



# International Aerobatic Club Known Sequence Committee

## Recommendations To The IAC Board of Directors For Power and Glider Knowns 2018

*Submitted by:  
Brian K. Howard  
Chairman, IAC Known Sequence Committee  
November 2017*



### INTRODUCTION

The IAC Known Sequence Committee (KSC) is charged with developing the Known sequences for all power and glider competition categories. An excellent Known design must provide enough challenge that the sequence is fun to fly throughout the year, is not so challenging that it dissuades pilots from competing, reinforces skills which are necessary to continue growing in the category and which lay the groundwork should the pilot decide to move to a higher category. Sequences must take into account how wind affects airplanes of differing performance while avoiding designs which are beyond the capabilities of the baseline aircraft specified in the IAC *P&P Manual*. Above all, the sequences must be safe for pilots of all experience levels. All in all, quite a complex task, and somewhat paradoxically, the lower the category, the more difficult the task.

To accomplish this complex task, the KSC is composed of nine individuals, all of whom have extensive aerobatic competition, instructing, and coaching experience. Specific aircraft experience within the KSC ranges from high-drag, low-performance power airplanes like the Great Lakes and Citabria/Decathlon up to the Extra 330SC, and in gliders from the DG-1000 up to the Swift and MDM Fox. The KSC was especially happy to welcome Michael Lents to the Committee last year. Mike is a MCFI-A and Chief Instructor for the John D. Odegard School of Aerospace Sciences at the University of North Dakota. The UND program is one of the largest collegiate aerobatic programs in the nation and Mike's extensive experience with the Decathlon line of airplanes and pilots new to aerobatics is an invaluable resource which ensures the Primary through Intermediate Knowns meet the needs of all IAC pilots and the airplanes most commonly participating in those categories.

Besides applying their knowledge and experience to analyze and "chair fly" the proposed sequences, some of the KSC members test fly the Known proposals in the appropriate airplanes to ascertain the suitability of the proposal to the category. Altitude loss, ability to position in the box, energy management, and aircraft ability to perform the proposed figures are some of the attributes tested.

In addition to the KSC members, experts from outside the Committee are also occasionally used to evaluate and/or test fly certain sequences. One of the most experienced Unlimited pilots in the IAC who flies a Pitts S-1 was asked to evaluate this year's Unlimited proposals, while the Advanced and Unlimited glider sequences were evaluated by not only the KSC's own glider experts, but also four U.S. Advanced/Unlimited glider pilots who participated in the U.S. Nationals and a Finnish pilot, who is the 2016 Finnish Champion and WAGAC 2016 participant.

This year, 23 Known proposals in power and glider were evaluated and ranked by the KSC. That included 17 basic sequence proposals across all categories with the balance (6) being variants of those sequences (usually changing some of the complementary maneuvers or rearranging figure order).

The final proposals for the IAC 2018 Knowns provided on the following pages have been thoroughly evaluated, vetted, and in most cases, test flown, to ensure they meet every requirement of an excellent Known within the category for which they were designed. The KSC recommends without reservation or caveat that each of the following Known sequences be approved by the IAC Board of Directors for the 2018 contest year.

## 2018 IAC Power and Glider Knowns



### PRIMARY

No change for 2018.



**SPORTSMAN POWER**



<b>B</b>	Contest: <b>PROPOSED</b>	Category: <b>Sportsman</b>
	Date: <b>2018</b>	Program: <b>Known</b>

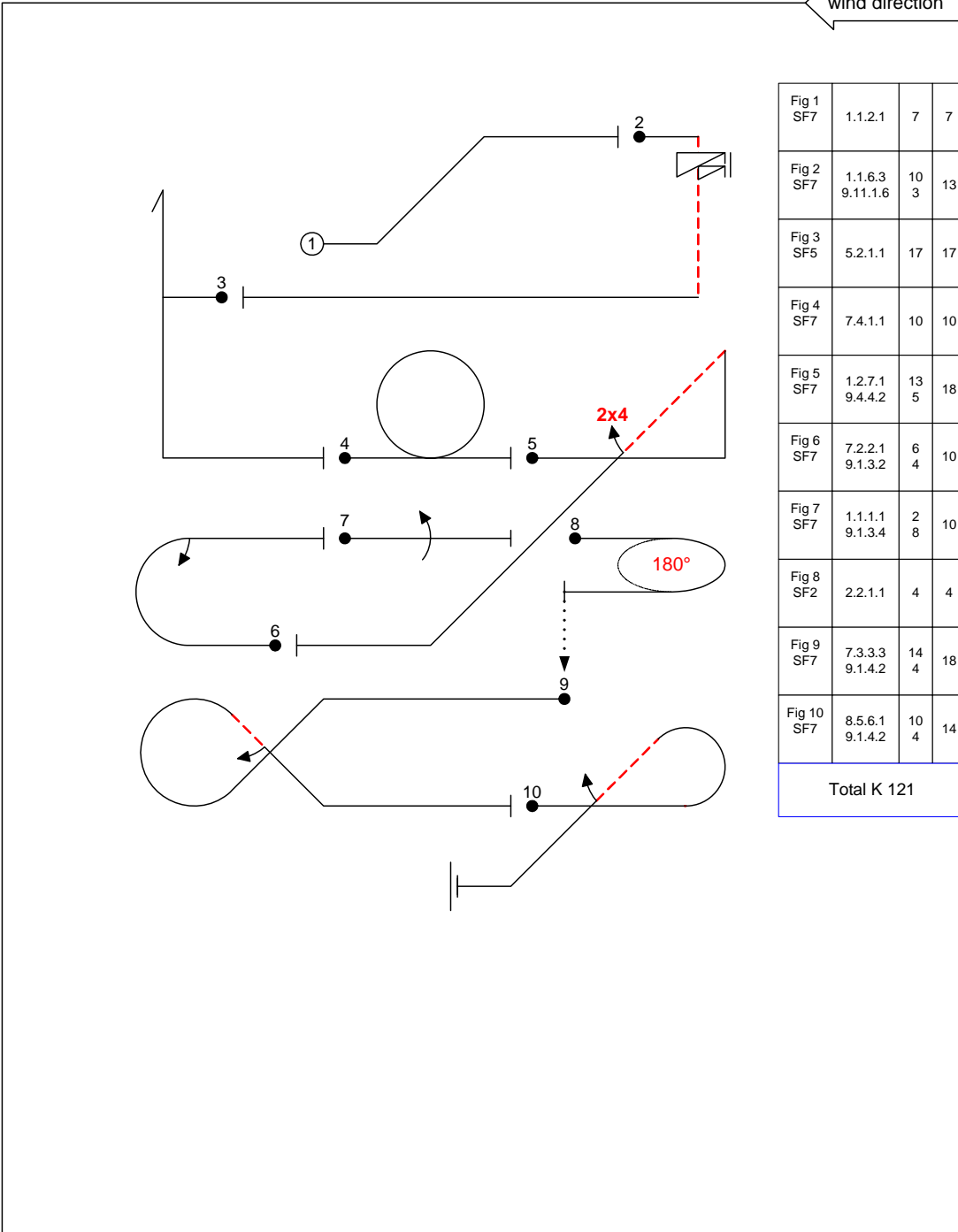
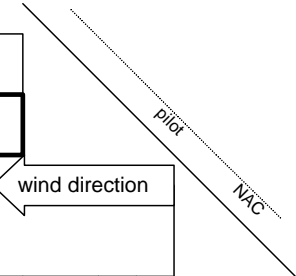


Fig 1 SF7	1.1.2.1	7	7
Fig 2 SF7	1.1.6.3 9.11.1.6	10 3	13
Fig 3 SF5	5.2.1.1	17	17
Fig 4 SF7	7.4.1.1	10	10
Fig 5 SF7	1.2.7.1 9.4.4.2	13 5	18
Fig 6 SF7	7.2.2.1 9.1.3.2	6 4	10
Fig 7 SF7	1.1.1.1 9.1.3.4	2 8	10
Fig 8 SF2	2.2.1.1	4	4
Fig 9 SF7	7.3.3.3 9.1.4.2	14 4	18
Fig 10 SF7	8.5.6.1 9.1.4.2	10 4	14
<b>Total K 121</b>			

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FREE PROGRAM CHECK BY:



**INTERMEDIATE POWER**



<b>B</b>	Contest: <b>PROPOSED</b>	Category: <b>Intermediate</b>
	Date: <b>2018</b>	Program: <b>Known</b>

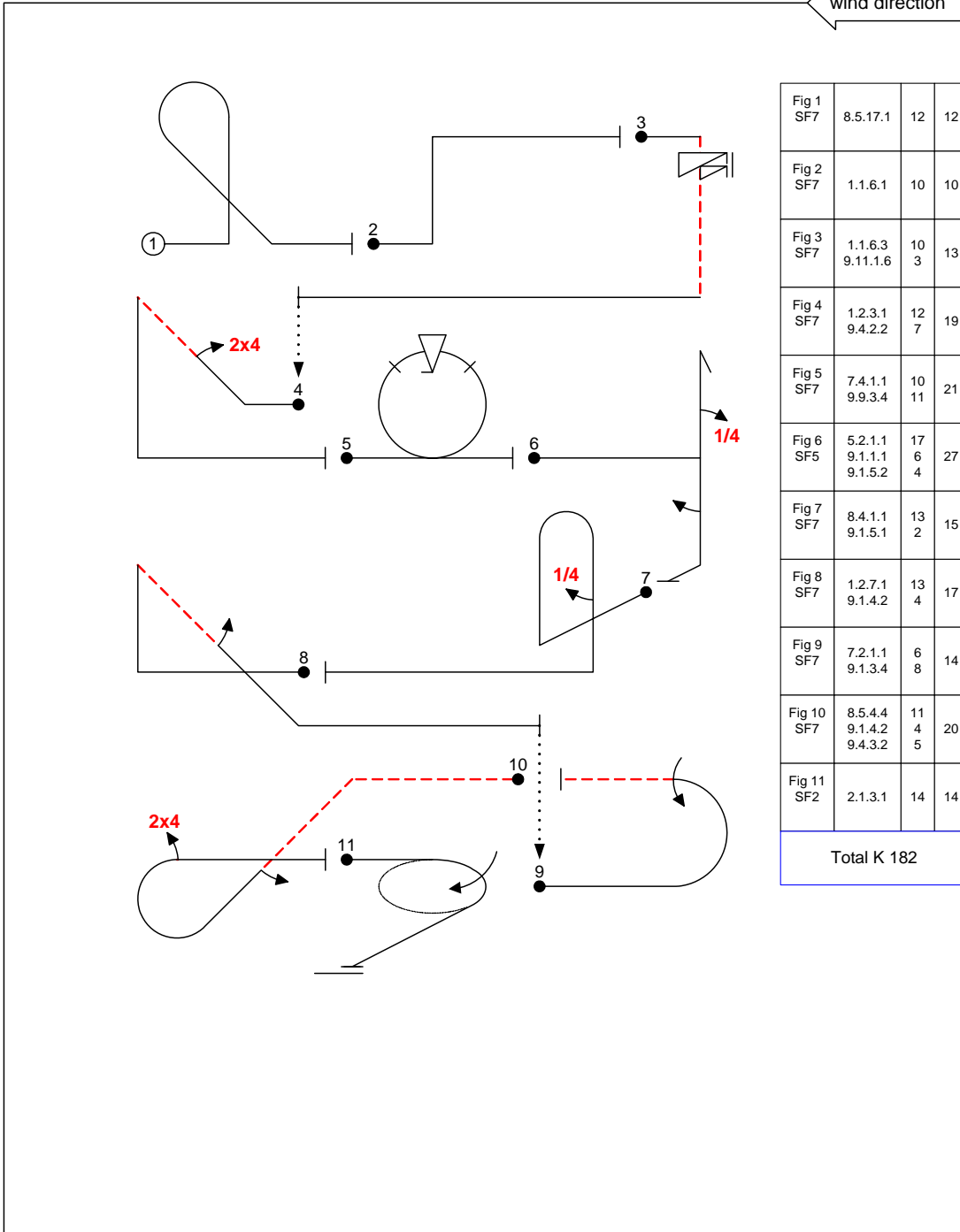
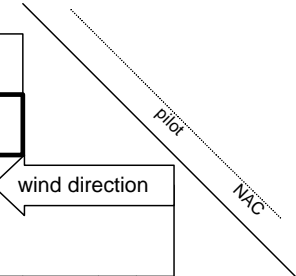


Fig 1 SF7	8.5.17.1	12	12
Fig 2 SF7	1.1.6.1	10	10
Fig 3 SF7	1.1.6.3 9.11.1.6	10 3	13
Fig 4 SF7	1.2.3.1 9.4.2.2	12 7	19
Fig 5 SF7	7.4.1.1 9.9.3.4	10 11	21
Fig 6 SF5	5.2.1.1 9.1.1.1 9.1.5.2	17 6 4	27
Fig 7 SF7	8.4.1.1 9.1.5.1	13 2	15
Fig 8 SF7	1.2.7.1 9.1.4.2	13 4	17
Fig 9 SF7	7.2.1.1 9.1.3.4	6 8	14
Fig 10 SF7	8.5.4.4 9.1.4.2 9.4.3.2	11 4 5	20
Fig 11 SF2	2.1.3.1	14	14
Total K 182			

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FREE PROGRAM CHECK BY:



**ADVANCED POWER**



<b>B</b>	Contest: <b>PROPOSED</b>	Category: <b>Advanced</b>
	Date: <b>2018</b>	Program: <b>Known</b>

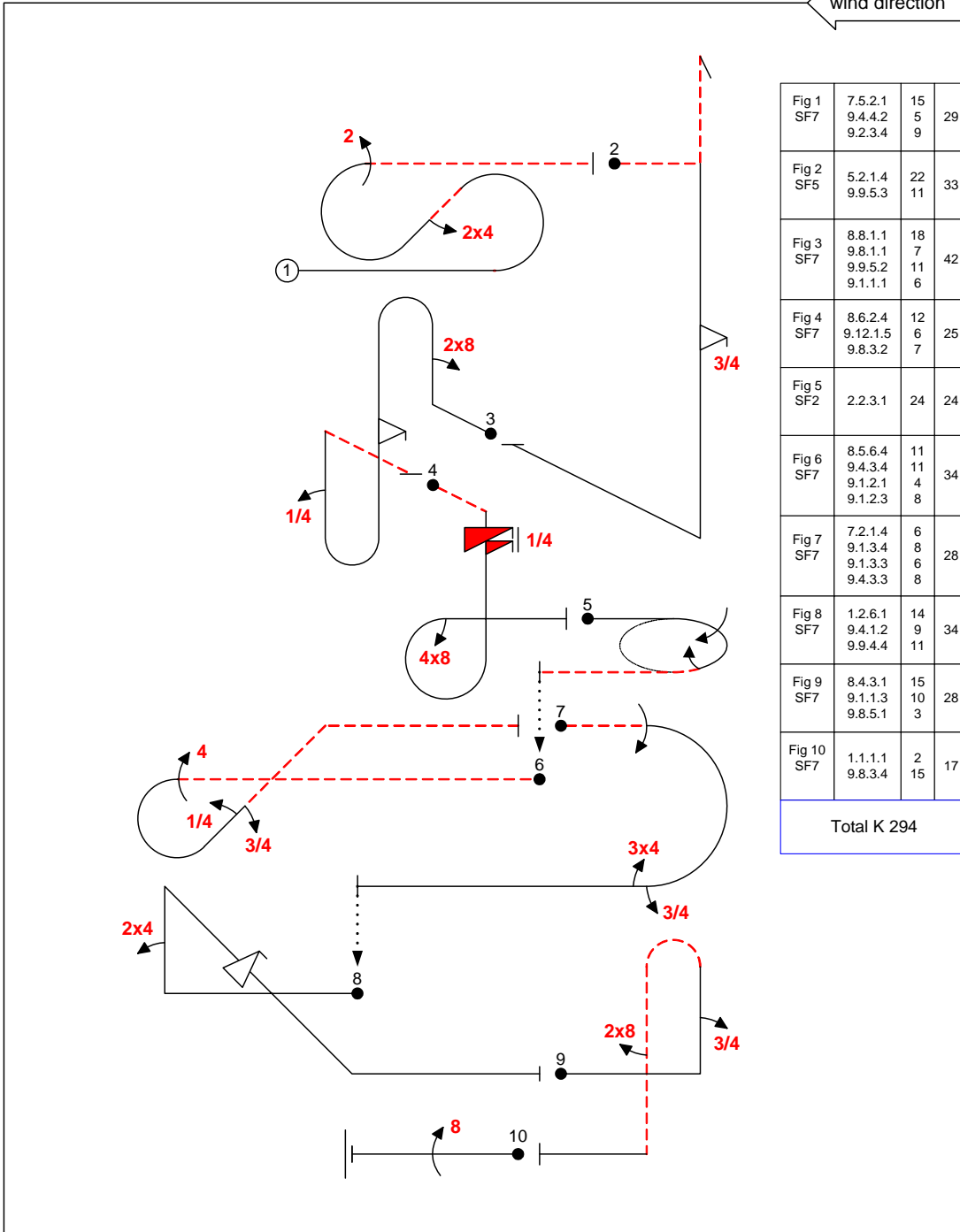
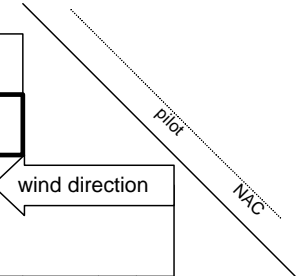


Fig 1 SF7	7.5.2.1 9.4.4.2 9.2.3.4	15 5 9	29
Fig 2 SF5	5.2.1.4 9.9.5.3	22 11	33
Fig 3 SF7	8.8.1.1 9.8.1.1 9.9.5.2 9.1.1.1	18 7 11 6	42
Fig 4 SF7	8.6.2.4 9.12.1.5 9.8.3.2	12 6 7	25
Fig 5 SF2	2.2.3.1	24	24
Fig 6 SF7	8.5.6.4 9.4.3.4 9.1.2.1 9.1.2.3	11 11 4 8	34
Fig 7 SF7	7.2.1.4 9.1.3.4 9.1.3.3 9.4.3.3	6 8 6 8	28
Fig 8 SF7	1.2.6.1 9.4.1.2 9.9.4.4	14 9 11	34
Fig 9 SF7	8.4.3.1 9.1.1.3 9.8.5.1	15 10 3	28
Fig 10 SF7	1.1.1.1 9.8.3.4	2 15	17
<b>Total K 294</b>			

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FREE PROGRAM CHECK BY:



**UNLIMITED POWER**



<b>B</b>	Contest: <b>PROPOSED</b>	Category: <b>Unlimited</b>
	Date: <b>2018</b>	Program: <b>Known</b>

wind direction  
pilot  
NAC

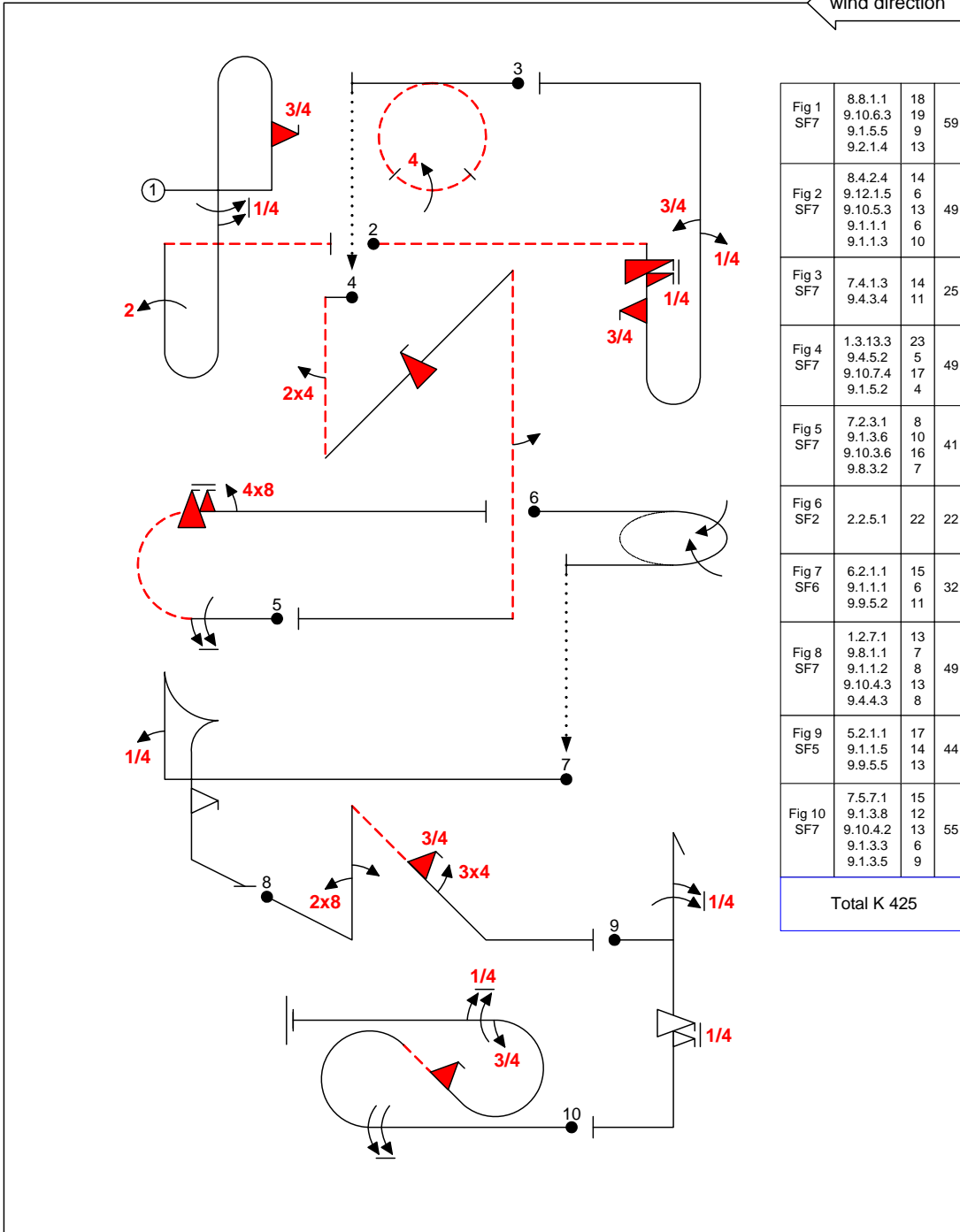


Fig 1 SF7	8.8.1.1	18	59
	9.10.6.3	19	
	9.1.5.5	9	
	9.2.1.4	13	
Fig 2 SF7	8.4.2.4	14	49
	9.12.1.5	6	
	9.10.5.3	13	
	9.1.1.1	6	
Fig 3 SF7	7.4.1.3	14	25
	9.4.3.4	11	
Fig 4 SF7	1.3.13.3	23	49
	9.4.5.2	5	
	9.10.7.4	17	
	9.1.5.2	4	
Fig 5 SF7	7.2.3.1	8	41
	9.1.3.6	10	
	9.10.3.6	16	
	9.8.3.2	7	
Fig 6 SF2	2.2.5.1	22	22
Fig 7 SF6	6.2.1.1	15	32
	9.1.1.1	6	
	9.9.5.2	11	
Fig 8 SF7	1.2.7.1	13	49
	9.8.1.1	7	
	9.1.1.2	8	
	9.10.4.3	13	
Fig 9 SF5	5.2.1.1	17	44
	9.1.1.5	14	
	9.9.5.5	13	
Fig 10 SF7	7.5.7.1	15	55
	9.1.3.8	12	
	9.10.4.2	13	
	9.1.3.3	6	
	9.1.3.5	9	
Total K 425			

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**SPORTSMAN GLIDER**



<b>B</b>	Contest: <b>PROPOSED</b>	Category: <b>Sportsman Glider</b>	
	Date: <b>2018</b>	Program: <b>Known</b>	Pilot's No. <input type="text"/>

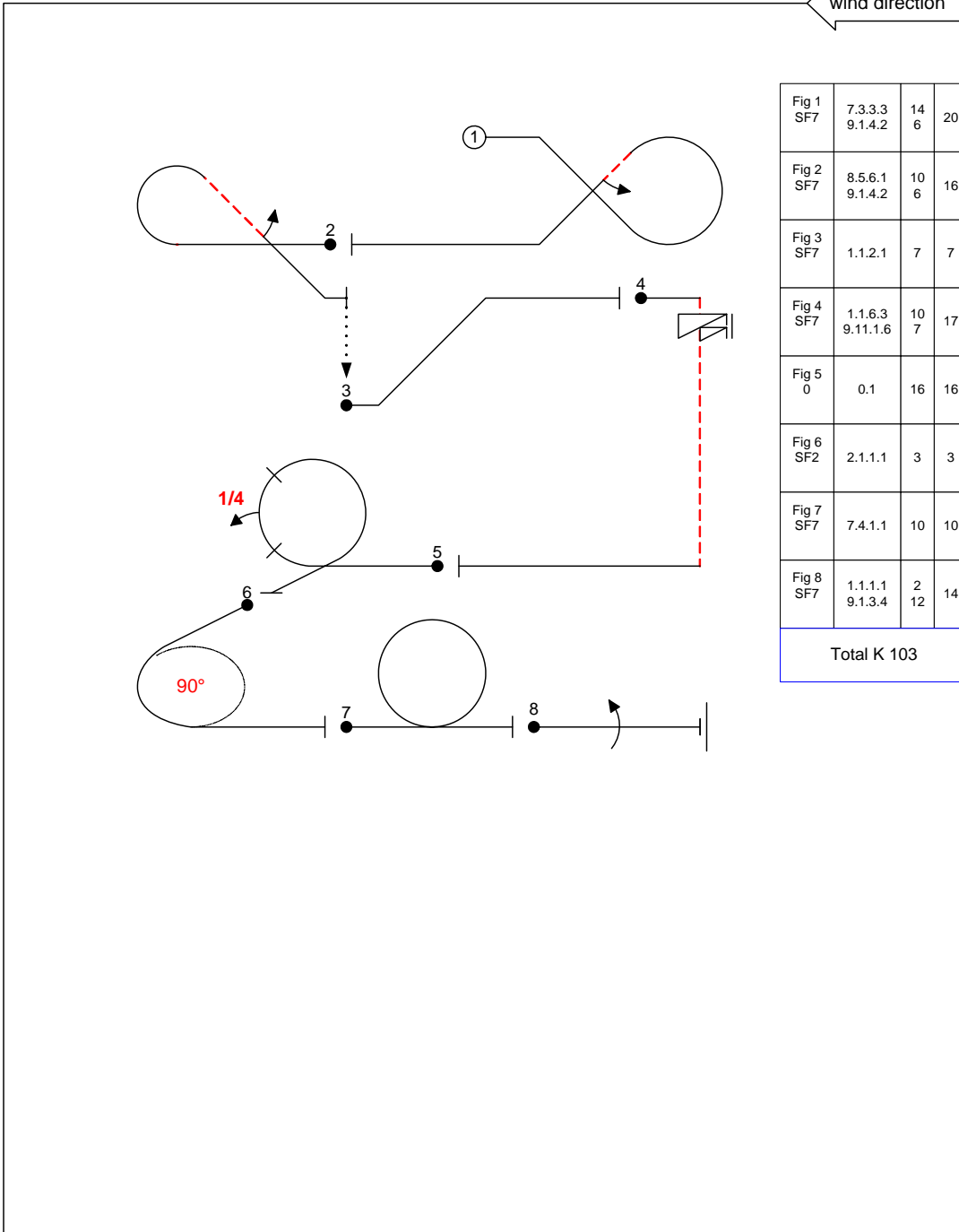
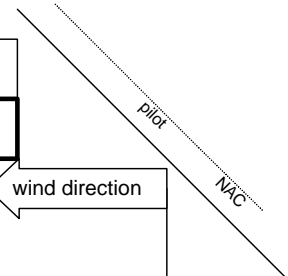


Fig 1 SF7	7.3.3.3 9.1.4.2	14 6	20
Fig 2 SF7	8.5.6.1 9.1.4.2	10 6	16
Fig 3 SF7	1.1.2.1	7	7
Fig 4 SF7	1.1.6.3 9.11.1.6	10 7	17
Fig 5 0	0.1	16	16
Fig 6 SF2	2.1.1.1	3	3
Fig 7 SF7	7.4.1.1	10	10
Fig 8 SF7	1.1.1.1 9.1.3.4	2 12	14
<b>Total K 103</b>			

Glider

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**INTERMEDIATE GLIDER**



<b>B</b>	Contest: <b>PROPOSED</b>	Category: <b>Intermediate Glider</b>
	Date: <b>2018</b>	Program: <b>Known</b>

wind direction

pilot  
NAC

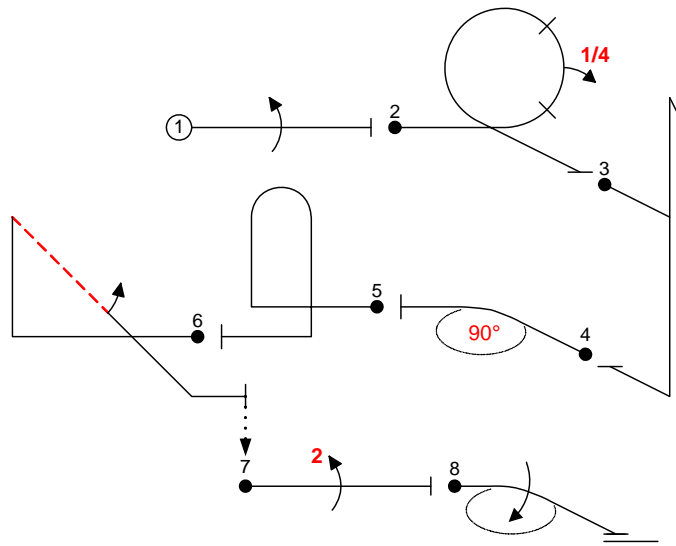


Fig 1 SF7	1.1.1.1 9.1.3.4	2 12	14
Fig 2 0	0.1	16	16
Fig 3 SF5	5.2.1.1	17	17
Fig 4 SF2	2.1.1.1	3	3
Fig 5 SF7	8.4.1.1	13	13
Fig 6 SF7	1.2.7.1 9.1.4.2	13 6	19
Fig 7 SF7	1.1.1.1 9.2.3.4	2 14	16
Fig 8 SF2	2.1.3.1	19	19
Total K 117			

Glider

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**ADVANCED GLIDER**



<b>B</b>	Contest: <b>PROPOSED</b>	Category: <b>Advanced Glider</b>
	Date: <b>2018</b>	Program: <b>Known</b>

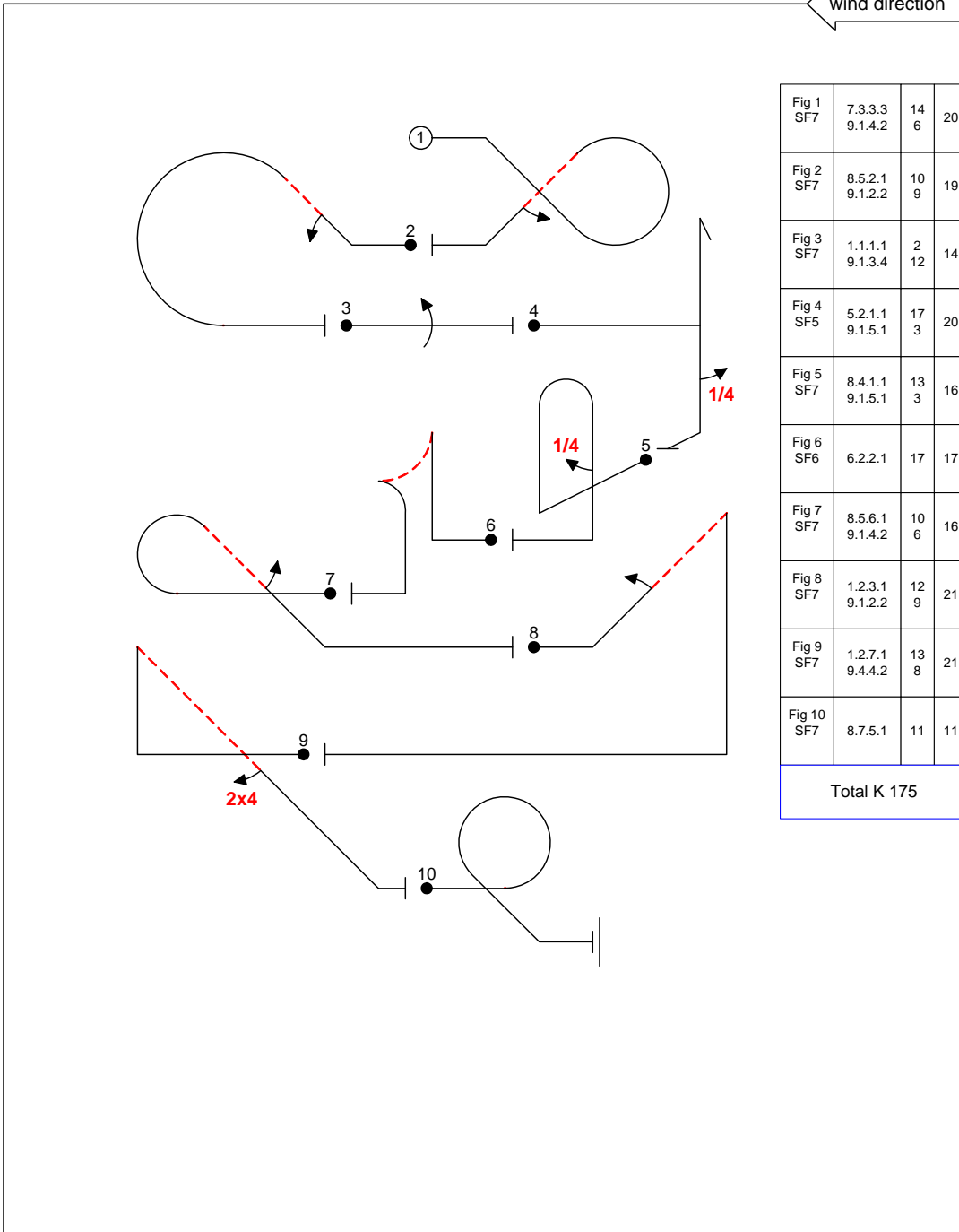
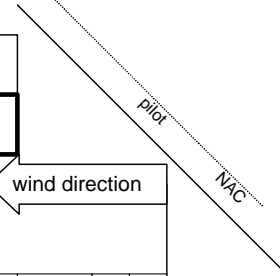


Fig 1 SF7	7.3.3.3 9.1.4.2	14 6	20
Fig 2 SF7	8.5.2.1 9.1.2.2	10 9	19
Fig 3 SF7	1.1.1.1 9.1.3.4	2 12	14
Fig 4 SF5	5.2.1.1 9.1.5.1	17 3	20
Fig 5 SF7	8.4.1.1 9.1.5.1	13 3	16
Fig 6 SF6	6.2.2.1	17	17
Fig 7 SF7	8.5.6.1 9.1.4.2	10 6	16
Fig 8 SF7	1.2.3.1 9.1.2.2	12 9	21
Fig 9 SF7	1.2.7.1 9.4.4.2	13 8	21
Fig 10 SF7	8.7.5.1	11	11
<b>Total K 175</b>			

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**UNLIMITED GLIDER**



<b>B</b>	Contest: <b>PROPOSED</b>	Category: <b>Unlimited Glider</b>
	Date: <b>2018</b>	Program: <b>Known</b>

wind direction

pilot  
NAC

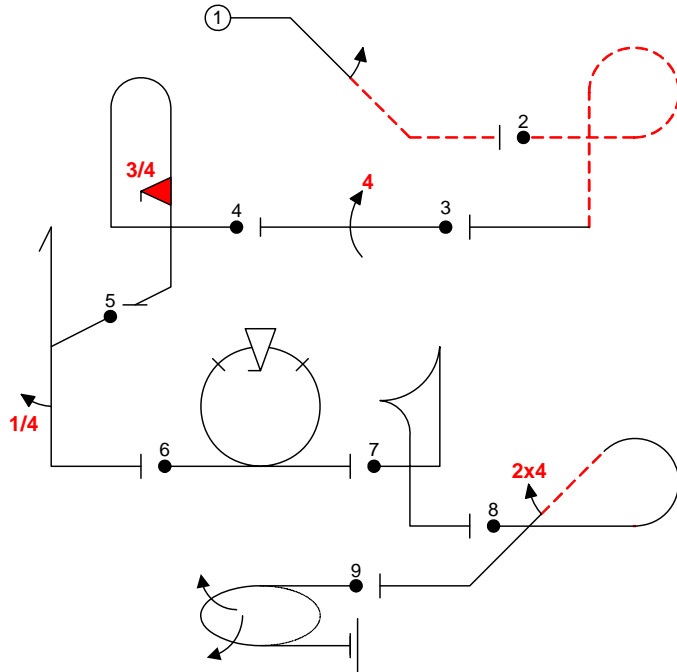


Fig 1 SF7	1.1.3.3 9.1.4.2	8 6	14
Fig 2 SF7	8.6.6.2	15	15
Fig 3 SF7	1.1.1.1 9.4.3.4	2 17	19
Fig 4 SF7	8.4.1.1 9.10.10.3	13 17	30
Fig 5 SF5	5.2.1.1 9.1.5.1	17 3	20
Fig 6 SF7	7.4.1.1 9.9.3.4	10 16	26
Fig 7 SF6	6.2.1.1	17	17
Fig 8 SF7	8.5.6.1 9.4.4.2	10 8	18
Fig 9 SF2	2.2.5.3	34	34
<b>Total K 193</b>			

Glider

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