



International Aerobatic Club Rules Committee

Recommendations To The IAC Board of Directors For Rule Changes 2016

*Submitted by:
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INTRODUCTION

Eighteen rule proposals were received by the IAC Rules Committee prior to the 2015 deadline. Those proposals were evaluated by the Committee resulting in 12 of those proposals being approved in full, one proposal partially approved, and the addition of one new proposal approved by the Committee following the U.S. National Championships, as allowed by IAC rules.

The following pages contain the full text of the approved proposals including the rationale for the proposal as provided by the original submitter. The proposed changed or added text is shown in red. Ancillary comments have been added to some of the recommended proposals where the Committee thought it would help the Board to understand the reason for adopting that particular proposal.

For the sake of transparency, the five (5) proposals not approved by the Committee, plus one proposal replaced by an alternate, are listed in an abbreviated form as an appendix to this report along with a capsule summary of the reasons for rejection.

The Rules Committee is confident that adoption of the approved proposals will improve the quality, safety, and efficiency of IAC competition and urges to Board to approve all rule change proposals as delineated in the following pages.

PROPOSAL 2016-01

Affected Rule(s): 2.3(j)

Subject: Requirement for Emergency Canopy Release



Background

The current rule provides a requirement that “cabin-type” aircraft have a door release mechanism. The door release on Decathlons operates on the front hinge, not just the catch at the rear, to allow aerodynamic forces to remove the door when released. We don't allow a Decathlon to fly if the front release mechanism is unusable or otherwise not operative. The same concept should apply to canopy-type airframes with front hinges (e.g., certain RV's).

IAC rules require the wearing of a parachute, or having an airframe parachute, 2.3(n). If the pilot is wearing a parachute, but he can't use it because he can't open the canopy, what good is it?

This requirement would not result in an excessive burden on owners of RVs with forward-hinged canopies. Those airplanes are designed to have an emergency release built into the canopy system. Like the rest of Van's designs, it is a simple system to fabricate and install, even for already-built airframes. *[This paragraph from the rule proposer is disputed by at least some RV owners who commented.]*

Proposed Change

2.3(j)

If the canopy, or door for cabin-type aircraft, is hinged at the front, it must incorporate a quick-release mechanism to facilitate emergency egress.

Additional Committee Comments:

It is recognized that passage of this rule proposal would create a hardship on RV-6 & 7 owners wishing to compete in IAC contests, but the alternative is to ban front-hinge canopy aircraft without a quick release from IAC competition. Input from the RV community has indicated that retrofitting a quick release on the front hinged canopies is not the “quick and easy” change indicated by the proposer. If this proposal is passed, the Rules Committee recommends that the Board form a Working Group consisting of knowledgeable RV pilots and competitors to formulate a workable and financially viable solution to this problem. Additionally, a grace period, perhaps of two years, to implement this change is recommended. In the interim, the RV Working Group would be directed to recommend alternate means of emergency egress, for example a canopy breaker tool, to be used until the airframe modification can be complete.

PROPOSAL 2016-02

Affected Rule(s): 2.6.1(e) and 2.6.2(e)
Subject: Judge Certification Documentation



Background

The judges' currency process has been automated so that the list of current judges is updated nightly without human intervention. The automation of new judge certification is also being automated.

Rules 2.6.1(e) and 2.6.2(e) state: "The IAC Judges Certification Chairperson will verify that official IAC records agree with the application and that all requirements ... have been met; certify the candidate as an IAC [Regional or National] Judge; and annotate the records to reflect the candidate's date of certification as an IAC [Regional or National] Judge".

This clearly implies that the Chairperson reviews the records manually, but there's no reason for this if the system is automated. There is also no need to record the date of certification as it is not referenced anywhere else in the rules.

Proposed Change

2.6.1(e)

Once all requirements of 2.6.1(a)-(d) have been met, the candidate will be certified as a Regional judge and the IAC official records will be updated accordingly. A newly certified Regional Judge will be added to the IAC Approved List of Judges upon completion of the current-year Revalidation and Currency (R&C) Exam. However, the R&C Exam is not required if the newly certified Judge completed the Judges School, Regional Judge Exam, and Practical Exam within the current contest year.

2.6.2(e)

Once all requirements of 2.6.2(a)-(d) have been met, the candidate will be certified as a National judge and the IAC official records will be updated accordingly. A newly certified National Judge will be added to the IAC Approved List of Judges provided they have also completed the current-year Revalidation and Currency (R&C) Exam.

PROPOSAL 2016-04

Affected Rule(s): 2.6.1

Subject: Training New Candidates for Regional Judge



Background

In regions where the contests are smaller, the propose rule change provides an incentive and an opportunity to meet the requirement by doing more supervised training. Note: the 4th, 5th, nth, coached scoring flight gets credit for 5 Assistant Judge flights. This as an incentive to focus on working on grading skills. There is unlikely to be a real world impact on the number of Assistant Judge flights. Why? Because at contests, once a volunteer is assigned to be an Assistant Judge for a category, that individual generally has that assignment for the entire contest. So most Candidate Judges are likely to do all 40 required Assistant Judge flights.

The proposal is intended to require both types of training, but offer an incentive to lean towards grading training, and for Judge Candidates who live where the contests are small, there is an alternative to meet the training requirements.

The rationale for this proposal is that current requirements do not explicitly have a Regional Judge Candidate experience the awarding of scores while being supervised and mentored by a current Judge. The experience of reading Aresti as an Assistant Judge does not appear to be sufficient to produce new Judges who are prepared to award high quality scores to competitors in the first several contests in which they serve as Grading Judges. This proposal is a step towards addressing that problem.

Proposed Change

[new] 2.6.1(c)

At a chapter practice day, a contest practice day, or as a non-contest activity behind the Judges Line during contest flying, award grades for least 3 flights, each flight composed of a minimum of 9 figures, under the supervision and coaching of a current Judge. The supervising Judge shall report the satisfactory accomplishment of this instruction to IAC. If more than 3 flights of this training are accomplished, each additional grading training flight will also reduce the requirements for Assistant Judge experience specified in subparagraph (c) by 5.

PROPOSAL 2016-05

Affected Rule(s): 6.2

Subject: Intermediate Free Design Limits



Background

Regarding the minimum possible average K per figure in Free sequences, the progression goes something like between 10-12K in Sportsman, 12.6K for Intermediate, 25K for Advanced, and 47K for Unlimited. As evident from the data, there is a very small, almost no, difference between the Free requirements for Sportsman and Intermediate, allowing competitors to design Intermediate Frees that are essentially easy Sportsman sequences with a snap thrown in. This proposal changes the maximum number of figures for Intermediate Frees from 15 to 12. This will raise the average K per figure to approximately 16K for Intermediate. Twelve figures is a very reasonable number, keeps the judges more interested in the sequence, and creates an average figure K much more in linear progression with the other categories.

Proposed Change

Table 6.2.1, Intermediate Maximum # of Figures = **12**

PROPOSAL 2016-06

Affected Rule(s): 2.1 & 2.2
Subject: Competitor Qualifications



Background

Rule 2.1 currently requires any pilot flying with more than a Sport Pilot certificate to hold a current FAA Medical or equivalent. If a competitor is flying with a Safety Pilot who is qualified as a PIC in the competition airplane, there is no reason for the competitor to hold a current medical. In this case, the Safety Pilot is PIC and the competitor is simply a passenger in regards to FAA requirements.

Many of our more mature pilots are having a harder time keeping a medical for a variety of reasons, many of which have little impact on their ability to fly. We allow certified pilots with a valid medical to fly in airplanes in which they are otherwise unqualified with a Safety Pilot because, from an FAA and insurance perspective, the Safety Pilot is the PIC. Note that this proposal does not affect the requirement for all competitors to hold a valid pilot certificate.

This change will allow more pilots to participate in the contests and help to retain members.

Proposed Change

2.1 [New 4th paragraph]

A competitor is not required to hold a valid FAA Medical certificate, or equivalent, if flying with a Safety Pilot who qualifies (see 2.2) as the Pilot-In-Command (PIC) in the competitor's make and model aircraft. This paragraph does not remove the requirement for all competitors to hold a valid pilot certificate even if flying with a PIC-qualified Safety Pilot.

2.2 SAFETY PILOTS

The competitor will be the sole occupant of the aircraft during competition flights except in Primary through Intermediate power categories and all glider categories, wherein "safety pilots" are authorized ~~as passengers~~. The Safety Pilot shall have aerobatic competition experience and, if flying with a competitor who does not hold a valid FAA medical, or equivalent, must hold all certificates and endorsements to qualify as PIC in the competitor's make and model aircraft. The competitor has the sole responsibility for determining the qualifications of an individual to act as a Safety Pilot.

Additional Committee Comments:

At least two waivers have been issued by the IAC Contest Sanctioning Committee allowing pilots without valid medical certificates to compete. As a result, those competitors were able to continue to participate in IAC competition with no decrease in the overall safety of the flight.

PROPOSAL 2016-07

Affected Rule(s): 2.1

Subject: Competitor Qualifications



Background

Often a LSA Sport pilot may be taking aerobatic training in airplanes such as the Decathlon or Pitts and would like to compete in that training airplane. There is no reason to deny those Sports pilots the competition experience if accompanied by a Safety Pilot.

Proposed Change

2.1 (2nd paragraph)

In order to be registered in a contest, each competitor must possess a minimum of a Sport Pilot certificate if flying a qualifying Light-Sport aircraft (LSA), or at least a Recreational Pilot certificate with rating appropriate for the class of aircraft to be flown (power or glider) if flying an aircraft other than a LSA. **However, a pilot with a Sport Pilot certificate may fly a non-LSA aircraft in Primary or Sportsman, if accompanied by a Safety Pilot with the appropriate certificates and endorsements.**

Additional Committee Comments:

As with Proposal 2016-6, a previous waiver was granted to allow a Sport pilot who had been taking aerobatic instruction in a Decathlon to compete with a Safety Pilot. This allowed a pilot who planned to move up in IAC competition a chance to compete which he would not have otherwise had until he had obtained a Private license. No safety or legal reasons exist to not allow this change.

PROPOSAL 2016-08

Affected Rule(s): 5.6.1

Subject: Eligibility for 4-Minute Free



Background

This change better ensures the competency of an Advanced competitor wishing to enter the 4-Minute Free. Simply holding a 250' ICAS Statement of Aerobatic Competency (SAC) can be totally meaningless in regards to flying the 4-Minute because SAC's are issued based on the airshow routine presented to the ICAS ACE, and do not necessarily demonstrate the types of skills required for a 4-Minute Free. Additionally, this change will allow Unlimited competitors who have "moved down" to Advanced to continue to fly the 4-Minute Free if they so wish.

Proposed Change

5.6.1 Eligibility

The contest Director may schedule this special trophy event for any Unlimited category competitor, or Advanced competitors who have flown in the Unlimited category within the past two years. All 4-Minute Free competitors must have completed the scheduled competition flight programs in their respective category.

PROPOSAL 2016-10

Affected Rule(s): Appendix 3, Intermediate

Subject: Unknown Figures



Background

Certain airplanes flying in the Intermediate category have a relatively narrow speed envelope. Execution of a 45-down, full inside snap is not a problem for these airplanes if executed perfectly, but the potential for an overspeed is there if the pilot delays snap initiation for even a short time beyond the ideal. As a result, it is recommended that the 45-down, full inside snap be removed from the allowable Intermediate Unknown figures.

On the other hand, execution of a half snap on a 45-up line has no such problems. The category had a half snap on a 45-up line in the 2013 Intermediate Known and there were no reports of issues with either execution or safety. Currently, the only two half rolls on a 45 degree up line available for Intermediate Unknowns is the half slow roll and a 2x4. Adding the half snap, which is proven Intermediate figure based on the 2013 Known, will allow greater variety, interest and flexibility in the design of Intermediate Unknowns.

Proposed Changes

Appendix 3 – Intermediate

Delete Family 9.9.4.4, 45-down inside full snap

Add Family 9.9.2.2, 45-up half inside snap

PROPOSAL 2016-11B

Affected Rule(s): Table 6.3.2 - Intermediate
Subject: Family 9 Versatility In Intermediate



Background

Unless a figure is carefully designed, snap rolls for certain airplanes flying Intermediate have the potential to put the airplane outside their operating envelope. Both Known and Unknown sequences are under the design supervision of IAC experts whose experience ensures that all figures containing snap rolls are within the flying parameters of all Intermediate benchmark airplanes.

Intermediate Free programs have no such design oversight, however. Currently, all Intermediate pilots are required to include at least one snap roll in the Free. Depending on the design of the Free, the pilot may feel compelled by the versatility requirement to include a snap roll on a figure which does present a potential for an overspeed.

By modifying the Intermediate Free Versatility for Family 9 to require either a snap roll or a 9.4.3.4, pilots are given the option to avoid putting any snap roll in their Free Program. The 9.4.3.4 has the same K as a horizontal positive snap roll and is arguably even harder to fly in a slow rolling, flat-bottom wing airplane, so no degradation in the overall difficulty factor of Intermediate Frees will occur.

Proposed Change

Table 6.3.2 Power Intermediate

Family 9 Snap Rolls – At least one from either 9.9 or 9.10 or at least one 9.4.3.4

Additional Committee Comments:

A portion of the original 2016-11 to remove all snaps from Intermediate was DISAPPROVED by the Rules Committee and was labeled as 2016-11A. A section of the proposal, presented here (2016-11B), was considered to have merit, however, and is recommended for approval.

PROPOSAL 2016-13

Affected Rule(s): 4.16.3(c)
Subject: Implicit Interruptions



Background

Why does the implicit interruption rule only cover gaining altitude and not intentionally losing altitude? A competitor can choose to trade altitude for the energy required to execute the next figure. This can be penalized by a figure score downgrade, but if the line between figures is sufficiently steep, a Judge may elect to either apply a 0.0 score, or an HZ for inserting a figure. A simpler, easier to apply, and fairer penalty is to score an implicit interruption.

This addition to the text of the rule(s) will add clarity to how Judges evaluate a correction that combines the permitted elements of an implicit interruption.

Proposed Change

4.16.3

(c) **Deliberately performing a simple climbing or descent between figures or flying any figure in a way such that the obvious intent is to regain altitude or energy.** The competitor shall be given the benefit of the doubt when applying this penalty.

[new] (d) Or any combination of paragraphs a, b, or c, above.

PROPOSAL 2016-15

Affected Rule(s): 7.1.2
Subject: Grading of Figures



Background

This proposal addresses the different opinions voiced in response to the 2015 Judges Revalidation and Currency Exam question of; flying the roll combination figure of a full negative snap roll followed by a same direction full slow roll where, “the pilot over-rotates the negative snap by 15° and finishes the figure wings level. As a result the slow roll is only 345°, not 360°. What is the appropriate mark?” The intent of the rule book is that the competitor is not subjected to a double penalty, but the current text does not explicitly state that. The proposed change will clarify the intent of the rule book.

Proposed Change

7.1.2(h) [new]

A competitor should only be penalized once for each deviation from flying a perfect figure. Where a competitor makes a deviation in the middle of a complex figure, that deviation should be downgraded and grading should continue into the next figure element without a second penalty for a misaligned entry into that following figure element.

Additional Committee Comments:

This proposal is actually only a clarification to the existing rule and does not change the intent or scope of the current rule, but is included here for the Board’s information.

PROPOSAL 2016-17

Affected Rule(s): 7.3.1(g) & 7.3.5
Subject: Figure(s) Flown Outside the Box



Background

Zeroing initial figures flown completely outside the box is a rule left over from the days of limited use of aircraft radios when we needed pilots to be within "eyeshot" of the recall panels and smoke bombs. Those days are long gone. Hard zeroing figures for being out of the box based on when they occur in a sequence makes no logical sense now, and is particularly draconian in the harshness of the penalty. We already have penalties for outs. Hard zeros added on to those penalties is "piling on". All other hard zeros must be scored as such by a majority of the grading judges. This particular hard zero only needs to be scored by a single boundary judge. This dichotomy is inconsistent with the fairness we strive for in every other aspect of judging and should be eliminated.

Proposed Change

Delete Section 7.3.1 (g)
Delete Section 7.3.5

Additional Committee Comments:

In addition to the background provided by the proposal, it should be noted that the major penalty of an HZ for an initial figure(s) flown outside the box is dependent on a Boundary Judge who may or may not have had adequate training and a Chief Judge who may or may not be paying attention and must evaluate whether the "IN THE BOX" call occurred after the initial figure(s) were completely finished.

NOTE: If 2016-17 is Approved, Proposal 2016-18 is N/A and should not be considered for a vote.

PROPOSAL 2016-18

NOTE: If Proposal 2016-17 is passed, this proposal is N/A.



Affected Rule(s): 4.7

Subject: Boundary Judges

Background

The Boundary Judge briefing should cover the requirement that the initial figure(s) of a sequence must be in the box. Boundaries are commonly staffed by newcomers who are unlikely to be aware of this rule.

There is also currently no way to mark such infractions on the penalty form. We have to scribble a note instead. Since this infraction results in a Hard Zero it would be better to have this more formalized. To keep things simple I suggest we circle the checkmark, but it might be better to make a separate column or circle the figure number instead.

Another suggestion I'd like to make is that an official Boundary Judge form be created. This would ideally cover all the briefing points and provide step-by-step guidance to assist new boundary judges in case their briefing was lacking. I've seen that some chapters have made their own form. Perhaps we can leverage existing work.

Proposed Change

4.7:

[new] (e) Noting for the Chief Judge if any initial figures were flown entirely outside of the aerobatic box

On the Chief Judge Penalty Form:

Mark each box corresponding to the call ("Out North, South, East, or West") from the Boundary Judges. Then place a checkmark in the "Boundary Penalty" box for any figure with one or more boundary infringements. Circle the checkmark if the figure was flown entirely out of the box.

PROPOSAL 2016-19

Affected Rule(s): 4.6.1(n)

Subject: Warm-Up Pilots at Nationals



Background

Rule 4.6.1(n) currently requires warm-up pilots for all categories and all flights at U.S. Nationals. While a desirable goal, this is an impractical requirement. It is difficult to come up with any pilot willing to attend Nationals only to fly warm-up, much less one who actually provides a meaningful warm-up. This requirement has never, or at most, rarely, ever been followed. The rule change would remove the mandatory use of warm-up pilots at Nationals, but at the same time, does not prevent their use if circumstances are such that the CD and IAC agree to it.

Proposed Change

~~4.6.1(n) Designation of warm-up pilots. Warm-up flights will be required for all categories and all flights at the U. S. Nationals, if circumstances allow.~~

Additional Committee Comments:

This proposal was received within one week after the close of the U.S. National Championships, as allowed for in the IAC *Official Contest Rules Book*. After consideration of all factors and input from the CD and other officials attending Nationals, the Rules Committee opted to replace proposal 2016-14 with this proposal 2016-19.

Appendix

The following 2016 Rule Proposals were rejected by vote of the IAC Rules Committee. The proposal number, subject, and an abbreviated summary of why the proposal was rejected are provided. The summaries are a compilation of pertinent comments taken from the proposal analyses of one or more RC members and are by no means inclusive of the full evaluations. This appendix is provided for information only and is not subject to Board action.

PROPOSAL 2016-03

Subject: Judge Certification Period

NOT APPROVED:

The purpose of the current wording regarding the time during which a judge candidate's experience requirements are valid is based on that experience occurring under relatively current rules. Changing the time period to 24 months could mean that some of that experience occurred under rules 3 cycles old. That is, for example, under this proposal a judge applying in 2015 could have accrued some, or all, of their required experience under 2013 rules. The contest year is already defined as beginning on 1 January, a set date, not variable as the proposer claimed.

PROPOSAL 2016-09

Subject: Allowing All Advanced Competitors to Qualify for 4-Minute Free

NOT APPROVED:

This proposal recognizes the fallacy of using an ICAS waiver as proof of ability, but attempts to fix that by allowing any Advanced pilot to fly the 4-Minute Free, but limiting the lower altitude to the Advanced level (200 m). Flying Advanced Aresti sequences in no way demonstrates the ability to fly 4-Minute maneuvers close to the ground, even if the lower limit is raised to 200 meters. This proposal would create a major safety concern.

PROPOSAL 2016-11A

Subject: Remove All Snap Rolls From Intermediate Knowns and Unknowns

NOT APPROVED:

[The portion of this proposal described following was not approved. However, another portion of the proposal was approved and appears as Proposal 2016-11B. This proposal continues the fallacy that all snaps are detrimental to Decathlons. This issue has already been examined by the BoD and voted against. Two highly experience Decathlon instructors on the Rule Committee's Known Subcommittee have gone on record documenting that only high energy snaps need be avoided in that airplane. If 2016-10 is passed, the only snaps allowed in Unknowns would be horizontal full snaps and 45-up half snaps. The Rules Chairman is charged with reviewing all Unknowns which provides a check against any high energy snaps being included. Snaps in Knowns are under the supervision of both the Known Subcommittee and the BoD to ensure compliance with the operating envelope of subject airplanes. Further, each of the IAC competition categories has certain defining figures which provide the step-up from one category to the next. For Intermediate, that figure is the snap roll. To remove all snap rolls from Intermediate Knowns and Unknowns would remove that important differentiation from Sportsman.

PROPOSAL 2016-12

Subject: Density Altitude Limit for Advanced

NOT APPROVED:

The proposal makes the case that IAC Advanced competition should follow the CIVA rule on maximum density altitude allowed unless an Optional Break is authorized. In actuality, Advanced competitors in the western states have been competing without problem in DA's well over 4000' without issue. This proposal would mean that most every Advanced competitor in the western regions would be getting free breaks versus Advanced pilots in the rest of the country required to deal with the sequence without breaks. Providing every pilot with a break would greatly increase the time to fly the category and make a valid comparison of Regional Point Totals impossible. As with other optional break rules, the free "density altitude" break would also have to be turned on and off depending on the conditions, which would have to be constantly monitored. While it works for CIVA Championships with their increased time and personnel, it is not a workable idea for IAC regional contests.

PROPOSAL 2016-14

Subject: Mandatory Warm-Up Pilots at Nationals

NOT APPROVED:

This proposal outlined procedures for how to comply with the requirement to have warm-up pilots at the U.S. National Championships. Following this year's Nationals, a proposal (2016-19) was submitted to remove the requirement for warm-up pilots entirely. After consideration of the new proposal, 2016-14 was replaced by 2016-19.

PROPOSAL 2016-16

Subject: Confidentiality of Contest Jury Member Votes

NOT APPROVED:

The proposer uses a democracy analogy to justify making the Jury members' vote public, but he misses the point that how an individual in a democracy votes is kept private, even if the overall result of that vote is public. This rule was created a few years ago to protect Jury members from being "button holed" or harassed by competitors demanding to know why they voted against their protest. To allow Jury members to vote exactly the way they feel they must without worrying about the repercussions or dealing with irate competitors, the individual voting record must be kept confidential.