ACATS Modification List for ACATS 4.1

Version 4.1V
March 31, 2021

What is this?

This is the ACATS modification list for ACATS 4.1. This document includes test corrections, test removals, and new tests for ACATS 4.1. ACATS 4.1 is the current test suite for Ada, covering the third edition of Ada, ISO/IEC 8652:2012 (usually known as "Ada 2012").

ACATS Modification List version 3.1BB for ACATS 3.1 is the current list for that test suite. ACATS 3.1 should be used for testing implementations that support Amendment 1 (ISO/IEC 8652:1995/AMD 1:2007, often known as "Ada 2005"), and will continue to be maintained as necessary for the foreseeable future.

ACATS Modification List version 2.6H for ACATS 2.6 is the current list for that test suite. ACATS 2.6 should be used for testing implementations of the second edition of Ada, ISO/IEC 8652:1995 (usually known as "Ada 95"); it also will continue to be maintained as necessary for the foreseeable future.

Changes from the last list:

A handful of tests changed status on January 1st; see the lists for the details.

Test B611006 was modified to eliminate the check for 6.1.1(18.2/4), a rule which was replaced by AI12-0412-1. (The rule was considered too limiting and difficult for users to understand.)

New test B641003 checks that certain view conversions cannot be passed as **out** parameters. New tests C641002 and C641003 check that the previous value is passed without checking to certain scalar **out** parameters.

New test B651004 checks that a nonreturning dispatching procedure can only be overridden with a nonreturning procedure.

Note: Some Allowed Modification tests have a required date of "ACATS 4.2". These are tests that don't have substantive changes, but rather change comments (including error locations for B-Tests). For ACATS users that are using traditional results comparison rather than the ACATS grading tools, changing these tests may cause work without benefit (since the tests don't have significant changes). As such, we're allowing the use of the old versions of the tests until the time when the next ACATS version (ACATS 4.2) is issued (not likely before fall 2021; it will be announced at least 90 days in advance of issuance).

New tests posted between January 1, 2021 and March 31, 2021 will become required for conformity assessments on October 1, 2021. New tests posted between October 1, 2020 and December 31, 2020 will become required for conformity assessments on July 1, 2021. New tests posted between July 1, 2020 and September 30, 2020 will become required for conformity assessments on April 1, 2021. New tests posted before July 1, 2020 are required for conformity assessments. The effective dates of tests are marked in the lists.

Questions about this document? Contact the ACAA Technical Agent at agent@ada-auth.org.

ACATS 4.1 includes optional Test Grading tools

ACATS 4.1 introduces new test grading tools.

When the ACATS was designed (as the ACVC in the early 1980s), the intention always was that running it would give a simple and clear Pass or Fail result. However, grading of tests (particularly of B and L Tests)

is somewhat subjective and very time-consuming. (Test grading typically involved poring over compiler listings of the entire ACATS with a large highlighter.) The subjectivity was acceptable in the days of common formal testing, as the formal testers would enforce a common grading standard (even if no one could describe what that was), but in an age of self-testing, it reduces the value of the ACATS.

As such, we're introducing a long-overdue set of automated grading tools. These tools are intended to:
- Greatly reduce the effort to grade an ACATS test run (and, hopefully to reduce the cost of formal testing to make it a more practical option);
- Ensure that all users of the ACATS grade tests in the same way, thus making it more valid to compare ACATS results between different implementations and different testers;
- Give implementers certainty as to whether a particular test result is passing (whether the location of an error is "close enough" to the canonical position);
- Be able to detect process errors (especially errors of omission) – that is, tests improperly run (for instance, files compiled in the wrong order where the ACATS requires an order), or not run at all (if one is checking off lines in a listing, it's hard to notice that some test or portion of a test is missing).

The tools also will optionally give feedback to implementers about quality of error message positioning and of error cascades (does one error generate multiple messages?). (Since "goodness of an implementation" is not something that the ACATS tests for, this is not an official goal for the tools.)

This is an ambitious set of goals. It's unlikely that they'll be completely met by the initial versions of the tools. As such, their use will be completely optional (but encouraged!) for ACATS 4.1. The tools will be updated periodically by the normal process for updating the ACATS – an ACATS Modification List like this one.

Details on the operation of the tools can be found in the ACATS 4.1 documentation (that documentation can be found at http://www.ada-auth.org/acats-files/4.1/docs/UG-6.HTM). As always, if you have questions, contact the ACAA Technical Agent at agent@ada-auth.org.

Notice:

The ACAA has created and maintains the Ada Conformity Assessment Test Suite for the purpose of conformity assessments conducted in accordance with the International Standard ISO/IEC 18009 - Ada: Conformity assessment of a language processor. This test suite should not be used to make claims of conformance unless used in accordance with ISO/IEC 18009 and any applicable ACAA procedures.

List explanation:

Test numbers given are for the basic test. Categories are "Withdrawn" (the test should not be processed for Ada conformity assessments); "Allowed Modification" (either the original test or the modified one should be processed for Ada conformity assessments); "Modified" (the modified test must be processed for Ada conformity assessments); "Pending New" (the test does not need to be processed for Ada conformity assessments, but will be added in the future); "New" (the test is processed for Ada conformity assessments).

ACATS version labels are provided with all new and modified tests. Use this label to retrieve the test from the ACATS VCS. See "How to get new and modified tests".

In citations, line numbers are given relative to the start of a test file in the format of '@<line#,line#,...>'; if a test program comprises more than one file, then the particular file will be indicated by "fn", where "n" is the test-program name's file-designator numeral. E.g., "B38103E : @f1-31, ... " denotes test file b38103e1.ada. In cases where there are two or more rationales for different errors in a test program, these different rationales with their respective line citations are listed on separate lines. References to the Ada standards are given in the format:

<section|chapter>.<clause>[.<subclause>]:<paragraph>

These references are to the consolidated Ada standard as available at http://www.ada-auth.org/standards/rm12_w_tc1/html/RM-TOC.html.

Main list:

===== Core Language =====

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Name     Category  Version label  (effective date; old version label)
      Short description.

B32201A [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                Required in ACATS 4.2
      Added error location indicators.

B33001A [Modified] VCS Label: A4_1P
      Added error location indicators, added additional possible error
      locations, restored likely intended test for Set2.

B33101A [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                Required in ACATS 4.2
      Added error location indicators.

B350001 [New] VCS Label: A4_1Q
      Check that the requirements on the specification of the
      Default_Value aspect are enforced.

C350001 [New] VCS Label: A4_1D
      Check that the object form of the Image attribute is implemented.

C350A01 [New] VCS Label: A4_1R
      Check that objects of types with specified Default_Values are
      properly initialized. Part 1: Normal discrete types.

C350A02 [New] VCS Label: A4_1R
      Check that objects of types with specified Default_Values are
      properly initialized. Part 2: Generic discrete types.

C350B01 [New] VCS Label: A4_1R
      Check that objects of types with specified Default_Values are
      properly initialized. Part 3: Normal real types.

C350B02 [New] VCS Label: A4_1R
      Check that objects of types with specified Default_Values are
      properly initialized. Part 4: Generic real types.

C352001 [Modified] VCS Label: A4_1D
      Corrected Failed message @267 to reflect intended result.

B354002 [New] VCS Label: A4_1D
      Test basic requirements for the Mod attribute.

C354004 [New] VCS Label: A4_1D
      Test basic operation of the Mod attribute.
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B35A001 [New] VCS Label: A4_1D
     Check Legality Rules are enforced when Small is specified by an
     aspect specification.

C35A001 [New] VCS Label: A4_1D
     Check that Small can be specified by an aspect specification.

B360001 [New] VCS Label: A4_1Q
     Check that the requirements on the specification of the
     Default_Component_Value aspect are enforced.

C360A01 [Pending New] New VCS Label: A4_1S
                Required after 2021-04-01
     Check that objects of types with specified
     Default_Component_Values are properly initialized. Part 1: Arrays
     of discrete types.

C360A02 [Pending New] New VCS Label: A4_1S
                Required after 2021-04-01
     Check that objects of types with specified
     Default_Component_Values are properly initialized. Part 2: Generic
     arrays of discrete types.

C360B01 [Pending New] New VCS Label: A4_1S
                Required after 2021-04-01
     Check that objects of types with specified
     Default_Component_Values are properly initialized. Part 3: Arrays
     of real types.

C360B02 [Pending New] New VCS Label: A4_1S
                Required after 2021-04-01
     Check that objects of types with specified
     Default_Component_Values are properly initialized. Part 4: Generic
     arrays of real types.

B37309B [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B37310B [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B37311A [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B38003D [Modified] VCS Label: A4_1A
     Corrected error tags @70,76,82,88 so "optional" and "error" are
     on the same line, as required by the test standards.

B38103A [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                Required in ACATS 4.2
     Added error location indicators.

B38103B [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1

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                     Required in ACATS 4.2
          Added error location indicators.


B38103C [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                     Required in ACATS 4.2
          Added error location indicators.


B38103D [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                     Required in ACATS 4.2
          Added error location indicators.


B38103E [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                     Required in ACATS 4.2
          Added error location indicators.


B392002 [Modified] VCS Label: A4_1G
          Revised to use Possible Error tags, and added error location
          indicators.


B392003 [Modified] VCS Label: A4_1G
          Added additional error locations to directly support common error
          reporting strategies.


B392004 [Modified] VCS Label: A4_1G
          Added additional error locations to directly support common error
          reporting strategies.


B392005 [Modified] VCS Label: A4_1G
          Revised to use Possible Error tags, and added error location
          indicators.


B393001 [Modified] VCS Label: A4_1G
          Added additional error locations to directly support common error
          reporting strategies.


B393007 [Modified] VCS Label: A4_1G
          Added additional error locations to directly support common error
          reporting strategies. Fixed overlong lines.


B393010 [Modified] VCS Label: A4_1G
          Added additional error locations to directly support common error
          reporting strategies. Fixed overlong lines.


B393012 [Pending New] New VCS Label: A4_1P
                     Required after 2020-07-01
          Check that abstract types cannot be used in additional
          contexts that do not allow abstract types.


B393013 [Pending New] New VCS Label: A4_1P
                     Required after 2020-07-01
          Check that interface types cannot be used in additional contexts
          that do not allow abstract types.


C3A0030 [New] VCS Label: A4_1A
          Check that an access discriminant is only null excluding if it
          includes a null exclusion.
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B3A1001 [Modified] VCS Label: A4_1A
      Split Pack6 so possible error sets don't intersect; fixed
      overlong lines.

B3A1002 [Modified] VCS Label: A4_1A
      Split Pack6 so possible error sets don't intersect; fixed
      overlong lines.

B3A2007 [Modified] VCS Label: A4_1G
      Added additional error locations to directly support common error
      reporting strategies.

B3A2008 [Modified] VCS Label: A4_1G
      Added additional error locations to directly support common error
      reporting strategies.

B3A2009 [Modified] VCS Label: A4_1G
      Removed tabs to meet test format standards; added error location
      indicators.

B3A2011 [Modified] VCS Label: A4_1G
      Added additional error locations to directly support common error
      reporting strategies.

B3A2012 [Modified] VCS Label: A4_1G
      Added additional error locations to directly support common error
      reporting strategies.

B3A2016 [Modified] VCS Label: A4_1G
      Added additional error locations to directly support common error
      reporting strategies.

B3A2018 [New] VCS Label: A4_1H
      Check that an explicitly aliased parameter has the same
      accessibility level as a normal parameter unless compared to the
      return object. Check that master of the function call is properly
      determined statically.

B3A2018 [Allowed Modification] New VCS Label: A4_1T Org VCS Label: A4_1H
                 Required after 2021-04-01
      Corrected so that it is not affected by whether AI12-0345-1,
      AI12-0402-1, and AI12-0390-1 are implemented.

B413004 [Modified] VCS Label: A4_1J
      PPA and PFA trigger the issue of AI12-0289-1; explicit null
      exclusions were added to the parameters to avoid it.

C415001 [Modified] VCS Label: A4_1P
      [VCS Label A4_1N] Return @119 fails an accessibility check
      unless C is aliased.
      [VCS Label A4_1P] The subtype of My_Colln @125 needs to be either
      discriminated or to statically match that of the formal types of
      the parameters.

B431007 [Pending New] New VCS Label: A4_1P
                 Required after 2020-07-01
      Check that record aggregates are not allowed for types whose
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components aren't visible.

B432002 [Pending New] New VCS Label: A4_1P
                Required after 2020-07-01
     Check that all of the extensions of an extension aggregate are
     record extensions.

B432003 [Pending New] New VCS Label: A4_1P
                Required after 2020-07-01
     Check that the ancestor subtype_mark of an extension aggregate
     does not denote a view with unknown discriminants.

B452001 [New] VCS Label: A4_1K
     Check that a membership that contains choice expressions is
     illegal for a limited type that does not have equality.

B452002 [New] VCS Label: A4_1L
     Check that Resolution and Legality Rules for the universal access
     equality operator are enforced.

C452002 [New] VCS Label: A4_1F
     [VCS Label A4_1D] Check that overloading resolution of Ada 2012
     membership operations works as intended.
     [VCS Label A4_1F] Fixed incorrect test number passed to Report.

C452003 [New] VCS Label: A4_1R
     [VCS Label A4_1K] Check that memberships of general access-to-
     object types work as defined.
     [VCS Label A4_1R] Corrected Force_Save and Force_Op.

C452004 [New] VCS Label: A4_1Q
     [VCS Label A4_1L] Check that memberships with multiple choices are
     evaluated as required, and that the correct equality operation is
     called for untagged record types.
     [VCS Label A4_1Q] LTemp and RTemp @ 136 and 164 should be declared
     Integer rather than Natural, as the numerators are of type Integer
     and can be negative.

C452005 [New] VCS Label: A4_1L
     Check that memberships with multiple choices call the correct
     equality operation for array types.

C452006 [New] VCS Label: A4_1M
     [VCS Label A4_1L] Check that memberships with multiple choices
     call the correct equality operation for access types.
     [VCS Label A4_1M] Corrected to remove cases made illegal by
     AI12-0328-1.

C452A01 [New] VCS Label: A4_1K
     Check that "=" for language-defined private types behaves as if it
     is predefined. Part 1: core types.

C452A02 [New] VCS Label: A4_1K
     Check that "=" for language-defined private types behaves as if it
     is predefined. Part 2: types of the Ada.Strings subsystem.

C452A03 [New] VCS Label: A4_1K

Check that "=" for language-defined private types behaves as if it
is predefined. Part 3: Annex C types.

C453001 [New] VCS Label: A4_1D
    Check that modular adding operators wrap around rather than
    raising Constraint_Error.

B455002 [Modified] VCS Label: A4_1A
    Corrected casing of error tags and fixed overlong lines.

B457001 [Modified] VCS Label: A4_1F
    Fixed overlong lines. Added location indicators.

B457004 [Modified] VCS Label: A4_1F
    There should not be an ERROR tag @282; Single_Highest @290 should
    be Single_High. Added location indicators.

B458001 [New] VCS Label: A4_1F
    Check that a quantified expression has to be surrounded in
    parentheses if it is not already surrounded by them.

C460014 [New] VCS Label: A4_1C
    Check that Constraint_Error is raised appropriately when
    converting access-to-classwide to another access type.

C460015 [New] VCS Label: A4_1C
    Check that Constraint_Error is raised appropriately when
    converting access-to-limited-classwide to another access type.

B470001 [New] VCS Label: A4_1D
    Check that qualified expressions are a constant view of the
    expression, even if the expression is a variable object.

C470001 [New] VCS Label: A4_1D
    Check that qualified expressions are a name, and thus can be used
    as a prefix and other places a name is required.

C480001 [New] VCS Label: A4_1D
    [VCS Label A4_1A] Check that an initialized allocator for a
    class-wide type does an accessibility check on the tag of the
    initializing object.
    [VCS Label A4_1D] Changed mode to "in" (instead of "in out") @103
    & 144 as those parameters are used in functions, making that an
    Ada 2012 feature, and this is an Ada 2005 test.

B480004 [New] VCS Label: A4_1G
    Check that an allocator is illegal if the access type has a
    Storage_Size that is statically zero.

B48002A [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                Required in ACATS 4.2
    Added error location indicators.

B48002G [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                Required in ACATS 4.2
    Added error location indicators.

B48003B [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                Required in ACATS 4.2
     Added error location indicators.

B48003E [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                Required in ACATS 4.2
     Added error location indicators.

B490003 [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                Required in ACATS 4.2
     Moved error tags to more usual locations, added error location
     indicators.

B4A010C [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

C52101A [Modified] VCS Label: A4_1A
     Corrected comment @49 not to have the form of an error tag.

B540001 [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B540002 [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B54B01B [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B54B01C [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B54B02B [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B54B02C [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B54B02D [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B54B04A [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B54B04B [Modified] VCS Label: A4_1G
     Added additional error locations to directly support common error
     reporting strategies.

B54B05A [Modified] VCS Label: A4_1G

Added additional error locations to directly support common error
        reporting strategies.

B551002 [Modified] VCS Label: A4_1N
        Revised test to remove dependence on Ada.Iterator_Interfaces.

B552A01 [Modified] VCS Label: A4_1G
        Added additional error locations to directly support common error
        reporting strategies. Fixed an overlong line.

B55B12B [Modified] VCS Label: A4_1G
        Added additional error locations to directly support common error
        reporting strategies.

B55B12C [Modified] VCS Label: A4_1G
        Added additional error locations to directly support common error
        reporting strategies.

B56001A [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                    Required in ACATS 4.2
        Added error location indicators.

B57001B [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                    Required in ACATS 4.2
        Added error location indicators.

B611001 [New] VCS Label: A4_1A
        Check that Pre and Post are only allowed on
        subprograms and entries (and not on subprogram instances).

B611002 [New] VCS Label: A4_1C
        [VCS Label A4_1A] Check that Pre and Post are not allowed on
        subprograms acting as completions.
        [VCS Label A4_1C] Corrected several error location codes.

B611003 [New] VCS Label: A4_1A
        Check that Pre'Class and Post'Class are only allowed on primitive
        subprograms of tagged types. (Normal tagged types and interfaces.)

B611004 [New] VCS Label: A4_1A
        Check that Pre'Class and Post'Class are not
        allowed on subprograms acting as completions.

B611005 [New] VCS Label: A4_1A
        Check that Pre and Post are not allowed on
        abstract subprograms and null procedures.

B611006 [New] VCS Label: A4_1C
        [VCS Label A4_1A] Check that the restrictions on Pre'Class and
        Post'Class expressions added by AI12-0113-1 are enforced.
        [VCS Label A4_1C] Clarified error @208; changed error @233 & @247
        to OK (as the inherited Proc4 routine is abstract and thus is not
        subject to the new rule).

B611006 [Allowed Modification] New VCS Label: A4_1V Org VCS Label: A4_1C
                    Required after 2021-07-01
        [VCS Label A4_1V] Eliminated the third objective (all of the code

under the "Third Objective" comment), as the rule was replaced by
AI12-0412-1 (a Binding Interpretation).

B611007 [New] VCS Label: A4_1F
     [VCS Label A4_1A] Check that Pre'Class and Post'Class are not
     allowed on entries and protected subprograms of untagged task and
     protected types.
     [VCS Label A4_1F] Corrected preconditions @77 and @110 not to
     violate the new rule added by Binding Interpretation AI12-0166-1.

B611008 [New] VCS Label: A4_1A
     Check various rules about the use of the Result attribute.

B611009 [New] VCS Label: A4_1A
     Check that F'Result is not allowed in the body of F.

B611010 [New] VCS Label: A4_1A
     Check that the Old attribute is not allowed in a subprogram or
     entry body, or in an accept statement.

B611011 [New] VCS Label: A4_1A
     Check the Old attribute cannot be used within a precondition
     expression nor in a generic specification outside of a
     postcondition expression.

B611012 [New] VCS Label: A4_1A
     Check that the prefix of an Old attribute cannot contain the
     Result attribute, another Old attribute, nor the index of a
     quantified expression.

B611013 [New] VCS Label: A4_1A
     For a discrete X, check that X'Old has the nominal subtype of X.

B611014 [New] VCS Label: A4_1C
     [VCS Label A4_1B] If an Old attribute reference occurs at a
     place where it is potentially unevaluated, check that the prefix
     must statically denote an object.
     [VCS Label A4_1C] Corrected error location codes @240 and @252.

B611015 [New] VCS Label: A4_1B
     Check that the prefix of an Old attribute cannot have a limited
     type.

B611016 [New] VCS Label: A4_1B
     Check that tagged task and tagged protected types do not allow
     Pre'Class and Post'Class, nor are they allowed on operations of
     those types.

B611017 [New] VCS Label: A4_1C
     [VCS Label A4_1B] Check that Pre'Class cannot be specified for
     an overriding of a subprogram that does not specify Pre'Class.
     [VCS Label A4_1C] Declaration of New_Proc @358 is not overriding
     and thus not subject to the rule. The declaration of Shine @149
     never overrides primitives of the actual type by 12.3(18), thus
     this rule does not apply to instances of Gen2. Added an example
     using a generic derived type.

B611018 [New] VCS Label: A4_1C
     [VCS Label A4_1B] Check 6.1.1(10-16/3).
     [VCS Label A4_1C] Type T08 @230 and @241 needs to be declared
     abstract.

B611019 [New] VCS Label: A4_1C
     [VCS Label A4_1B] Check 6.1.1(17/3).
     [VCS Label A4_1C] The declaration of Get_Count @112
     never overrides primitives of the actual type by 12.3(18), thus
     this rule does not apply to instances of Gen2. Added examples
     using generic derived types.

C611A01 [New] VCS Label: A4_1A
     Check that preconditions and postconditions where both specific
     and class-wide contracts apply are checked properly.

C611A02 [New] VCS Label: A4_1C
     [VCS Label A4_1A] Check that the correct expressions are evaluated
     for specific preconditions and postconditions, and that they are
     evaluated at the correct point.
     [VCS Label A4_1C] The main subprogram name was corrected to follow
     the rules of the ACATS User's Guide, clause 4.3.3.

C611A03 [New] VCS Label: A4_1C
     [VCS Label A4_1A] Check that the correct expressions are evaluated
     for class-wide preconditions and postconditions, and that they are
     evaluated at the correct point.
     [VCS Label A4_1C] The main subprogram name was corrected to follow
     the rules of the ACATS User's Guide, clause 4.3.3.

C611A04 [New] VCS Label: A4_1D
     [VCS Label A4_1C] Check that the correct expressions are evaluated
     for class-wide preconditions and postconditions of an interface
     type, and that they are evaluated at the correct point.
     [VCS Label A4_1D] Fixed overlong lines.

C611B01 [New] VCS Label: A4_1C
     [VCS Label A4_1A] Check that X'Old has the tag of X and not the
     tag of the nominal subtype of X (for Post).
     [VCS Label A4_1C] The main subprogram name was corrected to follow
     the rules of the ACATS User's Guide, clause 4.3.3.

C611B02 [New] VCS Label: A4_1C
     [VCS Label A4_1A] Check that X'Old has the tag of X and not the
     tag of the nominal subtype of X (for Post'Class).
     [VCS Label A4_1C] The main subprogram name was corrected to follow
     the rules of the ACATS User's Guide, clause 4.3.3.

C611B03 [New] VCS Label: A4_1D
     [VCS Label A4_1C] Check that X'Old has the tag of X and not the
     tag of the nominal subtype of X (for Post'Class of an interface
     type).
     [VCS Label A4_1D] Fixed overlong lines.

C620002 [New] VCS Label: A4_1R
     Modernizes, adds test cases to, and eliminates illegal calls from
     legacy test C95072A.

B62001C [Modified] VCS Label: A4_1A
     Changed error @35 to be optional, as the syntax error @33 is
     required (and the comment that only one error need be detected is
     bogus).

B62001D [Modified] VCS Label: A4_1A
     Changed error @41 to be optional, as the syntax error @33 is
     required (and the comment that only one error need be detected is
     bogus).

B631001 [New] VCS Label: A4_1N
     Check that a prefixed view is intrinsic.

B641003 [Pending New] New VCS Label: A4_1V
                  Required after 2021-10-01
     Check that for an out parameter of a scalar type with a specified
     Default_Value, it is illegal to pass a type conversion of an
     object unless the type of the object is related and has a
     specified Default_Value.

C641002 [Pending New] New VCS Label: A4_1V
                  Required after 2021-10-01
     Check that for an out parameter of a scalar type with a specified
     Default_Value, the value of the actual parameter is passed in
     without any constraint check.

C641003 [Pending New] New VCS Label: A4_1V
                  Required after 2021-10-01
     Check that for an out parameter of a scalar type with a specified
     Default_Value, the value of the actual parameter is passed in
     without any predicate check.

B65005A [Modified] VCS Label: A4_1D
     Added additional error locations to directly support common error
     reporting strategies.

B65005B [Modified] VCS Label: A4_1D
     Added additional error locations to directly support common error
     reporting strategies.

C650B04 [New] VCS Label: A4_1A
     Check that the result of a function that returns a class-wide
     tagged type does an accessibility check on the tag of the result
     object when the result expression is class-wide.

B651001 [New] VCS Label: A4_1S
     [VCS Label A4_1D] Check that a return statement cannot apply to a
     nonreturning procedure, and that a renames-as-body of a
     nonreturning procedure has to be a nonreturning procedure (pragma
     No_Return version).
     [VCS Label A4_1S] Corrected pragmas @176 and @179 to refer to the
     immediately preceding procedures.

C651001 [New] VCS Label: A4_1D
     Check that a nonreturning procedure can raise an exception and
     raises Program_Error otherwise (pragma No_Return version).

B651002 [New] VCS Label: A4_1D
      Check that a return statement cannot apply to a nonreturning
      procedure, and that a renames-as-body of a nonreturning procedure
      has to be a nonreturning procedure (aspect No_Return version).

C651002 [New] VCS Label: A4_1D
      Check that a nonreturning procedure can raise an exception and
      raises Program_Error otherwise (aspect No_Return version).

B651003 [New] VCS Label: A4_1D
      Check that an aspect No_Return can only be given on a procedure or
      generic procedure, that the expression has to be nonstatic, and
      that the aspect is not given on an instance or null procedure.

B651004 [Pending New] New VCS Label: A4_1V
                  Required after 2021-10-01
      Check that a dispatching nonreturning procedure can only be
      overridden by a nonreturning procedure.

B660002 [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                  Required in ACATS 4.2
      Added error location indicators.

B660003 [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                  Required in ACATS 4.2
      Fixed overlong lines, added error location indicators.

B66001A [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                  Required in ACATS 4.2
      Added error location indicators.

B66001B [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                  Required in ACATS 4.2
      Added error location indicators.

B680001 [Modified] VCS Label: A4_1F
      The immediately enclosing expression function @140 does not
      declare a parameter A, but A is used @141. Added location
      indicators.

B730006 [Modified] VCS Label: A4_1C
      Corrected format of error tags; added location indicators.

B730011 [New] VCS Label: A4_1C
      Test various rules about completions of private types and
      extensions; replaces test B74001A.

B730012 [New] VCS Label: A4_1C
      Test various rules about completions of private types and
      extensions in generic units; replaces test B74001B.

B730013 [New] VCS Label: A4_1D
      Test operations available for a private type; replaces test
      B74203E.

B73001A [Modified] VCS Label: A4_1C

Added additional error locations to directly support common error
        reporting strategies.

B73001B [Modified] VCS Label: A4_1C
        Added additional error locations to directly support common error
        reporting strategies.

B73001C [Modified] VCS Label: A4_1C
        Added additional error locations to directly support common error
        reporting strategies.

B73001D [Modified] VCS Label: A4_1C
        Added additional error locations to directly support common error
        reporting strategies.

B73001E [Modified] VCS Label: A4_1C
        Added additional error locations to directly support common error
        reporting strategies.

B73001F [Modified] VCS Label: A4_1C
        Added additional error locations to directly support common error
        reporting strategies.

B73001G [Modified] VCS Label: A4_1C
        Added additional error locations to directly support common error
        reporting strategies.

B73001H [Modified] VCS Label: A4_1C
        Added additional error locations to directly support common error
        reporting strategies.

B740003 [Modified] VCS Label: A4_1H
        [VCS Label A4_1A] Modified criteria @75 so that it doesn't look
        like an error tag to the grading tools; also fixed an overlong
        line.
        [VCS Label A4_1H] Modified grading to document that processing the
        main is optional. Added error location indicators.

B74001A [Withdrawn] VCS Label: A4_1C
        Replaced by B730011.

B74001B [Withdrawn] VCS Label: A4_1C
        Replaced by B730012.

B74203E [Withdrawn] VCS Label: A4_1D
        Replaced by B730013.

B750A07 [New] VCS Label: A4_1G
        [VCS Label A4_1A] Check that only legal expressions are allowed
        in the return expression of an expression function that returns a
        limited type.
        [VCS Label A1_1G] Adjusted error indicators to allow the error to
        be reported anywhere in a multi-line expression.

C760A02 [New] VCS Label: A4_1G
        Checks that functions that return immutably limited types are
        built-in-place.

C760A03 [New] VCS Label: A4_1G
     Checks that expression functions that return immutably limited
     types are built-in-place.

B83027B [Modified] VCS Label: A4_1G
     The discriminant @90 needs a default expression as all or none of
     the discriminants of a type need defaults. Also added error
     location indicators.

B83027D [Modified] VCS Label: A4_1G
     Corrected bad error tag, and added error location indicators.

B831006 [New] VCS Label: A4_1K
     Checks that overriding indicators cannot be given on any
     subprogram declaration in a protected body.

B83E01B [Modified] VCS Label: A4_1G
     Removed possible error cascades, reformatted some error tags, and
     added error location indicators.

B83F02C [Modified] VCS Label: A4_1A
     Updated many optional error markers to match ACATS standards.

B85002A [Withdrawn] VCS Label: A4_1H
     Replaced by B851005.

B85003A [Withdrawn] VCS Label: A4_1H
     Replaced by B851007.

B85003B [Withdrawn] VCS Label: A4_1H
     Replaced by B851007.

B851004 [Modified] VCS Label: A4_1J
     Revised test to eliminate cases whose result would be
     changed by pending AI12-0287-1, and added cases to preserve
     complete testing.

B851005 [New] VCS Label: A4_1H
     Checks that "known to be constrained" is properly enforced for
     renames. Part 1: "Normal" cases (no generics or access cases).

B851006 [New] VCS Label: A4_1H
     Checks that "known to be constrained" is properly enforced for
     renames. Part 2: Access cases.

B851007 [New] VCS Label: A4_1K
     [VCS Label A4_1H] Checks that "known to be constrained" is
     properly enforced for renames. Part 3: Generic cases.
     [VCS Label A4_1K] Corrected types of declaration @198 and @214,
     and mode @328.

B853001 [New] VCS Label: A4_1H
     Checks that a renamed limited view cannot be used where there is
     not a with for the original package.

B854002 [New] VCS Label: A4_1J

[VCS Label A4_1H] When parameter or result has a null exclusion
for a subprogram rename, check that the subtype of the
corresponding parameter or result of the renamed subprogram must
exclude null.
[VCS Label A4_1J] Corrected wording of the second test objective.
[VCS Label A4_1R] Corrected error markers on RenG51, RenG61,
RenGF51, and RenGF61. Corrected renaming @412 to rename the
correct function.

B854003 [New] VCS Label: A4_1J
     Check various rules about renames as body: conformance of both the
     renaming and renamed entity, and renaming of abstract and
     intrinsic subprograms.

B854004 [New] VCS Label: A4_1J
     Check that renaming a subprogram that requires overriding is
     illegal.

B854005 [New] VCS Label: A4_1J
     Check that a renaming of a prefixed view is illegal if renaming
     the prefix as an object is illegal.

B860002 [New] VCS Label: A4_1Q
     Check that implicit conversions of access types don't allow too
     much.

B91003A [Modified] VCS Label: A4_1C
     Added additional error locations to directly support common error
     reporting strategies.

B91003B [Modified] VCS Label: A4_1C
     Added additional error locations to directly support common error
     reporting strategies.

B91003C [Modified] VCS Label: A4_1C
     Added additional error locations to directly support common error
     reporting strategies.

B91003D [Modified] VCS Label: A4_1C
     Added additional error locations to directly support common error
     reporting strategies.

B940003 [Modified] VCS Label: A4_1C
     Added additional error locations to directly support common error
     reporting strategies.

B940004 [Modified] VCS Label: A4_1C
     Split into 8 files; added location indicators.

B940008 [New] VCS Label: A4_1M
     Check the overriding indicators work properly on protected
     subprograms.

B940009 [New] VCS Label: A4_1M
     Check that the mode and type of the first parameter of protected
     operations that implement inherited subprograms is correct.

B940010 [New] VCS Label: A4_1M
      Check that a protected operation and a primitive subprogram of a
      tagged protected type cannot have the same profile.

B940011 [New] VCS Label: A4_1M
      Check that an protected operation and the associated inherited
      operation must subtype conform. Check that inherited operations
      must be implemented, overridden, or be a null procedure.

C940017 [New] VCS Label: A4_1M
      Check that dispatching calls can be made through a protected
      interface and that they can be implemented with protected
      subprograms and entries.

C94001A [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C94001B [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C94001C [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C94002A [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C94004A [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C94004B [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C94004C [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C94005A [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C94005B [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C94007A [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C94010A [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

B95007B [Modified] VCS Label: A4_1A
      Fixed error markers @62,66,70 to match ACATS standards.

C95012A [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

C95072A [Withdrawn] VCS Label: A4_1R
      Replaced by C620002; it violated the anti-order dependence
      rules of 6.4.1.

B952005 [New] VCS Label: A4_1M
      Check the overriding indicators work properly on task and
      protected entries.

C97307A [Modified] VCS Label: A4_1M
      Revised test to replace excessive delays with Impdef constants.

BA1001D [Modified] VCS Label: A4_1G
      Revised to mark the main subprogram as optional, as it is not
      necessary to check the test objective. Added error location
      indicators.

BA1020F [Modified] VCS Label: A4_1G
      Revised to mark the main subprogram as optional, as it is not
      necessary to check the test objective. Added error location
      indicators.

BA11007 [Modified] VCS Label: A4_1G
      Split into six test files to avoid requiring error recovery.

BA11013 [Modified] VCS Label: A4_1G
      Revised to make processing the last compilation unit optional,
      as it is not necessary to check the test objective. Added error
      location indicators.

BA1101E [Withdrawn] Org VCS Label: A4_1G
      Replaced by test BA14001.

BA12010 [Modified] VCS Label: A4_1G
      Revised to use Possible Error tags, and added error location
      indicators.

BA12018 [New] VCS Label: A4_1H
      Check that names mentioned but not named in a private with are
      also treated as privately withed.

BA14001 [New] VCS Label: A4_1G
      Replaces test BA1101E with modern format and additional test cases
      for Ada 95 compilation units.

BA14002 [New] VCS Label: A4_1G
      Similar to BA14001, testing private with.

BA14003 [New] VCS Label: A4_1G
      Checks that a unit is illegal if it depends on two versions of the
      same unit.

BA21005 [New] VCS Label: A4_1D
      Test that Pure and Preelaborate aspects cannot be specified late,
      with a nonstatic expression, or an expression of a type other than
      Boolean.

BB42001 [New] VCS Label: A4_1C
      [VCS Label A4_1A] Check that the arguments of a pragma Assert
      have to have the correct types.
      [VCS Label A4_1C] Corrected two incorrect error location codes.

CB42001 [New] VCS Label: A4_1A
      Check the usual operation of pragma Assert, including the optional
      message.

BB42002 [New] New VCS Label: A4_1A
      Check that the arguments of a pragma Assert cannot be reordered
      even if named notation is used.

CB42002 [New] New VCS Label: A4_1A
      Check that if the assertion policy is Ignore, none of the
      expressions of a pragma Assert are evaluated and no exception is
      raised by the pragma.

BB42003 [New] VCS Label: A4_1A
      Check that a pragma Assertion_Policy is illegal
      if the policy is not recognized.

CB42003 [New] VCS Label: A4_1A
      Check that procedure Ada.Assertions.Assert evaluates its arguments
      and raises Assertion_Error regardless of the assertion policy.

CC3601C [Modified] VCS Label: A4_1E
      Moved "=" for type Rec in order that it not violate 4.5.2(9.8/4).

BC40003 [Pending New] VCS Label: A4_1J
      [VCS A4_1H] Checks that the subtype of the actual for a generic
      formal object with a null exclusion must exclude null.
      [VCS A4_1J] Revised test to eliminate cases whose result would be
      changed by pending AI12-0287-1, and to preserve complete testing.

CC51010 [Modified] VCS Label: A4_1F
      The main subprogram name was corrected to follow the rules of the
      ACATS User's Guide, clause 4.3.3.

BC51016 [Modified] VCS Label: A4_1G
      Corrected bad error tag, and added error location indicators.

BC51019 [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                  Required in ACATS 4.2
      Added error location indicators.

BC51020 [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                  Required in ACATS 4.2
      Added error location indicators.

BC51B02 [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                  Required in ACATS 4.2
      Added error location indicators.

BC51C01 [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                  Required in ACATS 4.2
      Added error location indicators.

BC51C02 [Allowed Modification] New VCS Label: A4_1P Org VCS Label: A4_1
                  Required in ACATS 4.2
      Added error location indicators.

BC54004 [New] VCS Label: A4_1H
      Checks that the null exclusion of the formal type and of the
      actual subtype for a generic formal access type must match.

BC55001 [Pending New] New VCS Label: A4_1P
                  Required after 2020-07-01
      Check that formal interface types cannot be used in contexts that
      do not allow abstract types.

BC60005 [New] VCS Label: A4_1J
      [VCS Label A4_1H] Checks that the subtype of a parameter or result
      of the actual subprogram for a generic formal subprogram where the
      corresponding parameter or result has a null exclusion must
      exclude null.
      [VCS Label A4_1J] Corrected wording of the second test objective.
      [VCS Label A4_1Q] Corrected error markers on InstG51, InstG61,
      InstGF51, and InstGF61.
      [VCS Label A4_1R] Corrected instance @437 to use correct actual
      parameter.

BD10001 [New] VCS Label: A4_1R
      Check that an aspect cannot be specified in multiple ways for a
      single entity.

CD1009A [Withdrawn] VCS Label: A4_1D
      Has one of the objectives of, and thus redundant with, test
      CD2A31C (now CD30012).

CD1009B [Withdrawn] VCS Label: A4_1D
      Has one of the objectives of, and thus redundant with, test
      CD2A21C (now CD30011).

CD1009L [Withdrawn] VCS Label: A4_1D
      Virtually identical to, and thus redundant with, test CD2D13A.

CD1009M [Withdrawn] VCS Label: A4_1D
      Virtually identical to, and thus redundant with, test CD3014C.

CD11001 [New] VCS Label: A4_1A
      Check that appropriate entities are visible in an aspect
      specification.

CD2A21C [Withdrawn] VCS Label: A4_1D
      Replaced by CD30011.

CD2A31C [Withdrawn] VCS Label: A4_1D
      Replaced by CD30012.

BD30001 [New] VCS Label: A4_1D
      Check Legality Rules are enforced when Size is specified by an
      aspect specification for a type.

BD30002 [New] VCS Label: A4_1D
      Check Legality Rules are enforced when Alignment is specified by
      an aspect specification for a type.

BD30003 [New] VCS Label: A4_1D

Check Legality Rules are enforced when Component_Size is specified
        by an aspect specification.

CD30010 [New] VCS Label: A4_1D
        Check that Component_Size can be specified via an aspect
        specification.

CD30011 [New] VCS Label: A4_1D
        Merges legacy tests CD1009B and CD2A21C to eliminate duplication
        (CD1009B has the same objective as one of the objectives of
        CD2A21C) while adding modern formatting and applicability
        criteria.

CD30012 [New] VCS Label: A4_1D
        Merges legacy tests CD1009A and CD2A31C to eliminate duplication
        (CD1009A has the same objective as one of the objectives of
        CD2A31C) while adding modern formatting and applicability
        criteria.

BD4003A [Modified] VCS Label: A4_1A
        Moved error marker from @66 to @67 so it is on the incorrect
        construct.

BDB0A01 [Modified] VCS Label: A4_1G
        Revised to use Possible Error tags, and added error location
        indicators.

BDB2001 [New] VCS Label: A4_1G
        Check that a call on an instance of Unchecked_Deallocation is
        illegal if the access type has a Storage_Size that is statically
        zero.

BDB4001 [Pending New] New VCS Label: A4_1P
                    Required after 2020-07-01
        Check that the object for a pool that supports subpools is
        declared in the same scope as the access type that uses it.

BDD2003 [Modified] VCS Label: A4_1G
        Added additional error locations to directly support common error
        reporting strategies.

BDD2006 [New] VCS Label: A4_1Q
        Check that the requirements for specifying the Stream_Size
        attribute are enforced.

BDD2007 [New] VCS Label: A4_1Q
        Check that the requirements for specifying the Stream_Size
        aspect are enforced.

CDD2B01 [New] VCS Label: A4_1Q
        Check that confirming Stream_Size attributes work as expected.

CDD2B02 [New] VCS Label: A4_1Q
        Check that confirming Stream_Size aspects work as expected.

CDD2B03 [New] VCS Label: A4_1Q
        Check that non-confirming Stream_Size attributes work as expected.

CDD2B04 [New] VCS Label: A4_1Q
      Check that non-confirming Stream_Size aspects work as expected.

CDE0002 [Modified] VCS Label: A4_1E
      Changed to use Storage_Size rather than Size so that the static
      expression rule of 13.14(7.2/3) is not triggered.

CXAC009 [New] VCS Label: A4_1D
      Check that Stream_IO.File_Type has Preelaborable_Initialization.

CXAG003 [New] VCS Label: A4_1H
      [VCS Label A4_1G] Check that function
      Ada.Directories.Name_Case_Equivalence exists and that it
      reflects the handling of file names.
      [VCS Label A4_1H] Added "return;" @171; if the file can't be
      opened, the Read_File trial is complete.

CXAIB01 [Pending New] VCS Label: A4_1U
                    Required after 2021-07-01
      [VCS Label A4_1T] Check that Ada.Containers.Vectors is
      preelaborated, and it and types declared in it can be used in
      preelaborated packages.
      [VCS Label A4_1U] Corrected instance prefix of No_Element in
      some Insert calls. Qualified aggregates to avoid issues for Ada
      202x.

CXAIB02 [Pending New] VCS Label: A4_1U
                    Required after 2021-07-01
      [VCS Label A4_1T] Check that Ada.Containers.Bounded_Vectors is
      preelaborated, and it and types declared in it can be used in
      preelaborated packages.
      [VCS Label A4_1U] Corrected instance prefix of No_Element in
      some Insert calls. Qualified aggregates to avoid issues for Ada
      202x.

CXAIB03 [Pending New] VCS Label: A4_1U
                    Required after 2021-07-01
      [VCS Label A4_1T] Check that Ada.Containers.Doubly_Linked_Lists is
      preelaborated, and it and types declared in it can be used in
      preelaborated packages.
      [VCS Label A4_1U] Corrected instance prefix of No_Element in
      some Insert calls.

CXAIB04 [Pending New] VCS Label: A4_1U
                    Required after 2021-07-01
      [VCS Label A4_1T] Check that
      Ada.Containers.Bounded_Doubly_Linked_Lists is preelaborated, and
      it and types declared in it can be used in preelaborated packages.
      [VCS Label A4_1U] Corrected instance prefix of No_Element in
      some Insert calls.

CXAIB05 [Pending New] VCS Label: A4_1T
                    Required after 2021-07-01
      Check that Ada.Containers.Ordered_Maps is preelaborated,
      and it and types declared in it can be used in preelaborated
      packages.

CXAIB06 [Pending New] VCS Label: A4_1T
                    Required after 2021-07-01
      Check that Ada.Containers.Bounded_Ordered_Maps is preelaborated,
      and it and types declared in it can be used in preelaborated
      packages.

CXAIB07 [Pending New] VCS Label: A4_1T
                    Required after 2021-07-01
      Check that Ada.Containers.Hashed_Maps is preelaborated,
      and it and types declared in it can be used in preelaborated
      packages.

CXAIB08 [Pending New] VCS Label: A4_1T
                    Required after 2021-07-01
      Check that Ada.Containers.Bounded_Hashed_Maps is preelaborated,
      and it and types declared in it can be used in preelaborated
      packages.

CXB3019 [Modified] VCS Label: A4_1S
      Added missing failures if Program_Error is not raised when
      expected.

CXB3020 [Modified] VCS Label: A4_1S
      Added missing failures if Program_Error is not raised when
      expected.

CXB3021 [Modified] VCS Label: A4_1S
      Added missing failures if Program_Error is not raised when
      expected.

CXB3022 [Modified] VCS Label: A4_1S
      Added missing failures if Program_Error is not raised when
      expected.

CXB3023 [New] VCS Label: A4_1A
      Check that a value of an unchecked union type (defined with
      pragma Unchecked_Union) can be passed to a C function.

CXB3024 [New] VCS Label: A4_1A
      Check that a value of an unchecked union type (defined with
      aspect Unchecked_Union) can be passed to a C function.

===== Annex C =====

BXC6A03 [Modified] VCS Label: A4_1G
      Changed subtest result to require the changes of AI05-0218-1.

===== Annex D =====

CXD2007 [Modified] VCS Label: A4_1C
      Added missing N/A => Error tag.

LXD7001 [Modified] VCS Label: A4_1C
      Added missing error tag.

LXD7003 [Modified] VCS Label: A4_1C
        Added missing error tag.

LXD7004 [Modified] VCS Label: A4_1C
        Added missing error tag.

LXD7005 [Modified] VCS Label: A4_1C
        Added missing error tag.

LXD7006 [Modified] VCS Label: A4_1C
        Added missing error tag.

LXD7007 [Modified] VCS Label: A4_1C
        Added missing error tag.

LXD7008 [Modified] VCS Label: A4_1C
        Added missing error tag.

LXD7009 [Modified] VCS Label: A4_1C
        Added location indicators.

CXDB001 [Modified] VCS Label: A4_1C
        Added missing N/A => Error tag.

CXDB002 [Modified] VCS Label: A4_1C
        Added missing N/A => Error tag.

CXDB003 [Modified] VCS Label: A4_1C
        Added missing N/A => Error tag.

CXDB004 [Modified] VCS Label: A4_1C
        Added missing N/A => Error tag.

===== Annex E =====

[None.]

===== Annex F =====

[None.]

===== Annex G =====

[None.]

===== Annex H =====

LXH4001 [Modified] VCS Label: A4_1C
        Corrected format of error tag; added location indicators.

LXH4003 [Modified] VCS Label: A4_1C
        Corrected format of error tag; added location indicators.

LXH4006 [Modified] VCS Label: A4_1C
        Added missing error tags.

LXH4009 [Modified] VCS Label: A4_1C

Added missing error tags.

LXH4013 [Modified] VCS Label: A4_1C
          Added missing error tags.

LXH4014 [Modified] VCS Label: A4_1C
          Added missing error tags.

===== Support =====

F350A00 [New] VCS Label: A4_1R
          A foundation for discrete specified Default_Value tests.

F350B00 [New] VCS Label: A4_1R
          A foundation for real specified Default_Value tests.

F360A00 [Pending New] New VCS Label: A4_1S
                    Required after 2021-04-01
          A foundation for discrete specified Default_Component_Value tests.

F360B00 [Pending New] New VCS Label: A4_1S
                    Required after 2021-04-01
          A foundation for real specified Default_Component_Value tests.

F611A00 [New] VCS Label: A4_1C
          [VCS Label A4_1A] Foundation for tests C611A01, C611A02, and
          C611A03.
          [VCS Label A4_1C] Added additional data for test C611A04. The
          changes are only needed for that test.

F611B00 [New] VCS Label: A4_1A
          Foundation for tests C611B01, C611B02, and C611B03.

FDD2B00 [New] VCS Label: A4_1Q
          A foundation for Stream_Size aspect tests.

FXAIB00 [Pending New] VCS Label: A4_1T
                    Required after 2021-07-01
          A foundation for container preelaboration tests.

GRADE.A [Modified] VCS Label: A4_1G
          [VCS Label A4_1C] Allowed manual grading for tests that are
          missing execution or linking (with no earlier errors). Corrected
          the result for binder crashes. Added category totals to the
          summary.
          [VCS Label A4_1D] Corrected so that Annex C RQMT failures are
          properly counted in their own category.
          [VCS Label A4_1G] Corrected call @1578 so that the special
          handling flag rather than the failed flag is used with a manual
          grading message for a missing error set. (The actual grade was
          correct, only the message was wrong.)

GRD_DATA.A [Modified] VCS Label: A4_1P
          [VCS Label A4_1D] Increased table sizes as the new tests have
          caused grading the entire ACATS to exceed the old limits.
          [VCS Label A4_1M] Generalized reading of white space in order to
          be more resilient, especially on Unix-like systems.

```
        [VCS Label A4_1P] MAX_SUMMARY_ITEMS @66 was increased to 40_000
        as the ACATS has grown to exceed the old limit.

SPECIAL.A [Modified] VCS Label: A4_1J
        [VCS Label A4_1C] Added test BA21005 to the list of optional main
        subprograms.
        [VCS Label A4_1H] Added seven tests to the list of optional main
        subprograms.
        [VCS Label A4_1J Added more tests to the list of optional main
        subprograms.

SUMMARY.A [Modified] VCS Label: A4_1C
        Corrected identification of main subprograms in modern tests.
        Changed the unit name for subunits to be the full expanded name
        including the parent name.

TCTOUCH.ADA [Modified] VCS Label: A4_1H
        Added code so that Touch only reports buffer overflow once. Fixed
        the Id string.
```

How to get new and modified tests:

The official home of the ACATS test suite is the ACAA web site. The site can be accessed at www.ada-auth.org.

The complete set of official new and modified tests are available in the Mod_4_1V.Zip and Tar files on the ACAA web site. As always, when a multi-file test is modified, we provide all of the files, including the unmodified files.

Individual new and modified tests can be retrieved from the ACATS VCS. Simply navigate to the appropriate directory (folder), and select the test you want. Select the revision you want (usually the most recent) and it will be retrieved for you. Tests are stored in directories that correspond to the test's prefix. For instance, the test CD92001.A will be found in the CD directory. You can also browse the differences between versions of a test. [In case of a conflict, the files in the ACATS VCS should be considered the 'official' versions.]

If you cannot get the files from the official site or you cannot get the files in a format appropriate for your processor, please contact your ACAL.

The baseline ACATS 4.1 is available in various formats on the ACAA web site.

Summary lists:

Withdrawn Tests

(Refer to the main list for details)

```
B74001A
B74001B
B74203E
B85002A
B85003A
B85003B
BA1101E
```

```
C95072A
CD1009A
CD1009B
CD1009L
CD1009M
CD2A21C
CD2A31C
```

Allowed Modification Tests

(Refer to the main list for details)

```
B32201A     ACATS 4.2
B33101A     ACATS 4.2
B38103A     ACATS 4.2
B38103B     ACATS 4.2
B38103C     ACATS 4.2
B38103D     ACATS 4.2
B38103E     ACATS 4.2
B3A2018     2021-04-01 [VCS Label A4_1T]
B48002A     ACATS 4.2
B48002G     ACATS 4.2
B48003B     ACATS 4.2
B48003E     ACATS 4.2
B490003     ACATS 4.2
B56001A     ACATS 4.2
B57001B     ACATS 4.2
B611006     2021-07-01 [VCS Label A4_1V]
B660002     ACATS 4.2
B660003     ACATS 4.2
B66001A     ACATS 4.2
B66001B     ACATS 4.2
BC51019     ACATS 4.2
BC51020     ACATS 4.2
BC51B02     ACATS 4.2
BC51C01     ACATS 4.2
BC51C02     ACATS 4.2
```

Modified Tests

(Refer to the main list for details)

```
B33001A
B37309B
B37310B
B37311A
B38003D
B392002
B392003
B392004
B392005
B393001
B393007
B393010
```

```
B3A1001
B3A1002
B3A2007
B3A2008
B3A2009
B3A2011
B3A2012
B3A2016
B413004
B455002
B457001
B457004
B4A010C
B540001
B540002
B54B01B
B54B01C
B54B02B
B54B02C
B54B02D
B54B04A
B54B04B
B54B05A
B551002
B552A01
B55B12B
B55B12C
B62001C
B62001D
B63005A
B65005B
B680001
B730006
B73001A
B73001B
B73001C
B73001D
B73001E
B73001F
B73001G
B73001H
B732C02
B740003
B83027B
B83027D
B83E01B
B83F02C
B851004
B95007B
B91003A
B91003B
B91003C
B91003D
B940003
B940004
BA1001D
BA1020F
```

```
BA11007
BA11013
BA12010
BC51016
BB42001
BD4003A
BDB0A01
BDD2003
BXC6A03
C352001
C415001
C52101A
C94001A
C94001B
C94001C
C94002A
C94004A
C94004B
C94004C
C94005A
C94005B
C94007A
C94010A
C95012A
C97307A
CC3601C
CC51010
CDE0002
CXB3019
CXB3020
CXB3021
CXB3022
CXD2007
CXDB001
CXDB002
CXDB003
CXDB004
LXD7001
LXD7003
LXD7004
LXD7005
LXD7006
LXD7007
LXD7008
LXD7009
LXH4001
LXH4003
LXH4006
LXH4009
LXH4013
LXH4014
GRADE
GRD_DATA
SPECIAL
SUMMARY
TCTOUCH.ADA
```

New Tests

(Refer to the main list for details)

```
B350001
B354002
B35A001
B360001
B393012
B393013
B3A2018 [VCS Label A4_1H]
B431007
B432002
B432003
B452001
B452002
B458001
B480004
B611001
B611002
B611003
B611004
B611005
B611006 [VCS Label A4_1C]
B611007
B611008
B611009
B611010
B611011
B611012
B611013
B611014
B611015
B611016
B611017
B611018
B611019
B631001
B651001
B651002
B641003
B730011
B730012
B730013
B750A07
B831006
B851005
B851006
B851007
B853001
B854002
B854003
B854004
B860002
B940008
```

```
B940009
B940010
B940011
B952005
BA12018
BA14001
BA14002
BA14003
BA21005
BB42001
BB42002
BB42003
BC40003
BC54004
BC55001
BC60005
BD10001
BD30001
BD30002
BD30003
BDB2001
BDB4001
BDD2006
BDD2007
C350001
C350A01
C350A02
C350B01
C350B02
C354004
C35A001
C3A0030
C452002
C452003
C452004
C452005
C452006
C452A01
C452A02
C452A03
C453001
C460014
C460015
C470001
C480001
C611A01
C611A02
C611A03
C611A04
C611B01
C611B02
C611B03
C620002
C650B04
C651001
C651002
C760A02
```

```
C760A03
C940017
CB42001
CB42002
CB42003
CD11001
CD30010
CD30011
CD30012
CDD2B01
CDD2B02
CDD2B03
CDD2B04
CXAC009
CXAG003
CXB3023
CXB3024
F350A00
F350B00
F611A00
F611B00
FDD2B00
```

Pending New Tests

(Refer to the main list for details)

```
B641003      2021-10-01
B651004      2021-10-01
C360A01      2021-04-01
C360A02      2021-04-01
C360B01      2021-04-01
C360B02      2021-04-01
C641002      2021-10-01
C641003      2021-10-01
CXAIB01      2021-07-01
CXAIB02      2021-07-01
CXAIB03      2021-07-01
CXAIB04      2021-07-01
CXAIB05      2021-07-01
CXAIB06      2021-07-01
CXAIB07      2021-07-01
CXAIB08      2021-07-01
F360A00      2021-04-01
F360B00      2021-04-01
FXAIB00      2021-07-01
```