

**2021 IAC Rule Book Changes (Comparison to 2020 IAC Rules)**

**Member Rule Proposals**

Proposal Number	Synopsis	Rule Number	2020 Rule	Change As Proposed	IAC Board Decision	Revised Rule for 2021
RP 2021-1	Fire extinguisher responsibilities	9.2.1	The Starter will be provided with a fire extinguisher.	The Starter shall ensure that a fire extinguisher is available at the starting line during contest operations.	ACCEPT as proposed	9.2.1 The Starter shall ensure that a fire extinguisher is available at the starting line during contest operations.
RP 2021-2	Pre-flight safety	9.3.3	The Starter will brief the competitor as to the official wind direction.	The Starter will brief the competitor as to the official wind direction and ask the competitor to verify that they have adequate fuel and the necessary radio frequencies.	REJECT	No change
RP 2021-3	Assistant responsibilities	11.8.3	Assistants must have the ability to fluently read Aresti drawings, look up Aresti Aerobatic Catalogue numbers, and follow their judge's instructions.	Assistants must have the ability to fluently read Aresti drawings.	ACCEPT as proposed	11.8.3 Assistants must have the ability to fluently read Aresti drawings.
RP 2021-4	Clarifying Optional Breaks	12.6.2(b)	Each pilot may take one interruption within their Performance without penalty.	Each pilot may take one Explicit Interruption for any reason between figures without penalty.	REJECT	No change
RP 2021-5	Consistent penalties for Free Programs	31.4.2(h)	If the Presentation K-Factor is absent or incorrect, the Presentation grade shall be zeroed.	If the Presentation K-Factor is absent or otherwise incorrect, the Presentation K-Factor shall be corrected on Form A and a Failure to Prepare Penalty shall be applied.	REJECT	No change
RP 2021-6	Safety check of Unknown sequences	24.2.2	They shall check these forms for legality prior to the start of the contest and notify the IAC of any issues found.	They shall check these forms for legality and safety prior to the start of the contest and notify the IAC of any issues found.	REJECT	No change
RP 2021-7	Viewing Unknown sequences	24.2.3 (new)	none	The Contest Director or their designated representative shall not view the Unknown sequence for any category in which they may compete.	REJECT	No change
RP 2021-8	Distribution of Unknowns	24.3.1	The Unknown Sequence Forms will be made available to the competitors by the Contest Director no less than twelve (12) hours prior to the flight.	The Contest Director may make the Unknown Sequence Forms available to the competitors at any time after the first Program Briefing, but not less than twelve (12) hours prior to the flight.	REJECT	No change
RP 2021-9	Allow a brief pause in competition turns between banking and heading change	28.5.2, 28.5.4	28.5.2 Immediately after the roll to a bank angle of at least 60° is complete, the heading change must begin. If the heading changes before the bank angle is established, deduct one (1) point for every five (5) degrees for any bank angle less than 60°. 28.5.4 As soon as the aircraft is on the exit heading, the heading change must stop on the correct box axis while maintaining the chosen bank angle, followed immediately by a roll back to wings level using a rate of roll equal to the entry roll. If the roll rates do not match, deduct one (1) point.	28.5.2: After the roll to a bank angle of at least 60° is complete, the heading change must begin. A perceptible pause is permitted between the end of the roll and the start of the heading change. If the heading changes before the bank angle is established, deduct one (1) point for every five (5) degrees for any bank angle less than 60°. 28.5.4: When the aircraft reaches the exit heading, the heading change must stop on the correct box axis while maintaining the chosen bank angle, followed by a roll back to wings level using a rate of roll equal to the entry roll. A brief perceptible pause is permitted between the end of the heading change and the start of the roll. If the entry and exit roll rates do not match, deduct one (1) point. NOTE: If item #16 ("Pauses within figures") is adopted, then the capitalized term Pause should be used in the above text.	ACCEPT as proposed	28.5.2: After the roll to a bank angle of at least 60° is complete, the heading change must begin. A brief pause is permitted between the end of the roll and the start of the heading change. If the heading changes before the bank angle is established, deduct one (1) point for every five (5) degrees for any bank angle less than 60°. 28.5.4: When the aircraft reaches the exit heading, the heading change must stop on the correct box axis while maintaining the chosen bank angle, followed by a roll back to wings level using a rate of roll equal to the entry roll. A brief pause is permitted between the end of the heading change and the start of the roll. If the entry and exit roll rates do not match, deduct one (1) point.
RP 2021-10	Use of logos	3.1.2	The IAC, EAA, NAA, and FAI logos may not be used, either directly or indirectly, without sanctioning.	The IAC logo may not be used without sanctioning.	ACCEPT w/ modifications	Remove 3.1.2 entirely
RP 2021-11	Named Insureds	3.4.1	An aerobatic contest must be covered by a liability policy that includes the International Aerobatic Club, the Experimental Aircraft Association, and the National Aeronautic Association as named insureds.	An aerobatic contest must be covered by a liability policy issued by EAA's Risk Management Department.	ACCEPT w/ modifications	Remove 3.4 entirely
RP 2021-12	Implicit interruption for distorting figures	15.2.1(c)	Deliberately climbing or diving between figures or flying any figure in a way such that the obvious intent is to gain or lose altitude or energy.	Deliberately climbing or diving between figures or flying a horizontal portion of a figure such that the obvious intent is to gain or lose altitude. Ascending or descending lines permitted under 34.20.2.1 shall not be penalized.	ACCEPT w/ modifications	15.2.1 (c) Deliberately climbing or diving between figures or flying a horizontal portion of a figure such that the obvious intent is to gain or lose altitude.
RP 2021-13	Non-matching line lengths and radii	28.12.2, 28.12.3	28.12.2: All lines (interior and any final line) must be of equal length. If they are not of equal length, deduct according to Variations in Line Length. 28.12.3: All corners must have matching radii.	28.12.2: All lines (interior and any final line) must match the length of the first line. If they are not of equal length, deduct according to Variations in Line Length. 28.12.3: All radii must be the same size as the first radius.	ACCEPT w/ modifications	27.13.5 All matching radii must be the same size as the first radius.
RP 2021-14	Glider release	34.15.1	The towplane will tow the competitor to the altitude appropriate for that flight (no more than 5,000 feet or less than 2,500 feet). The towplane will then position the glider perpendicular to the X axis (base leg) on the side of the box downwind from the official wind direction. If the glider pilot does not release on the first pass, the towplane will initiate a turn away from the box and, staying as close as possible to the box, re-entry on the base leg as before. The glider pilot must release before the end of the second pass when clearance to release had been given, unless given permission by the Chief Judge to remain on tow.	The towplane will tow the competitor to the altitude appropriate for that flight (no more than 5,000 feet or less than 2,500 feet). The towplane will then position the glider perpendicular to the axis on which the sequence is designed to start. If the glider pilot does not release on the first pass, the towplane will initiate a turn away from the box and, staying as close as possible to the box, re-entry on the base leg as before. The glider pilot must release before the end of the second pass when clearance to release had been given, unless given permission by the Chief Judge to remain on tow.	ACCEPT as proposed	34.15.1 The towplane will tow the competitor to the altitude appropriate for that flight (no more than 5,000 feet or less than 2,500 feet). The towplane will then position the glider perpendicular to the axis on which the sequence is designed to start. If the glider pilot does not release on the first pass, the towplane will initiate a turn away from the box and, staying as close as possible to the box, reenter on the base leg as before. The glider pilot must release before the end of the second pass when clearance to release had been given, unless given permission by the Chief Judge to remain on tow.
RP 2021-15	Role of the Safety Pilot	4.5.4 (new)	none	Except as necessary for safety, a Safety Pilot shall not communicate or manipulate the aircraft controls between the time the competitor is cleared into the box and the sequence is complete.	ACCEPT w/ modifications	4.5.4 Safety pilots shall not communicate to the competitor nor manipulate the controls during the Performance, except as needed for safety. 4.5.5 Any figure aided by the Safety Pilot shall be zeroed.
RP 2021-16	Pauses within figures	Quick Reference, 26.10 (new), 27.8.2, 27.11.1, 27.12.3, 28.6.6, 28.15.3, 28.21.1, 28.21.4, 28.21.5, 28.24.10, 36.5.2(b), 36.6.1	Quick Reference for Looping Lines with Connected Rolls (pg. i): Deduct at least 1 point for more than a momentary hesitation between the Looping Line and the roll 27.8.2: The rolls must have a brief pause between them. 27.11.1: When a Looping Line is immediately preceded or followed by one or more rolls (i.e., rolls not centered on a straight line), there may be only a brief hesitation between the roll and Looping Line. 27.11.2: If there is a line between the roll and Looping Line, deduct at least one (1) point. 27.12.3: ...Clarification: Note that the pause between rolls in a roll combination may not occur at the apex/nadir. 28.6.6: If the rate of roll stops (aside from any brief pause when changing roll directions), deduct one (1) point. 28.15.3: If a roll is performed between the half-loops, it must be performed on a horizontal line. There may only be a brief pause before and after the roll. If a line is added at either of these points, deduct at least one (1) point. 28.21.1: These rolls are judged on the same criteria as Slow Rolls, except the aircraft stops rotation during the roll a pre-stated number of times, e.g., 2, 4 or 8. 28.21.4: The duration of the hesitations at each point must match. For each pause duration observed to be different from the first, deduct one (1) point. 28.21.5: Each pause, or point, of a hesitation roll must be clearly recognizable to the judge. If a pause is not recognizable, mark the figure HZ. 28.24.10: f a roll follows a spin, there must only be a perceptible pause between the spin and the roll. 35.6.2(b): Hesitation rolls are drawn as slow rolls with hesitations listed as AxB, where A is the number of points to be flown and B is the number of points that would occur in 360 degrees of roll, except that when the points of a hesitation roll add up to 360 degrees only the "B" value is printed. 36.6.1: Multiple continuous rotations are called linked rolls. They are drawn as two roll symbols with their tips linked by a small line. These are flown without pause. No linked roll may exceed 720 degrees.	Quick Reference for Looping Lines with Connected Rolls (pg. i): Deduct at least 1 point for a Protracted Pause between the Looping Line and the roll 26.10 (new) Pauses 26.10.1 (new) A Pause is brief but perceptible straight line that is optional in some figures and required in others. A Prolonged Pause occurs when the Grading Judge determines that a Pause is substantially longer than necessary. 27.8.2: The rolls must have a Pause between them. 27.11.1: When a Looping Line is immediately preceded or followed by one or more rolls (i.e., rolls not centered on a straight line), there may be a Pause between the roll and Looping Line. 27.11.2: If there is a Prolonged Pause between the roll and Looping Line, deduct at least one (1) point. 27.12.3: Capitalize the word "pause" in the Clarification paragraph. 28.6.6: If the rate of roll stops (aside from a Pause when changing roll directions), deduct one (1) point. 28.15.3: If a roll is performed between the half-loops, it must be performed on a horizontal line. There may a Pause before and after the roll. If a line is added at either of these points, deduct at least one (1) point. 28.21.1: These rolls are judged on the same criteria as Slow Rolls, except the aircraft must Pause during the roll a pre-stated number of times, e.g., 2, 4 or 8. 28.21.4: The duration of the Pauses must match. For each Pause duration observed to be different from the first, deduct one (1) point. 28.21.5: Each Pause must be clearly recognizable to the judge. If a Pause is not seen, mark the figure HZ. 28.24.10: If a roll follows a spin, there must be a Pause between the spin and the roll. 35.6.2(b): Hesitation rolls are drawn as slow rolls with Pauses listed as AxB, where A is the number of Pauses and B is the number of Pauses that would occur in 360 degrees of roll, except that only the "B" value is printed when the Pauses add up to 360 degrees. 36.6.1: Capitalize the word "pause".	ACCEPT w/ modifications	Board accepted change but asked Rules Committee to carefully review the rule book and make sure the committee is adopting a consistent set of change to standardize the terminology for pauses during a figure. The following is the result of that review: Quick Reference for Looping Lines with Connected Rolls (pg. i): Deduct at least 1 point if the pause between the roll and Looping Line is much longer than necessary 27.11.1: When a Looping Line is immediately preceded or followed by one or more rolls (i.e., rolls not centered on a straight line), there may be a pause between the roll and Looping Line. 27.11.2: If the pause between the roll and Looping Line is substantially more than necessary, deduct at least one (1) point. 28.15.3: If a roll is performed between the half-loops, it must be performed on a horizontal line. If the pause before or after the roll is substantially longer than necessary, deduct at least one (1) point. 28.21.1: These rolls are judged on the same criteria as Slow Rolls, except the aircraft must pause between the stated number of roll segments. 28.21.4: The duration of the pauses at each point must match. For each pause duration observed to be different from the first, deduct one (1) point. 28.21.5: Each pause must be clearly recognizable to the judge. If a pause is not seen, mark the figure HZ. 28.24.10: If a roll follows a spin, there must be a pause between the spin and the roll. 35.6.2(b): Hesitation rolls are drawn as slow rolls with the added notation AxB, where A is the number of separate rotations and B is each rotation's fraction of a 360 degree roll. If the figure's total rotation equals 360 degrees, only the B value is printed. Example: A "2x4" roll denotes two rotations of 90 degrees each.
RP 2021-17	Slow roll description	28.20.1	Slow Rolls must be flown without pause at a constant roll rate. If there is any variance in the roll rate, deduct one (1) point per variation.	Slow Rolls must be flown at a constant roll rate. If there is any variance in the roll rate, deduct one (1) point per variation.	ACCEPT as proposed	28.20.1 Slow Rolls must be flown at a constant roll rate. If there is any variance in the roll rate, deduct one (1) point per variation.

Proposal Number	Synopsis	Rule Number	2020 Rule	Change As Proposed	IAC Board Decision	Revised Rule for 2021
RP 2021-18	Not exceed aircraft manufacturers' documented safe meteorological conditions	12.7.1	A competitor may decide not to fly, or to abort, due to deteriorating meteorological conditions.	A competitor may decide not to fly, or to abort, due to deteriorating meteorological conditions, or meteorological conditions that exceed those documented by the manufacture as safe.	ACCEPT w/ modifications	12.4.1 Flight will not be conducted if the steady wind velocity at the surface exceeds 25 knots from any direction. 12.4.2 (New) Flight will not be conducted if the crosswind component for the active runway exceeds: a) 15 knots for Primary or Sportsman flights; or b) 20 knots for Intermediate, Advanced or Unlimited flights
RP 2021-19	Use of in-aircraft video to support protest of high or low altitude penalty	31.5.xx (new)	none	Protests of high or low altitude limit infringement penalties may utilize video recorded onboard the aircraft during the specific flight in question as evidence to support their claim.	REJECT	Board urges Rules Committee to clarify to the members that the jury is allowed to accept video evidence. This will be done via memo to members and judges.
RP 2021-20	None	n/a	n/a	n/a	n/a	n/a
RP 2021-21	2021 Category Uncreep Rule Proposals	n/a	n/a	Not a rules change in itself, but just the rationale for three others - See RP 2021-22, RP 2021-23, RP 2021-24	REJECT	No change
RP 2021-22	2021 Category Uncreep - The Free Program	23.2.1(c) & 23.2.1(d)	23.2.1 Free Sequences are limited to the maximum number of figures and Maximum Total Figure K-Factor as shown below. Category    Maximum # of Figures    Maximum Total Figure K-Factor a) Sportsman    12    Must not exceed current Known Sequence b) Intermediate    15    190 c) Advanced    12    300 d) Unlimited    9    420	Free Sequences are limited to the maximum number of figures and maximum total figure K-factor as shown below. .... (c) Advanced maximum # of figures Increase from 12 to 15 [NOTE: Reduces per figure K-factor from 25 to 20 (80%).] (d) Unlimited maximum # of figures Increase from 9 to 11 [NOTE: Reduces per figure K-factor from 47 to 38 (80%).]	ACCEPT w/ modifications	Change max. number of figures for Advanced only: 23.2.1 (c) Advanced    14    300
RP 2021-23	2021 Category Uncreep - The Unknown Program	24.6.1, 24.6.2(c) & 24.6.2(d)	24.6.1 Number of Figures and Total Figure K-Factor are restricted as follows: Number of Figures Category    Minimum    Maximum    Maximum Total Figure K-Factor a) Intermediate    6    12    175 b) Advanced    10    14    275 c) Unlimited    10    14    400 24.6.2 Rolls are restricted as follows: a) Intermediate i. No unlinked rolls. b) Advanced i. A minimum of 2 and a maximum of 4 snap rolls. ii. Rolls are not permitted following spins. iii. Unlinked rolls are permitted, but only on straight horizontal lines with a maximum of 10 stops per line. c) Unlimited i. Maximum of 6 snap rolls, only 4 of which may be from the same sub-Family (9.9, 9.10). ii. ....	Number of Figures and total figure K-factor are restricted as follows: (a) Intermediate maximum total figure K-factor Reduce from 175 to 152. [NOTE: 152 is 80% of the 190 intermediate free total K-Factor.] (b) Advanced maximum total figure K-factor Reduce from 275 to 240. [NOTE: 240 is 80% of the 300 Advanced free total K-Factor.] (c) Unlimited maximum total figure K-factor Reduce from 400 to 336. [NOTE: 336 is 80% of the 420 Unlimited free total K-Factor.] Section 24.6.2 Rolls are restricted as follows: (a) Advanced (i) Reduce from "A minimum of 2 and a maximum of 4 snap rolls." to "A minimum of 2 and a maximum of 3 snap rolls." (c) Unlimited (i) Reduce from "Maximum of 6 snap rolls, only 4 of which may be from the same subFamily (9.9, 9.10)." to "Maximum of 4 snap rolls, only 3 of which may be from the same family (9.9 or 9.10)."	ACCEPT w/ modifications	Change max. number of snap rolls for Advanced only: 24.6.2 (b) (i) A minimum of 2 and a maximum of 3 snap rolls.
RP 2021-24	2021 Category Uncreep - Pushes	24.6.3 (new)	none	(a) Intermediate (i) Figures requiring outside pushes beyond -1g are not allowed.	REJECT	No change
RP 2021-25	Density Altitude rather than Airport Elevation for Optional Break Criteria	12.6.1	If the ceiling requirements are not met, or if the airport field elevation is charted at or above 3,500 feet MSL, the Contest Jury may authorize Programs to be flown with an optional break.	If the ceiling requirements are not met, or if the calculated density altitude is at or above 5,000 feet MSL, the Contest Jury may authorize Programs to be flown with an optional break.	ACCEPT w/ modifications	12.6.1 The Contest Jury may authorize Programs to be flown with an optional break if the ceiling requirements are not met, or if they determine that the forecast high temperature will result in a density altitude of 5,000 feet or higher.

#### Editorial Updates

Synopsis	Rule Number	2020 Rule	Revised Rule for 2021
Revised year, committee names, etc. as applicable to this revision	Throughout	n/a	n/a
Looping Lines: Clarified that the deduction is at the judge's discretion	Quick Reference	Deduct at least 0.5 points for each change in radius	Deduct for each change in radius. The amount of deduction is at the judge's discretion
Updated for this year and less on refactoring process	Section 1	See Section 1	See Section 1
Clarified Safety Pilot to be one who is "legally qualified"	4.3.3	Competitors must meet legal medical requirements appropriate for their aircraft. Exception: This requirement is waived if the competitor flies with a qualified Safety Pilot.	4.3.3 Competitors must meet legal medical requirements appropriate for their aircraft. Exception: This requirement is waived if the competitor flies with a Safety Pilot who is legally qualified to act as Pilot-in-Command.
Revised clarification statement to include setting aside judge's feelings for each competitor	26.1.1	Grading Judges must independently and dispassionately assess the quality of every figure, against the standard of perfection, during each Performance. Clarification: To judge dispassionately means to disregard the subjective "wow" factors of the flight (e.g., aircraft noise, speed, and acceleration; the difficulty of the sequence; etc.).	26.1.1 Grading Judges must independently and dispassionately assess the quality of every figure, against the standard of perfection, during each Performance. Clarification: To judge dispassionately means to disregard the subjective factors of the flight (e.g., aircraft noise or speed, difficulty of the sequence), as well as feelings about each competitor, etc.
Revised clarification statement regarding where a sharp corner is drawn in Arrest	27.10.1	Looping Lines are vertically curving flight paths that connect to straight lines (horizontal, vertical, or 45 degree) or other Looping Lines (as in the case of Reversing Loops). They are either positively loaded (aka "pulls") or negatively loaded (aka "pushes"). Clarification: Small radius Looping Lines are drawn as sharp angles instead of curves. These are called "corners" in this rule book but are flown like any other Looping Line.	27.10.1 Looping Lines are vertically curving flight paths that connect to straight lines (horizontal, vertical, or 45 degree) or other Looping Lines (as in the case of Reversing Loops). They are either positively loaded (aka "pulls") or negatively loaded (aka "pushes"). Clarification: Looping Lines of less than 180 degrees are drawn as sharp angles instead of curves. These are called "corners" in this rule book but are flown like any other Looping Line.
Clarified direction text in provided example	28.4.4	Turn direction is up to the competitor provided any X axis entry and exit lines are flown in the correct direction. Example: This 180° turn starts and ends on the Y axis. The drawing may imply that the turn must be made toward the upwind direction, but that is not the case. The competitor has freedom to fly the turn in either direction.	28.4.4 Turn direction is up to the competitor provided any X axis entry and exit lines are flown in the correct direction. Example: This 180° turn starts and ends on the Y axis. The drawing may imply that the turn must be made to the judge's right, but that is not the case. The competitor has freedom to fly the turn in either direction.
Added statement on hammerhead pivots saying wind drift is not a deduction (inadvertently lost in 2020 refactoring)	28.8.5 (new)	none	28.8.5 During the pivot, there is no deduction for any CG lateral motion caused by wind drift.