines of the Standard ensures continuity between compilers. That is, the entire Standard must be implemented, and nothing can be implemented that is not in the Standard.

Even though all validated Ada compilers conform to the Standard, it must be understood that some differences do exist between implementations. ANSI/MIL-STD-1815A permits some implementation dependencies--e.g., the maximum length of identifiers, the maximum values of integer types, etc. These implementation-dependent features limit the portability of programs between compilers. Other differences between compilers are due to limitations imposed on a compiler by the operating system and by the hardware. All of these dependencies are given in the report.

Validation Summary Reports are written according to a standardized format. Compiler users can, therefore, more easily compare the reports from several compilers when selecting a compiler for a given task. The validation report can be completed mostly from the test results produced during validation testing. Additional testing information is given at the end of the report and states problems and details which are unique for a specific compiler. The format of the validation report limits variance between reports, enhances readability of the report, and accelerates report readiness.

## INTRODUCTION

### 1.1 PURPOSE OF THIS VALIDATION SUMMARY REPORT

The Validation Summary Report documents the results of the testing performed on an Ada compiler. Testing was carried out for the following purposes:

- 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 the implementation-dependent behavior allowed by the Ada Standard

Testing of this compiler was conducted by SofTech, Inc. under the supervision of the Ada Validation Facility (AVF) according to policies and procedures established by the Ada Validation Office (AVO). Testing was conducted from 2 DEC 1985 through 5 DEC 1985 at Alsys, Inc. in Boston, MA.

### 1.2 USE OF THIS VALIDATION SUMMARY REPORT

Consistent with the national laws of the originating country, the AVO may make full and free public disclosure of this report. In the United States, this is provided in accordance with the "Freedom of Information Act" (5 U.S.C. #552). The results of this validation apply only to the computers, operating systems, and compiler versions identified in this report.

The organizations represented on the signature page of this report do 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 nonconformances to the Ada Standard other than those presented. This report is not intended for the purpose of publicizing the findings summarized herein.

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

Ada Validation Office
Institute for Defense Analyses
1801 N. Beauregard
Alexandria VA 22311

and to:

Ada Validation Facility
Information Systems & Technology Center
ASD/SIOL
Wright-Patterson AFB OH 45433-6503

## 1.3 REFERENCES

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

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

3. Ada Compiler Validation Capability Implementers' Guide, SofTech, Inc., Dec 1984.

## 1.4 DEFINITION OF TERMS

| | |
|---|---|
| Anomaly | A test result that, given pre-validation analysis, is not expected during formal validation but is judged allowable under the circumstances. |
| ACVC | The Ada Compiler Validation Capability. A set of programs that evaluates the conformance of a compiler to the Ada language specification, ANSI/MIL-STD-1815A. |
| Ada Standard | ANSI/MIL-STD-1815A, February 1983. |
| Applicant | The agency requesting validation. |
| AVF | The Ada Validation Facility. In the context of this report, the AVF is responsible for conducting compiler validations according to established policies and procedures. |
| AVO | The Ada Validation Office. In the context of this report, the AVO is responsible for setting policies and procedures for compiler validations. |
| Compiler | A processor for the Ada language. In the context of this report, a compiler is any language processor, including cross-compilers, translators, and interpreters. |
| Failed test | A test for which the compiler generates a result that demonstrates nonconformance to the Ada Standard. |
| Host | The computer on which the compiler resides. |
| Inapplicable test | A test that uses features of the language that a compiler is not required to support or may legitimately support in a way other than the one expected by the test. |
| Passed test | A test for which a compiler generates the expected result. |

| | |
|---|---|
| Target | The computer for which a compiler generates code. |
| Test | A program that evaluates the conformance of a compiler to a language specification. In the context of this report, the term is used to designate a single ACVC test. The text of a program may be the text of one or more compilations. |
| Withdrawn test | A withdrawn test has an invalid test objective, fails to meet its test objective, or contains illegal use of the language. |

## 1.5 CONFIGURATION

The candidate compilation system for this validation was tested under the configuration:

Compiler: AlsyComp_008/V1.0

Test Suite: Ada Compiler Validation Capability (ACVC), Version 1.6

Host Computer:

| | |
|---|---|
| Machine(s): | VAX-11/750 |
| Operating System: | VMS 4.1 |
| Memory Size: | Six megabyte |
| Disk System: | Two Eagle 405 megabyte disk and one RM06 124 megabyte disk |

Target Computer:

| | |
|---|---|
| Machine(s): | IBM PC-AT |
| Operating System: | MS-DOS 3.1 |
| Memory Size: | 4.2 megabyte |
| Disk System: | Type 2 hard disk (40 megabyte) |

# CHAPTER 2

# TEST RESULTS

## 2.1 ACVC TEST CLASSES

Conformance to ANSI/MIL-STD-1815A is measured using the ACVC. The ACVC contains both legal and illegal Ada programs structured into six test classes: A, B, C, D, E, and L. Legal programs are compiled and executed while illegal programs are just compiled. Support packages are used to report the results of the legal programs. A compiler must correctly process each of the tests in the suite and demonstrate conformance to the Ada Standard by either meeting the pass criteria given for the test or by showing that the test is inapplicable to the implementation. Tests that are found to contain errors are withdrawn from the ACVC. Detailed test results are listed in Appendix D. The results of validation testing are summarized in the following table:

| RESULT | TEST CLASS | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | L | |
| Passed | 61 | 778 | 953 | 14 | 8 | 1 | 1815 |
| Failed | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Inapplicable | 0 | 3 | 273 | 3 | 0 | 2 | 281 |
| Anomalous | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Withdrawn | 0 | 19 | 47 | 0 | 0 | 0 | 66 |
| TOTAL | 61 | 800 | 1273 | 17 | 8 | 3 | 2162 |

A total of 1842 tests were processed during this validation attempt. The 66 withdrawn tests in Version 1.6 were not processed, nor were 254 Class C tests that were inapplicable because they use floating-point types having digits that exceed the maximum value for the implementation. All other tests were processed.

Some conventions are followed in the ACVC to ensure that the tests are reasonably portable without modification. For example, the tests make use of only the basic 55 character set, contain lines with a maximum length of 72 characters, use small numeric values, and place features that may not be supported in separate tests. However, some tests contain values that require the test to be customized according to implementation-specific values. The values used for this validation are listed in Appendix B.

### 2.1.1 Class A Tests

Class A tests check that legal Ada programs can be successfully compiled and executed. However, no checks are performed during execution to see if the test objective has been met. For example, a Class A test checks that reserved words of another language (other than those already reserved in the Ada language) are not treated as reserved words by an Ada compiler. A Class A test is passed if no errors are detected at compile time and the program executes to produce a message indicating that it has passed. If a Class A test cannot be compiled and executed because of its size, then the test is split into a set of smaller subtests that can be processed. One split was required for the following test:

AE2101A-B.ADA

The following table shows that all applicable Class A tests passed:

| RESULT | CHAPTER | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | TOTAL |
| Passed | 13 | 6 | 0 | 5 | 2 | 12 | 13 | 3 | 0 | 0 | 0 | 7 | 61 |
| Failed | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Inapplicable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Anomalous | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Withdrawn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 13 | 6 | 0 | 5 | 2 | 12 | 13 | 3 | 0 | 0 | 0 | 7 | 61 |

### 2.1.2 Class B Tests

Class B tests check that a compiler detects illegal language usage. Class B tests are not executable. Each test in this class is compiled and the resulting compilation listing is examined manually to verify that every syntax or semantic error in the test is detected. A Class B test is passed if every illegal construct that it contains is detected by the compiler. If one or more errors are not detected, then a version of the test is created that contains only the undetected errors. The resulting "split" is compiled and examined. The splitting process continues until all errors are detected by the compiler. Splits were required for 8 tests:

| | | |
|---|---|---|
| B32202A-B.ADA | B33006A-B.ADA | B91004A-B.ADA |
| B32202B-B.ADA | B37004A-B.ADA | BA1101B-B.ADA |
| B32202C-B.ADA | B61012A-B.ADA | |

The following table shows that all applicable Class B tests passed:

| RESULT | CHAPTER | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | TOTAL |
| Passed | 35 | 72 | 83 | 113 | 70 | 55 | 49 | 92 | 35 | 8 | 148 | 18 | 778 |
| Failed | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Inapplicable | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| Anomalous | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Withdrawn | 0 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 1 | 0 | 12 | 0 | 19 |
| TOTAL | 35 | 73 | 83 | 113 | 73 | 57 | 52 | 92 | 36 | 8 | 160 | 18 | 800 |

### 2.1.3 Class C Tests

Class C tests check that legal Ada programs can be correctly compiled and executed. Each Class C test is self-checking and produces a PASS/FAIL message indicating the result when it is executed. If a Class C test cannot be compiled because it exceeds the compiler's capacity, then the test is split into smaller subtests until all are compiled and executed. Splits were not required for any Class C tests:

The following table shows that all applicable Class C tests passed:

| RESULT | CHAPTER | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | TOTAL |
| **Passed** | 19 | 88 | 153 | 118 | 70 | 14 | 93 | 105 | 35 | 20 | 55 | 183 | 953 |
| **Failed** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Inapplicable** | 23 | 119 | 116 | 1 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 9 | 273 |
| **Anomalous** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Withdrawn** | 0 | 1 | 27 | 0 | 4 | 0 | 0 | 4 | 7 | 0 | 0 | 4 | 47 |
| **TOTAL** | 42 | 208 | 296 | 119 | 74 | 14 | 97 | 109 | 43 | 20 | 55 | 196 | 1273 |

### 2.1.4 Class D Tests

Class D tests check the compilation and execution capacities of a compiler. Since there are no requirements placed on a compiler by the Ada Standard for the number of identifiers permitted in a compilation, the number of units in a library, the number of nested loops in a subprogram body, and so on, a compiler may refuse to compile a Class D test. Each Class D test is self-checking and produces a PASS/FAIL message indicating the result when it is executed. If a Class D test fails to compile because the capacity of the compiler is exceeded, then the test is classified as inapplicable.

The following table shows that all applicable Class D tests passed:

| RESULT | CHAPTER | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | TOTAL |
| **Passed** | 1 | 0 | 4 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| **Failed** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Inapplicable** | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| **Anomalous** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Withdrawn** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | 1 | 0 | 4 | 9 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |

Capacities measured by the Class D tests are detailed in section 2.4, Implementation Characteristics.

### 2.1.5 Class E Tests

Class E tests provide information about the compiler in those areas in which the Ada Standard permits implementations to differ. Each Class E test is executable and produces messages that indicate how the Ada Standard is interpreted. However, in some cases the Ada Standard permits a compiler to detect a condition either at compile time or at execution time, and thus a Class E test may correctly fail to execute. A Class E test is passed if it fails to compile and appropriate error messages are issued, or if it executes properly and produces a message that it has passed. If a Class E test cannot be compiled and executed because of its size, then the test is split into a set of smaller subtests that can be processed. Splits were not required for any Class E tests:

The following table shows that all applicable Class E tests passed:

| RESULT | CHAPTER | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | TOTAL |
| Passed | 1 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 |
| Failed | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Inapplicable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Anomalous | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Withdrawn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 1 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 |

Information obtained from the Class E tests is detailed in section 2.4, Implementation Characteristics.

### 2.1.6 Class L Tests

Class L tests check that incomplete or illegal Ada programs involving multiple, separately compiled units are detected and not allowed to execute. Class L tests are compiled separately and execution is attempted. A Class L test passes if it is rejected at link time and the test does not execute.

The following table shows that all applicable Class L tests passed:

| RESULT | CHAPTER | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | TOTAL |
| **Passed** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| **Failed** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Inapplicable** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| **Anomalous** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Withdrawn** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |

### 2.1.7 Support Units

Three units (the package REPORT, the procedure CHECK_FILE, and the package VAR_STRINGS) support the self-checking features of the executable tests. The package REPORT provides the mechanism by which executable tests report results. It also provides a set of identity functions used to defeat some compiler optimization strategies that force computations to be made by the target computer instead of by the compiler on the host computer. The procedure CHECK_FILE is used to check the contents of text files written by some of the Class C tests for chapter 14 of the Ada Standard. The package VAR_STRINGS defines types and subprograms for manipulating varying-length character strings.

The operation of these three units is checked by a set of executable tests. These tests produce messages that are examined manually to verify that the units are operating correctly. If these units are not operating correctly, then the validation is not attempted.

All support package specifications and bodies were compiled and were demonstrated to be operating correctly.

## 2.2 WITHDRAWN TESTS

Some tests are withdrawn from the ACVC because they do not conform to the Ada Standard or because they use language features whose semantics are still being clarified by the Ada Language Maintenance Committee (LMC). When testing was performed, the following 66 tests had been withdrawn for the reasons indicated below. In those cases under consideration by the LMC, a reference is given to an Ada Commentary--e.g., AI-00313.

- C35904A-B: The elaborations of the subtype declarations for SFX3 and SFX4 in this test raise NUMERIC_ERROR in some implementations. The exception is raised on the conversion of the real literals 2.0 and 5.0 to the base type of FIX.

- B38105B-AB, C48006B-B, B74207A-B, and BC3503A-B: These tests require a specific interpretation of the Reference Manual regarding whether an incomplete type can have discriminant constraints before the full type declaration; this interpretation is not fully supported by the Reference Manual or the Language Maintenance Committee.

- C45521A-B through C45521Y-B (25 tests): Cases C and I define the model interval for the result too narrowly.

- C48005C-B: Lines 38 and 63 of this test should check that the value of the designated object is null.

- C64103C-B: This test should raise CONSTRAINT_ERROR during the conversion at line 179.

- C64103D-B: This test involves an issue of whether CONSTRAINT_ERROR or NUMERIC_ERROR is to be raised. Because the issue could not be resolved quickly, the test was withdrawn from Version 1.6.

- C64105E-AB and C64105F-AB: These tests should ensure (in case E) that non-null dimensions of formal and actual parameters belong to both index subtypes (see AI-00313).

- B66001A-B: This test checks (in section G) that a function without parameters which is equivalent to an enumeration literal in the same declarative region is a redeclaration and as such is forbidden. According to section 8.3, paragraph 17 of the Reference Manual, the explicit declaration of such a function is allowed if an enumeration literal is considered an implicitly declared predefined operation. The Reference Manual is not clear on this point. Because the issue could not be resolved quickly, the test was withdrawn from Version 1.6.

- B67001A-B: This test is missing the "BEGIN NULL; END;" at line 414 needed to complete the block for case H beginning at line 389.

- B67004A-B: In this test, the default name for a formal generic equality function should not be allowed to be "/=" unless an expanded name is used.

- B74103F-B: This test depends on whether or not a generic formal type declaration declares a type. Because the issue could not be resolved quickly, the test was withdrawn from Version 1.6.

- C93005A-B, C93005B-B, and C93005C-B: These tests contain a declaration of an integer variable whose initialization is solely for the purpose of raising an exception. Some compilers will not raise this exception due to allowable optimizations.

- C93007B-B: This test should check for PROGRAM_ERROR rather than TASKING_ERROR (see AI-00149).

- CA1003B-AB: A compilation that contains an illegal compilation unit may now be rejected as a whole (see AI-00255/05).

- CA1011A-B: The test objective should be reversed to be consistent with AI-00199.

- CA1108A-B: A pragma ELABORATE is needed for OTHER_PKG at line 25.

- CA1108B-B: A pragma ELABORATE is needed for FIRST_PKG at line 39 and for LATER_PKG at line 49.

- BA2001E-AB: Section 10.2, paragraph 5 of the Reference Manual states, "Simple names of all subunits that have the same ancestor library unit must be distinct identifiers." This test requires that the above conditions be checked when the stub is declared. However, since the Reference Manual uses the term "subunit," it is not clear that the check must be made at the declaration or when the subunit is compiled.

- CA2009B-B and CA2009E-B: In these tests, the repetition of the main procedure after the subunit body makes the subunit body obsolete. Therefore, an attempt to execute the main procedure will fail.

- CA2009F-B: The file CA2009F2-B, which is part of this test, is missing from the test suite.

- BC1013A-B: In this test, the declaration of equality in lines 86 and 87 is illegal because the parameter type T declared in line 11 is not a limited type (see section 6.7, paragraph 4 of the Reference Manual).

- BC3204A-B, BC3204B-B, BC3204C-B, BC3204D-B, BC3205A-B, BC3205B-B, BC3205C-B, BC3205D-B, and BC3405B-B: Instantiations with types that have default discriminants are legal (see AI-00037).

- BC3220B-B: This test assumes that instantiated types may be static. Because the issue could not be resolved quickly, the test was withdrawn from Version 1.6.

- CE2107E-B: This test has a variable, TEMP_HAS_NAME, that should have been initialized to TRUE.

- CE3603A-B: In this test, the last case is inconsistent with AI-00050. If a string argument is null, no attempt to read is made and END_ERROR is not raised.

- CE3604A-B: Cases 5, 8, 9, and 11 in this test are inconsistent with AI-00050. SKIP_LINE is called only if the end of the output string has not been met.

- CE3704M-B: A superfluous SKIP_LINE causes the input and output operations to be out of synchronization.

## 2.3 INAPPLICABLE TESTS

Some tests do not apply to all compilers because they make use of features that a compiler is not required by the Ada Standard to support. Others may depend on the result of another test that is either inapplicable or withdrawn. For this validation attempt, 281 tests were inapplicable for the reasons indicated:

- 254 tests were not processed because SYSTEM.MAX_DIGITS was 6. These tests were:

  C24113C-B.DEP through C24113Y-B.DEP (23 tests)
  C35705C-B.DEP through C35705Y-B.DEP (23 tests)
  C35706C-B.DEP through C35706Y-B.DEP (23 tests)
  C35707C-B.DEP through C35707Y-B.DEP (23 tests)
  C35708C-B.DEP through C35708Y-B.DEP (23 tests)
  C35802C-B.DEP through C35802Y-B.DEP (23 tests)
  C45241C-B.DEP through C45241Y-B.DEP (23 tests)
  C45321C-B.DEP through C45321Y-B.DEP (23 tests)
  C45421C-B.DEP through C45421Y-B.DEP (23 tests)
  C45424C-B.DEP through C45424Y-B.DEP (23 tests)
  C45621C-B.DEP through C45621Z-B.DEP (24 tests)

- Three tests were inapplicable because this implementation does not support SHORT_FLOAT:

  C34001F-B.DEP  C35702A-AB.DEP  B86001CP-AB.DEP

- Three tests were inapplicable because this implementation does not support LONG_FLOAT:

  C34001G-B.DEP  C35702B-AB.DEP  B86001CQ-AB.DEP

- Test C55B16A-AB.DEP makes use of an enumeration representation clause that contains noncontiguous values. Representation specifications for noncontiguous enumeration representation are not supported by this compiler.

- Tests D55A03F-AB.ADA, D55A03G-AB.ADA, and D55A03H-AB.ADA are not applicable because 33 or more levels of loop nesting are not supported for this implementation.

- Test B86001DT.AB-TST requires a predefined numeric type other than those defined by the Ada language in package STANDARD. There is no such type for this implementation.

- Test C86001F-B.DEP is not applicable for this implementation because package SYSTEM is used by TEXT_IO.

- Tests C87B62A-B.DEP, C87B62B-B.DEP, and C87B62C-B.DEP use length clauses to specify the collection size for an access type. These length clauses are not supported by this compiler.

- Test CA2009C-B.DEP compiles generic subunits in separate compilation files. Separate compilation of generic specifications and bodies is not supported by this compiler.

- Test LA3004A-AB.ADA uses pragma INLINE for procedures. This pragma is not supported by this compiler.

- Test LA3004B-AB.ADA uses pragma INLINE for functions. This pragma is not supported by this compiler.

- Tests CE2107B-B.ADA, CE2110B-B.ADA, CE2111D-B.ADA, CE3111B-B.ADA, CE3111C-B.ADA, CE3111D-B.ADA, CE3111E-B.ADA, CE3114B-B.ADA, and CE3115A-B.ADA are inapplicable because more than one internal file that is associated with the same external file is not supported by this compiler when one of the files is opened for writing.

## 2.4 IMPLEMENTATION CHARACTERISTICS

One of the purposes for validating is to determine the behavior of a compiler in those areas of the Ada Standard that permit implementations to differ. Class D and E tests specifically check for such implementation differences. However, inapplicable tests in other classes also characterize an implementation. This compiler is characterized by the following interpretations of the Ada Standard:

- Nongraphic characters.

  Nongraphic characters are defined in the ASCII character set but are not permitted in Ada programs, even within character strings. The compiler correctly recognizes these characters as illegal in Ada compilations. The characters are not printed in the output listing.

- Capacities.

  The compiler correctly processes compilations containing loop statements nested to 31 levels, block statements nested to 65 levels, procedures nested to 17 levels, and declarative parts containing 723 variables.

- Universal integer calculations.

  An implementation is allowed to reject universal integer calculations having values that exceed certain precisions. This implementation does not reject such calculations and processes them correctly.

- Predefined types.

  This implementation does not support the predefined types SHORT_FLOAT, and LONG_FLOAT. It does, however, support the predefined numeric types SHORT_INTEGER and LONG_INTEGER.

- Based literals.

  An implementation is allowed to reject a based literal with value exceeding SYSTEM.MAX_INT during compilation or it may raise NUMERIC_ERROR during execution. This compiler raises NUMERIC_ERROR during execution.

- Array types.

  An implementation is allowed to raise NUMERIC_ERROR for an array having a 'LENGTH that exceeds STANDARD.INTEGER'LAST and/or SYSTEM.MAX_INT. When an array type is declared with an index range exceeding INTEGER values and with a component that is a null BOOLEAN array, this compiler does not raise any exception.

When an array type is declared with an index range exceeding SYSTEM.MAX_INT values and with a component that is a null BOOLEAN array, this compiler raises NUMERIC_ERROR when the type is declared.

A packed BOOLEAN array of length INTEGER_LAST+3 does not raise an exception. A packed two-dimensional BOOLEAN array with INTEGER_LAST+3 components does not raise an exception.

A null array with one dimension of length exceeding INTEGER'LAST does not raise an exception.

In assignment of one-dimensional array types, the entire expression is evaluated before CONSTRAINT_ERROR is raised when checking whether the expression's subtype is compatible with the target's subtype. In assignment of two-dimensional array types, the entire expression is not evaluated before CONSTRAINT_ERROR is raised when checking whether the expression's subtype is compatible with the target's subtype. In assignment of record types with discriminants, the entire expression is evaluated before CONSTRAINT_ERROR is raised when checking whether the expression's subtype is compatible with the target's subtype.

- Discriminated types.

  An incompletely declared type with discriminants may be used in an access type definition and constrained either there or in later subtype indications.

- Aggregates.

  When evaluating the choices of a multi-dimensional aggregate, all choices are evaluated before checking against the index type.

  When evaluating an aggregate containing subaggregates, all choices are not evaluated before being checked for identical bounds.

- Representation clauses.

  'SMALL length clauses are not supported.

  Enumeration representation clauses are not supported.

- Package CALENDAR.

  TIME_OF and SPLIT are not inverses when SECONDS is a nonmodel number.

- Pragmas.

Pragma INLINE is not supported for procedures. It is not supported for functions.

. Input/Output.

Package SEQUENTIAL_IO can be instantiated with unconstrained array types or record types with discriminants. Package DIRECT_IO can be instantiated with unconstrained array types or record types with discriminants without defaults.

Temporary sequential files are given a name. Temporary direct files are given a name. Temporary files given names are deleted when they are closed.

# CHAPTER 3

# COMPILER ANOMALIES AND NONCONFORMANCES

## 3.1 ANOMALIES

An anomaly is a test result that, given the pre-validation analysis, was not expected during formal validation but which is judged allowable by the AVF and the AVO under the circumstances of the validation. No anomalies were detected in this validation attempt.

## 3.2 NONCONFORMANCES

Any discrepancy between expected test results and actual test results is considered a nonconformance. No nonconformances were detected in this validation attempt.

# CHAPTER 4

# ADDITIONAL TESTING INFORMATION

## 4.1 PRE-VALIDATION

Prior to validation, a set of test results for ACVC Version 1.6 produced by AlsyComp_008/V1.0 was submitted to the AVF by the applicant for pre-validation review. Analysis of these results demonstrated that the compiler successfully passed all applicable tests.

## 4.2 TEST SITE

Tests were compiled and executed at Alsys, Inc. in Boston, MA.

## 4.3 TEST TAPE INFORMATION

A test tape containing ACVC Version 1.6 was taken on-site by the validation team. This tape contained all tests applicable to this validation as well as all tests inapplicable to this validation except for any Class C tests that require floating-point precision exceeding the maximum value supported by the implementation. Tests that were withdrawn from ACVC Version 1.6 were not written to the tape. Tests that make use of values that are specific to an implementation were customized before being written to the tape. Any split tests were also included on the test tape so that no editing of the test files was necessary when the validation team arrived on-site.

The test tape was written in VAX VMS BACKUP fromat. The contents of the tape were loaded onto a VAX-11/750 operating under VMS 4.1. The files were then transferred to two additional VAX-11/750's for testing.

## 4.4 TESTING LOGISTICS

Once all tests had been loaded to disk, processing was begun using command scripts provided by Alsys, Inc. The text of these scripts is given in Appendix C.

The compiler supports various options that control its operation. The compiler was tested with the following option settings.

Compiler option 593 : tasking permitted.

Listing processor options:

```
BANNER             : puts three banner lines on each page of listing.
LINE_LENGTH = 120  : 120 characters per line.
NO_SUMMARY         : does not print the number of errors detected
                     during the compilation at the end of the listing.
ERROR_LIMIT = 999  : maximum number of errors allowed in a compilation.
```

Three VAX-11/750 computers operating under VMS 4.1 were used to compile the tests. All executable tests were downloaded over an ethernet network to an IBM PC-AT to be linked and executed. First, REPORT specification and body, VAR_STRINGS specification and body, and CHECKFILE were compiled and stored in the predefined library. Then the compiler and predefined library were copied over DECNET to a second VAX-11/750 and via a magnetic tape to a third VAX-11/750. The CZ tests were then compiled on a VAX-11/750 and downloaded to the IBM PC-AT via an ethernet network for linking and execution. Then the remaining tests were distributed among the three VAX-11/750's for compilation in parallel batch queues. When a chapter of executable tests finished compilation, the object modules were downloaded to the IBM PC-AT for linking and execution.

The listing and log files from compilation were transferred back to the original VAX-11/750 after compilation. The execution results were transported back to the VAX over ethernet from the IBM PC-AT. All of the results were then saved to magnetic tape in VAX VMS BACKUP format.

## 4.5 TESTING DURATION

The ACVC has not been designed for use in measuring compiler performance. The information reported here thus merely describes the duration of the on-site conformity testing, and is not necessarily an indication of the subject system's performance for any particular application.

Testing started at 9:30 A.M. on 2 DEC 1985 and ended at 5:30 P.M. on 4 DEC 1985.

# CHAPTER 5

## SUMMARY AND CONCLUSIONS

The Ada Validation Facility identified 1842 of the 2162 tests in Version 1.6 of the Ada Compiler Validation Capability to be processed during the validation of AlsyComp_008/V1.0. Because of test errors, 66 tests were withdrawn. Because of the value of SYSTEM.MAX_DIGITS, 254 tests were determined to be inapplicable. Of the processed tests, 27 were determined to be inapplicable and the remaining 1815 tests were passed by the compiler.

The Ada Validation Facility concludes that these results demonstrate acceptable conformance to the Ada Standard.

# APPENDIX A

## COMPLIANCE STATEMENT

The only allowed implementation dependencies correspond to implementation-dependent pragmas and attributes, to certain machine-dependent conventions as mentioned in chapter 13 of MIL-STD-1815A, and to certain allowed restrictions on representation clauses. The implementation-dependent characteristics of the AlsyComp_008/V1.0 are described in the following sections which discuss topics one through eight as stated in Appendix F of the Ada Language Reference Manual (ANSI/MIL-STD-1815A).

### (1) Implementation-dependent Pragmas

Ada programs can interface with subprograms written in assembler and other languages through the use of the predefined pragma INTERFACE and the implementation-defined pragma INTERFACE_NAME.

Pragmas INTERFACE and INTERFACE_NAME

Pragma INTERFACE specifies the name used within the Ada program when referring to the interfaced subprogram. The pragma specifies the name of the programming language for which parameter passing conventions will be generated. Pragma INTERFACE_NAME associates the name of the interfaced subprogram in the other language with the Ada specification of the interfaced subprogram. If pragma INTERFACE_NAME is not used then the two names are identical. The two pragmas take the form:

```
pragma INTERFACE (language_name, subprogram_name);

pragma INTERFACE_NAME (subprogram_name, string_literal);
```

where, language_name is either ADA or ASSEMBLER. Subprogram_name is the name used within the Ada program which refers to the interfaced subprogram. String_literal is the name by which the interfaced subprogram is referred to on the target system.

(2) Implementation-dependent Attributes

There are no implementation-dependent attributes.

(3) Package SYSTEM

The specification for package SYSTEM is

```
package SYSTEM is

   --    ******************************
   --    * (1) Required Definitions. *
   --    ******************************

   type ADDRESS is private;
   type NAME is (I_8086, I_80286_REAL)

   SYSTEM_NAME  : constant NAME := I_80286_REAL;
   STORAGE_UNIT : constant := 8;
   MEMORY_SIZE  : constant := 2**20;          -- 1 Megabyte


   --  System-Dependent Declarations:

   subtype BYTE       is INTEGER range 0 .. 2**8-1;
   subtype INTEGER_16 is INTEGER range -(2**15) .. 2**15-1;
   subtype INTEGER_32 is INTEGER range -(2**31) .. 2**31-1;


   --  System-Dependent Named Numbers:

   MIN_INT      : constant := -(2**31);
   MAX_INT      : constant := 2**31-1;
   MAX_DIGITS   : constant := 6;
   MAX_MANTISSA : constant := 31;
   FINE_DELTA   : constant := 2#1.0#E-31;
   TICK         : constant := 0;  -- does not mean anything


   --  Other System-Dependent Declarations

   NULL_ADDRESS : constant ADDRESS;
   subype PRIORITY is INTEGER range 1 .. 10;


   --    ***********************************
   --    * (2) MACHINE TYPE CONVERSIONS *
   --    ***********************************

   -- If the word / double-word operations below are used
   -- on ADDRESS, then MSW yields the segment and LSW
   -- yields the offset.
```

```
-- In the operations below , a BYTE_TYPE is any simple
-- type implemented on 8-bits (e.g., SHORT_INTEGER), a
-- WORD_TYPE is any simple type implemented on 16-bits
-- (e.g., INTEGER), and a DOUBLE_WORD_TYPE is any
-- simple type implemented on 32-bits
-- (e.g., LONG_INTEGER, FLOAT, ADDRESS).

-- Byte <==> Word conversions:

-- Get the most significant byte:

     generic
          type BYTE_TYPE is private;
          type WORD_TYPE is private;
     function MSB (W : WORD_TYPE) return BYTE_TYPE;

-- Get the least significant byte:

     generic
          type BYTE_TYPE is private;
          type WORD_TYPE is private;
     function LSB (W : WORD_TYPE) return BYTE_TYPE;

-- Compose a word from two bytes:

     generic
          type BYTE_TYPE is private;
          type WORD_TYPE is private;
     function WORD (MSB, LSB : BYTE_TYPE)
          return WORD_TYPE;

-- Word <==> Double-Word conversions:

-- Get the most significant word:

     generic
          type WORD_TYPE is private;
          type DOUBLE_WORD_TYPE is private;
     function MSW (W :DOUBLE_WORD_TYPE)
          return WORD_TYPE;

-- Get the least significant word:

     generic
          type WORD_TYPE is private;
          type DOUBLE_WORD_TYPE is private;
     function LSW (W : DOUBLE_WORD_TYPE)
          return WORD_TYPE;

-- Compose a DATA double word from two words:

     generic
          type WORD_TYPE is private;
```

```
                -- The following type must be a data type
                -- (e.g., LONG_INTEGER):
                type DATA_DOUBLE_WORD is private;
            function DOUBLE_WORD (MSW, LSW : WORD_TYPE)
                return DATA_DOUBLE_WORD;

        -- Compose a REFERENCE double word from two words:

            generic
                type WORD_TYPE is private;
                -- The following type must be a data type
                -- (e.g., access or ADDRESS):
                type REF_DOUBLE_WORD is private;
            function REFERENCE (SEGMENT, OFFSET : WORD_TYPE)
                return REF_DOUBLE_WORD;


        --    **********************************
        --    * (3) Operations on Addresses *
        --    **********************************

        -- You can get an address via 'ADDRESS attribute or by
        -- instantiating the function REFERENCE, above, with
        -- appropriate types.

        -- It is worth noting that there are some addresses that
        -- are implemented specially by the compiler.  For
        -- example, the display is located at the low end of the
        -- DS segment, and addresses SS:0 through SS:128 hold
        -- the task control block and other information, so
        -- writing into these areas will have unpredictable but
        -- usually disastrous results.

        -- Note that no operations are defined to get the values
        -- of the segment registers, but if it was necessary an
        -- interfaced function could be written.

            generic
                type OBJECT is private;
            function FETCH_FROM_ADDRESS (FROM : ADDRESS)
                return OBJECT;

            generic
                type OBJECT is private;
            procedure ASSIGN_TO_ADDRESS (OBJ : OBJECT;
                                         TO : ADDRESS);

            private
                -- The type ADDRESS is, in fact, implemented
                -- as an 8086/80286 segment:offset pair.

end SYSTEM;
```

(4) Representation Clause Restrictions

Representation clauses are not supported by this version of AlsyComp 8086/80286. Any program containing such clauses is considered illegal and is rejected at compile time.

The presence of the pragma PACK does not make the program illegal. If such a pragma appears the user is warned that the pragma is not supported and the compilation is accepted.

(5) Conventions

Although the AlsyComp compiler may add fields to the record objects and have descriptors in memory for record or array objects, these fields are not accessible to the user through any implementation-generated name or attribute.

(6) Unchecked Conversions

In the preliminary version, conversion from a composite type to a simple type or vice versa does not work.

(7) Input-Output Packages

LOW_LEVEL_IO has not been implemented.

Correspondence Between External Files and DOS Files

Ada input-output is defined in terms of external files. Data is read from and written to external files. Each external file is implemented as a standard DOS file, including the use of STANDARD_INPUT and STANDARD_OUTPUT.

The name of the external file can be either the null string, a DOS pathname or a DOS special file name (that is, CON, PRN, etc.).

If the name is a null string, the associated external file is a temporary file and will cease to exist when the file is closed. The file will be placed in the top level directory of the default drive and its name will be chosen by DOS.

If the name is a DOS pathname, then the pathname will be interpreted according to standard DOS conventions (i.e., relative to the current directory).

of the default drive and its name will be chosen by DOS.

If the name is a DOS pathname, then the pathname will be interpreted according to standard DOS conventions (i.e., relative to the current directory).

If the existing DOS file is specified to the CREATE procedure, the contents of that file will be deleted before writing to the file.

The functions FORM of TEXT_IO and (any instantiation of) DIRECT_IO and SEQUENTIAL_IO always return the null string.

For the packages DIRECT_IO and TEXT_IO, the range of values for types COUNT and POSITIVE_COUNT are as follows:

```
COUNT          0 .. 2_147_483_647
POSITIVE_COUNT 1 .. 2_147_483_647
```

For the package TEXT_IO, the range of values for the type FIELD is as follows:

```
FIELD          0 .. 255
```

(8) Package STANDARD

```
type SHORT_INTEGER is  -128 .. 127;
type INTEGER is        -32_768 .. 32_767;
```

## APPENDIX B

## TEST PARAMETERS

Certain tests in the ACVC make use of implementation-dependent values, such as the maximum length of an input line and invalid file names. A test that makes use of such values is identified by the extension .TST in its file name. Actual values to be substituted are identified by names that begin with a dollar sign. A value is substituted for each of these names before the test is run. The values used for this validation are given below.

| Name and Meaning | Value |
|---|---|
| $MAX_IN_LEN<br>Maximum input line length permitted by the implementation. | 255 |
| $BIG_ID1<br>Identifier of size MAX_IN_LEN with varying last character. | (1..254 => 'A', 255 => '1') |
| $BIG_ID2<br>Identifier of size MAX_IN_LEN with varying last character. | (1..254 => 'A', 255 => '2') |
| $BIG_ID3<br>Identifier of size MAX_IN_LEN with varying middle character. | (1..135 => 'A', 136 => '3',<br>137..255 => 'A') |
| $BIG_ID4<br>Identifier of size MAX_IN_LEN with varying middle character. | (1..135 => 'A', 136 => '4',<br>137..255 => 'A') |

| Name and Meaning | Value |
|---|---|
| $NEG_BASED_INT<br>A based integer literal whose highest order nonzero bit falls in the sign bit position of the representation for SYSTEM.MAX_INT. | 8#777777777776# |
| $BIG_INT_LIT<br>An integer literal of value 298 with enough leading zeroes so that it is MAX_IN_LEN characters long. | (1..252 => '0', 253..255 => "298") |
| $BIG_REAL_LIT<br>A real literal that can be either of floating- or fixed-point type, has value 690.0, and has enough leading zeroes to be MAX_IN_LEN characters long. | (1..252 => '0', 253..255 => "69.E1") |
| $EXTENDED_ASCII_CHARS<br>A string literal containing all the ASCII characters with printable graphics that are not in the basic 55 Ada character set. | "abcdefghijklmnopqrstuvwxyz" &<br>"!$%?@[\]^`{}~" |
| $NON_ASCII_CHAR_TYPE<br>An enumerated type definition for a character type whose literals are the identifier NON_NULL and all non-ASCII characters with printable graphics. | (NON_NULL) |
| $BLANKS<br>Blanks of length MAX_IN_LEN - 20 | (1..235 => ' ') |
| $MAX_DIGITS<br>Maximum digits supported for floating-point types. | 6 |
| $NAME<br>A name of a predefined numeric type other than FLOAT, INTEGER, SHORT_FLOAT, SHORT_INTEGER, LONG_FLOAT, or LONG_INTEGER. | LONG_LONG_INTEGER |

| Name and Meaning | Value |
|---|---|
| $INTEGER_FIRST<br>The universal integer literal expression whose value is INTEGER'FIRST. | -32768 |
| $INTEGER_LAST<br>The universal integer literal expression whose value is INTEGER'LAST. | 32767 |
| $LESS_THAN_DURATION<br>A universal real value that lies between DURATION'BASE'FIRST and DURATION'FIRST or any value in the range of DURATION. | -100_000.0 |
| $GREATER_THAN_DURATION<br>A universal real value that lies between DURATION'BASE'LAST and DURATION'LAST or any value in the range of DURATION. | 100_000.0 |
| $LESS_THAN_DURATION_BASE_FIRST<br>The universal real value that is less than DURATION'BASE'FIRST. | -33_554_433.0 |
| $GREATER_THAN_DURATION_BASE_LAST<br>The universal real value that is greater than DURATION'BASE'LAST. | 33_554_434.0 |
| $COUNT_LAST<br>Value of COUNT'LAST in TEXT_IO package. | 2_147_483_647 |
| $FIELD_LAST<br>Value of FIELD'LAST in TEXT_IO package. | 255 |
| $FILE_NAME_WITH_BAD_CHARS<br>An illegal external file name that either contains invalid characters or is too long. | "X}]!@#$^&~Y" |

| Name and Meaning | Value |
|---|---|
| $FILE_NAME_WITH_WILD_CARD_CHAR<br>An external file name that either contains a wild card character or is too long. | "XYZ*" |
| $ILLEGAL_EXTERNAL_FILE_NAME1<br>Illegal external file name. | "BAD-CHARACTER*^" |
| $ILLEGAL_EXTERNAL_FILE_NAME2<br>Illegal external file names. | MUCH-TO-LONG-NAME-FOR-A-FILE |

## APPENDIX C

## COMMAND SCRIPTS

```
$! Author : Pascal Cleve
$! Date   : 8-FEB-85
$! Modifications:
$! 18-Jul-1985 14:23 (PC) To cope with the new root and new codegen
$!
$!
$! Command procedure to run sequentialy a set of tests.  The input and the
$! action to preform are described in the input_file.
$!
$! The syntax of the input file is:
$!
$! command {parameter)
$!
$! Parameter : p1 = input_file.
$!
$!
$ open/read/error=open_error command_file 'p1
$ write sys$output "



                    "
$ write sys$output "*************************************************
$ write sys$output "*  Compilation started at ''f$time()'  *"
$ write sys$output "*************************************************
$ write sys$output " "
$
$       option_string  := "BANNER NO_SUMMARY LINE_LENGTH=120 ERROR_LIMIT=999"
$       trace_string   := "593"
$       listing_dir    := "acvc$list_dir:"
$       valid_version  := "acvc$com:"
$       final_version  := "acvc$com:"
$       binder_version := "acvc$com:"
$       nb_in_lib = 0
$       auto_init := "FALSE"
$
```

```
$ main_loop:
$    read/end_of_file=eof command_file command_line
$    first_char = f$extract(0, 1, command_line)
$    if first_char .eqs. "!" then goto main_loop
$    command_length = f$length(command_line)
$
$    first_blank = f$locate(" ", command_line)
$    command     := 'f$extract(0, first_blank, command_line)
$    parameter   := 'f$extract(first_blank + 1, command_length, command_line)
$!
$    if first_blank .eq. 1         then goto process_'command'
$    if first_char .eqs. "$"       then goto process_$
$    if command .eqs. "COMPILE"    then goto process_compile
$    if command .eqs. "BIND"       then goto process_bind
$    if command .eqs. "ADALIB"     then goto process_adalib
$    if command .eqs. "TRACE"      then goto process_trace
$    if command .eqs. "OPTION"     then goto process_option
$    if command .eqs. "ROOT"       then goto root_version
$    if command .eqs. "CODEGEN"    then goto codegen_version
$    if command .eqs. "FINAL"      then goto final_version
$    if command .eqs. "INIT"       then goto process_init
$    if command .eqs. "AUTO_INIT" then goto process_auto_init
$    if command .eqs. "LD"         then goto process_ld
$    goto unknown
$!
$    process_a:
$    process_adalib:
$       adalib_name := 'parameter
$!
$       write sys$output " "
$       write sys$output "Current Ada library is ''adalib_name'"
$       write sys$output " "
$       goto main_loop
$!
$    process_b:
$    process_bind:
$       main_program = parameter
$       @commands:bind86.synch 'main_program 'adalib_name NO_LOADER -
                                          acvc$bind_dir 50
$!
$       goto main_loop
$!
$    process_c:
$    process_compile:
$       source_file_name = parameter
```

```
$!
$       if .not. auto_init then goto no_init
$          if nb_in_lib .le. 200 then goto no_init
$             nb_in_lib = 0
$             @commands_:[000000]init_adalib 'adalib_name' valid 0
$             write sys$output " "
$             write sys$output "Library ''adalib_name' reinitialized"
$             write sys$output " "
$!
$       no_init:
$       @acvc$com:valid86.synch 'source_file_name' 'adalib_name' -
                                """'trace_string'" 'listing_dir'  -
                                """"'option_string'""""
$!
$       nb_in_lib = nb_in_lib + 1
$       goto main_loop
$!
$    process_i:
$    process_init:
$       @commands_:[000000]init_adalib 'adalib_name' valid 0
$       nb_in_lib = 0
$       write sys$output " "
$       write sys$output "Library ''adalib_name' reinitialized"
$       write sys$output " "
$       goto main_loop
$!
$    process_auto_init:
$       auto_init := "TRUE"
$       nb_in_lib := 101
$       goto main_loop
$!
$    root_version:
$       root_version := "'parameter'"
$       write sys$output "Current root is in ''root_version'"
$       goto main_loop
$!
$    codegen_version:
$       codegen_version := "'parameter'"
$       write sys$output "Current codegen is in ''codegen_version'"
$       goto main_loop
$!
$    final_version:
$       final_version := "'parameter'"
$       write sys$output "Current final is in ''final_version'"
$       goto main_loop
$!
$    process_t:
$    process_trace:
$       trace_string := "'parameter'"
$       write sys$output "Current traces are ''parameter'"
$       goto main_loop
```

```
$!
$    process_o:
$    process_option:
$       option_string := "''parameter'"
$       write sys$output "Current options are: ''option_string'"
$       goto main_loop
$!
$    process_$:
$    process_dcl:



$       write sys$output "''command_line'"
$       'f$extract(1, command_length, command_line)
$    goto main_loop
$
$
$! The error handlers:
$!
$open_error:
$   write sys$output "**** Cannot open file ''p1'"
$   exit_code = $status
$   goto exit
$!
$ eof:
$   exit_code = 1
$   goto exit
$
$ unknown:
$   write sys$output "**** Unknown command: ''command_line'"
$   exit_code = 44
$   goto exit
$!
$exit:
$   close command_file
$   write sys$output " "
$   write sys$output "Compilation completed at ''f$time()'"
$   write sys$output " "
$   close sys$output
$   deassign sys$output
$   exit exit_code
```

```
$set noon
$set process/name="C-02"
$set on
$set def acvc$bind_dir
a acvc_c_02
!
init
!
c acvc_root:C23001A.ADA
b C23001A
!
c acvc_root:C23003A.EXP
b C23003A
!
c acvc_root:C24002A.ADA
b C24002A
!
c acvc_root:C24002B.ADA
b C24002B
!
c acvc_root:C24002C.ADA
b C24002C
!
c acvc_root:C24003A.EXP
b C24003A
!
c acvc_root:C24003B.EXP
b C24003B
!
c acvc_root:C24003C.EXP
b C24003C
!
c acvc_root:C24102A.ADA
b C24102A
!
c acvc_root:C24102B.ADA
b C24102B
!
c acvc_root:C24102C.ADA
b C24102C
!
c acvc_root:C24103A.ADA
b C24103A
!
c acvc_root:C24113A_B.DEP
b C24113A
!
c acvc_root:C24113B_B.DEP
b C24113B
!
```

```
! Not applicable c acvc_root:C24113C_B.DEP
! Not applicable b C24113C
!
! Not applicable c acvc_root:C24113D_B.DEP
! Not applicable b C24113D
!
! Not applicable c acvc_root:C24113E_B.DEP
! Not applicable b C24113E
!
! Not applicable c acvc_root:C24113F_B.DEP

! Not applicable b C24113F
!
! Not applicable c acvc_root:C24113G_B.DEP
! Not applicable b C24113G
!
! Not applicable c acvc_root:C24113H_B.DEP
! Not applicable b C24113H
!
! Not applicable c acvc_root:C24113I_B.DEP
! Not applicable b C24113I
!
! Not applicable c acvc_root:C24113J_B.DEP
! Not applicable b C24113J
!
! Not applicable c acvc_root:C24113K_B.DEP
! Not applicable b C24113K
!
! Not applicable c acvc_root:C24113L_B.DEP
! Not applicable b C24113L
!
! Not applicable c acvc_root:C24113M_B.DEP
! Not applicable b C24113M
!
! Not applicable c acvc_root:C24113N_B.DEP
! Not applicable b C24113N
!
! Not applicable c acvc_root:C24113O_B.DEP
! Not applicable b C24113O
!
! Not applicable c acvc_root:C24113P_B.DEP
! Not applicable b C24113P
!
! Not applicable c acvc_root:C24113Q_B.DEP
! Not applicable b C24113Q
!
! Not applicable c acvc_root:C24113R_B.DEP
! Not applicable b C24113R
!
! Not applicable c acvc_root:C24113S_B.DEP
! Not applicable b C24113S
!
```

```
! Not applicable c acvc_root:C24113T_B.DEP
! Not applicable b C24113T
!
! Not applicable c acvc_root:C24113U_B.DEP
! Not applicable b C24113U
!
! Not applicable c acvc_root:C24113V_B.DEP
! Not applicable b C24113V
!
! Not applicable c acvc_root:C24113W_B.DEP
! Not applicable b C24113W
!
! Not applicable c acvc_root:C24113X_B.DEP
! Not applicable b C24113X
!
! Not applicable c acvc_root:C24113Y_B.DEP
! Not applicable b C24113Y
!
c acvc_root:C26002B.ADA



b C26002B
!
c acvc_root:C26006A_AB.ADA
b C26006A
!
c acvc_root:C26008A_AB.ADA
b C26008A
!
c acvc_root:C27001A_AB.ADA
b C27001A
!
c acvc_root:C27002A_B.ADA
b C27002A
```

```
copy c:\command.com d:
copy c:\command\link.exe d:
copy c:\command\convert1.com d:
copy c:\cleve\codegen\command\is_passed.exe d:
copy c:\cleve\codegen\command\adarun.bat d:
copy c:\cleve\codegen\runtime\*.lib d:
cd c:\cleve\codegen\from_vax
for %%a in (*.obj) do convert1 %%a
del d:convert1.com
ren a*.obj a*.
ren c*.obj c*.
ren d*.obj d*.
ren e*.obj e*.
ren l*.obj l*.
for %%a in (*.) do command/c adarun c:\cleve\codegen %%a acvc
del d:command.com
del d:link.exe
del d:is_passed.exe
del d:adarun.bat
del d:*.lib
```

```
echo off
break on
d:
link %1\from_vax\%2.,%2.exe,,d:\acvc d:\top;
if errorlevel 1 goto link_error
%2 > %1\list\%2.res
goto end
if errorlevel 1 goto failed
is_passed <%1\list\%2.lis
if errorlevel 1 goto failed
echo ========== passed ==========
del d:\acvc\old_obj\%2.
goto end
:failed
echo ********** failed **********
copy %1\from_vax\%2 c:\acvc\old_obj\%2.obj
:end
del  %1\from_vax\%2
del  %2.*
c:
exit
:link_error
echo ********** link error **********
goto failed
```

## APPENDIX D

## COMPLETE LIST OF TESTS AND RESULTS

This Appendix presents a complete list of the ACVC test files used in the validation attempt, presented in order by ACVC Implementers' Guide section and objective. Each test name indicates the class of the test and which test objective in the ACVC Implementers' Guide applies to the test.

Each test has a name that identifies the section of the Ada Standard addressed by the test objective. The name of a test is interpreted according to the table below, where the first column indicates the character position in the name and the second column, the meaning of that position:

| POS | MEANING |
|---|---|
| 1 | Test class: 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 (in hexadecimal). |
| 5-6 | Implementers' Guide Test Objective number (in decimal). |
| 7 | Test sequence letter. |
| 8 | [Optional] Compilation sequence digit or letter. |
| 9 | [Optional] Main program designator in the case of a test having multiple compilation units. |

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, with unit 0 being compiled first. The ninth character is only present for a file containing a main program for a test comprised of multiple files 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 the extension .TST indicates that the test depends on one or more of the implementation-dependent parameters listed in Appendix B. A file name ending with .DEP indicates that the test is not necessarily applicable to all implementations because it depends upon the support of language features that a compiler may legally not implement.

The result for each file in ACVC Version 1.6 is given in the following pages, where:

P indicates Passed.

F indicates Failed.

N/A indicates Not Applicable to this implementation.

W indicates Withdrawn due to test errors.

C indicates Compiled without error.

A indicates Anomalous.

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.

Support Units

| | |
|---|---|
| VAR_STRINGS_SPEC.ADA | P |
| VAR_STRINGS_BODY.ADA | P |
| REPORT_SPEC-AB.ADA | P |
| REPORT_BODY-B.ADA | P |
| CHECK_FILE-B.ADA | P |
| | |
| 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 | N/A |
| A22002A.ADA | P | B23003D-AB.TST | P | C24113D-B.DEP | N/A |
| A26004A.TST | P | B23003E-AB.TST | P | C24113E-B.DEP | N/A |
| 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.ADA | 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 | N/A |
| 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 | N/A |
| B35301A.ADA | P | B38103A-B.ADA | P | C35705D-B.DEP | N/A |
| B35501A.ADA | P | B38103B-B.ADA | P | C35705E-B.DEP | N/A |
| 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 | W | 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 | P | C35705U-B.DEP | N/A |
| B36171H-AB.ADA | P | C34001F-B.DEP | N/A | 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 | N/A |
| B37004D-B.ADA | P | C34001N-B.ADA | P | C35706D-B.DEP | N/A |
| B37004E-B.ADA | P | C34001O-B.ADA | P | C35706E-B.DEP | N/A |
| B37004F-B.ADA | P | C34001P-B.ADA | P | C35706F-B.DEP | N/A |

| | | | | | |
|---|---|---|---|---|---|
| C35706G-B.DEP | N/A | C35708G-B.DEP | N/A | C36205B.ADA | P |
| C35706H-B.DEP | N/A | C35708H-B.DEP | N/A | C36205C.ADA | P |
| C35706I-B.DEP | N/A | C35708I-B.DEP | N/A | C36205D.ADA | P |
| C35706J-B.DEP | N/A | C35708J-B.DEP | N/A | C36205E.ADA | P |
| C35706K-B.DEP | N/A | C35708K-B.DEP | N/A | C36205F.ADA | P |
| C35706L-B.DEP | N/A | C35708L-B.DEP | N/A | C36205G.ADA | P |
| C35706M-B.DEP | N/A | C35708M-B.DEP | N/A | C36205H.ADA | P |
| C35706N-B.DEP | N/A | C35708N-B.DEP | N/A | C36205I.ADA | P |
| C35706O-B.DEP | N/A | C35708O-B.DEP | N/A | C36205J.ADA | P |
| C35706P-B.DEP | N/A | C35708P-B.DEP | N/A | C36205K.ADA | P |
| C35706Q-B.DEP | N/A | C35708Q-B.DEP | N/A | C36301A-B.ADA | P |
| C35706R-B.DEP | N/A | C35708R-B.DEP | N/A | C36301B-AB.ADA | P |
| C35706S-B.DEP | N/A | C35708S-B.DEP | N/A | C36302A.ADA | P |
| C35706T-B.DEP | N/A | C35708T-B.DEP | N/A | C36303A.ADA | P |
| C35706U-B.DEP | N/A | C35708U-B.DEP | N/A | C36304A-B.ADA | P |
| C35706V-B.DEP | N/A | C35708V-B.DEP | N/A | C36305A-AB.ADA | P |
| C35706W-B.DEP | N/A | C35708W-B.DEP | N/A | C37005A.ADA | P |
| C35706X-B.DEP | N/A | C35708X-B.DEP | N/A | C37007A-AB.ADA | P |
| C35706Y-B.DEP | N/A | C35708Y-B.DEP | N/A | C37008A-B.ADA | P |
| C35707A-B.DEP | P | C35711A-B.ADA | P | C37008B-B.ADA | P |
| C35707B-B.DEP | P | C35802A-B.DEP | P | C37011A-B.ADA | P |
| C35707C-B.DEP | N/A | C35802B-B.DEP | P | C37012A-AB.ADA | P |
| C35707D-B.DEP | N/A | C35802C-B.DEP | N/A | C37013A-AB.ADA | P |
| C35707E-B.DEP | N/A | C35802D-B.DEP | N/A | C37103A-AB.ADA | P |
| C35707F-B.DEP | N/A | C35802E-B.DEP | N/A | C37105A.ADA | P |
| C35707G-B.DEP | N/A | C35802F-B.DEP | N/A | C37208A-B.ADA | P |
| C35707H-B.DEP | N/A | C35802G-B.DEP | N/A | C37208B-AB.ADA | P |
| C35707I-B.DEP | N/A | C35802H-B.DEP | N/A | C37209A.ADA | P |
| C35707J-B.DEP | N/A | C35802I-B.DEP | N/A | C37304A-AB.ADA | P |
| C35707K-B.DEP | N/A | C35802J-B.DEP | N/A | C37305A.ADA | P |
| C35707L-B.DEP | N/A | C35802K-B.DEP | N/A | C37306A.ADA | P |
| C35707M-B.DEP | N/A | C35802L-B.DEP | N/A | C37307A-AB.ADA | P |
| C35707N-B.DEP | N/A | C35802M-B.DEP | N/A | C37309A-AB.ADA | P |
| C35707O-B.DEP | N/A | C35802N-B.DEP | N/A | C37310A-AB.ADA | P |
| C35707P-B.DEP | N/A | C35802O-B.DEP | N/A | C38004A.ADA | P |
| C35707Q-B.DEP | N/A | C35802P-B.DEP | N/A | C38005A-B.ADA | P |
| C35707R-B.DEP | N/A | C35802Q-B.DEP | N/A | C38006A-B.ADA | P |
| C35707S-B.DEP | N/A | C35802R-B.DEP | N/A | C38007A-B.ADA | P |
| C35707T-B.DEP | N/A | C35802S-B.DEP | N/A | C38102A-AB.ADA | P |
| C35707U-B.DEP | N/A | C35802T-B.DEP | N/A | C38102B-B.ADA | P |
| C35707V-B.DEP | N/A | C35802U-B.DEP | N/A | C38102C-B.ADA | P |
| C35707W-B.DEP | N/A | C35802V-B.DEP | N/A | E36202A-B.ADA | P |
| C35707X-B.DEP | N/A | C35802W-B.DEP | N/A | E36202B-B.ADA | P |
| C35707Y-B.DEP | N/A | C35802X-B.DEP | N/A | E38104A-B.ADA | P |
| C35708A-B.DEP | P | C35802Y-B.DEP | N/A | | |
| C35708B-B.DEP | P | C35904A-B.ADA | W | | |
| C35708C-B.DEP | N/A | C36172A-B.ADA | P | | |
| C35708D-B.DEP | N/A | C36174A-B.ADA | P | | |
| C35708E-B.DEP | N/A | C36204A-B.ADA | P | | |
| C35708F-B.DEP | N/A | C36205A.ADA | P | | |

Chapter 4

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|---|---|---|---|---|---|
| B41101A-B.ADA | P | B45208A-AB.ADA | P | C41303F-B.ADA | P |
| B41101C-AB.ADA | P | B45208B-B.ADA | P | C41303G-B.ADA | P |
| B41102A-AB.ADA | P | B45208C-B.ADA | P | C41303I-B.ADA | P |
| B41102B-B.ADA | P | B45208G-AB.ADA | P | C41303J-B.ADA | P |
| B41102C-B.ADA | P | B45208H-B.ADA | P | C41303K-B.ADA | P |
| B41201A-B.ADA | P | B45208I-B.ADA | P | C41303M-B.ADA | P |
| B41201C.ADA | P | B45208M-AB.ADA | P | C41303N-B.ADA | P |
| B41202A-B.ADA | P | B45208N-AB.ADA | P | C41303O-B.ADA | P |
| B41202B-AB.ADA | P | B45208S-AB.ADA | P | C41303Q-B.ADA | P |
| B41202C-B.ADA | P | B45208T-AB.ADA | P | C41303R-B.ADA | P |
| B41202D-B.ADA | P | B45261A-AB.ADA | P | C41303S-B.ADA | P |
| B41302A-AB.ADA | P | B45261B-AB.ADA | P | C41303U-B.ADA | P |
| B41302B-AB.ADA | P | B45261C-AB.ADA | P | C41303V-B.ADA | P |
| B42004A-B.ADA | P | B45261D-AB.ADA | P | C41303W-B.ADA | P |
| B43101A-B.ADA | P | B45402A.ADA | P | C41304A-B.ADA | P |
| B43201A-B.ADA | P | B45522A.ADA | P | C41306A-B.ADA | P |
| B43201B-B.ADA | P | B45533A-AB.ADA | P | C41306B-B.ADA | P |
| B43201C-B.ADA | P | B48001A-B.ADA | P | C41306C-B.ADA | P |
| B43201D-B.ADA | P | B48001B-B.ADA | P | C42005A-B.ADA | P |
| B43202A-B.ADA | P | B48002A-B.ADA | P | C42006A-B.ADA | P |
| B43202B-B.ADA | P | B48002B-B.ADA | P | C43103A-B.ADA | P |
| B43202C-B.ADA | P | B48002C-B.ADA | P | C43103B-B.ADA | P |
| B43203A-B.ADA | P | B48002D-B.ADA | P | C43107A-B.ADA | P |
| B43203B-B.ADA | P | B48002E-B.ADA | P | C43205A-B.ADA | P |
| B44001A-B.ADA | P | B48002F-B.ADA | P | C43205B-B.ADA | P |
| B44002A-B.ADA | P | B48002G-B.ADA | P | C43205C-B.ADA | P |
| B44002B-B.ADA | P | B48003A-B.ADA | P | C43205D-B.ADA | P |
| B44002C.ADA | P | B48003B-B.ADA | P | C43205E-B.ADA | P |
| B45102A-AB.ADA | P | B48003C-B.ADA | P | C43205F-B.ADA | P |
| B45203A.ADA | P | B48003D-B.ADA | P | C43205G-B.ADA | P |
| B45203B-AB.ADA | P | B48003E-B.ADA | P | C43205H-B.ADA | P |
| B45205A-AB.ADA | P | B4A006A-B.ADA | P | C43205I-B.ADA | P |
| B45206A-AB.ADA | P | B4A016A.ADA | P | C43205J-B.ADA | P |
| B45206B-B.ADA | P | C41101D-B.ADA | P | C43205K-B.ADA | P |
| B45207A-AB.ADA | P | C41103A-B.ADA | P | C43206A-B.ADA | P |
| B45207B-B.ADA | P | C41103B-B.ADA | P | C43207A-B.ADA | P |
| B45207C-B.ADA | P | C41105A-B.ADA | P | C43207B-B.ADA | P |
| B45207D-B.ADA | P | C41106A-B.ADA | P | C43207C-B.ADA | P |
| B45207G-B.ADA | P | C41107A-AB.ADA | P | C43207D-B.ADA | P |
| B45207H-B.ADA | P | C41201D-B.ADA | P | C43208A-B.ADA | P |
| B45207I-B.ADA | P | C41203A-B.ADA | P | C43208B-B.ADA | P |
| B45207J-B.ADA | P | C41203B-B.ADA | P | C43210A-B.ADA | P |
| B45207M-AB.ADA | P | C41204A.ADA | P | C43211A-B.ADA | P |
| B45207N-AB.ADA | P | C41205A-B.ADA | P | C43212A-B.ADA | P |
| B45207O-AB.ADA | P | C41206A.ADA | P | C43212C-B.ADA | P |
| B45207P-B.ADA | P | C41301A-B.ADA | P | C43213A-B.ADA | P |
| B45207S-AB.ADA | P | C41303A-B.ADA | P | C43214A-B.ADA | P |
| B45207T-AB.ADA | P | C41303B-B.ADA | P | C43214B-B.ADA | P |
| B45207U-AB.ADA | P | C41303C-B.ADA | P | C43214C-B.ADA | P |
| B45207V-B.ADA | P | C41303E-B.ADA | P | C43214D-B.ADA | P |

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| C43214E-B.ADA | P | C45241X-B.DEP | N/A | C45421J-B.DEP | N/A |
| C43214F-B.ADA | P | C45241Y-B.DEP | N/A | C45421K-B.DEP | N/A |
| C43215A-B.ADA | P | C45264A-B.ADA | P | C45421L-B.DEP | N/A |
| C43215B-B.ADA | P | C45274A-AB.ADA | P | C45421M-B.DEP | N/A |
| C45101A.ADA | P | C45274B-AB.ADA | P | C45421N-B.DEP | N/A |
| C45101B.ADA | P | C45274C-AB.ADA | P | C45421O-B.DEP | N/A |
| C45101C.ADA | P | C45303A-B.ADA | P | C45421P-B.DEP | N/A |
| C45101E.ADA | P | C45321A-B.DEP | P | C45421Q-B.DEP | N/A |
| C45101G-AB.ADA | P | C45321B-B.DEP | P | C45421R-B.DEP | N/A |
| C45101H-AB.ADA | P | C45321C-B.DEP | N/A | C45421S-B.DEP | N/A |
| C45101I.ADA | P | C45321D-B.DEP | N/A | C45421T-B.DEP | N/A |
| C45103A-AB.ADA | P | C45321E-B.DEP | N/A | C45421U-B.DEP | N/A |
| C45103B-AB.ADA | P | C45321F-B.DEP | N/A | C45421V-B.DEP | N/A |
| C45103C-AB.ADA | P | C45321G-B.DEP | N/A | C45421W-B.DEP | N/A |
| C45104A.ADA | P | C45321H-B.DEP | N/A | C45421X-B.DEP | N/A |
| C45105A-AB.ADA | P | C45321I-B.DEP | N/A | C45421Y-B.DEP | N/A |
| C45105B-B.ADA | P | C45321J-B.DEP | N/A | C45424A-B.DEP | P |
| C45106A.ADA | P | C45321K-B.DEP | N/A | C45424B-B.DEP | P |
| C45201A.ADA | P | C45321L-B.DEP | N/A | C45424C-B.DEP | N/A |
| C45201B.ADA | P | C45321M-B.DEP | N/A | C45424D-B.DEP | N/A |
| C45202A-AB.ADA | P | C45321N-B.DEP | N/A | C45424E-B.DEP | N/A |
| C45210A.ADA | P | C45321O-B.DEP | N/A | C45424F-B.DEP | N/A |
| C45220A.ADA | P | C45321P-B.DEP | N/A | C45424G-B.DEP | N/A |
| C45220B.ADA | P | C45321Q-B.DEP | N/A | C45424H-B.DEP | N/A |
| C45220C.ADA | P | C45321R-B.DEP | N/A | C45424I-B.DEP | N/A |
| C45220D.ADA | P | C45321S-B.DEP | N/A | C45424J-B.DEP | N/A |
| C45220E-B.ADA | P | C45321T-B.DEP | N/A | C45424K-B.DEP | N/A |
| C45241A-B.DEP | P | C45321U-B.DEP | N/A | C45424L-B.DEP | N/A |
| C45241B-B.DEP | P | C45321V-B.DEP | N/A | C45424M-B.DEP | N/A |
| C45241C-B.DEP | N/A | C45321W-B.DEP | N/A | C45424N-B.DEP | N/A |
| C45241D-B.DEP | N/A | C45321X-B.DEP | N/A | C45424O-B.DEP | N/A |
| C45241E-B.DEP | N/A | C45321Y-B.DEP | N/A | C45424P-B.DEP | N/A |
| C45241F-B.DEP | N/A | C45342A-AB.ADA | P | C45424Q-B.DEP | N/A |
| C45241G-B.DEP | N/A | C45343A-AB.ADA | P | C45424R-B.DEP | N/A |
| C45241H-B.DEP | N/A | C45345A-AB.ADA | P | C45424S-B.DEP | N/A |
| C45241I-B.DEP | N/A | C45345B-AB.ADA | P | C45424T-B.DEP | N/A |
| C45241J-B.DEP | N/A | C45345C-AB.ADA | P | C45424U-B.DEP | N/A |
| C45241K-B.DEP | N/A | C45345D-AB.ADA | P | C45424V-B.DEP | N/A |
| C45241L-B.DEP | N/A | C45401A.ADA | P | C45424W-B.DEP | N/A |
| C45241M-B.DEP | N/A | C45401B-AB.ADA | P | C45424X-B.DEP | N/A |
| C45241N-B.DEP | N/A | C45413A-B.ADA | P | C45424Y-B.DEP | N/A |
| C45241O-B.DEP | N/A | C45421A-B.DEP | P | C45505A-B.ADA | P |
| C45241P-B.DEP | N/A | C45421B-B.DEP | P | C45521A-B.DEP | W |
| C45241Q-B.DEP | N/A | C45421C-B.DEP | N/A | C45521B-B.DEP | W |
| C45241R-B.DEP | N/A | C45421D-B.DEP | N/A | C45521C-B.DEP | W |
| C45241S-B.DEP | N/A | C45421E-B.DEP | N/A | C45521D-B.DEP | W |
| C45241T-B.DEP | N/A | C45421F-B.DEP | N/A | C45521E-B.DEP | W |
| C45241U-B.DEP | N/A | C45421G-B.DEP | N/A | C45521F-B.DEP | W |
| C45241V-B.DEP | N/A | C45421H-B.DEP | N/A | C45521G-B.DEP | W |
| C45241W-B.DEP | N/A | C45421I-B.DEP | N/A | C45521H-B.DEP | W |

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| C45521I-B.DEP | W | C45621L.DEP | N/A | C48008A-B.ADA | P |
| C45521J-B.DEP | W | C45621M.DEP | N/A | C48008B-B.ADA | P |
| C45521K-B.DEP | W | C45621N.DEP | N/A | C48008C-B.ADA | P |
| C45521L-B.DEP | W | C45621O.DEP | N/A | C48008D-B.ADA | P |
| C45521M-B.DEP | W | C45621P.DEP | N/A | C48009A-B.ADA | P |
| C45521N-B.DEP | W | C45621Q.DEP | N/A | C48009B-B.ADA | P |
| C45521O-B.DEP | W | C45621R.DEP | N/A | C48009C-B.ADA | P |
| C45521P-B.DEP | W | C45621S.DEP | N/A | C48009D-B.ADA | P |
| C45521Q-B.DEP | W | C45621T.DEP | N/A | C48009E-B.ADA | P |
| C45521R-B.DEP | W | C45621U.DEP | N/A | C48009F-B.ADA | P |
| C45521S-B.DEP | W | C45621V.DEP | N/A | C48009G-B.ADA | P |
| C45521T-B.DEP | W | C45621W.DEP | N/A | C48009H-B.ADA | P |
| C45521U-B.DEP | W | C45621X.DEP | N/A | C48009I-B.ADA | P |
| C45521V-B.DEP | W | C45621Y.DEP | N/A | C48009J-B.ADA | P |
| C45521W-B.DEP | W | C45621Z.DEP | N/A | C48010A-B.ADA | P |
| C45521X-B.DEP | W | C48004A-B.ADA | P | C48012A-B.ADA | P |
| C45521Y-B.DEP | W | C48004B-B.ADA | P | C4A001A.ADA | P |
| C45526A-B.ADA | P | C48004C-B.ADA | P | C4A003A.ADA | P |
| C45621A.DEP | P | C48004D-B.ADA | P | C4A010A-B.ADA | P |
| C45621B.DEP | P | C48004E-B.ADA | P | C4A011A.ADA | P |
| C45621C.DEP | N/A | C48004F-B.ADA | P | C4A013A.ADA | P |
| C45621D.DEP | N/A | C48005A-B.ADA | P | D4A002A-AB.ADA | P |
| C45621E.DEP | N/A | C48005B-B.ADA | P | D4A002B.ADA | P |
| C45621F.DEP | N/A | C48005C-B.ADA | W | D4A004A-AB.ADA | P |
| C45621G.DEP | N/A | C48006A-B.ADA | P | D4A004B.ADA | P |
| C45621H.DEP | N/A | C48006B-B.ADA | W | E43211B-B.ADA | P |
| C45621I.DEP | N/A | C48007A-B.ADA | P | E43212B-B.ADA | P |
| C45621J.DEP | N/A | C48007B-B.ADA | P | | |
| C45621K.DEP | N/A | C48007C-B.ADA | P | | |

Chapter 5

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|---|---|---|---|---|---|
| A54B01A-B.ADA | P | B54A21A-B.ADA | P | B57001A-AB.ADA | P |
| A54B02A-B.ADA | P | B54A25A-B.ADA | P | B57001B-B.ADA | P |
| 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 |
| B52004C-AB.ADA | P | B55A01J-AB.ADA | P | C52001B-AB.ADA | P |
| B52004D-AB.DEP | P | 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 | P |
| 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 | P | C52012A-AB.ADA | P |
| B54A01E-AB.ADA | P | B55B09D-AB.DEP | P | C52012B-AB.ADA | P |
| B54A01F-AB.ADA | P | B55B12B-B.ADA | P | C52013A-B.ADA | P |
| B54A01G-AB.ADA | P | B55B12C-AB.ADA | P | C52101A-AB.ADA | P |
| B54A01H-AB.ADA | P | B55B14B-B.ADA | P | C52102A-AB.ADA | P |
| B54A01I-AB.ADA | P | B55B18A-B.ADA | P | C52102B-AB.ADA | P |
| B54A01J-AB.ADA | P | B56001A-AB.ADA | P | C52102C-AB.ADA | P |
| B54A01K-AB.ADA | P | B56001C-AB.ADA | P | C52102D-AB.ADA | P |
| B54A01L-AB.ADA | P | B56001D-AB.ADA | P | C52103A-AB.ADA | P |
| B54A05A.ADA | P | B56001E-AB.ADA | P | C52103B-AB.ADA | P |
| B54A05B.ADA | P | B56001F-AB.ADA | P | C52103C-AB.ADA | P |
| B54A08A-B.ADA | P | B56001G-AB.ADA | P | C52103F-AB.ADA | P |
| B54A20A.ADA | P | B56001H-AB.ADA | P | C52103G-AB.ADA | P |

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| C52103H-AB.ADA | P | C54A07A-AB.ADA | P | C57002A-AB.ADA | P |
| C52103K-AB.ADA | P | C54A22A-AB.ADA | P | C57003A-AB.ADA | P |
| C52103L-AB.ADA | P | C54A23A-B.ADA | P | C57004A-AB.ADA | P |
| C52103M-AB.ADA | P | C54A24A-AB.ADA | P | C57004B-AB.ADA | P |
| C52103P-AB.ADA | P | C54A24B.ADA | P | C57004C-AB.ADA | P |
| C52103Q-AB.ADA | P | C54A26A.ADA | P | C57005A-B.ADA | P |
| C52103R-AB.ADA | P | C54A27A-AB.ADA | P | C58004A-AB.ADA | P |
| C52103S-B.ADA | P | C54A41A.ADA | P | C58004B-AB.ADA | P |
| C52103X-B.ADA | P | C54A42A.ADA | P | C58004C-AB.ADA | P |
| C52104A-AB.ADA | P | C54A42B.ADA | P | C58004D-B.ADA | P |
| C52104B-AB.ADA | P | C54A42C.ADA | P | C58004F-AB.ADA | P |
| C52104C-AB.ADA | P | C54A42D.ADA | P | C58004G-AB.ADA | P |
| C52104F-AB.ADA | P | C54A42E.ADA | P | C58005A-AB.ADA | P |
| C52104G-AB.ADA | P | C54A42F.ADA | P | C58005B-AB.ADA | P |
| C52104H-AB.ADA | P | C54A42G.ADA | P | C58005H-AB.ADA | P |
| C52104K-AB.ADA | P | C55B03A-AB.ADA | P | C58006A-AB.ADA | P |
| C52104L-AB.ADA | P | C55B04A-AB.ADA | P | C58006B-AB.ADA | P |
| C52104M-AB.ADA | P | C55B05A-AB.ADA | P | C59001B-AB.ADA | P |
| C52104P-AB.ADA | P | C55B06A-AB.ADA | P | C59002A-AB.ADA | P |
| C52104Q-AB.ADA | P | C55B06B-AB.ADA | P | C59002B-AB.ADA | P |
| C52104R-AB.ADA | P | C55B07A-AB.DEP | P | C59002C-B.ADA | P |
| C52104X-B.ADA | P | C55B07B-AB.DEP | P | D55A03A-AB.ADA | P |
| C52104Y-B.ADA | P | C55B08A-B.ADA | P | D55A03B-AB.ADA | P |
| C53004B-B.ADA | P | C55B09A-AB.ADA | P | D55A03C-AB.ADA | P |
| C53005A-AB.ADA | P | C55B15A-B.ADA | P | D55A03D-AB.ADA | P |
| C53005B-AB.ADA | P | C55B16A-AB.DEP | N/A | D55A03E-AB.ADA | P |
| C53006A-AB.ADA | P | C55C01A-B.ADA | P | D55A03F-AB.ADA | N/A |
| C53006B-AB.ADA | P | C55C02A-AB.ADA | P | D55A03G-AB.ADA | N/A |
| C53007A-AB.ADA | P | C55C02B-AB.ADA | P | D55A03H-AB.ADA | N/A |
| C53008A-AB.ADA | P | C55C03A-AB.ADA | P | D56001B-AB.ADA | P |
| C54A03A.ADA | P | C55C03B-AB.ADA | P | E52103Y-B.ADA | P |
| C54A04A-AB.ADA | P | C55D01A-AB.ADA | P | | |
| C54A06A-AB.ADA | P | C56002A-AB.ADA | P | | |

Chapter 6

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|---|---|---|---|---|---|
| A62006D-B.ADA | P | B63102A-B.ADA | P | C64103B-B.ADA | P |
| A63202A-AB.ADA | P | B63103A-B.ADA | P | C64103C-B.ADA | W |
| B61001A-AB.ADA | P | B64001A-B.ADA | P | C64103D-B.ADA | W |
| B61001B-AB.ADA | P | B64002A-B.ADA | P | C64103E-B.ADA | P |
| B61001C-AB.ADA | P | B64002C-B.ADA | P | C64103F-B.ADA | P |
| B61001D-AB.ADA | P | B64003A-B.ADA | P | C64104A-AB.ADA | P |
| B61001E-AB.ADA | P | B64004A-B.ADA | P | C64104B-AB.ADA | P |
| B61001F-AB.ADA | P | B64004B-B.ADA | P | C64104C-AB.ADA | P |
| B61001G-AB.ADA | P | B64004C-B.ADA | P | C64104D-AB.ADA | P |
| B61001H-AB.ADA | P | B64004D-B.ADA | P | C64104E-AB.ADA | P |
| B61001I-AB.ADA | P | B64004E-B.ADA | P | C64104F-AB.ADA | P |
| B61001J-AB.ADA | P | B64004F-B.ADA | P | C64104G-AB.ADA | P |
| B61001K-AB.ADA | P | B64006A-B.ADA | P | C64104H-B.ADA | P |
| B61001L-AB.ADA | P | B64101A-B.ADA | P | C64104I-B.ADA | P |
| B61001M-AB.ADA | P | B64201A-B.ADA | P | C64104J-B.ADA | P |
| B61001N-AB.ADA | P | B65001A-B.ADA | P | C64104K-AB.ADA | P |
| B61001O-AB.ADA | P | B65002A-AB.ADA | P | C64104L-AB.ADA | P |
| B61001P-AB.ADA | P | B65002B-AB.ADA | P | C64104M-AB.ADA | P |
| B61001Q-AB.ADA | P | B66001A-B.ADA | W | C64104N-B.ADA | P |
| B61001R-AB.ADA | P | B66001B-B.ADA | P | C64104O-B.ADA | P |
| B61001S-AB.ADA | P | B66001C-B.ADA | P | C64105A-AB.ADA | P |
| B61001T-AB.ADA | P | B67001A-B.ADA | W | C64105B-AB.ADA | P |
| B61001U-AB.ADA | P | B67001B-B.ADA | P | C64105C-AB.ADA | P |
| B61001V-AB.ADA | P | B67001C-B.ADA | P | C64105D-AB.ADA | P |
| B61001W-AB.ADA | P | B67001D-B.ADA | P | C64105E-AB.ADA | W |
| B61003A-AB.ADA | P | B67001E-B.ADA | P | C64105F-AB.ADA | W |
| B61006A-B.ADA | P | B67001F-B.ADA | P | C64106A-B.ADA | P |
| B61011A-B.ADA | P | B67001G-B.ADA | P | C64106B-B.ADA | P |
| B61012A-B.ADA | P | B67004A-B.ADA | W | C64106C-B.ADA | P |
| B62001A-AB.ADA | P | C61003B-AB.ADA | P | C64106D-B.ADA | P |
| B62001B-AB.ADA | P | C61008A-B.ADA | P | C64107A-B.ADA | P |
| B62001C-AB.ADA | P | C61009A-B.ADA | P | C64108A-B.ADA | P |
| B62001D-AB.ADA | P | C61010A-AB.ADA | P | C64201B-B.ADA | P |
| B62006B-B.ADA | P | C62002A-B.ADA | P | C64201C-B.ADA | P |
| B62006C-B.ADA | P | C62003A-B.ADA | P | C64202A-B.ADA | P |
| B62006E-B.ADA | P | C62003B-B.ADA | P | C65003A-B.ADA | P |
| B62006F-B.ADA | P | C62004A-AB.ADA | P | C65003B-B.ADA | P |
| B63001A-AB.ADA | P | C62006A-B.ADA | P | C66002A-B.ADA | P |
| B63001B-AB.ADA | P | C63004A-AB.ADA | P | C66002C-AB.ADA | P |
| B63005A-AB.ADA | P | C64002B-B.ADA | P | C66002D-AB.ADA | P |
| B63005B-AB.ADA | P | C64004G-B.ADA | P | C66002E-AB.ADA | P |
| B63005C-AB.ADA | P | C64005A-B.ADA | P | C66002F-AB.ADA | P |
| B63009A-B.ADA | P | C64005B-B.ADA | P | C66002G-B.ADA | P |
| B63009B-B.ADA | P | C64005C-B.ADA | P | C67002A-B.ADA | P |
| B63009C-B.ADA | P | C64005D-B.ADA | P | C67002B-B.ADA | P |
| B63009C0 | C | C64005D0M | C | C67002C-B.ADA | P |
| B63009C1 | C | C64005DA | C | C67002D-B.ADA | P |
| B63009C2 | C | C64005DB | C | C67002E-B.ADA | P |
| B63009C3 | C | C64005DC | C | C67003A-B.ADA | P |
| B63010A-AB.ADA | P | C64103A-B.ADA | P | C67003B-B.ADA | P |

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|---|---|---|---|---|---|
| C67003C-AB.ADA | P | D64005FOM | C | D64005GD | C |
| C67003D-B.ADA | P | D64005FA | C | D64005GE | C |
| C67003E-AB.ADA | P | D64005FB | C | D64005GF | C |
| C67005A-B.ADA | P | D64005FC | C | D64005GG | C |
| C67005B-B.ADA | P | D64005FD | C | D64005GH | C |
| C67005C-B.ADA | P | D64005FE | C | D64005GI | C |
| C67005D-B.ADA | P | D64005FF | C | D64005GJ | C |
| D64005E-B.ADA | P | D64005FG | C | D64005GK | C |
| D64005EOM | C | D64005FH | C | D64005GL | C |
| D64005EA | C | D64005FI | C | D64005GM | C |
| D64005EB | C | D64005FJ | C | D64005GN | C |
| D64005EC | C | D64005G-B.ADA | P | D64005GO | C |
| D64005ED | C | D64005GOM | C | D64005GP | C |
| D64005EE | C | D64005GA | C | D64005GQ | C |
| D64005EF | C | D64005GB | C | | |
| D64005F-B.ADA | P | D64005GC | C | | |

Chapter 7

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|---|---|---|---|---|---|
| A71002A-AB.ADA | P | B71001Q-AB.ADA | P | B74105A-B.ADA | P |
| A71004A-AB.ADA | P | B71001R-AB.ADA | P | B74105C-B.ADA | P |
| A72001A-AB.ADA | P | B71001T-AB.ADA | P | B74201A-AB.ADA | P |
| A73001I-AB.ADA | P | B71001U-AB.ADA | P | B74205A-B.ADA | P |
| A73001J-AB.ADA | P | B71001V-AB.ADA | P | B74205B-B.ADA | P |
| A74006A-AB.ADA | P | B71001W-AB.ADA | P | B74207A-B.ADA | W |
| A74105B-B.ADA | P | B71002B-AB.ADA | P | B74301A-B.ADA | P |
| A74106A-AB.ADA | P | B73001A-AB.ADA | P | B74304A-B.ADA | P |
| A74106B-AB.ADA | P | B73001B-AB.ADA | P | B74304B-B.ADA | P |
| A74106C-AB.ADA | P | B73001C-B.ADA | P | B74304C-B.ADA | P |
| A74205E-B.ADA | P | B73001D-B.ADA | P | B74401A-B.ADA | P |
| A74205F-B.ADA | P | B73001E-AB.ADA | P | B74401B-B.ADA | P |
| B71001A-AB.ADA | P | B73001F-AB.ADA | P | B74409A-B.ADA | P |
| B71001B-AB.ADA | P | B73001G-B.ADA | P | C72001B-AB.ADA | P |
| B71001C-AB.ADA | P | B73001H-B.ADA | P | C73002A-B.ADA | P |
| B71001D-AB.ADA | P | B73006A-AB.ADA | P | C74206A-B.ADA | P |
| B71001E-AB.ADA | P | B74001A-AB.ADA | P | C74207B-B.ADA | P |
| B71001F-AB.ADA | P | B74001B-AB.ADA | P | C74209A-AB.ADA | P |
| B71001G-AB.ADA | P | B74003A-B.ADA | P | C74210A-AB.ADA | P |
| B71001H-AB.ADA | P | B74101A-B.ADA | P | C74211A-B.ADA | P |
| B71001I-AB.ADA | P | B74103A-B.ADA | P | C74211B-B.ADA | P |
| B71001J-AB.ADA | P | B74103B-B.ADA | P | C74302A-B.ADA | P |
| B71001K-AB.ADA | P | B74103C-B.ADA | P | C74305A-B.ADA | P |
| B71001L-AB.ADA | P | B74103D-B.ADA | P | C74305B-B.ADA | P |
| B71001M-AB.ADA | P | B74103E-B.ADA | P | C74402A-B.ADA | P |
| B71001N-AB.ADA | P | B74103F-B.ADA | W | C74402B-B.ADA | P |
| B71001O-AB.ADA | P | B74103G-B.ADA | P | C74409B-B.ADA | P |
| B71001P-AB.ADA | P | B74104A-B.ADA | P | | |

CHAPTER 8

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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 | N/A | 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 | P | C87B04B-B.ADA | P |
| B83A01A-AB.ADA | P | B86001DOM-AB.TST | P | C87B04C-B.ADA | P |
| B83A01B-B.ADA | P | B86001DT-AB.TST | N/A | C87B05A-B.ADA | P |
| B83A01C.ADA | P | B87B23B-B.ADA | P | 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 |
| B83B01A-AB.ADA | P | C83C01B.ADA | P | C87B07D-B.ADA | P |
| B83B02C.ADA | P | C83E02A.ADA | P | C87B07E-B.ADA | P |
| B83C01A-AB.ADA | P | C83E02B.ADA | P | C87B08A-B.ADA | P |
| 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 | P |
| 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 | C83F01DOM.ADA | C | C87B14C-B.ADA | P |
| B85007C-B.ADA | P | C83F01D1.ADA | 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 |
| B86001BOM-B.ADA | P | C83F03D.ADA | P | C87B23A-B.ADA | P |
| B86001BA-B.ADA | P | C83F03DOM | 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 |
| B86001BJ-B.ADA | P | C86002A0 | C | C87B33A-B.ADA | P |

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| C87B34A-B.ADA | P | C87B37E-B.ADA | P | C87B45C-B.ADA | P |
| C87B34B-B.ADA | P | C87B37F-B.ADA | P | C87B47A-B.ADA | P |
| C87B34C-B.ADA | P | C87B38A-B.ADA | P | C87B48A-B.ADA | P |
| 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 | N/A |
| C87B37B-B.ADA | P | C87B43A-B.ADA | P | C87B62B-B.DEP | N/A |
| C87B37C-B.ADA | P | C87B44A-B.ADA | P | C87B62C-B.DEP | N/A |
| C87B37D-B.ADA | P | C87B45A-B.ADA | P | | |

Chapter 9

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|---|---|---|---|---|---|
| A91002M-B.ADA | P | B950ADA-B.ADA | P | C910BDA-B.ADA | P |
| A95005A.ADA | P | B950AFA-B.ADA | P | C910BDB-B.ADA | P |
| A97106A-AB.ADA | P | B950AHA-B.ADA | P | C910BDC-B.ADA | P |
| B91001A-AB.ADA | P | B950AJA-B.ADA | P | C92002A.ADA | P |
| B91001B-AB.ADA | P | B950BAA-B.ADA | P | C92003A.ADA | P |
| B91001C-AB.ADA | P | B950DHA-B.ADA | P | C920AJA-B.ADA | P |
| B91001D-AB.ADA | P | B96002A-B.ADA | P | C920BAA-B.ADA | P |
| B91001E-AB.ADA | P | B96003A-B.ADA | P | C920BBA-B.ADA | P |
| B91001F-AB.ADA | P | B97101A-AB.ADA | P | C920BIA-B.ADA | P |
| B91001G-B.ADA | P | B97101B-AB.ADA | P | C93001A-B.ADA | P |
| B91002A-B.ADA | P | B97101C-AB.ADA | P | C93002A-B.ADA | P |
| B91002B-B.ADA | P | B97101D-AB.ADA | P | C93003A-B.ADA | P |
| B91002C-B.ADA | P | B97101E-AB.ADA | P | C93005A-B.ADA | W |
| B91002D-B.ADA | P | B97102A-AB.ADA | P | C93005B-B.ADA | W |
| B91002E-B.ADA | P | B97102B-AB.ADA | P | C93005C-B.ADA | W |
| B91002F-B.ADA | P | B97102C-AB.ADA | P | C93006A-AB.ADA | P |
| B91002G-B.ADA | P | B97102D-AB.ADA | P | C93007B-B.ADA | W |
| B91002H-B.ADA | P | B97102E-AB.ADA | P | C930ABA-B.ADA | P |
| B91002I-B.ADA | P | B97102F-AB.ADA | P | C930AEA-B.ADA | P |
| B91002J-B.ADA | P | B97102G-AB.ADA | P | C930AFA-B.ADA | P |
| B91002K-B.ADA | P | B97102H-AB.ADA | P | C930AJA-B.ADA | P |
| B91002L-B.ADA | P | B97102I-AB.ADA | P | C930BAA-B.ADA | P |
| B91003A-AB.ADA | P | B97103A-AB.ADA | P | C94001A-B.ADA | P |
| B91004A-B.ADA | P | B97103B-AB.ADA | P | C94002A-B.ADA | P |
| B910ABA-B.ADA | P | B97103D-AB.ADA | P | C94002B-B.ADA | P |
| B910ACA-B.ADA | P | B97103E-AB.ADA | P | C94003A-B.ADA | P |
| B910AEA-B.ADA | P | B97104A-AB.ADA | P | C94004A-B.ADA | P |
| B910BCA-B.ADA | P | B97104B-AB.ADA | P | C94004B-B.ADA | P |
| B920ACA-B.ADA | P | B97104C-AB.ADA | P | C94004C-B.ADA | P |
| B920BDA-B.ADA | P | B97104D-AB.ADA | P | C94005A-B.ADA | P |
| B920BJA-B.ADA | P | B97104E-AB.ADA | P | C94005B-B.ADA | P |
| B95001A.ADA | P | B97104F-AB.ADA | P | C94006A-B.ADA | P |
| B95001B-AB.ADA | P | B97104G-AB.ADA | P | C94007A-B.ADA | P |
| B95002A.ADA | P | B97107A-AB.ADA | P | C94007B-B.ADA | P |
| B95004A-AB.ADA | P | B97108A-AB.ADA | P | C94020A-B.ADA | P |
| B95004B-AB.ADA | P | B97108B-AB.ADA | P | C94021A-B.ADA | P |
| B95006A.ADA | P | B97109A-AB.ADA | P | C940ABA-B.ADA | P |
| B95006B-AB.ADA | P | B97110A-AB.ADA | P | C940ACA-B.ADA | P |
| B95006C-AB.ADA | P | B97110B-AB.ADA | P | C940ACB-B.ADA | P |
| B95006D-AB.ADA | P | B97111A-AB.ADA | P | C940ADA-B.ADA | P |
| B95007A-AB.ADA | P | B99001A-AB.ADA | P | C940AGA-B.ADA | P |
| B95007B-AB.ADA | P | B99001B-B.ADA | P | C940AGB-B.ADA | P |
| B95020A-B.ADA | P | B99002A-B.ADA | P | C940AHA-B.ADA | P |
| B95020B-B.ADA | P | B99002B-B.ADA | P | C940AIA-B.ADA | P |
| B95020B0 | C | B99002C-B.ADA | P | C940BAA-B.ADA | P |
| B95020B1 | C | B99003A-AB.ADA | P | C940BBA-B.ADA | P |
| B95020B2M | C | B9A001A-AB.ADA | P | C95008A-AB.ADA | P |
| B950ABA-B.ADA | P | B9A001B-AB.ADA | P | C95009A-B.ADA | P |
| B950ABB-B.ADA | P | C900ACA-B.ADA | P | C95009B.ADA | P |
| B950ACA-B.ADA | P | C910AHA-B.ADA | P | C95010A.ADA | P |

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|---|---|---|---|---|---|
| C95011A.ADA | P | C96005A-B.ADA | P | C97203A-AB.ADA | P |
| C95012A-B.ADA | P | C96005B-B.TST | P | C97203B-AB.ADA | P |
| C95013A-B.ADA | P | C96005C-B.TST | P | C97204A-B.ADA | P |
| C95021A-B.ADA | P | C96005D-B.ADA | P | C97303A-AB.ADA | P |
| C95022A-B.ADA | P | C96005E-B.ADA | P | C97303B-AB.ADA | P |
| C95022B-B.ADA | P | C96006A-B.ADA | P | C97304A-B.ADA | P |
| C950ACB-B.ADA | P | C96007A-B.ADA | P | C9A003A-B.ADA | P |
| C950BGA-B.ADA | P | C96008A-B.ADA | P | C9A004A-B.ADA | P |
| C950BHA-B.ADA | P | C96008B-B.ADA | P | C9A005A-B.ADA | P |
| C950BJA-B.ADA | P | C97113A-B.ADA | P | C9A006A-B.ADA | P |
| C950CAA-B.ADA | P | C97114A-B.ADA | P | C9A007A-B.ADA | P |
| C950CBA-B.ADA | P | C97115A-B.ADA | P | C9A009A-B.ADA | P |
| C950CHA-B.ADA | P | C97201A-AB.ADA | P | C9A009B-B.ADA | P |
| C950CHC-B.ADA | P | C97201D-AB.ADA | P | C9A009C-B.ADA | P |
| C950DEA-B.ADA | P | C97201E-AB.ADA | P | C9A009D-B.ADA | P |
| C950DEB-B.ADA | P | C97201G-AB.ADA | P | C9A009E-B.ADA | P |
| C950DGA-B.ADA | P | C97201H-AB.ADA | P | C9A009F-B.ADA | P |
| C96001A-B.ADA | P | C97201X-AB.ADA | P | C9A009G-B.ADA | P |
| C96004A-B.ADA | P | C97202A-AB.ADA | P | C9A009H-B.ADA | P |

Chapter 10

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|---|---|---|---|---|---|
| BA1011B-B.ADA | P | BA1101B3 | C | BA3001E-AB.ADA | P |
| BA1011B0M | C | BA1101B4 | C | BA3001E0M | C |
| BA1011B1 | C | BA1101C-B.ADA | P | BA3001E1 | C |
| BA1011B2 | C | BA1101C0 | C | BA3001E2 | C |
| BA1011B3 | C | BA1101C1 | C | BA3001E3 | C |
| BA1011B4 | C | BA1101C2M | C | BA3001F-AB.ADA | P |
| BA1011B5 | C | BA1101C3 | C | BA3001F0M | C |
| BA1011B6 | C | BA1101C4 | C | BA3001F1 | C |
| BA1011B7 | C | BA1101C5 | C | BA3001F2 | C |
| BA1011B8 | C | BA1101D-AB.ADA | P | BA3001F3 | C |
| BA1011C-B.ADA | P | BA1101E-B.ADA | P | BA3006A-B.ADA | P |
| BA1011C0M | C | BA1101F-B.ADA | P | BA3006A0 | C |
| BA1011C1 | C | BA1101G-B.ADA | P | BA3006A1 | C |
| BA1011C2 | C | BA1101H-B.ADA | P | BA3006A2 | C |
| BA1011C3 | C | BA1101H0 | C | BA3006A3 | C |
| BA1011C4 | C | BA1101H1M | C | BA3006A4 | C |
| BA1011C5 | C | BA2001A-AB.ADA | P | BA3006A5 | C |
| BA1011C6 | C | BA2001B-AB.ADA | P | BA3006A6M | C |
| BA1011C7 | C | BA2001C-AB.ADA | P | BA3006B-B.ADA | P |
| BA1011C8 | C | BA2001D-AB.ADA | P | BA3006B0 | C |
| BA1020A-B.ADA | P | BA2001E-AB.ADA | W | BA3006B1 | C |
| BA1020A0M | C | BA2001E0M | W | BA3006B2 | C |
| BA1020A1 | C | BA2001E1 | W | BA3006B3 | C |
| BA1020A2 | C | BA2001E2 | W | BA3006B4M | C |
| BA1020A3 | C | BA2001F-AB.ADA | P | BA3007A-B.ADA | P |
| BA1020A4 | C | BA2001F0M | C | BA3007A0 | C |
| BA1020A5 | C | BA2001F1 | C | BA3007A1 | C |
| BA1020A6 | C | BA2001F2 | C | BA3007A2 | C |
| BA1020A7 | C | BA2001G-AB.ADA | P | BA3007A3 | C |
| BA1020A8 | C | BA2001G0M | C | BA3007A4 | C |
| BA1020B-B.ADA | P | BA2001G1 | C | BA3007A5M | C |
| BA1020B0 | C | BA2003B-AB.ADA | P | BA3007B-B.ADA | P |
| BA1020B1 | C | BA2003B0M | C | BA3007B0 | C |
| BA1020B2 | C | BA2003B1 | C | BA3007B1 | C |
| BA1020B3 | C | BA2013A-B.ADA | P | BA3007B2 | C |
| BA1020B4 | C | BA2013B-B.ADA | P | BA3007B3 | C |
| BA1020B5 | C | BA3001A-AB.ADA | P | BA3007B4 | C |
| BA1020B6M | C | BA3001A0M | C | BA3007B5 | C |
| BA1020C-B.ADA | P | BA3001A1 | C | BA3007B6 | C |
| BA1020C0M | C | BA3001A2 | C | BA3007B7 | C |
| BA1020C1 | C | BA3001A3 | C | BA3007B8M | C |
| BA1020C2 | C | BA3001B.ADA | P | BA3008A-B.ADA | P |
| BA1020C3 | C | BA3001B0M | C | BA3008A0 | C |
| BA1020C4 | C | BA3001B1 | C | BA3008A1 | C |
| BA1020C5 | C | BA3001C-AB.ADA | P | BA3008A2 | C |
| BA1101A-AB.ADA | P | BA3001C0M | C | BA3008A3 | C |
| BA1101B-B.ADA | P | BA3001C1 | C | BA3008A4 | C |
| BA1101B0M | C | BA3001D-AB.ADA | P | BA3008A5M | C |
| BA1101B1 | C | BA3001D0M | C | BA3008B-B.ADA | P |
| BA1101B2 | C | BA3001D1 | C | BA3008B0 | C |

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|---|---|---|---|---|---|
| BA3008B1 | C | CA1011A6M | W | CA1108A-B.ADA | W |
| BA3008B2 | C | CA1012A-B.DEP | P | CA1108B-B.ADA | W |
| BA3008B3 | C | CA1012A0 | C | CA2001H-B.ADA | P |
| BA3008B4 | C | CA1012A1 | C | CA2001H0 | C |
| BA3008B5 | C | CA1012A2 | C | CA2001H1 | C |
| BA3008B6M | C | CA1012A3 | C | CA2001H2 | C |
| BA3013A-B.ADA | P | CA1012A4M | C | CA2001H3M | C |
| BA3013A0 | C | CA1012B-B.ADA | P | CA2002A-B.ADA | P |
| BA3013A1 | C | CA1012B0 | C | CA2002A0M | C |
| BA3013A2 | C | CA1012B2 | C | CA2002A1 | C |
| BA3013A3 | C | CA1012B4M | C | CA2002A2 | C |
| BA3013A4 | C | CA1013A-B.ADA | P | CA2003A-AB.ADA | P |
| BA3013A5 | C | CA1013A0 | C | CA2003A0M | C |
| BA3013A6 | C | CA1013A1 | C | CA2003A1 | C |
| BA3013A7M | C | CA1013A2 | C | CA2004A-AB.ADA | P |
| CA1002A-B.ADA | P | CA1013A3 | C | CA2004A0M | C |
| CA1002A0 | C | CA1013A4 | C | CA2004A1 | C |
| CA1002A1 | C | CA1013A5 | C | CA2004A2 | C |
| CA1002A2 | C | CA1013A6M | C | CA2004A3 | C |
| CA1002A3M | C | CA1014A-AB.ADA | P | CA2004A4 | C |
| CA1002A4 | C | CA1014A0M | C | CA2007A-AB.ADA | P |
| CA1002A5 | C | CA1014A1 | C | CA2007A0M | C |
| CA1002A6 | C | CA1014A2 | C | CA2007A1 | C |
| CA1002A7 | C | CA1014A3 | C | CA2007A2 | C |
| CA1002A8 | C | CA1022A-B.ADA | P | CA2007A3 | C |
| CA1002A9 | C | CA1022A0 | C | CA2008A-B.ADA | P |
| CA1003A-AB.ADA | P | CA1022A1 | C | CA2008A0M | C |
| CA1003B-AB.ADA | W | CA1022A2 | C | CA2008A1 | C |
| CA1004A-AB.ADA | P | CA1022A3 | C | CA2008A2 | C |
| CA1005A-AB.ADA | P | CA1022A4 | C | CA2009A-B.DEP | P |
| CA1006A-AB.ADA | P | CA1022A5 | C | CA2009B-B.DEP | W |
| CA1007A-AB.ADA | P | CA1022A6M | C | CA2009C-B.DEP | N/A |
| CA1007A0 | C | CA1102A-B.ADA | P | CA2009C0M | C |
| CA1007A1M | C | CA1102A0 | C | CA2009C1 | C |
| CA1008A-AB.ADA | P | CA1102A1 | C | CA2009D-B.DEP | P |
| CA1008A0 | C | CA1102A2M | C | CA2009E-B.DEP | W |
| CA1008A1M | C | CA1105A-B.ADA | P | CA2009F-B.DEP | W |
| CA1009A-AB.ADA | P | CA1105A0 | C | CA2009F0M | W |
| CA1009A0 | C | CA1105A1M | C | CA2009F1 | W |
| CA1009A1 | C | CA1105B-B.ADA | P | CA3002A-B.ADA | P |
| CA1009A2 | C | CA1105B0 | C | CA3002A0 | C |
| CA1009A3 | C | CA1105B1 | C | CA3002A1 | C |
| CA1009A4M | C | CA1105B2 | C | CA3002A2M | C |
| CA1011A-B.ADA | W | CA1105B3M | C | CA3002A3 | C |
| CA1011A0 | W | CA1105B4 | C | CA3006C-B.ADA | P |
| CA1011A1 | W | CA1105B5 | C | CA3006C0 | C |
| CA1011A2 | W | CA1107A.ADA | P | CA3006C1 | C |
| CA1011A3 | W | CA1107A0 | C | CA3006C2 | C |
| CA1011A4 | W | CA1107A1M | C | CA3006C3 | C |
| CA1011A5 | W | CA1107A2 | C | CA3006C4 | C |

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|---|---|---|---|---|---|
| CA3006C5M | C | CA5002B6 | C | LA3004A2 | C |
| CA3006D-B.ADA | P | CA5002B7M | C | LA3004A3 | C |
| CA3006D0 | C | CA5003A-B.ADA | P | LA3004A4 | C |
| CA3006D1 | C | CA5003A0 | C | LA3004A5 | C |
| CA3006D2 | C | CA5003A1 | C | LA3004A6M | C |
| CA3006D3M | C | CA5003A2 | C | LA3004B-B.ADA | N/A |
| CA3006E-B.ADA | P | CA5003A3 | C | LA3004B0 | C |
| CA3006E0 | C | CA5003A4 | C | LA3004B1 | C |
| CA3006E1 | C | CA5003A5 | C | LA3004B2 | C |
| CA3006E2 | C | CA5003A6M | C | LA3004B3 | C |
| CA3006E3 | C | CA5003B-B.ADA | P | LA3004B4 | C |
| CA3006E4 | C | CA5003B0 | C | LA3004B5 | C |
| CA3006E5 | C | CA5003B1 | C | LA3004B6M | C |
| CA3006E6M | C | CA5003B2 | C | LA5001A-B.ADA | P |
| CA5002A-B.ADA | P | CA5003B3 | C | LA5001A0 | C |
| CA5002B-B.ADA | P | CA5003B4 | C | LA5001A1 | C |
| CA5002B0 | C | CA5003B5M | C | LA5001A2 | C |
| CA5002B1 | C | CA5004A-B.ADA | P | LA5001A3 | C |
| CA5002B2 | C | CA5004B-B.ADA | P | LA5001A4 | C |
| CA5002B3 | C | LA3004A-AB.ADA | N/A | LA5001A5 | C |
| CA5002B4 | C | LA3004A0 | C | LA5001A6 | C |
| CA5002B5 | C | LA3004A1 | C | LA5001A7M | C |

Chapter 11

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|---|---|---|---|---|---|
| BB2001A-AB.ADA | P | CB1003A-AB.ADA | P | CB4003A-AB.ADA | P |
| BB2002A-AB.ADA | P | CB1004A-AB.ADA | P | CB4004A-B.ADA | P |
| BB2003A-AB.ADA | P | CB2004A-B.ADA | P | CB4005A-AB.ADA | P |
| BB2003B-AB.ADA | P | CB2005A-B.ADA | P | CB4006A-B.ADA | P |
| BB2003C-AB.ADA | P | CB2006A-AB.ADA | P | CB4008A-AB.ADA | P |
| BB3001A-B.ADA | P | CB2007A-AB.ADA | P | CB4009A-AB.ADA | P |
| BB3002A-AB.ADA | P | CB3003A-B.ADA | P | CB5001A-B.ADA | P |
| BB3005A-AB.ADA | P | CB3004A-AB.ADA | P | CB5001B-B.ADA | P |
| CB1001A-B.ADA | P | CB4001A-AB.ADA | P | | |
| CB1002A-B.ADA | P | CB4002A-AB.ADA | P | | |

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|---|---|---|---|---|---|
| BC1001A-B.ADA | P | BC2001B-AB.ADA | P | BC3205D1M | W |
| BC1002A-B.ADA | P | BC2001C-AB.ADA | P | BC3205D2 | W |
| 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 | BC3220B-B.ADA | W |
| BC1009A-AB.ADA | P | BC3002C-AB.ADA | P | BC32ABA-B.ADA | P |
| BC1011A-AB.ADA | P | BC3002D-AB.ADA | P | BC32ADA-B.ADA | P |
| BC1011B-AB.ADA | P | BC3002E-AB.ADA | P | BC3301A-AB.ADA | P |
| BC1012A-AB.ADA | P | BC3003A-AB.ADA | P | BC3301B-AB.ADA | P |
| BC1013A-B.ADA | W | BC3003B-AB.ADA | P | BC3302A-AB.ADA | P |
| BC10ABA-B.ADA | P | BC3005A-AB.ADA | P | BC3302B-AB.ADA | P |
| BC10ABB-B.ADA | P | BC3006A-AB.ADA | P | BC3303A-AB.ADA | P |
| BC10ACA-B.ADA | P | BC3009A-B.ADA | P | BC3304A-AB.ADA | P |
| BC10ADA-B.ADA | P | BC3009B-B.ADA | P | BC33ABA-B.ADA | P |
| BC10AEA-B.ADA | P | BC3009C-B.ADA | P | BC33ACA-B.ADA | P |
| BC10AEB-B.ADA | P | BC3011B-B.ADA | P | BC33ADA-B.ADA | P |
| BC10AEC-B.ADA | P | BC3011C-AB.ADA | P | BC33AEA-B.ADA | P |
| BC10AED-B.ADA | P | BC3013A-AB.ADA | P | BC3401A-AB.ADA | P |
| BC10AFA-B.ADA | P | BC3018A-B.ADA | P | BC3401B-AB.ADA | P |
| BC10AGA-B.ADA | P | BC30ABA-B.ADA | P | BC3402A-AB.ADA | P |
| BC1101A-AB.ADA | P | BC30ACA-B.ADA | P | BC3402B-AB.ADA | P |
| BC1102A-B.ADA | P | BC3101A-B.ADA | P | BC3403A-AB.ADA | P |
| BC1103A-B.ADA | P | BC3101B-B.ADA | P | BC3403B-AB.ADA | P |
| BC1104A-B.ADA | P | BC3102A-B.ADA | P | BC3403C-AB.ADA | P |
| BC1104B-B.ADA | P | BC3102B-B.ADA | P | BC3404A-AB.ADA | P |
| BC1106A-AB.ADA | P | BC3103A-AB.ADA | P | BC3404B-B.ADA | P |
| BC1107A-B.ADA | P | BC3103B-AB.ADA | P | BC3404C-AB.ADA | P |
| BC11ABA-B.ADA | P | BC31ABA-B.ADA | P | BC3404D-AB.ADA | P |
| BC11ACA-B.ADA | P | BC31ACA-B.ADA | P | BC3404E-AB.ADA | P |
| BC1201A-AB.ADA | P | BC31ADA-B.ADA | P | BC3404F-AB.ADA | P |
| BC1201B-AB.ADA | P | BC3201A-B.ADA | P | BC3405A-AB.ADA | P |
| BC1201C-AB.ADA | P | BC3201B-AB.ADA | P | BC3405B-B.ADA | W |
| BC1201D-AB.ADA | P | BC3201C-B.ADA | P | BC3405D-AB.ADA | P |
| BC1202A-AB.ADA | P | BC3202A-B.ADA | P | BC3405E-AB.ADA | P |
| BC1202B-AB.ADA | P | BC3202B-B.ADA | P | BC3405F-AB.ADA | P |
| BC1202C-AB.ADA | P | BC3202C-B.ADA | P | BC3501A-AB.ADA | P |
| BC1202D-AB.ADA | P | BC3203B-B.ADA | P | BC3501B-AB.ADA | P |
| BC1203A-AB.ADA | P | BC3204A-B.ADA | W | BC3501C-AB.ADA | P |
| BC1207A-B.ADA | P | BC3204B-B.ADA | W | BC3501D-AB.ADA | P |
| BC1226A-B.ADA | P | BC3204C-B.ADA | W | BC3501E-AB.ADA | P |
| BC12ABA-B.ADA | P | BC3204C0 | W | BC3501F-AB.ADA | P |
| BC12ACA-B.ADA | P | BC3204C1M | W | BC3501G-AB.ADA | P |
| BC12ACB-B.ADA | P | BC3204C2 | W | BC3501H-AB.ADA | P |
| BC1303A-AB.ADA | P | BC3204D-B.ADA | W | BC3501I-AB.ADA | P |
| BC1303B-AB.ADA | P | BC3204E-B.ADA | P | BC3501J-AB.ADA | P |
| BC1303C-AB.ADA | P | BC3205A-B.ADA | W | BC3501K-AB.ADA | P |
| BC1303D-AB.ADA | P | BC3205B-B.ADA | W | BC3502A-AB.ADA | P |
| BC1303E-AB.ADA | P | BC3205C-B.ADA | W | BC3502B-AB.ADA | P |
| BC1306A-B.ADA | P | BC3205D-B.ADA | W | BC3502C-AB.ADA | P |
| BC13ABA-B.ADA | P | BC3205D0 | W | BC3502D-AB.ADA | P |

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|---|---|---|---|---|---|
| BC3502E-AB.ADA | P | CC1305B-AB.ADA | P | CC3407A-AB.ADA | P |
| BC3502F-AB.ADA | P | CC1307A-AB.ADA | P | CC3407B-AB.ADA | P |
| BC3502G-AB.ADA | P | CC1308A-AB.ADA | P | CC3407C-AB.ADA | P |
| BC3502H-AB.ADA | P | CC1310A-AB.ADA | P | CC3407D-AB.ADA | P |
| BC3502I-AB.ADA | P | CC2002A-AB.ADA | P | CC3407E-AB.ADA | P |
| BC3502J-AB.ADA | P | CC3004A-B.ADA | P | CC3407F-AB.ADA | P |
| BC3502K-AB.ADA | P | CC3007A-AB.ADA | P | CC3408A-AB.ADA | P |
| BC3502L-AB.ADA | P | CC3011A-B.ADA | P | CC3408B-AB.ADA | P |
| BC3502M-AB.ADA | P | CC3011D-B.ADA | P | CC3408C-AB.ADA | P |
| BC3502N-AB.ADA | P | CC3012A-AB.ADA | P | CC3408D-B.ADA | P |
| BC3502O-AB.ADA | P | CC3120A-AB.ADA | P | CC3504A-B.ADA | P |
| BC3503A-B.ADA | W | CC3120B-B.ADA | P | CC3504B-B.ADA | P |
| BC3503B-B.ADA | P | CC3125A-B.ADA | P | CC3504C-B.ADA | P |
| BC3503C-B.ADA | P | CC3203A-B.ADA | P | CC3504D-B.ADA | P |
| BC3503D-B.ADA | P | CC3208A-AB.ADA | P | CC3504E-B.ADA | P |
| BC3503F-B.ADA | P | CC3208B-AB.ADA | P | CC3504F-B.ADA | P |
| CC1004A-AB.ADA | P | CC3305A-AB.ADA | P | CC3504G-B.ADA | P |
| CC1010A-AB.ADA | P | CC3305B-AB.ADA | P | CC3504H-B.ADA | P |
| CC1010B-AB.ADA | P | CC3305C-AB.ADA | P | CC3504I-B.ADA | P |
| CC1204A-B.ADA | P | CC3305D-AB.ADA | P | CC3504J-B.ADA | P |
| CC1220A-B.ADA | P | CC3406A-AB.ADA | P | CC3504K-B.ADA | P |
| CC1301A-B.ADA | P | CC3406B-AB.ADA | P | CC3601C-AB.ADA | P |
| CC1302A-AB.ADA | P | CC3406C-AB.ADA | P | CC3602A-AB.ADA | P |
| CC1304A-AB.ADA | P | CC3406D-B.ADA | P | | |

Chapter 14

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|---|---|---|---|---|---|
| AE2101A-B.ADA | P | CE2111A-B.ADA | P | CE3115A-B.ADA | N/A |
| AE2101B-B.ADA | P | CE2111B-B.ADA | P | CE3201A-B.ADA | P |
| AE2101C-B.DEP | P | CE2111C-B.ADA | P | CE3202A-B.ADA | P |
| AE2101D-B.ADA | P | CE2111D-B.ADA | N/A | CE3203A-B.ADA | P |
| AE3101A-B.ADA | P | CE2201A-B.ADA | P | CE3206A-B.ADA | P |
| AE3702A-B.ADA | P | CE2201B-B.ADA | P | CE3208A-B.ADA | P |
| AE3709A-B.ADA | P | CE2201C-B.ADA | P | CE3301A-B.ADA | P |
| BE2101E-B.ADA | P | CE2201D-B.DEP | P | CE3301B-B.ADA | P |
| BE2112A-B.ADA | P | CE2201E-B.DEP | P | CE3301C-B.ADA | P |
| BE2112B-B.ADA | P | CE2201F-B.ADA | P | CE3302A-B.ADA | P |
| BE2112C-B.ADA | P | CE2202A-B.ADA | P | CE3303A-B.ADA | P |
| BE2114A-B.ADA | P | CE2204A-B.ADA | P | CE3305A-B.ADA | P |
| BE2208A-B.ADA | P | CE2204B-B.ADA | P | CE3402A-B.ADA | P |
| BE3001A-B.ADA | P | CE2210A-B.ADA | P | CE3402B-B.ADA | P |
| BE3002A-B.ADA | P | CE2401A-B.ADA | P | CE3402C-B.ADA | P |
| BE3002E-B.ADA | P | CE2401B-B.ADA | P | CE3402D-B.ADA | P |
| BE3105A-B.ADA | P | CE2401C-B.ADA | P | CE3402E-B.ADA | P |
| BE3205A-B.ADA | P | CE2401D-B.DEP | P | CE3403A-B.ADA | P |
| BE3501A-B.ADA | P | CE2401E-B.ADA | P | CE3403B-B.ADA | P |
| BE3606C-B.ADA | P | CE2401F-B.ADA | P | CE3403C-B.ADA | P |
| BE3703A-B.ADA | P | CE2402A-B.ADA | P | CE3403D-B.ADA | P |
| BE3802A-B.ADA | P | CE2404A-B.ADA | P | CE3403E-B.ADA | P |
| BE3803A-B.ADA | P | CE2405B-B.ADA | P | CE3403F-B.ADA | P |
| BE3902A-B.ADA | P | CE2406A-B.ADA | P | CE3404A-B.ADA | P |
| BE3903A-B.ADA | P | CE2407A-B.ADA | P | CE3404B-B.ADA | P |
| CE2102A-B.ADA | P | CE2408A-B.ADA | P | CE3404C-B.ADA | P |
| CE2102B-B.ADA | P | CE2409A-B.ADA | P | CE3405A-B.ADA | P |
| CE2102C-B.TST | P | CE2410A-B.ADA | P | CE3405B-B.ADA | P |
| CE2102D-B.ADA | P | CE3002B-B.TST | P | CE3405C-B.ADA | P |
| CE2102E-B.ADA | P | CE3002C-B.TST | P | CE3405D-B.ADA | P |
| CE2102F-B.ADA | P | CE3002D-B.ADA | P | CE3406A-B.ADA | P |
| CE2102G-B.ADA | P | CE3002F-B.ADA | P | CE3406B-B.ADA | P |
| CE2103A-B.TST | P | CE3102A-B.ADA | P | CE3406C-B.ADA | P |
| CE2103B-B.TST | P | CE3102B-B.TST | P | CE3406D-B.ADA | P |
| CE2104A-B.ADA | P | CE3103A-B.ADA | P | CE3407A-B.ADA | P |
| CE2104B-B.ADA | P | CE3104A-B.ADA | P | CE3407B-B.ADA | P |
| CE2105A-B.ADA | P | CE3107A-B.TST | P | CE3407C-B.ADA | P |
| CE2106A-B.ADA | P | CE3108A-B.ADA | P | CE3408A-B.ADA | P |
| CE2107A-B.ADA | P | CE3108B-B.ADA | P | CE3408B-B.ADA | P |
| CE2107B-B.ADA | N/A | CE3109A-B.ADA | P | CE3408C-B.ADA | P |
| CE2107C-B.ADA | P | CE3110A-B.ADA | P | CE3409A-B.ADA | P |
| CE2107D-B.ADA | P | CE3111A-B.ADA | P | CE3409B-B.ADA | P |
| CE2107E-B.ADA | W | CE3111B-B.ADA | N/A | CE3409C-B.ADA | P |
| CE2108A-B.ADA | P | CE3111C-B.ADA | N/A | CE3409D-B.ADA | P |
| CE2108B-B.ADA | P | CE3111D-B.ADA | N/A | CE3409E-B.ADA | P |
| CE2108C-B.ADA | P | CE3111E-B.ADA | N/A | CE3409F-B.ADA | P |
| CE2108D-B.ADA | P | CE3112A-B.ADA | P | CE3410A-B.ADA | P |
| CE2109A-B.ADA | P | CE3112B-B.ADA | P | CE3410B-B.ADA | P |
| CE2110A-B.ADA | P | CE3114A-B.ADA | P | CE3410C-B.ADA | P |
| CE2110B-B.ADA | N/A | CE3114B-B.ADA | N/A | CE3410D-B.ADA | P |

| | | | | | |
|---|---|---|---|---|---|
| CE3410E-B.ADA | P | CE3704B-B.ADA | P | CE3804M-B.ADA | P |
| CE3410F-B.ADA | P | CE3704C-B.ADA | P | CE3805A-B.ADA | P |
| CE3411A-B.ADA | P | CE3704D-B.ADA | P | CE3805B-B.ADA | P |
| CE3411C-B.ADA | P | CE3704E-B.ADA | P | CE3806A-B.ADA | P |
| CE3412A-B.ADA | P | CE3704F-B.ADA | P | CE3806C-B.ADA | P |
| CE3412C-B.ADA | P | CE3704M-B.ADA | W | CE3806D-B.ADA | P |
| CE3413A-B.ADA | P | CE3704N-B.ADA | P | CE3806E-B.ADA | P |
| CE3413C-B.ADA | P | CE3704O-B.ADA | P | CE3809A-B.ADA | P |
| CE3601A-B.ADA | P | CE3706C-B.ADA | P | CE3809B-B.ADA | P |
| CE3602A-B.ADA | P | CE3706D-B.ADA | P | CE3810A-B.ADA | P |
| CE3602B-B.ADA | P | CE3706F-B.ADA | P | CE3901A-B.ADA | P |
| CE3602C-B.ADA | P | CE3706G-B.ADA | P | CE3905A-B.ADA | P |
| CE3602D-B.ADA | P | CE3707A-B.ADA | P | CE3905B-B.ADA | P |
| CE3603A-B.ADA | W | CE3708A-B.ADA | P | CE3905C-B.ADA | P |
| CE3604A-B.ADA | W | CE3801A-B.ADA | P | CE3905L-B.ADA | P |
| CE3605A-B.ADA | P | CE3804A-B.ADA | P | CE3906A-B.ADA | P |
| CE3605B-B.ADA | P | CE3804B-B.ADA | P | CE3906B-B.ADA | P |
| CE3605C-B.ADA | P | CE3804C-B.ADA | P | CE3906C-B.ADA | P |
| CE3605D-B.ADA | P | CE3804D-B.ADA | P | CE3906D-B.ADA | P |
| CE3605E-B.ADA | P | CE3804E-B.ADA | P | CE3906E-B.ADA | P |
| CE3606A-B.ADA | P | CE3804F-B.ADA | P | CE3906F-B.ADA | P |
| CE3606B-B.ADA | P | CE3804G-B.ADA | P | CE3907A-B.ADA | P |
| CE3701A-B.ADA | P | CE3804I-B.ADA | P | CE3908A-B.ADA | P |
| CE3704A-B.ADA | P | CE3804K-B.ADA | P | EE3102C-B.ADA | P |

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