Coverage for ISO/IEC 8652:2012 and subsequent corrections in ACATS 3.x and 4.x Subclause 6.1.1

A Key to Kinds and subkinds is found on the sheet named Key. Tests new to ACATS 3.0 are shown in **bold**; ACATS 3.1 in **bold italic**; ACATS 4.0 in **blue bold**; ACATS 4.1 in **blue bold italic**. ACATS 4.2 in **green bold italic**.

			•		ŕ		(Objective's		, and the second	Submitted tests
Clause	Para.	Lines	Kind	Subkind	Notes	Tests	New I	Priority	Objective Text	Objective notes	(will need work).
6.1.1	(1/4)		StaticSem	Portion	Lead-in for the following paragraphs. Changed by Al12-0045-1.						
	(2/3)	1	StaticSem			C611001, C611B01	All		Check that Pre can be specified for a non-instance subprogram.		
					Added by Al12-0045-1 (in TC1)	B611001	Part		7 Check that Pre can be specified for a generic subprogram.	Still need a C-Test, can be included in some other tests.	
						B611001, B611007	Part		7 Check that Pre can be specified for an entry.	Still need a C-Test, can be included in some other tests.	
				Negative	Added by Al12-0045-1 (in TC1)	B611001	All		Check that Pre cannot be specified for an instance that is a subprogram.	Was a change from the original Ada 2012 text.	
				Negative		B611001	All		Check that Pre cannot be specified for packages, objects, types, single tasks, or single protected objects.		
				Negative	From 13.1.1(18/4), here to ensure it is tested throughly.	BD11001 (one example), B611002	All		Check that Pre cannot be specified on a subprogram body that is acting as a completion.		
				Negative	From Al12-0169-1 and another Al not yet written; needs to be tested here, but only part of next standard.				Check that Pre cannot be specified on an entry body.	B-Test. For next standard (whatever it is: Amendment or Revision)	
		2		Widely Used	This is the Ada 95; any Ada 95 subprogram call implicitly tests it.						
	(3/3)	1	StaticSem		"Primitive" is required by 13.1.1(16/3).	C611001, C611B02	All		Check that Pre'Class can be specified for a non-instance primitive subprogram of a tagged type.		
				Negative	A generic subprogram can never be primitive. Nor can an instance of a generic subprogram ever be a primitive operation of a tagged type (the occurrence of the instance freezes the tagged type, making instance be too late for freezing). Thus we don't need a separate instance test here.	B611003	All		Check that Pre'Class cannot be specified for a generic subprogram.		
				Negative	Confirmed by pending Al12-0182-1				Check that Pre'Class cannot be specified for an entry of a 7 tagged task or protected type.	B-Test.	
				Negative		B611007	All		Check that Pre'Class cannot be specified for an entry of an untagged task or protected type.		
				Negative	Confirmed by pending Al12-0182-1				Check that Pre'Class cannot be specified for a protected subprogram of a tagged protected type.	B-Test.	
				Negative		B611007	All		Check that Pre'Class cannot be specified for a protected subprogram of an untagged protected type.		
				Negative	"Primitive" is required by 13.1.1(16/3); we test this here because we want to ensure that this rule is tested for this aspect; the general rule just tries one example.	BD11001 (one example), B611003 (ordinary tagged types, interfaces)	Part		Check that Pre'Class cannot be specified for a subprogram 7 that is not a primitive subprogram of some tagged type.	B-Test. Still need to try subprograms that have parameters of tagged task types, protected types, single tasks, and single protected objects.	

			Negative	From 13.1.1(18/4), here to ensure it is	B611003 BD11001 (one example),	Part	Check that Pre'Class cannot be specified for packages, 6 objects, types, single tasks, or single protected objects. Check that Pre'Class cannot be specified on a subprogram	B-Test. Still need to try tagged task types, protected types, single tasks, and single protected objects.
			Negative	tested throughly.	B611004	All	body that is acting as a completion.	
			Negative	From Al12-0169-1 and another Al not yet written; needs to be tested here, but only part of next standard.			Check that Pre'Class cannot be specified on an entry body.	B-Test. For next standard (whatever it is: Amendment or Revision)
	2		Widely Used	This is the Ada 95; any Ada 95 dispatching subprogram call implicitly tests it.				
(4/3)	1	StaticSem			C611001, C611B01	All	Check that Post can be specified for a non-instance subprogram.	
				Added by Al12-0045-1 (2015 Corrigendum)	B611001	Part	7 Check that Post can be specified for a generic subprogram.	Still need a C-Test, can be included in some other tests.
					B611001, B611007	Part	7 Check that Post can be specified for an entry.	Still need a C-Test, can be included in some other tests.
			Negative	Added by Al12-0045-1 (in TC1)	B611001	All	Check that Post cannot be specified for an instance that is a subprogram.	Was a change from the original Ada 2012 text.
			Negative		B611001	All	Check that Post cannot be specified for packages, objects, types, single tasks, or single protected objects.	
			Negative	From 13.1.1(18/4), here to ensure it is tested throughly.	BD11001 (one example), B611002	All	Check that Post cannot be specified on a subprogram body that is acting as a completion.	
			Negative	From Al12-0169-1 and another Al not yet written; needs to be tested here, but only part of next standard.			Check that Post cannot be specified on an entry body.	B-Test. For next standard (whatever it is: Amendment or Revision)
	2		Widely Used	This is the Ada 95; any Ada 95 subprogram call implicitly tests it.				
(5/3)	1	StaticSem		"Primitive" is required by 13.1.1(16/3).	C611001, C611B02	All	Check that Post'Class can be specified for a non-instance primitive subprogram of a tagged type.	
			Negative	A generic subprogram can never be primitive. Nor can an instance of a generic subprogram ever be a primitive operation of a tagged type (the occurrence of the instance freezes the tagged type, making instance be too late for freezing). Thus we don't need a separate instance test here.	B611003	All	Check that Post'Class cannot be specified for a generic subprogram.	
			Negative	Confirmed by pending Al12-0182-1			Check that Post'Class can be specified for an entry of a 7 tagged task or protected type.	B-Test.
			Negative		B611007	All	Check that Post'Class cannot be specified for an entry of an untagged task or protected type.	
			Negative	Confirmed by pending Al12-0182-1			Check that Post'Class can be specified for a protected 7 subprogram of a tagged protected type.	B-Test.
			Negative		B611007	All	Check that Post'Class cannot be specified for a protected subprogram of an untagged protected type.	
			Negative	"Primitive" is required by 13.1.1(16/3); we test this here because we want to ensure that this rule is tested for this aspect; the general rule just tries one example.	B611003	Part	Check that Post'Class cannot be specified for a subprogram 7 that is not a primitive subprogram of some taagged type.	B-Test. Still need to try subprograms that have parameters of tagged task types, protected types, single tasks, and single protected objects.

	2		·	From 13.1.1(18/4), here to ensure it is tested throughly. From Al12-0169-1 and another Al not yet written; needs to be tested here, but only part of next standard. This is the Ada 95; any Ada 95 dispatching subprogram call implicitly tests it.	B611003 BD11001 (one example), B611004	Part All	Check that Post'Class cannot be specified for packages, 6 objects, types, single tasks, or single protected objects. Check that Post'Class cannot be specified on a subprogram body that is acting as a completion. 1 Check that Post'Class cannot be specified on an entry body.	B-Test. Still need to try tagged task types, protected types, single tasks, and single protected objects. B-Test. For next standard (whatever it is: Amendment or Revision)
(6/3)		NameRes		The normal legal case will be checked by any C-Test for the aspect.			Check that the expression of aspect Pre can have a boolean 5 type other than Boolean.	C-Test, not very common.
							Check that the expression of aspect Pre can be resolved if 5 there is exactly one interpretation for a boolean type.	C-Test, just normal resolution.
			Negative				Check that the expression of aspect Pre is illegal if there is not 5 exactly one interpretation for a boolean type.	B-Test, just normal resolution.
				The normal legal case will be checked by any C-Test for the aspect.			Check that the expression of aspect Pre'Class can have a 4 boolean type other than Boolean.	C-Test, not very common.
							Check that the expression of aspect Pre'Class can be resolved 4 if there is exactly one interpretation for a boolean type.	C-Test, just normal resolution.
			Negative				Check that the expression of aspect Pre'Class is illegal if there 4 is not exactly one interpretation for a boolean type.	B-Test, just normal resolution.
				The normal legal case will be checked by any C-Test for the aspect.			Check that the expression of aspect Post can have a boolean 5 type other than Boolean.	C-Test, not very common.
							Check that the expression of aspect Post can be resolved if 5 there is exactly one interpretation for a boolean type.	C-Test, just normal resolution.
			Negative				Check that the expression of aspect Post is illegal if there is 5 not exactly one interpretation for a boolean type.	B-Test, just normal resolution.
				The normal legal case will be checked by any C-Test for the aspect.			Check that the expression of aspect Post'Class can have a 4 boolean type other than Boolean.	C-Test, not very common.
							Check that the expression of aspect Post'Class can be resolved if there is exactly one interpretation for a boolean 4 type.	C-Test, just normal resolution.
			Negative				Check that the expression of aspect Post'Class is illegal if 4 there is not exactly one interpretation for a boolean type.	B-Test, just normal resolution.
(7/4)		NameRes		Essentially replaced by Al12-0113-1 (in TC1)	C611001 (abstract operation)	Part	Check that, for a primitive operation of a type T, that the class-wide precondition expression can make calls to other primitive 8 operations of type T.	C-Test, can be included in some other tests.
					B611006	Part	Check that, for a primitive operation of a type T, that the class-wide precondition expression can make calls to operations 6 with a parameter of T'Class.	C-Test, might come up in some other context. B-Test includes an example, but we still need to execute one.
				Note: we don't need to worry about F'Result in preconditions; it's not legal there.			Check that, for a primitive operation of a type T, that the class-wide precondition expression can convert parameters of type T to T'Class to force redispatching. operations of type T.	C-Test, might come up in some other context.

	Negative	Made illegal by Al12-0113-1 (but always was nonsense).	B611006	All	Check that, for a primitive operation of a type T, that the class-wide precondition expression cannot make calls to nonprimitive operations of type T or functions returning T'Class.	
	Negative	T'Class case made illegal by Al12-0113-1 (but always was nonsense).	B611006	All	Check that, for a primitive operation of a type T, that the class- wide precondition expression cannot use a global object of type T or T'Class as a parameter to a primitive operation of type T.	
			C611001 (abstract operation)	Part	Check that, for a primitive operation of a type T, that the class-wide postcondition expression can make calls to other 8 primitive operations of type T.	C-Test, can be included in some other tests.
			B611006	Part	Check that, for a primitive operation of a type T, that the class-wide postcondition expression can make calls to operations 6 with a parameter of T'Class.	C-Test, might come up in some other context. The B-Test includes a case, but we'd like to run one.
					Check that, for a primitive function F with a controlling result of type T, that the class-wide postcondition expression can make calls to other primitive operations of type T using F'Result as a parameter.	
					Check that, for a primitive function F with a controlling access result of type T, that the class-wide postcondition expression can make calls to other primitive operations of type T using 7 F'Result as a parameter.	C-Test, can be included in some other tests.
					Check that, for a primitive operation of a type T, that the class-wide postcondition expression can convert parameters of type T to T'Class to force redispatching. operations of type T.	
					Check that, for a primitive operation of a type T, that the class-wide postcondition expression can call subprograms that do not have a parameter of type T or T'Class, and that global 5 objects of types not related to T can be used.	C-Test, not very likely to be wrong.
	Negative	Made illegal by Al12-0113-1 (but always was nonsense).	B611006	All	Check that, for a primitive operation of a type T, that the class-wide postcondition expression cannot make calls to nonprimitive operations of type T or functions of T'Class.	
	Negative	T'Class case made illegal by Al12- 0113-1 (but always was nonsense).	B611006	All	Check that, for a primitive operation of a type T, that the class- wide postcondition expression cannot use a global object of type T or T'Class as a parameter to a primitive operation of type T.	
(8/3) NameRes		The "shall resolve to" case.			Check that in a qualified expression used in a postcondition expression, an overloaded prefix of 'Old can be resolved if the 7 prefix alone could be resolved.	C-Test.
		The "expected type" case.			Check that in an actual parameter expression used in a postcondition expression, an overloaded prefix of 'Old can be 7 resolved if the prefix alone could be resolved.	C-Test. There are other cases that we could try, but that's probably overkill.
		The "otherwise" case.			Check that in a type conversion used in a postcondition expression, an overloaded prefix of 'Old cannot be resolved, 7 even if only one interpretation would be legal.	B-Test.
(9/3) 1 Legality			B611005	All	Check that a Pre aspect cannot be specified on an abstract subprogram.	

Check that, for a primitive operation of a type T, that the class-wide precondition expression can call subprograms that do not have a parameter of type T or T'Class, and that global objects of types not related to T can be used.

C-Test, not very likely to be wrong.

					B611005	All	Check that a Pre aspect cannot be specified on a null procedure.	
					B611005	All	Check that a Post aspect cannot be specified on an abstract subprogram.	
					B611005	All	Check that a Post aspect cannot be specified on a null procedure.	
	2		Redundant	(The same objectives could have been tested as "Negative" above)	C611001	All	Check that a Pre'Class aspect can be specified on an abstract subprogram.	
							Check that a Pre'Class aspect can be specified on a null procedure.	C-Test, can be included in some other tests.
					C611001	All	Check that a Post'Class aspect can be specified on an abstract subprogram.	
							Check that a Post'Class aspect can be specified on a null 7 procedure.	C-Test, can be included in some other tests.
(10/3)		Legality	Portion	Tested under paragraphs 15 and 16 below.				
(11/3)		Legality	Portion	Tested under paragraphs 15 and 16 below.				
(12/3)		Legality	Portion	Tested under paragraphs 15 and 16 below.				
(13/3)		Legality	Portion	Tested under paragraphs 15 and 16 below.				
(14/3)		Legality	Portion	Just a connecting word.				
(15/3)		Legality					Check that for an abstract type T that inherits homographs of a subprogram S from two different ancestors with non-conforming preconditions, the inherited S cannot be called by 7 a statically bound call.	B-Test. This is the main way to tell that S is abstract.
(16/3)		Legality					Check that for a nonabstract type T that inherits homographs of a subprogram S from two different ancestors with non-conforming preconditions, the inherited S is illegal if it is not 8 overridden.	B-Test.
							Check that for a nonabstract type T that inherits homographs of a subprogram S from two different ancestors with non-conforming preconditions, an overriding of the inherited S is allowed.	C-Test. Try just calling the parent routine.
(17/3)		Legality					Check that a renaming S1 that overrides an inherited routine 6 S2 is legal if all of the class-wide preconditions fully conform.	C-Test.
							Check that a renaming S1 that overrides an inherited routine S2 is illegal if any of the class-wide preconditions do not fully conform.	B-Test.
(17.1/4)	Legality		Rule added by Al12-0131-1.		1	Check that Pre'Class cannot be specified for an overriding of a 0 subprogram that does not specify Pre'Class.	B-Test. Such a Pre'Class never can have any effect.
(17.2/4)	Legality		Generic boilerplate.			Check that an instance is illegal if the instance contains a subprogram that specifies Pre'Class and overrides a primitive operation of a formal type that does not specify Pre'Class.	B-Test.
							Check that an instance is illegal if the instance contains a renaming that overrides a primitive operation of a formal type 7 where all of the class-wide preconditions do not fully conform.	B-Test.

						Check that an instance is illegal if it contains for a nonabstract type T that inherits homographs of a subprogram S from two different ancestors (at least one of which is a actual parameter of the instance) with non-conforming preconditions, and the 7 inherited S is not overridden.	B-Test.
(18/4) 1	StaticSem		Modified by AI12-0113-1 and AI12-0131-1.	C611001 (parent, interface)	Part	Check that a class-wide precondition is inherited by a subprogram inherited from an ancestor that has a Pre'Class 6 aspect specified.	C-Test. Should check inheritance subprograms inherited from (interface) progenitors, and from various kinds of types (private, tagged record). May occur as part of other tests.
				C611001 (parent, interface)	Part	Check that a class-wide postcondition is inherited by a subprogram inherited from an ancestor that has a Post'Class 6 aspect specified.	C-Test. Should check inheritance subprograms inherited from (interface) progenitors, and from various kinds of types (private, tagged record). May occur as part of other tests.
			Rule added by Al12-0131-1 (in Technical Corrigendum 1 for Ada 2012 [TC1]). The Post'Class part is untestable; anding True has no effect.			Check that a class-wide precondition is inherited as True for a subprogram inherited from an ancestor that does not specify 9 Pre'Class.	C-Test. Most cases are undetectable, or illegal by 6.1.1(17.2/4). But the case where an overriding routine does not have Pre'Class, is inherited from two homographs, one with Pre'Class and one without, should end up with a precondition of True, not the inherited Pre'Class.
2	StaticSem	Portion	Lead-in for the following paragraphs. Added by Al12-0113-1.				
(18.1/4)	StaticSem		Any inherited Pre'Class or Post'Class will implicitly test the basic rule, thus we only test unusual cases. Added by Al12-0113-1.			Check that an inherited Pre'Class works properly if the parameter names of an overriding subprogram are different from the ancestor subprogram.	C-Test.
						Check that an inherited Post'Class works properly if the parameter names of an overriding subprogram are different from the ancestor subprogram.	C-Test.
						Check that an inherited Pre'Class works properly if the original 7 Pre'Class refers to the name of the ancestor subprogram.	C-Test. Probably have to use a recursive call (ugh).
						Check that an inherited Post'Class works properly if the original Post'Class refers to the name of the ancestor subprogram.	C-Test. One way to do this is to use F'Result.
(18.2/4)	StaticSem		Added by Al12-0113-1.	B611006	All	Check that a primitive subprogram is illegal if an inherited Pre'Class is illegal.	Only known case is tested.
			Note: There might be other ways to make a call illegal, but none are known at this point. If any surface, we ought to add tests for those cases as well.	B611006	All	Check that a primitive subprogram is illegal if an inherited Post'Class is illegal.	Only known case is tested.
(19/3)	Definition		Defines "enabled". Any test of preconditions or postconditions implicitly tests the basic definition. We check some of the corner cases.			Check that a specific precondition expression is not evaluated 6 if it is not enabled.	C-Test.

(20/3)	Definition	Portion	Defines "potentially unevaluated"; this is a lead-in.
(21/3)	Definition		We'll make the tests for 6.1.1(27/3) here, as there are a number of cases and they are much easier to enumerate here.
(22/3)	Definition		
(22.1/4)	Definition		Added by Al12-0032-1 (in TC1).
(23/3)	Definition		
(24/3)	Definition		
(25/3)	StaticSem	Portion	Lead-in for the following paragraphs.

Check that a class-wide precondition expression is not 6 evaluated if it is not enabled. C-Test. Check that a specific postcondition expression is not evaluated 6 if it is not enabled. C-Test. Check that a class-wide postcondition expression is not 6 evaluated if it is not enabled. C-Test. Check that a specific precondition is evaluated if it is enabled, C-Test. Try overall and individual 7 even if specific preconditions are Ignored at the site of the call. Assertion Policies Check that a class-wide precondition is evaluated if it is enabled, even if preconditions are Ignored at the site of the C-Test. Try overall and individual 7 call. Assertion Policies Check that a specific postcondition is evaluated if it is enabled, C-Test. Try overall and individual 7 even if specific preconditions are Ignored at the site of the call. Assertion Policies Check that a class-wide postcondition is evaluated if it is enabled, even if preconditions are Ignored at the site of the C-Test. Try overall and individual Assertion Policies 7 call. Check that a class-wide precondition expression is evaluated if it is enabled, even if it is inherited by a an overriding subprogram for which the applicable Assertion_Policy is 7 Ignore. C-Test. From AARM 6.1.1(19.a/3). Check that a class-wide postcondition expression is evaluated if it is enabled, even if it is inherited by a an overriding subprogram for which the applicable Assertion Policy is C-Test. From AARM 6.1.1(19.a/3). 7 Ignore.

Check that an Old attribute reference is illegal if the prefix does not statically denote an object, and the use of Old appears in any part of an if expression other than the first 9 condition.

Check that an Old attribute reference is illegal if the prefix does not statically denote an object, and the use of Old 9 appears as the dependent expression of a case expression.

Check that an Old attribute reference is illegal if the prefix does not statically denote an object, and the use of Old 9 appears as the predicate of a quantified expression.

Check that an Old attribute reference is illegal if the prefix does not statically denote an object, and the use of Old 9 appears as the right operand of a short circuit control form.

Check that an Old attribute reference is illegal if the prefix does not statically denote an object, and the use of Old appears as a membership choice other than the first in a 9 membership operation.

B-Test. Make sure to try some legal cases of each kind (statically denotes, first condition), marked with OK. High priority since this is likely to bite users, and if checked incorrectly, could cause incompatibilities down the road.

B-Test. Make sure to try some legal cases of each kind (statically denotes, selecting expression), marked with OK.

B-Test. Make sure to try some legal cases where the prefix statically denotes an object, marked with OK. There is a tiny example in the discussion of Al12-0032-1.

B-Test. Make sure to try some legal cases of each kind (statically denotes, left operand), marked with OK. Test both and then and or else.

B-Test. Make sure to try some legal cases of each kind (statically denotes, first choice), marked with OK.

Negative

The effect of location of these implicit constants is fleshed out in 6.1.1(35.1/4); finalization test objectives (26/4)

StaticSem Subpart are there. Modified by Al12-0032-1.

full type is nonlimited, as well as limited Check that the prefix of an Old attribute cannot have a limited 10 type. records, and task types. C-Test. Use a prefix with a function call (that uses TcTouch), and ensure that the function is called before any local variables are created. Try in Post and For X'Old given in the postcondition for a subprogram S, check Post'Class (including inherited 10 that X is evaluated at the start of the subprogram body for S. Post'Class). C-Test. Try to combine with the above. For X'Old given in the postcondition for a subprogram S, check Try a number of different kinds of types that X'Old has the value of X at the start of the subprogram and prefixes (function calls, array indexing, dereferences). 10 body for S. C-Test. Use a prefix with a function call (that uses TcTouch), and ensure that the function is called before any local variables are created. Try in Post and For X'Old given in the postcondition for a task entry E, check Post'Class (including inherited 9 that X is evaluated at the start of the accept statement for E. Post'Class). C-Test. Try to combine with the above. For X'Old given in the postcondition for a task entry E, check Try a number of different kinds of types that X'Old has the value of X at the start of the accept and prefixes (function calls, array 9 statement for E. indexing, dereferences). C-Test. Use a prefix with a function call (that uses TcTouch), and ensure that the function is called before any local variables are created. Try in Post and For X'Old given in the postcondition for a protected entry E. Post'Class (including inherited 9 check that X is evaluated at the start of the entry body for E. Post'Class). C-Test. Try to combine with the above. For X'Old given in the postcondition for a protected entry E, Try a number of different kinds of types check that X'Old has the value of X at the start of the entry and prefixes (function calls, array 9 body for E. indexing, dereferences). C-Test. Try to combine with the above. For X'Old given in the postcondition for a protected Try a number of different kinds of types subprogram S, check that X'Old has the value of X at the start and prefixes (function calls, array 9 of the subprogram body for S. indexing, dereferences). C-Test. Use a non-limited controlled type. and ensure that Adjust is called appropriately before any local variables are created. (Probably combine with some of the tests for 6.1.1.(35.1/4), which For X'Old given in the postcondition for a subprogram S, check check finalization). Try in Post and that when X is controlled, X'Old is a copy of X initialized at the Post'Class (including inherited 10 start of the subprogram body for S. Post'Class).

For X'Old given in the postcondition for a task entry E, check that when X is controlled, X'Old is a copy of X initialized at the 9 start of the accept statement for E.

C-Test. Use a non-limited controlled type, and ensure that Adjust is called appropriately before any local variables are created. (Probably combine with some of the tests for 6.1.1.(35.1/4), which check finalization). Try in Post and Post'Class (including inherited Post'Class using interfaces).

B-Test. Try limited private types whose

(26.1/4)	StaticSem	Portion	Added by Al12-0032-1 (in TC1); lead-in for following paragraphs.		
(26.2/4)	StaticSem	Portion	Added by Al12-0032-1 (in TC1); lead-in for following paragraph.		
(26.3/4)	StaticSem		Added by AI12-0032-1 (in TC1). This mostly avoids semantic anomalies, not much that is testable.		
			There are probably other cases that could be tested, but it's hard to get interested in dynamic accessibility!		
(26.4/4)	StaticSem	Portion	Added by Al12-0032-1 (in TC1); lead-in for following paragraph.		
(26.5/4)	StaticSem		Objective matches AARM 6.1.1. (26.a/1). The messy declaration's only semantic effect is on the tag. Added by Al12-0032-1.	C611B01 (Post), C611B02 (Post'Class)	All
(26.6/4)	StaticSem	Portion	Added by Al12-0032-1 (in TC1); part of the preceding paragraph.	(Cost oluco)	·
(26.7/4)	StaticSem	Portion	Added by Al12-0032-1 (in TC1); lead-in for following paragraph.		
(26.8/4)	StaticSem		Added by Al12-0032-1 (in TC1). This mostly allows us to understand corner cases. All of the interesting objectives are elsewhere in this subclause.		
(26.9/4)	StaticSem	Portion	Added by AI12-0032-1 (in TC1); part of the preceding paragraph.		
(26.10/4) 1	StaticSem		Added by Al12-0032-1 (in TC1).	B611013	All

For X'Old given in the postcondition for a protected entry E, check that when X is controlled, X'Old is a copy of X initialized 9 at the start of the entry body for E.

C-Test. Use a non-limited controlled type, and ensure that Adjust is called appropriately before any local variables are created. (Probably combine with some of the tests for 6.1.1.(35.1/4), which check finalization). Try in Post and Post'Class (including inherited Post'Class using interfaces).

For X'Old given in the postcondition for a protected subprogram S, check that when X is controlled, X'Old is a copy Post'Class (including inherited Post'Class 9 of X initialized at the start of the subprogram body for S.

C-Test. Use a non-limited controlled type, and ensure that Adjust is called appropriately before any local variables are created. (Probably combine with some of the tests for 6.1.1.(35.1/4), which check finalization). Try in Post and using interfaces).

For X'Old given in the postcondition for a subprogram S, check membership to test this, although we'll that X'Old has the accessibility of X when X is an access 6 parameter of S.

need to compare both names to named types of the appropriate level.

C-Test. We can use the accessibility

For X'Old given in the postcondition for a subprogram S, check membership to test this, although we'll that X'Old has the accessibility of X when X is an access 6 discriminant of a parameter of S.

C-Test. We can use the accessibility need to compare both names to named types of the appropriate level.

For X'Old given in the postcondition for a subprogram S, check membership to test this, although we'll that X'Old has the accessibility of X when X is an anonymous need to compare both names to named 6 access component of a parameter of S.

C-Test. We can use the accessibility types of the appropriate level.

For X'Old given in the postcondition for a subprogram S, check that X'Old has the same tag as X when X is a parameter P of S, even if the tag of X is different than the nominal subtype of

For a discrete X, check that the nominal subtype of X'Old is that of X.

	2	NameRes		Added by Al12-0032-1 (in TC1), but duplicates 6.1.1(8/3) [have asked ARG about this]. The objectives are under that paragraph.				
	3	NameRes		Added by Al12-0032-1 (in TC1), but duplicates 6.1.1(8/3) [have asked ARG about this]. The objectives are under that paragraph.				
(27/3)	1	Legality	Widely Used	Added by Al12-0032-1 (in TC1). Any use of Old in a postcondition will test.				
			Negative	We only try cases associated with a call of some sort; it's hard to imagine what it would mean in any other case (in a package body, for instance).	B611010	All	Check that the Old attribute cannot be used inside a subprogram or entry body, or within an accept statement.	
					B611011	All	Check that the Old attribute cannot be used inside a precondition expression.	
					B611011	All	Check that the Old attribute cannot be used inside of the specification of a generic unit, other than in postconditions.	
	2	Legality			B611012	All	Check that the prefix of an Old attribute cannot contain a Result attribute.	
					B611012	All	Check that the prefix of an Old attribute cannot contain another Old attribute.	
					B611012	All	Check that the prefix of an Old attribute cannot contain the loop parameter of an enclosing quantified expression.	
				This objective is for the next version of Ada; it depends on Al12-0061-1. When it can be tested, the priority is probably 9.			Check that the prefix of an Old attribute cannot contain a use 1 of the index parameter of an array aggregate.	B-Test. Made sure to test items used as function parameters or array indices (not just directly). Specifically: (for I in 1 10 => F(I)'Old).
	3	Legality	Subpart	The objectives for this are under paragraphs 20-24 above. That's backwards from the usual layout, but it makes it a lot easier to see that all of the cases are tested.				
(28/3)		StaticSem	Widely Used	Any use of Result will test.				
			Negative		B611008	All	Check that the prefix of a Result attribute cannot be a procedure or entry.	
					B611008	All	Check that the prefix of a Result attribute cannot be an object.	
					B611008	All	Check that the prefix of a Result attribute cannot be a type, package, task, or protected type.	
(29/3)	1	StaticSem					Check that the F'Result attribute denotes the result of the 9 function F within a specific postcondition for F.	C-Test. (Might be combined with another test?)
•							Check that the F'Result attribute denotes the result of the 9 function F within a class-wide postcondition for F.	C-Test. (Might be combined with another test?)
	2	NameRes	Widely Used	Any use of Result will test. We could try fancy resolution tests, but those would be of low value.			·	

3			This wording conflicts with 6.1.1(7/4), so we won't test it here. Asked ARG. Simple tests in 6.1.1(7/4).				
4			This wording conflicts with 6.1.1(7/4), so we won't test it here. Asked ARG. Simple tests in 6.1.1(7/4).				
(30/3)	Legality			B611008	All	Check that F'Result is not allowed in the postcondition expression for some other function.	
				B611009	All	Check that F'Result is not allowed in the body of F, including in a pragma Assert.	
				B611008	All	Check that F'Result is not allowed in a precondition expression for F.	
(30.1/5)	StaticSem	Widely Used	Any use of Index will test. Added by Al12-0143-1, Amendment 1 for 2012.				
(Negative				Check that the prefix of a Index attribute cannot be a 1 subprogram.	B-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued.
						Check that the prefix of a Index attribute cannot be an object.	B-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued.
						Check that the prefix of a Index attribute cannot be a type, 1 package, task, or protected type.	B-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued.
						Check that the prefix of a Index attribute cannot be an entry 1 that doesn't have a family index.	B-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued.
(30.2/5) 1	StaticSem		Added by Al12-0143-1, Amendment 1 for 2012.			Check that the E'Index attribute denotes the entry index for the 1 call of entry E within a specific precondition for E.	C-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued. (Might combine with some other test??)
						Check that the E'Index attribute denotes the entry index for the 1 call of entry E within a class-wide precondition for E.	C-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued. (Might combine with some other test??)
						Check that the E'Index attribute denotes the entry index for the 1 call of entry E within a specific postcondition for E.	C-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued. (Might combine with some other test??)
						Check that the E'Index attribute denotes the entry index for the 1 call of entry E within a class-wide postcondition for E.	C-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued. (Might combine with some other test??)
2	StaticSem					Check that the nominal subtype of E'Index is that of the entry 1 index.	C-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued. Test case coverage of a case expression that uses the index.
(30.3./5)	Legality					Check that E'Index is not allowed in the entry body or accept 1 statement for E, including in a pragma Assert.	B-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued.
						Check that E'Index is not allowed in the precondition or 1 postcondition for some other entity than E.	B-Test. Ultra-low priority until Amendment 1 for Ada 2012 is issued.

(31/3)

Dynamic Portion Lead-in for the following paragraphs.

(32/3)	Dynamic	C611A02	All	Check that an enabled specific precondition of a subprogram S is evaluated after evaluating the parameters of a call on S and before S is called, and that Assertion_Error is raised if the expression evaluates to False.	
				Check that an enabled specific precondition of a task entry E is evaluated after evaluating the parameters of a call on E and before E is called, and that Assertion_Error is raised if the 9 expression evaluates to False.	C-Test. A TCTouchy test.
				Check that an enabled specific precondition of a protected entry E is evaluated after evaluating the parameters of a call on E and before E is called, and that Assertion_Error is raised 9 if the expression evaluates to False.	C-Test. A TCTouchy test.
				Check that an enabled specific precondition of a protected subprogram S is evaluated after evaluating the parameters of a call on S and before S is called, and that Assertion_Error is 9 raised if the expression evaluates to False.	C-Test. A TCTouchy test.
				Check that a specific precondition of a subprogram S that is 9 not enabled is not evaluated during a call on S.	C-Test. A TCTouchy test.
				Check that a specific precondition of a task entry E that is not 8 enabled is not evaluated during a call on E.	C-Test. A TCTouchy test.
				Check that a specific precondition of a protected entry E that is 8 not enabled is not evaluated during a call on E.	C-Test. A TCTouchy test.
				Check that a specific precondition of a protected subprogram 8 S that is not enabled is not evaluated during a call on S.	C-Test. A TCTouchy test.
		C611A01	All	Check that an enabled specific precondition of a subprogram S raises Assertion_Error if it evaluates to False, even if a class-wide precondition for S evaluated to True.	We could have checked a case with two Pre'Class exprs and a Pre, but it doesn't seem worth the extra level of declarations (Jeff's test did that, but it was very unrealistic).
(33/3)	Dynamic	C611A03	Part	Check that an enabled class-wide precondition of a subprogram S is evaluated after evaluating the parameters of a call on S and before S is called, and that Assertion_Error is 7 raised if all such expressions evaluate to False.	C-Test. A TCTouchy test. Need to try Pre'Class inherited from an interface.
				Check that an enabled class-wide precondition of a task entry E is evaluated after evaluating the parameters of a call on E and before E is called, and that Assertion_Error is raised if all 7 such expressions evaluate to False.	C-Test. A TCTouchy test. This can happen if the task type has an interface with Pre'Class. Careful: only one classwide precondition needs to be evaluated if it is True.
				Check that an enabled class-wide precondition of a protected entry E is evaluated after evaluating the parameters of a call on E and before E is called, and that Assertion_Error is raised 7 if all such expressions evaluate to False.	C-Test. A TCTouchy test. This can happen if the protected type has an interface with Pre'Class. Careful: only one class-wide precondition needs to be evaluated if it is True.
				Check that an enabled class-wide precondition of a protected subprogram S is evaluated after evaluating the parameters of a call on S and before S is called, and that Assertion_Error is raised if all such expressions evaluate to False.	C-Test. A TCTouchy test. This can happen if the protected type has an interface with Pre'Class. Careful: only one class-wide precondition needs to be evaluated if it is True.

					0044404	ΔIJ
				This is non-determinism in the	C611A01	All
(34/5)	1	Dynamic	Not Testable	evaluation, which is not testable (but needs to be taken into account in other tests).		
	2	Dynamic	Not Testable			
	3	Dynamic		Al12-0166-1 (not in TC1) makes this deterministic and thus testable. Although I don't know of any easily testable effects of a protected action. Anyway, no test until 2018 at the earliest.		
	4	Dynamic		Al12-0166-1 (not in TC1) originally deleted this sentence, but clearly the task objective is not covered by the previous sentence so that was a mistake.		

C611A03

Part

wide preconditions, that all such expressions evaluate to False C-Test. Need to try Pre'Class 7 before Assertion Error is raised. expressions from interfaces. Check that if a task entry E has multiple applicable class-wide C-Test. Pre'Class expressions have to be preconditions, that all such expressions evaluate to False inherited from multiple interfaces, thus 6 before Assertion Error is raised. the relatively low priority. Check that if a protected entry E has multiple applicable class- C-Test. Pre'Class expressions have to be wide preconditions, that all such expressions evaluate to False inherited from multiple interfaces, thus 6 before Assertion Error is raised. the relatively low priority. Check that if a protected subprogram S has multiple applicable C-Test. Pre'Class expressions have to be class-wide preconditions, that all such expressions evaluate to inherited from multiple interfaces, thus 6 False before Assertion Error is raised. the relatively low priority. C-Test. A TCTouchy test. Careful: only Check that a class-wide precondition of a subprogram S that is one class-wide precondition needs to be 8 not enabled is not evaluated during a call on S. evaluated if it is True. C-Test. A TCTouchy test. This can happen if the task type has an interface with Pre'Class. Careful: only one class-Check that a class-wide precondition of a task entry E that is wide precondition needs to be evaluated 7 not enabled is not evaluated during a call on E. if it is True. C-Test. A TCTouchy test. This can happen if the protected type has an interface with Pre'Class. Careful: only Check that a class-wide precondition of a protected entry E one class-wide precondition needs to be 7 that is not enabled is not evaluated during a call on E. evaluated if it is True. C-Test. A TCTouchy test. This can happen if the protected type has an Check that a class-wide precondition of a protected interface with Pre'Class. Careful: only subprogram S that is not enabled is not evaluated during a call one class-wide precondition needs to be 7 on S. evaluated if it is True. We could have checked a case with two Pre'Class exprs and a Pre, but it doesn't Check that if all applicable class-wide preconditions evaluated seem worth the extra level of declarations to False, Assertion Error is raised even if an enabled specific (Jeff's test did that, but it was very precondition of S evaluates to True. unrealistic).

Check that if a subprogram S has multiple applicable class-

Check that a task entry E evaluates its preconditions before checking that the entry is open; in particular, a precondition 7 check can fail immediately even for a closed entry.

C-Test. Possibly combine with one of the earlier tests.

(35/3) 1 Dynamic

2, 3

Dynamic

Note that we can't determine precisely when copy-back of parameters occurs (they can't be controlled), so we can only test that the evaluation happens between the end of the body and the continuation of execution.

C611A02

ΑII

Check that a protected entry E evaluates its preconditions before checking that the entry is open; in particular, a precondition check can fail immediately even for a closed 7 entry.

Check that no postcondition check is performed for a 10 subprogram S if S propagates an exception.

Check that no postcondition check is performed for a task 7 entry E if E propagates an exception.

Check that no postcondition check is performed for a protected if evaluated. Try Post, Post Class, and 7 entry E if E propagates an exception.

Check that no postcondition check is performed for a protected if evaluated. Try Post, Post Class, and 7 subprogram S if S propagates an exception.

Check that by-copy in-out and out parameters are not modified parameter types. Try Post, Post'Class, 9 if a postcondition check fails for a subprogram call.

Check that by-copy in-out and out parameters are not modified parameter types. Try Post, Post Class, 7 if a postcondition check fails for a task entry call.

Check that by-copy in-out and out parameters are not modified parameter types. Try Post, Post'Class, 7 if a postcondition check fails for a protected entry call.

Check that by-copy in-out and out parameters are not modified parameter types. Try Post, Post Class, 7 if a postcondition check fails for a protected subprogram call.

C-Test. Possibly combine with one of the earlier tests.

C-Test. Try postconditions that would fail if evaluated. Try Post, Post'Class, and inherited Post'Class.

C-Test. Try postconditions that would fail if evaluated. Try Post, Post'Class, and inherited Post'Class.

C-Test. Try postconditions that would fail inherited Post'Class.

C-Test. Try postconditions that would fail inherited Post'Class.

C-Test. Try a variety of by-copy and inherited Post'Class.

C-Test. Try a variety of by-copy and inherited Post'Class.

C-Test. Try a variety of by-copy and inherited Post'Class.

C-Test. Try a variety of by-copy and inherited Post'Class.

Check that an enabled specific postcondition of a subprogram S is evaluated after completing the subprogram body but before continuing execution after the call of S. and that Assertion Error is raised if the expression evaluates to False.

Check that an enabled specific postcondition of a task entry E is evaluated after completing the subprogram body but before continuing execution after the call of E, and that

8 Assertion Error is raised if the expression evaluates to False. C-Test. A TCTouchy test.

Check that an enabled specific postcondition of a protected entry E is evaluated after completing the subprogram body but before continuing execution after the call of E, and that 8 Assertion Error is raised if the expression evaluates to False. C-Test. A TCTouchy test.

Check that an enabled specific postcondition of a protected subprogram S is evaluated after completing the subprogram body but before continuing execution after the call of S, and that Assertion Error is raised if the expression evaluates to 8 False.

C-Test. A TCTouchy test.

C611A03	Part	check that an enabled class-wide postcondition of a subprogram S is evaluated after completing the subprogram body but before continuing execution after the call of S, and that Assertion_Error is raised if any such expression evaluates 7 to False.	C-Test. A TCTouchy test. Need to try Post'Class inherited from an interface.
		Check that an enabled class-wide postcondition of a task entry E is evaluated after completing the subprogram body but before continuing execution after the call of E, and that Assertion_Error is raised if any such expression evaluates to 7 False.	C-Test. A TCTouchy test. This can happen if the task type has an interface with Post'Class. Careful: only one classwide postcondition needs to be evaluated if it is False.
		Check that an enabled class-wide postcondition of a protected entry E is evaluated after completing the subprogram body but before continuing execution after the call of E, and that Assertion_Error is raised if any such expression evaluates to 7 False.	C-Test. A TCTouchy test. This can happen if the task type has an interface with Post'Class. Careful: only one classwide postcondition needs to be evaluated if it is False.
		Check that an enabled class-wide postcondition of a protected subprogram S is evaluated after completing the subprogram body but before continuing execution after the call of S, and that Assertion_Error is raised if any such expression evaluates 7 to False.	C-Test. A TCTouchy test. This can happen if the task type has an interface with Post'Class. Careful: only one classwide postcondition needs to be evaluated if it is False.
C611A03	All	Check that if multiple enabled class-wide postconditions apply to a subprogram S, check that they are all evaluated if they all 7 evaluate to True.	C-Test. A TCTouchy test. Still need to try inheriting Post'Class from 1 or more interfaces.
		Check that if multiple enabled class-wide postconditions apply to a task entry E, check that they are all evaluated if they all 7 evaluate to True.	C-Test. A TCTouchy test. This can happen if the task type has an interface with Post'Class. Try both adding a Post'Class to an overriding routine, or inheriting Post'Class from 1 or more interfaces.
		Check that if multiple enabled class-wide postconditions apply to a protected entry E, check that they are all evaluated if they 7 all evaluate to True.	C-Test. A TCTouchy test. This can happen if the task type has an interface with Post'Class. Try both adding a Post'Class to an overriding routine, or inheriting Post'Class from 1 or more interfaces.
		Check that if multiple enabled class-wide postconditions apply to a protected subprogram S, check that they are all evaluated 7 if they all evaluate to True.	C-Test. A TCTouchy test. This can happen if the task type has an interface with Post'Class. Try both adding a Post'Class to an overriding routine, or inheriting Post'Class from 1 or more interfaces.
		Check that a specific postcondition of a subprogram S that is 8 not enabled is not evaluated during a call on S.	C-Test. A TCTouchy test.
		Check that a specific postcondition of a task entry E that is not 7 enabled is not evaluated during a call on E.	C-Test. A TCTouchy test. This can happen if the task type has an interface with Post'Class.
		Check that a specific postcondition of a protected entry E that 7 is not enabled is not evaluated during a call on E.	C-Test. A TCTouchy test. This can happen if the protected type has an interface with Post'Class.
		Check that a specific postcondition of a protected subprogram 7 S that is not enabled is not evaluated during a call on S.	C-Test. A TCTouchy test. This can happen if the protected type has an interface with Post'Class.

Check that an enabled class-wide postcondition of a

C611A01 ΑII This is non-determinism in the evaluation, which is not testable (but Not needs to be taken into account in other Testable Dynamic tests).

This is non-determinism in the evaluation, which is not testable (but needs to be taken into account in other Not Testable tests). Dynamic Added by Al12-0032-1. The objective doesn't seem to be justified by 9.5.2(24), but that seems wrong. I've (35.1/4) 1 asked the ARG. Dynamic The protected action part is untestable; the only effect of not doing this is to introduce race conditions - which are not testable.

C611A01

ΑII

Check that a class-wide postcondition of a subprogram S that 8 is not enabled is not evaluated during a call on S.

Check that a class-wide postcondition of a task entry E that is 7 not enabled is not evaluated during a call on E.

Check that a class-wide postcondition of a protected entry E 7 that is not enabled is not evaluated during a call on E.

Check that a class-wide postcondition of a protected subprogram S that is not enabled is not evaluated during a call one class-wide postcondition needs to be 7 on S.

Check that if any applicable class-wide postcondition evaluates to False, Assertion Error is raised even if an enabled specific postcondition of S evaluates to True.

Check that if an enabled specific postcondition valuates to False, Assertion Error is raised even if all enabled applicable class-wide postconditions of S evaluate to True.

C-Test. A TCTouchy test. Careful: only one class-wide postcondition needs to be evaluated if it is False.

C-Test. A TCTouchy test. This can happen if the task type has an interface with Post'Class. Careful: only one classwide postcondition needs to be evaluated if it is False.

C-Test. A TCTouchy test. This can happen if the protected type has an interface with Post'Class. Careful: only one class-wide postcondition needs to be evaluated if it is False.

C-Test. A TCTouchy test. This can happen if the protected type has an interface with Post'Class. Careful: only evaluated if it is False.

We could have checked a case with two Post'Class exprs and a Post, but it doesn't seem worth the extra declarations.

We could have checked a case with two Post'Class exprs and a Post, but it doesn't seem worth the extra declarations.

Check that if a postcondition check fails for a task entry E, Assertion Error is raised in both the accept statement and the 8 entry call for E.

C-Test.

For X'Old given in the postcondition for a subprogram S, check that when X is controlled, X'Old is finalized last, after any local objects that need finalization and after the postcondition 10 check, for a subprogram call of S.

For X'Old given in the postcondition for a task entry E, check that when X is controlled, X'Old is finalized last, after any local objects that need finalization and after the postcondition 9 check, for an entry call of E.

For X'Old given in the postcondition for a protected entry E, check that when X is controlled. X'Old is finalized last, after any local objects that need finalization and after the 9 postcondition check, for an entry call of S.

C-Test: combine with the initialization tests for 6.1.1(26/4).

C-Test; combine with the initialization tests for 6.1.1(26/4).

C-Test; combine with the initialization tests for 6.1.1(26/4).

2

(36/3)

subprogram S, check that when X is controlled, X'Old is finalized last, after any local objects that need finalization and C-Test; combine with the initialization 9 after the postcondition check, for a subprogram call of S. tests for 6.1.1(26/4). Check that the exception raised by the evaluation or failure of a specific precondition check for a subprogram cannot be 9 handled inside of the subprogram body. C-Test. Check that the exception raised by the evaluation or failure of a specific precondition check for a task entry E cannot be 7 handled inside of the accept statement for E. C-Test. Check that the exception raised by the evaluation or failure of a specific precondition check for a protected entry cannot be 7 handled inside of the entry body. C-Test. Check that the exception raised by the evaluation or failure of a specific precondition check for a protected subprogram 7 cannot be handled inside of the subprogram body. C-Test. Check that the exception raised by the evaluation or failure of a class-wide precondition check for a subprogram cannot be 9 handled inside of the subprogram body. C-Test. Check that the exception raised by the evaluation or failure of a class-wide precondition check for a task entry E cannot be 6 handled inside of the accept statement for E. C-Test. The task must have an interface. Check that the exception raised by the evaluation or failure of a class-wide precondition check for a protected entry cannot C-Test. The protected type must have an 6 be handled inside of the entry body. interface. Check that the exception raised by the evaluation or failure of a class-wide precondition check for a protected subprogram C-Test. The protected type must have an 6 cannot be handled inside of the subprogram body. interface. Check that the exception raised by the evaluation or failure of a specific postcondition check for a subprogram cannot be C-Test. 9 handled inside of the subprogram body. Check that the exception raised by the evaluation or failure of a specific postcondition check for a task entry E cannot be 7 handled inside of the accept statement for E. C-Test. Check that the exception raised by the evaluation or failure of a specific postcondition check for a protected entry cannot be 7 handled inside of the entry body. C-Test. Check that the exception raised by the evaluation or failure of a specific postcondition check for a protected subprogram 7 cannot be handled inside of the subprogram body. C-Test. Check that the exception raised by the evaluation or failure of a class-wide postcondition check for a subprogram cannot be 9 handled inside of the subprogram body. C-Test. Check that the exception raised by the evaluation or failure of a class-wide postcondition check for a task entry E cannot be 6 handled inside of the accept statement for E. C-Test. The task must have an interface. Check that the exception raised by the evaluation or failure of a class-wide postcondition check for a protected entry cannot C-Test. The protected type must have an 6 be handled inside of the entry body.

For X'Old given in the postcondition for a protected

(37/4)	1	Dynamic	Widely Used	For normal subprogram calls, the expressions evaluated are obvious and tested any time the aspects are used. We don't have to implementation inheritance for task and protected operations, as only interfaces can be inherited for them.		
					C611A02	All
					C611A02	All
					C611A03	All
					C611A02	All
					C611A02	All
	2	Dynamic		We'll test the unusual case (the normal case should be previously tested). Note that this case can't happen for task or protected entries or subprograms – implementations can't be inherited.		
	3, 4	Dynamic		Added by Al12-0113-1 (in TC1).	C611A03	All

C611A03, C611B02

ΑII

a class-wide postcondition check for a protected subprogram 6 cannot be handled inside of the subprogram body.

Check that the exception raised by the evaluation or failure of

C-Test. The protected type must have an interface.

For a dispatching call, check that the specific precondition evaluated is that of the actual body invoked.

For a dispatching call, check that the specific postcondition evaluated is that of the actual body invoked.

For a dispatching call, check that the class-wide postcondition evaluated is that of the actual body invoked.

For a call on a subprogram S whose implementation is inherited from the primitive subprogram A of an ancestor, check that the specific precondition that applies to A is checked for a call on S.

For a call on a subprogram S whose implementation is inherited from the primitive subprogram A of an ancestor, check that the specific postcondition that applies to A is checked for a call on S.

For a subprogram S that is inherited from an ancestor type A C-Test. We're trying to check that a of a type T, check that class-wide postconditions inherited from wrapper is used in this (unusual) case: a homograph of S that is primitive for an interface that is a 9 progenitor of T but not of A are checked.

the original body must NOT check the added Post'Class.

For a nonabstract tagged type T and a primitive subprogram S of T and that has a class-wide postcondition expression E. check that for a call of S that is statically bound to type T, calls to primitive operations of T within E invoke the bodies appropriate for T, even if the tag of the controlling parameter object is not T.

For an interface type T and a primitive subprogram S of T and C-Test. The tag of the controlling that has a class-wide postcondition expression E, check that for a call of S that is statically bound to a nonbastract type NT derived from T, calls to primitive operations of T within E invoke the bodies appropriate for NT, even if the tag of the 8 controlling parameter object is not NT.

parameter should identify some descendant of T that has overriding bodies for the subprograms mentioned in the postcondition. Could try task and protected interfaces here.

For a nonabstract tagged type T and a primitive subprogram S of T and that has a class-wide postcondition expression E, check that for a dynamically tagged dispatching call of S, calls to primitive operations of T within E invoke the bodies appropriate for the controlling tag, even if it is not T.

(38/4)	1	Dynamic	to imagine what else they would do, and almost any test of class-wide preconditions will try them.	C611A03	Part
	2,3	Dynamic	Added by Al12-0113-1 (in TC1).	C611A03	All
				C611A03	All
(39/3)		Dynamic			

We treat statically bound calls as "widely used" for this objective; it's hard

For an interface type T and a primitive subprogram S of T and that has a class-wide postcondition expression E, check that for a dynamically tagged dispatching call of S, calls to primitive bodies for the subprograms mentioned in operations of T within E invoke the bodies appropriate for the 8 controlling tag, even if it is not T.

C-Test. The tag of the controlling parameter should identify some descendant of T that has overriding the postcondition. Could try task and protected interfaces here.

Check that the class-wide precondition of a dispatching call is

C-Test. This can be detected by having an additional Pre'Class on the descendant subprogram which is True while the original Pre'Class is False; the dispatching call should still raise that associated with the denoted subprogram, even if the body Assertion Error. We still need to check interfaces.

appropriate for T, even if the tag of the controlling parameter object is not T. For an interface type T and a primitive subprogram S of T and C-Test. The tag of the controlling that has a class-wide precondition expression E, check that for parameter should identify some

For a nonabstract tagged type T and a primitive subprogram S of T and that has a class-wide precondition expression E. check that for a call of S that is statically bound to type T, calls to primitive operations of T within E invoke the bodies

a call of S that is statically bound to a nonbabstract type NT derived from T, calls to primitive operations of T within E invoke the bodies appropriate for NT, even if the tag of the

8 controlling parameter object is not NT.

7 of a descendant operation is invoked.

descendant of T that has overriding bodies for the subprograms mentioned in the postcondition. Could try task and protected interfaces here.

For a nonabstract tagged type T and a primitive subprogram S of T and that has a class-wide precondition expression E. check that for a dynamically tagged dispatching call of S, calls to primitive operations of T within E invoke the bodies appropriate for the controlling tag, even if it is not T.

For an interface type T and a primitive subprogram S of T and that has a class-wide precondition expression E, check that for descendant of T that has overriding a dynamically tagged dispatching call of S, calls to primitive operations of T within E invoke the bodies appropriate for the 8 controlling tag, even if it is not T.

For a call via an access-to-subprogram value created with S'Access, check that the specific precondition of S is checked C-Test. Try different subprograms called 9 if it is enabled.

For a call via an access-to-subprogram value created with S'Access, check that the specific postcondition of S is checked C-Test. Try different subprograms called 9 if it is enabled.

For a call via an access-to-subprogram value created with S'Access, check that all enabled class-wide preconditions of S C-Test. Try different subprograms called 9 are checked.

For a call via an access-to-subprogram value created with S'Access, check that all enabled class-wide postconditions of 9 S are checked.

For a call via an anonymous access-to-subprogram parameter value created with S'Access, check that the specific 8 precondition of S is checked if it is enabled.

C-Test. The tag of the controlling parameter should identify some bodies for the subprograms mentioned in the postcondition. Could try task and protected interfaces here.

via a single access type.

via a single access type.

via a single access type.

C-Test. Try different subprograms called via a single access type.

C-Test. Try different subprograms passed to the same subprogram parameter.

(40/3)NonNormative A note. For a call via an anonymous access-to-subprogram parameter C-Test. Try different subprograms value created with S'Access, check that the specific

8 postcondition of S is checked if it is enabled.

For a call via an anonymous access-to-subprogram parameter C-Test. Try different subprograms value created with S'Access, check that all enabled class-wide passed to the same subprogram 8 preconditions of S are checked.

For a call via an anonymous access-to-subprogram parameter C-Test. Try different subprograms value created with S'Access, check that all enabled class-wide passed to the same subprogram 8 postconditions of S are checked.

For a call via an access-to-protected-subprogram value created with S'Access, check that the specific precondition of 6 S is checked if it is enabled.

For a call via an access-to-protected-subprogram value created with S'Access, check that the specific postcondition of C-Test. Try different subprograms called 6 S is checked if it is enabled.

For a call via an access-to-protected-subprogram value created with S'Access, check that all enabled class-wide 6 preconditions of S are checked.

For a call via an access-to-protected-subprogram value created with S'Access, check that all enabled class-wide 6 postconditions of S are checked.

passed to the same subprogram parameter.

parameter.

parameter.

C-Test. Try different subprograms called via a single access type.

via a single access type.

C-Test. Try different subprograms called via a single access type.

C-Test. Try different subprograms called via a single access type.

	Objectives		
	Objectives with tests:	to test:	Total objectives:
	78	190	
Must be tested	Objectives with Priority 10	7	
	Objectives with Priority 9	33	
Important to test	Objectives with Priority 8	24	
	Objectives with Priority 7	68	
Valuable to test	Objectives with Priority 6	28	
	Objectives with Priority 5	8	
Ought to be tested	Objectives with Priority 4	6	
	Objectives with Priority 3	0	
Worth testing	Objectives with Priority 2	0	
Not worth testing	Objectives with Priority 1	16	
	Total:	190	
	Objectives covered by new		
	tests since ACATS 2.6	78	
	Completely:	60	

Paragraphs:

59

Objectives

Objectives with submitted tests:

0

249