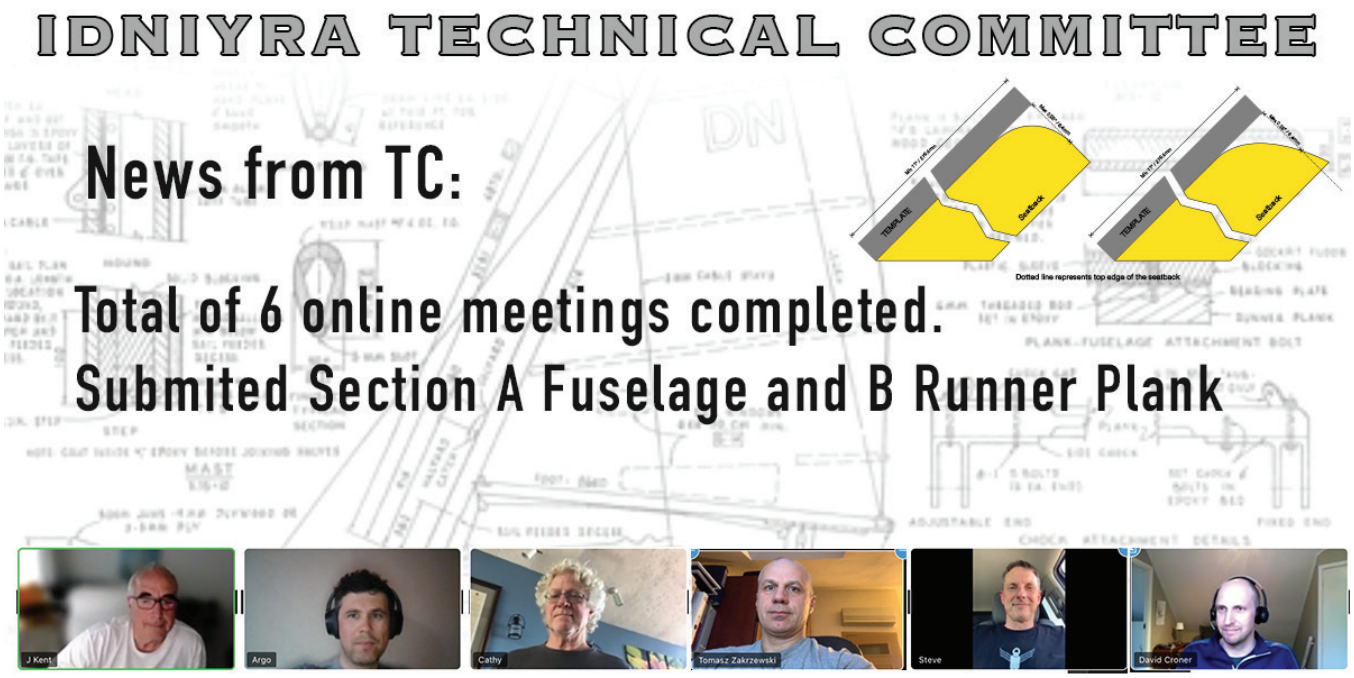
PROPOSAL FROM THE TECHNICAL COMMITTEE: REVISE SPECIFICATIONS, SECTION A: FUSELAGE; SECTION B: RUNNER PLANK

Over the summer of 2022, the IDNIYRA Technical Committee held six online meetings to revise the wording of the Official IDNIYRA Specifications, specifically Section A (fuselage) and Section B (runner plank).

Their main goals were to

- Incorporate the Interpretations into Official Specifications.
- Rewrite for more user-friendly wording.
- Enrich each section with a measurement guide and measurement drawings.
- Consolidate fragmented sections.
- Eliminate loopholes and grey areas by giving more precise definitions.
- Maintain specifications

Following is the result of their work. IDNIYRA class members can comment on the proposed revisions at the 2023 Annual Governing Meeting, held during the January 2023 World & North American Championship. IDNIYRA and IDNIYRA European class members will vote on the proposed changes via electronic ballot in the spring of 2023.



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IDNIYRA TECHNICAL COMMMITTE MEMBERS

A Fuselage

1 Materials

1.a Fuselage shall be constructed of wood only except as provided in specifications A.1.b, A.1.d, and A.1.e.

1.b Only fiberglass may be added to wood components for reinforcement only. Other fiber reinforcement materials, such as but not limited to carbon fiber or para-aramid fibers are prohibited.

1.c Engineered or composite materials manufactured by binding particles or loose fibers of wood and/or fiberglass are not allowed in the side panels.

1.d Core materials are allowed for the internal construction of the fuselage.

1.e Adhesives and fasteners are allowed.

2 Construction Methods and Details

2.a Design of the internal structure of the fuselage including cockpit floor is optional.

2.b Fuselage sides (side panels) and the bulkhead at the front of the cockpit must be solid or laminated wood and shall not have any internal cavities. Adhesives and fiberglass reinforcement may be used between individual wood layers of laminated side panels, but the total thickness of wood laminations must satisfy Specification 4f.

2.c Where minimum dimensions are specified for wood components, fiberglass reinforcement may be added to the components only after minimum required dimensions of wood are satisfied.

2.d The decks, fuselage bottom skin and cockpit floor skin shall be wood (typically plywood). Fiberglass reinforcement may be added after minimum required dimensions of wood are satisfied.

2.e A full bulkhead must be installed at the front of the cockpit.

2.f Structural members such as longerons, stringers, knees, listings, bulkheads, etc. may be added provided the addition does not infringe or exceed the specifications and allowed materials.

2.g Knees or other means of side panel support in the cockpit shall be made of wood and must be installed as provided in specifications A.1.b, A.1.d, and A.1.e.

2.h The deck may not protrude more than 3" (76.2mm) into the cockpit from the bulkhead at the front of the cockpit. For the purposes of this specification the deck is the covering on the top of the fuselage in the areas forward and aft of the cockpit. The deck extends uninterrupted from the outside of the side panel on one side to the outside of the side panel on the other side.

2.i The seatback shall be flat, measuring 11" (279.4 mm) in length at the center line, no maximum height. The crown on top of the seat must be a minimum of 2" (50.8 mm) radius with minimum seat width 4" (101.6mm). Top edge of the seatback is determined by use of template. See 5.a.

2.j The seatback shall be raked aft at an angle of 45 degrees plus or minus 10 degrees, measured from the cockpit floor skin. The seatback may allow access to a stowage compartment.

2.k Grab-rails may be installed on the inside and/or outside vertical surface of the side panels. They may not extend beyond 8" (203.2 mm) from either end of the cockpit. Rails shall not exceed 1" (25.4 mm) in depth or width. Rails are exempted from fuselage measurements

2.l Ballast, if used, shall be permanently installed.

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3 Fuselage Fittings

3.a Rigging and fittings are not part of the integral structure or reinforcement of the fuselage and may be attached by mechanical fastenings and/or adhesives.The materials allowed in the rigging and fittings attached to the fuselage are optional but must comply with the specifications in sections H and I, and interpretations in sections General, H and I. The dimension and location of the rigging and fittings must comply with the specifications in sections A, H, I, and the interpretations in sections General, H, and I.

3.b Steering

3.b.i Steering shall be accomplished by means of a tiller. Tiller may be of any length or shape but shall not be more than 8 inches (203.2 mm) wide. Material is optional and may include para-aramid fabric (Kevlar).

3.b.ii a. The tiller post shall be located forward of the bulkhead at the front of the cockpit. The tiller shall be attached to the post at a point above the level of the deck. The sheet block that is installed on the tiller post shall be attached to the tiller post at a point higher than the point of attachment of the tiller.

b. For the purposes of Specification A.3.b.ii.a, bails, straps, lashings, shackles or strops used to attach the sheet block to the tiller post are neither part of the block nor the tiller post; they are fittings.

3.b.iii The steering post and chock may be inclined in the vertical plane of symmetry.

3.b.iv Steering rods, cables, or a single push-pull link shall be used and shall be positioned beneath the fuselage as shown on the Official Plans.

3.c National letter and sail number affixed to each side of the fuselage below the mast stepping point is optional. If a national sail letter and sail number are affixed to the fuselage, the color shall contrast with the fuselage and the recommended size of each letter and number is 5.5 inches (139.7 mm) high and 0.79 inches (20.1 mm) wide. National letters and sail numbers affixed to the fuselage shall match those on the sails, except for boats loaned or chartered for a regatta.

4 Dimensions and Weights

4.a Hull outer surface cross section must be rectangular ± 2 degrees from a point 6" (153. mm) from the bow to a point 6" (153. mm) from the stern. Exclusions: Cockpit surface, seat back, knees, rails, fittings, and hardware. A maximum 1/4" (6.4 mm) radius is allowed on the corners of the fuselage where the deck / bottom and side panels intersect. Concavities in the deck are not permitted.

		English (in)		Metric (mm)	
		Max	Min	Max	Min
b.	Length Overall (not including bow tang or bobstay fittings)	147	141	3733.8	3581.4
c.	Beam (measured to the inside of any external grab-rails)	21.5	17.5	546.1	444.5
d.	Thickness of wood in deck, cockpit floor and bottom skins	0.25	0.118	6.4	3.0
e.	Minimum thickness of wood in side panels and bulkhead at front of cockpit		0.625		15.9
f.	Maximum thickness of wood and any fiberglass reinforcement in side panels and bulkhead at front of cockpit	1		25.4	
g.	Total thickness of cockpit floor (cockpit floor skin plus internal structure plus bottom skin		0.625		15.9
h.	Intersection of seat back and cockpit floor skin to pivot point of steering runner. See 5.c.	110.25	98.25	2800.4	2495.6
i.	Distance from bow (not including bow tang) to front of cockpit	66	54	1676.4	1371.6
j.	Width of forward most point of bow	3.75	2	95.3	50.8
k.	Width of aft most point of stern	4	1.25	101.6	31.8
l.	Horizontal distance from the bow (not including bow tang) to the pivot point of the front runner	7	3	177.9	76.2

4.m.i The total height of side panel at each fuselage station shall not be less than heights in Table A.1 (The minimum side panel height does not include the deck and bottom).

4.m.ii The bottom surface of the fuselage (side panels including bottom skin), shall not exceed a maximum of 1" (25.4 mm) above zero line and/or a maximum of ½" (12.7 mm) below zero line. Zero line shall be established by a straight line from bow to stern on bottom surface (not including bow tang or bobstay fitting).

4.m.iii Maximum height of the fuselage side (side panel including deck) above zero line may be 8-1/2" (215.9 mm). All heights of fuselage sides shall be proportional to height as shown in "Layout of Side Panel". The top edge of the side panel may not be concave at any point along its length. When describing the fuselage side profile: the term proportional" will be defined as a "smooth curve" without reversing the line abruptly.

4.m.iv A side panel profile is acceptable if there are no concavities on or along its upper edge, the maximum height of fuselage sides is not exceeded, and the side panel height at each station is not less than the specified minimum.

Note: Table A.1 applies to the side panel without deck and bottom skin to assist the builder. Specifications 4.m.ii and 4.m.iii apply to the side panel plus deck and bottom skin to assist the measurer.

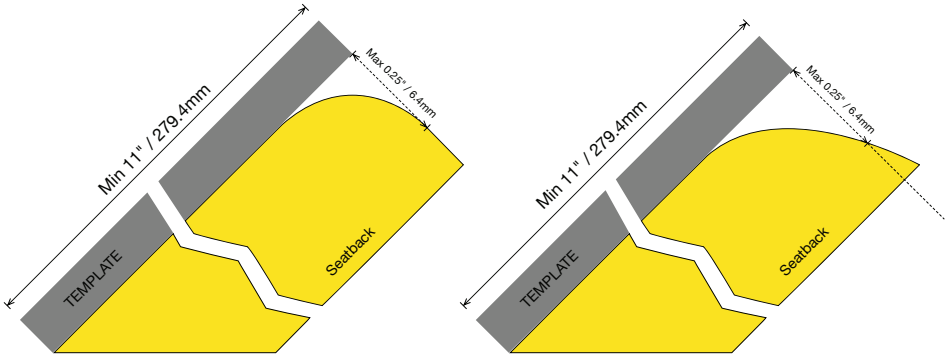
Table A.1: Layout of Side Panel/Minimum Side Heights

Position along Side Panel Starting at Bow		Minimum Side Panel Height (Excluding deck and bottom skin)	
English (in)	Metric (mm)	English (in)	Metric (mm)
2	50.8	2.563	65.1
12	304.8	3.875	98.4
24	609.6	5.063	128.6
36	914.4	6.063	154.0
48	1219.2	6.438	163.5
60	1524.0	6.625	168.3
72	1828.8	6.625	168.3
84	2133.6	6.500	165.1
96	2438.4	6.188	157.2
108	2743.2	5.563	141.3
120	3048.0	4.625	117.5
132	3352.8	3.375	85.7
Last station: 2 in.	(50.8mm) from stern	2.000	50.8

4.n Minimum weight of fuselage complete with all hardware, blocks, tiller, and any ballast required to achieve minimum weight is 46 lbs (20.9kg).

5 Measurement

5.a Top edge of seatback is determined according to following method:



Dotted line represents top edge of the seatback

Top of seat shall not have a gap more than .25" /6.4mm measured at 90 degrees from template / seat back to actual seat back surface.

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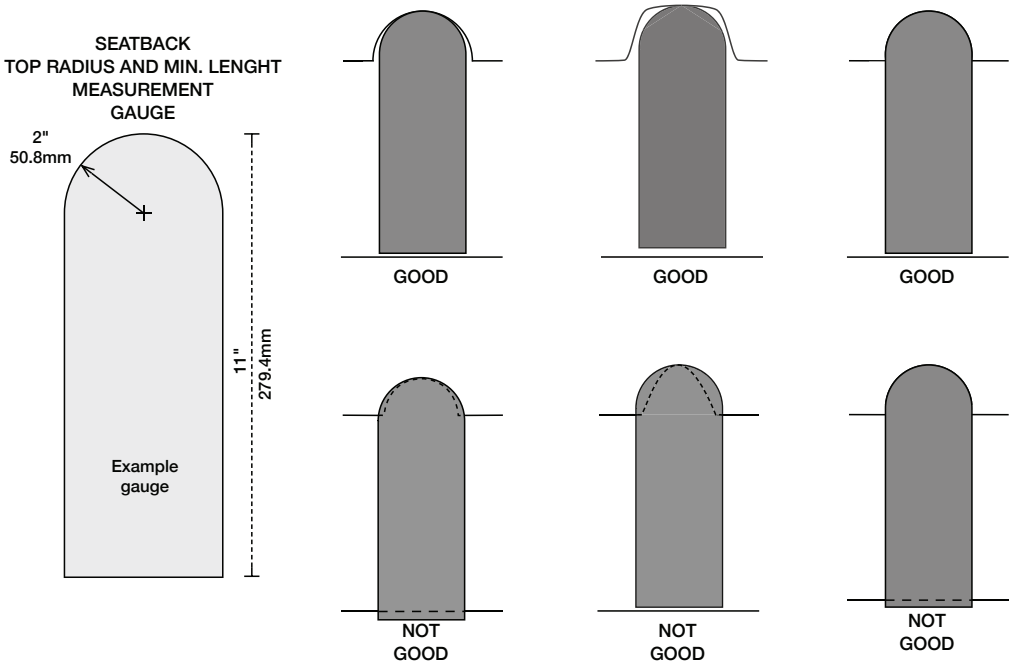
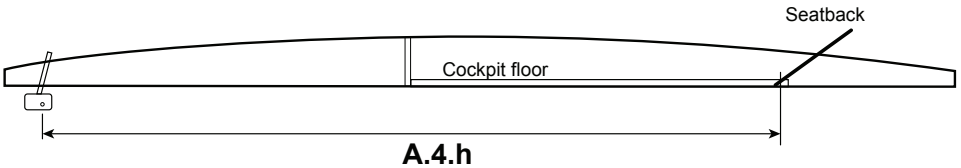
5.b Seatback minimum length at centerline and crown measurement.

SEATBACK MEASUREMENT EXAMPLES



5.c Measuring intersection of seat back and cockpit floor skin to pivot point of steering runner.



A.4.h
Max 110.25” / 2800.4mm
Min 98.25” / 2495.6mm

B Runner plank

1 Materials

1.a The allowed materials in runner plank construction are wood, fiberglass (as external reinforcement), adhesives (for gluing or lamination), and non structural cosmetic coatings.

2 Construction

2.a The number of wood laminations is optional.

2.b The cross Section is optional. Runner plank may be of hollow construction, but only wood or adhesives for lamination purposes may be used to comply with the minimum length, width, and thickness requirements in specifications B.3.a-f.

2.c Fiberglass and coatings may be added to the exterior of the wood plank after minimum length, widths and thicknesses are satisfied (specifications B.3.a-f). Added fiberglass and coatings shall not cause the runner plank to exceed the maximum length, width, and thickness (specifications B.3.a-f).

2.d The underside of the runner plank shall be higher at the centerline than the underside of the outside ends ("crown"). The profile of this crown shall form a fair continuous curve. Reversals of the curve are prohibited, and the curvature cannot be concave. Cutouts or depressions are prohibited.

3 Dimensions and weight

		English		Metric	
		Max	Min	Max	Min
a.	Length overall including hardware except pivot bolt. Max dimension refers to finished plank, min dimension refers to wood before adding reinforcements and external coatings.	96	94	2438	2388
b.	Minimum width along entire length of the plank. This measurement is of the wood runner plank and excludes exterior coatings or reinforcement if added.		5.5		139.7
c.	Maximum width along entire length of the plank including any exterior coatings and reinforcement if added.	7.5		190.5	
d.	Minimum thickness over entire length except for fuselage centerline. This measurement is of the wood runner plank and excludes exterior coatings or reinforcement if added.		1.0		25.4
e.	Minimum thickness at fuselage centerline. This measurement is of the wood runner plank and excludes exterior coatings or reinforcement if added.		1.125		28.6
f.	Maximum thickness at any point including exterior coatings and reinforcement and excluding hull fitting pads.	1.625		41.3	

g. The runner plank, including all hardware and pivot bolts, shall not weigh less than 20 lbs. (9.1 kg.).

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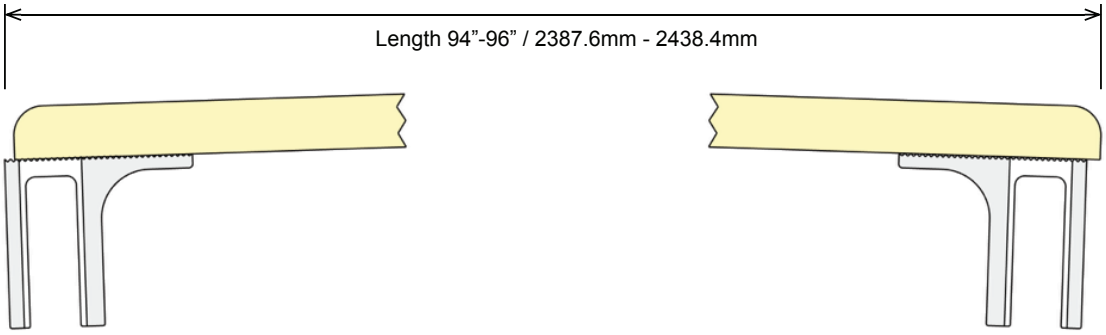
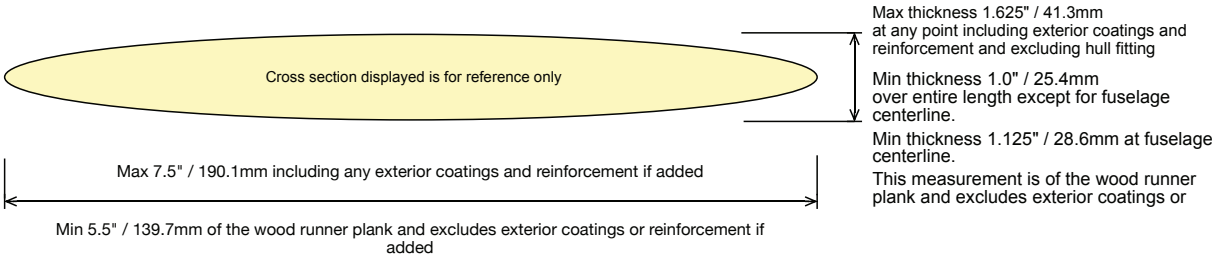
4 Measurement

4.a Specification B.3.a Length overall shall be measured in a straight line while not mounted on the fuselage and relaxed (under no load). The measurement shall be taken from the end of the runner plank or the chock, whichever gives the longer length; the measurement point may be different on different ends of the plank to determine the longest length. Overall length includes hardware but not pivot bolt.

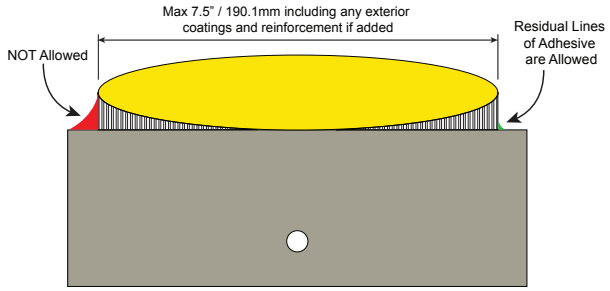


4.b Specifications B.3.b-f. Width and thickness requirements.



4.c Specifications B.3.a-f. Runner plank with exterior coatings and reinforcement where any exterior dimension is the minimum allowed (B.3.a-f) shall fail the minimum wood requirement

4.d Specifications B.3.c. Areas of plank over the chock: The same fore and aft dimensions apply in this location. Fairings of any type in this area are not allowed if they extend outside the maximum width of the runner plank unless they are part of the chock. Fairings may be considered part of the chock only if the height (Specifications I.5.b) and materials (Specification I.13) requirements for the chock are satisfied. Small residual lines of adhesive between the plank and chock are acceptable.



4.e Specification B.2.d, Crown: A ‘fair continuous curve’ may be one whose radius varies along its length. When not mounted on the fuselage and relaxed (under no load) the radius of the crown shall nowhere be concave, and no part of the curve shall be lower than the ends. The radius of curvature of the crown may vary along the length of the plank.
Examples shown below. Localized buildups for chock mounting are excluded from the measurement.