KAWG report for the 2023 FreeKnown Figure sets

28 OCTOBER 2022

Dear CIVA Delegates:

NAC submissions of Figure sets for the FreeKnowns in 2023 in all categories were received as follows:

- 4 proposals for Unlimited (A to D)
- 6 proposals for Advanced (A to F)
- 2 proposals for Intermediate / Yak-52 (A and B)

CIVA's 6 KAWG Experts have reviewed the proposals individually and have returned their opinions and rankings.

Unlimited:

The KAWG Experts compounded ranking gives Figure set D the lead.

Figure sets A and C followed behind, although C was discarded by one Expert because of high negative in Fig C and that the FK will be flown repeatedly throughout the season.

Advanced:

Figure sets D and F are the only 2 sets which were not discarded by any of the Experts. D and F have also fared best in the compounded Experts ranking.

All other figure sets (A, B, C and E) have been discarded by one or two Experts.

Intermediate / Yak-52

There are only two propositions. The Experts have found both Figure sets acceptable.

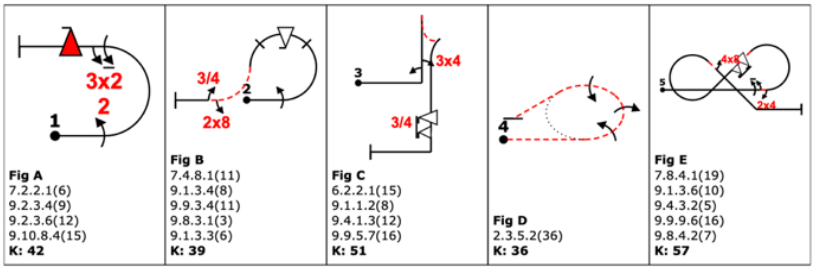
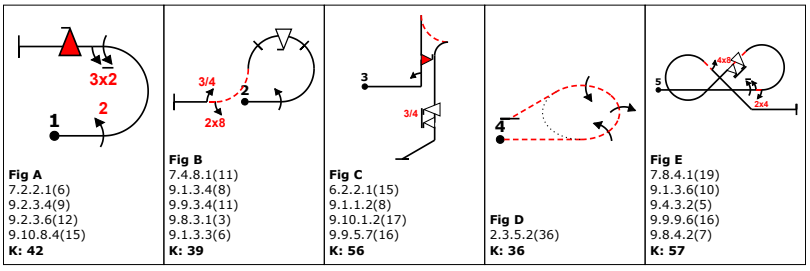
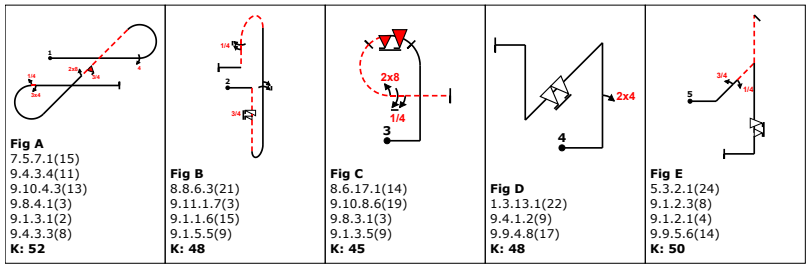
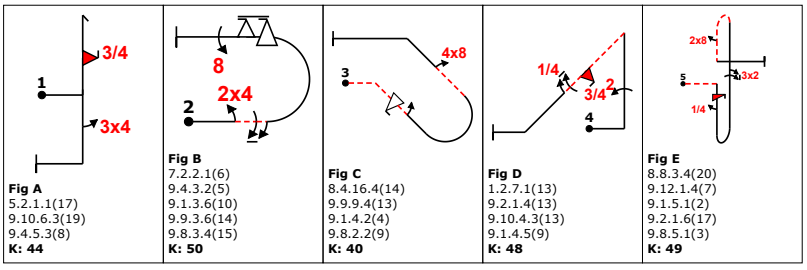
The mark X in this report means the Expert has either discarded the respective Figure set or has not recommended it.

All the remarks of the Experts, their full analysis and ranking can be found in the joined Excel file.

All NAC proposals are represented in this report and it gives you hopefully all the information that you need for voting at CIVA Plenary.

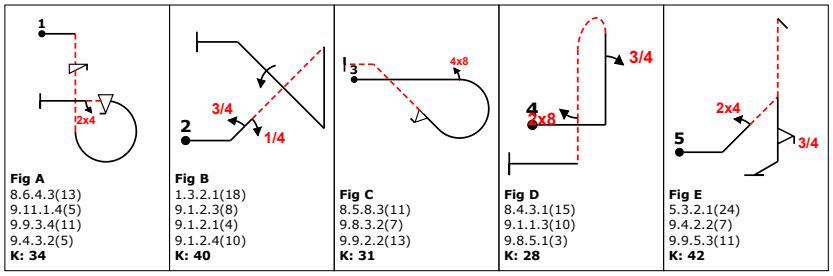
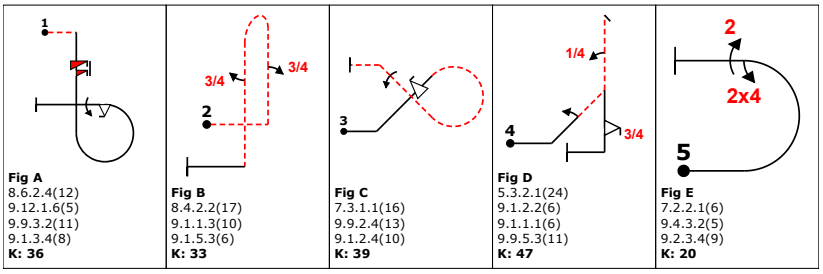
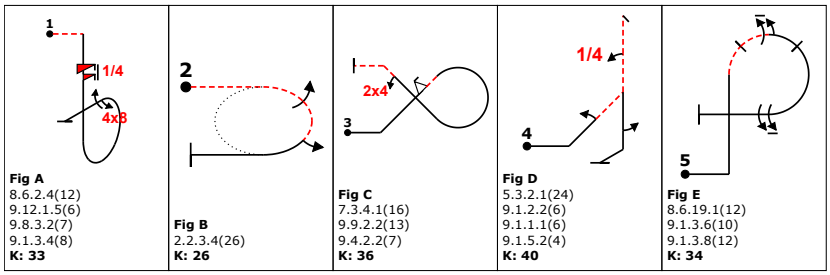
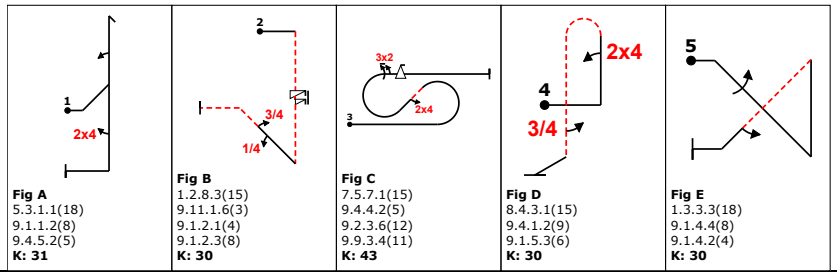
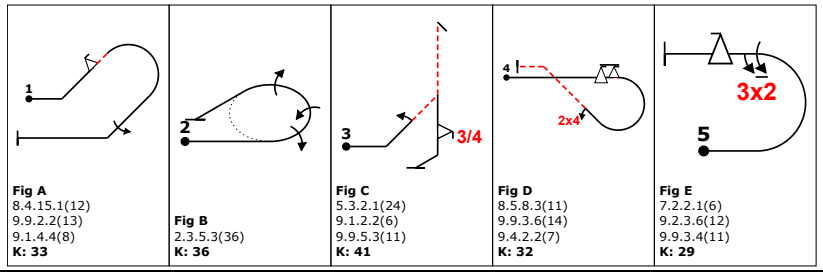
Hanspeter Rohner

and the KAWG Experts:
Alan Cassidy
Coco Bessiere
Rob Holland
Louis Vanel
Castor Fantoba
Nigel Hopkins

	Free Known figures 2023 proposals **Unlimited**	Expert name Order of preference Alan Cassidy (AC)	Claude Bessiere (CB)	Rob Holland (RH)	Louis Vanel (LV)	Castor Fantoba (CF)	Nigel Hopkins NH)	Notes on possible problems
A	Unlimited A Total K 225  **Fig A** 7.2.2.1(6) 9.2.3.4(9) 9.2.3.6(12) 9.10.8.4(15) **K: 42** **Fig B** 7.4.8.1(11) 9.1.3.4(8) 9.9.3.4(11) 9.8.3.1(3) 9.1.3.3(6) **K: 39** **Fig C** 6.2.2.1(15) 9.1.1.2(8) 9.4.1.3(12) 9.9.5.7(16) **K: 51** **Fig D** 2.3.5.2(36) **K: 36** **Fig E** 7.8.4.1(19) 9.1.3.6(10) 9.4.3.2(5) 9.9.9.6(16) 9.8.4.2(7) **K: 57**	2	3	3	2	2	4	**AC** Figs A and E will get badly judged **CB** The big 8 has a big coefficient (Fig E) **LV** Fig B: Not interesting for box and seq building Fig E: Speed limit for some aircrafts at the pos flick **CF** Fig C potentially high altitude loss **NH** Fig C only good for high energy aircraft. Too many stops
B	Unlimited B Total K 230  **Fig A** 7.2.2.1(6) 9.2.3.4(9) 9.2.3.6(12) 9.10.8.4(15) **K: 42** **Fig B** 7.4.8.1(11) 9.1.3.4(8) 9.9.3.4(11) 9.8.3.1(3) 9.1.3.3(6) **K: 39** **Fig C** 6.2.2.1(15) 9.1.1.2(8) 9.10.1.2(17) 9.9.5.7(16) **K: 56** **Fig D** 2.3.5.2(36) **K: 36** **Fig E** 7.8.4.1(19) 9.1.3.6(10) 9.4.3.2(5) 9.9.9.6(16) 9.8.4.2(7) **K: 57**	3	X	X	3	3	3	**AC** Fig C will be cheated on flick **CB** Random tail slide, sequence difficult to build, Fig E coeff too big **LV** Fig C Energy loss with the tail slide and 2 flicks **CF** Fig C potentially high altitude loss **NH** Fig C only good for high energy aircraft
C	Unlimited C Total K 243  **Fig A** 7.5.7.1(15) 9.4.3.4(11) 9.10.4.3(13) 9.8.4.1(3) 9.1.3.1(2) 9.4.3.3(8) **K: 52** **Fig B** 8.8.6.3(21) 9.11.1.7(3) 9.1.1.6(15) 9.1.5.5(9) **K: 48** **Fig C** 8.6.17.1(14) 9.10.8.6(19) 9.8.3.1(3) 9.1.3.5(9) **K: 45** **Fig D** 1.3.13.1(22) 9.4.1.2(9) 9.9.4.8(17) **K: 48** **Fig E** 5.3.2.1(24) 9.1.2.3(8) 9.1.2.1(4) 9.9.5.6(14) **K: 50**	4	1	1	4	X	2	**AC** Three figures will get bad judging **LV** Fig B Long positive spin which is hard to be flown correctly **CF** Fig C Hard negative
D	Unlimited D Total K231  **Fig A** 5.2.1.1(17) 9.10.6.3(19) 9.4.5.3(8) **K: 44** **Fig B** 7.2.2.1(6) 9.4.3.2(5) 9.1.3.6(10) 9.9.3.6(14) 9.8.3.4(15) **K: 50** **Fig C** 8.4.16.4(14) 9.9.9.4(13) 9.1.4.2(4) 9.8.2.2(9) **K: 40** **Fig D** 1.2.7.1(13) 9.2.1.4(13) 9.10.4.3(13) 9.1.4.5(9) **K: 48** **Fig E** 8.8.3.4(20) 9.12.1.4(7) 9.1.5.1(2) 9.2.1.6(17) 9.8.5.1(3) **K: 49**	1	2	2	1	1	1	**CB** Fig A is necessary to the right into wind Fig B 8 point roll after the flick difficult to position in the sequence

Free Known figures 2023 proposals

Advanced

		Expert name						Notes on possible problems
		Alan Cassidy (AC)	Claude Bessiere (CB)	Rob Holland (RH)	Louis Vanel (LV)	Castor Fantoba (CF)	Nigel Hopkins (NH)	
		Order of preference						
A	Advanced A Total K 175  **Fig A** 8.6.4.3(13) 9.11.1.4(5) 9.9.3.4(11) 9.4.3.2(5) **K: 34** **Fig B** 1.3.2.1(18) 9.1.2.3(8) 9.1.2.1(4) 9.1.2.4(10) **K: 40** **Fig C** 8.5.8.3(11) 9.8.3.2(7) 9.9.2.2(13) **K: 31** **Fig D** 8.4.3.1(15) 9.1.1.3(10) 9.8.5.1(3) **K: 28** **Fig E** 5.3.2.1(24) 9.4.2.2(7) 9.9.5.3(11) **K: 42**	2	4	X	3	5	2	**LV** Fig C Speed and altitude risk with dive loop (and after 4x8) **CF** Fig C need s control of altitude and speed before pull down
B	Advanced B Total K 175  **Fig A** 8.6.2.4(12) 9.12.1.6(5) 9.9.3.2(11) 9.1.3.4(8) **K: 36** **Fig B** 8.4.2.2(17) 9.1.1.3(10) 9.1.5.3(6) **K: 33** **Fig C** 7.3.1.1(16) 9.9.2.4(13) 9.1.2.4(10) **K: 39** **Fig D** 5.3.2.1(24) 9.1.2.2(6) 9.1.1.1(6) 9.9.5.3(11) **K: 47** **Fig E** 7.2.2.1(6) 9.4.3.2(5) 9.2.3.4(9) **K: 20**	5	2	2	4	X	3	**AC** Fig A G-loc **LV** Fig C physical figure **CF** Fig C hard negative not good for FK repeated training **NH** High negative G's
C	Advanced C Total K 169  **Fig A** 8.6.2.4(12) 9.12.1.5(6) 9.8.3.2(7) 9.1.3.4(8) **K: 33** **Fig B** 2.2.3.4(26) **K: 26** **Fig C** 7.3.4.1(16) 9.9.2.2(13) 9.4.2.2(7) **K: 36** **Fig D** 5.3.2.1(24) 9.1.2.2(6) 9.1.1.1(6) 9.1.5.2(4) **K: 40** **Fig E** 8.6.19.1(12) 9.1.3.6(10) 9.1.3.8(12) **K: 34**	6	X	X	1	4	5	**AC** Fig A G-loc **CB** Difficult for box because of Fig D stall turn to the left **LV** High speed cross box **NH** Cross box figures make it difficult for design. Only 1 flick.
D	Advanced D Total K 164  **Fig A** 5.3.1.1(18) 9.1.1.2(8) 9.4.5.2(5) **K: 31** **Fig B** 1.2.8.3(15) 9.11.1.6(3) 9.1.2.1(4) 9.1.2.3(8) **K: 30** **Fig C** 7.5.7.1(15) 9.4.4.2(5) 9.2.3.6(12) 9.9.3.4(11) **K: 43** **Fig D** 8.4.3.1(15) 9.4.1.2(9) 9.1.5.3(6) **K: 30** **Fig E** 1.3.3.3(18) 9.1.4.4(8) 9.1.4.2(4) **K: 30**	1	3	3	2	1	4	**LV** High speed cross box **NH** Only 1 flick
E	Advanced E Total K 171  **Fig A** 8.4.15.1(12) 9.9.2.2(13) 9.1.4.4(8) **K: 33** **Fig B** 2.3.5.3(36) **K: 36** **Fig C** 5.3.2.1(24) 9.1.2.2(6) 9.9.5.3(11) **K: 41** **Fig D** 8.5.8.3(11) 9.9.3.6(14) 9.4.2.2(7) **K: 32** **Fig E** 7.2.2.1(6) 9.2.3.6(12) 9.9.3.4(11) **K: 29**	4	X	X	5	3	6	**AC** ½ flick on 45 up will not be judged very well. **CB** Fig A altitude loss **LV** Fig C High speed cross box Fig D altitude risk with dive loop **NH** High K rolling turn

Free Known figures 2023 proposals

Advanced

		Expert name						Notes on possible problems
		Alan Cassidy (AC)	Claude Bessiere (CB)	Rob Holland (RH)	Louis Vanel (LV)	Castor Fantoba (CF)	Nigel Hopkins (NH)	
		Order of preference						
F	Advanced F Total K 173	3	1	1	6	2	1	**AC** High negative out of one figure **LV** Fig B altitude risk with dive loop Fig C speed risk for positive flick

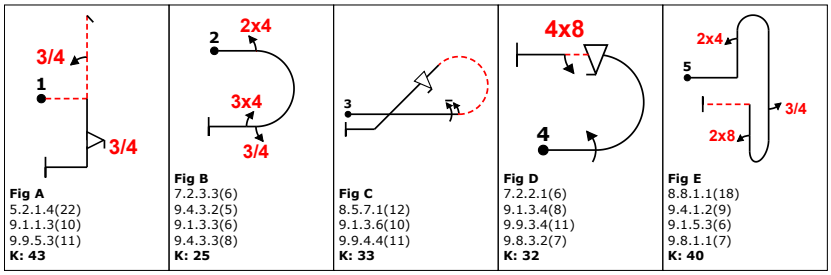


Fig A 5.2.1.4(22) 9.1.1.3(10) 9.9.5.3(11) **K: 43**

Fig B 7.2.3.3(6) 9.4.3.2(5) 9.1.3.3(6) 9.4.3.3(8) **K: 25**

Fig C 8.5.7.1(12) 9.1.3.6(10) 9.9.4.4(11) **K: 33**

Fig D 7.2.2.1(6) 9.1.3.4(8) 9.9.3.4(11) 9.8.3.2(7) **K: 32**

Fig E 8.8.1.1(18) 9.4.1.2(9) 9.1.5.3(6) 9.8.1.1(7) **K: 40**

Free Known figures 2023 proposals

Intermediate / Yak-52

		Expert name						Notes on possible problems
		Alan Cassidy (AC)	Claude Bessiere (CB)	Rob Holland (RH)	Louis Vanel (LV)	Castor Fantoba (CF)	Nigel Hopkins NH)	
		Order of preference						
A	Intermediate / Yak-52 A Total K 109	1	2	2		1	1	**CF** Fig D needs control of altitude and speed before pull down
B	Intermediate / Yak-52 B Total 110	2	1	1		2	2	**NH** Fig B energy low.

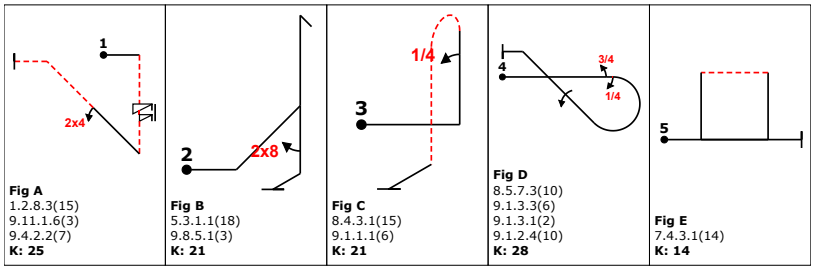


Fig A 1.2.8.3(15) 9.11.1.6(3) 9.4.2.2(7) **K: 25**

Fig B 5.3.1.1(18) 9.8.5.1(3) **K: 21**

Fig C 8.4.3.1(15) 9.1.1.1(6) **K: 21**

Fig D 8.5.7.3(10) 9.1.3.3(6) 9.1.3.1(2) 9.1.2.4(10) **K: 28**

Fig E 7.4.3.1(14) **K: 14**

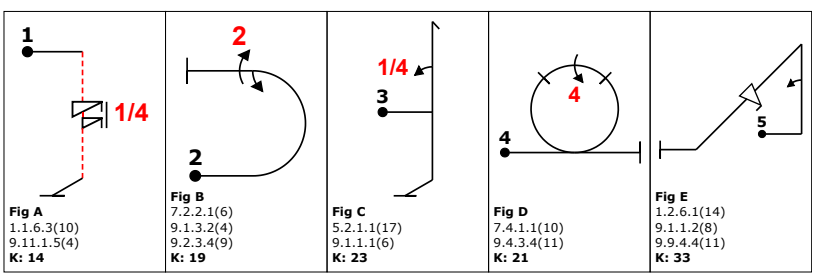


Fig A 1.1.6.3(10) 9.11.1.5(4) **K: 14**

Fig B 7.2.2.1(6) 9.1.3.2(4) 9.2.3.4(9) **K: 19**

Fig C 5.2.1.1(17) 9.1.1.1(6) **K: 23**

Fig D 7.4.1.1(10) 9.4.3.4(11) **K: 21**

Fig E 1.2.6.1(14) 9.1.1.2(8) 9.9.4.4(11) **K: 33**

Unlimited A Total K 225

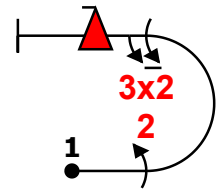


Fig A
7.2.2.1(6)
9.2.3.4(9)
9.2.3.6(12)
9.10.8.4(15)
K: 42

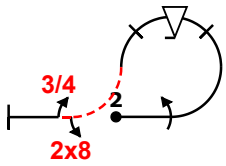


Fig B
7.4.8.1(11)
9.1.3.4(8)
9.9.3.4(11)
9.8.3.1(3)
9.1.3.3(6)
K: 39

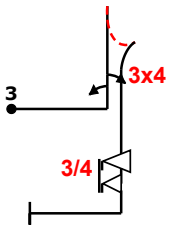


Fig C
6.2.2.1(15)
9.1.1.2(8)
9.4.1.3(12)
9.9.5.7(16)
K: 51

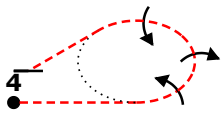


Fig D
2.3.5.2(36)
K: 36

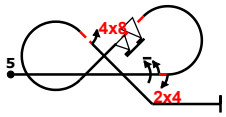


Fig E
7.8.4.1(19)
9.1.3.6(10)
9.4.3.2(5)
9.9.9.6(16)
9.8.4.2(7)
K: 57

Unlimited B Total K 230

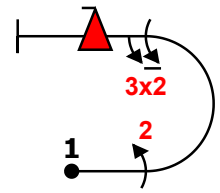


Fig A
7.2.2.1(6)
9.2.3.4(9)
9.2.3.6(12)
9.10.8.4(15)
K: 42

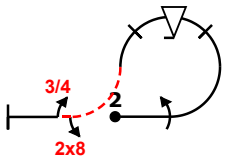


Fig B
7.4.8.1(11)
9.1.3.4(8)
9.9.3.4(11)
9.8.3.1(3)
9.1.3.3(6)
K: 39

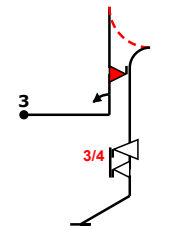


Fig C
6.2.2.1(15)
9.1.1.2(8)
9.10.1.2(17)
9.9.5.7(16)
K: 56

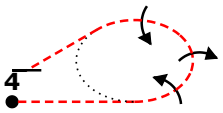


Fig D
2.3.5.2(36)
K: 36

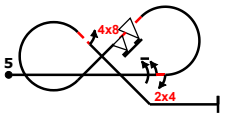


Fig E
7.8.4.1(19)
9.1.3.6(10)
9.4.3.2(5)
9.9.9.6(16)
9.8.4.2(7)
K: 57

Unlimited C Total K 243

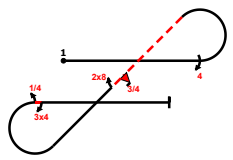


Fig A
7.5.7.1(15)
9.4.3.4(11)
9.10.4.3(13)
9.8.4.1(3)
9.1.3.1(2)
9.4.3.3(8)
K: 52

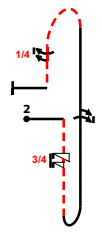


Fig B
8.8.6.3(21)
9.11.1.7(3)
9.1.1.6(15)
9.1.5.5(9)
K: 48

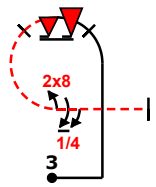


Fig C
8.6.17.1(14)
9.10.8.6(19)
9.8.3.1(3)
9.1.3.5(9)
K: 45

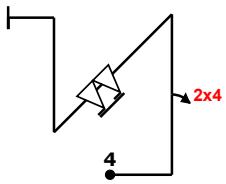


Fig D
1.3.13.1(22)
9.4.1.2(9)
9.9.4.8(17)
K: 48

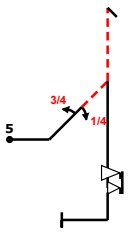


Fig E
5.3.2.1(24)
9.1.2.3(8)
9.1.2.1(4)
9.9.5.6(14)
K: 50

Unlimited D Total K 231

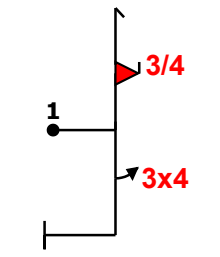


Fig A
5.2.1.1(17)
9.10.6.3(19)
9.4.5.3(8)
K: 44

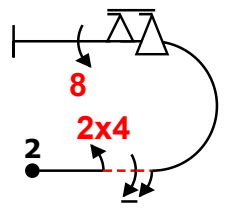


Fig B
7.2.2.1(6)
9.4.3.2(5)
9.1.3.6(10)
9.9.3.6(14)
9.8.3.4(15)
K: 50

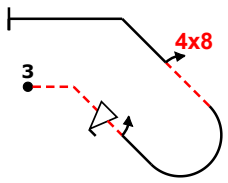


Fig C
8.4.16.4(14)
9.9.9.4(13)
9.1.4.2(4)
9.8.2.2(9)
K: 40

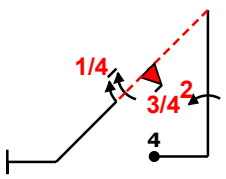


Fig D
1.2.7.1(13)
9.2.1.4(13)
9.10.4.3(13)
9.1.4.5(9)
K: 48

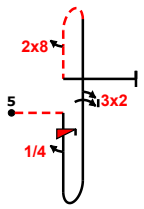


Fig E
8.8.3.4(20)
9.12.1.4(7)
9.1.5.1(2)
9.2.1.6(17)
9.8.5.1(3)
K: 49

Advanced A Total K 175

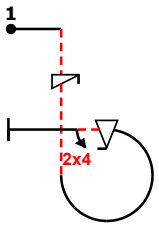


Fig A
8.6.4.3(13)
9.11.1.4(5)
9.9.3.4(11)
9.4.3.2(5)
K: 34

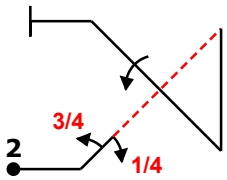


Fig B
1.3.2.1(18)
9.1.2.3(8)
9.1.2.1(4)
9.1.2.4(10)
K: 40

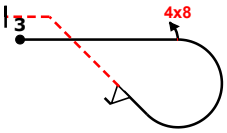


Fig C
8.5.8.3(11)
9.8.3.2(7)
9.9.2.2(13)
K: 31

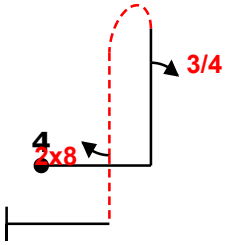


Fig D
8.4.3.1(15)
9.1.1.3(10)
9.8.5.1(3)
K: 28

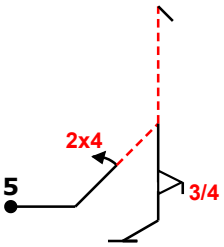


Fig E
5.3.2.1(24)
9.4.2.2(7)
9.9.5.3(11)
K: 42

Advanced B Total K 175

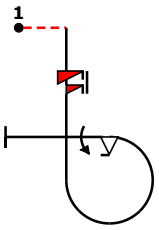


Fig A
8.6.2.4(12)
9.12.1.6(5)
9.9.3.2(11)
9.1.3.4(8)
K: 36

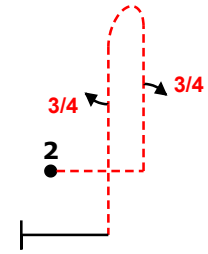


Fig B
8.4.2.2(17)
9.1.1.3(10)
9.1.5.3(6)
K: 33

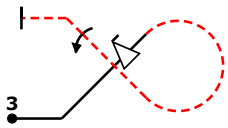


Fig C
7.3.1.1(16)
9.9.2.4(13)
9.1.2.4(10)
K: 39

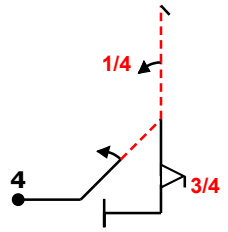


Fig D
5.3.2.1(24)
9.1.2.2(6)
9.1.1.1(6)
9.9.5.3(11)
K: 47

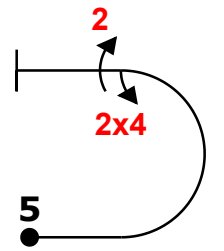


Fig E
7.2.2.1(6)
9.4.3.2(5)
9.2.3.4(9)
K: 20

Advanced C Total K 169

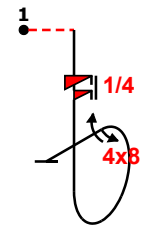


Fig A
8.6.2.4(12)
9.12.1.5(6)
9.8.3.2(7)
9.1.3.4(8)
K: 33

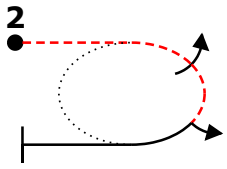


Fig B
2.2.3.4(26)
K: 26

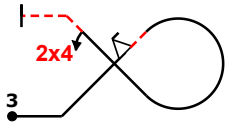


Fig C
7.3.4.1(16)
9.9.2.2(13)
9.4.2.2(7)
K: 36

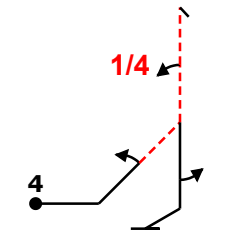


Fig D
5.3.2.1(24)
9.1.2.2(6)
9.1.1.1(6)
9.1.5.2(4)
K: 40

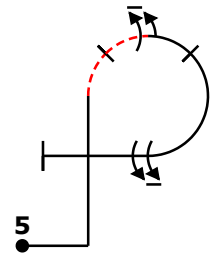


Fig E
8.6.19.1(12)
9.1.3.6(10)
9.1.3.8(12)
K: 34

Advanced D Total K 164

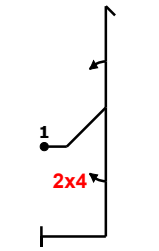


Fig A
5.3.1.1(18)
9.1.1.2(8)
9.4.5.2(5)
K: 31

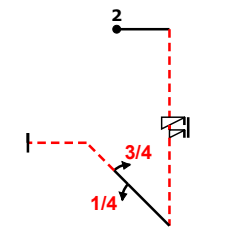


Fig B
1.2.8.3(15)
9.11.1.6(3)
9.1.2.1(4)
9.1.2.3(8)
K: 30

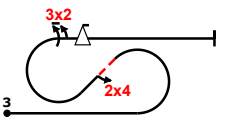


Fig C
7.5.7.1(15)
9.4.4.2(5)
9.2.3.6(12)
9.9.3.4(11)
K: 43

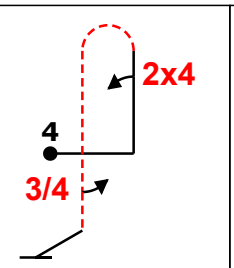


Fig D
8.4.3.1(15)
9.4.1.2(9)
9.1.5.3(6)
K: 30

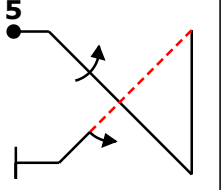


Fig E
1.3.3.3(18)
9.1.4.4(8)
9.1.4.2(4)
K: 30

Advanced E Total K 171

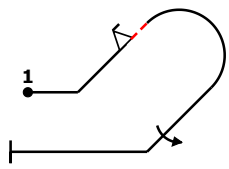


Fig A
8.4.15.1(12)
9.9.2.2(13)
9.1.4.4(8)
K: 33

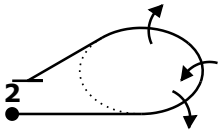


Fig B
2.3.5.3(36)
K: 36

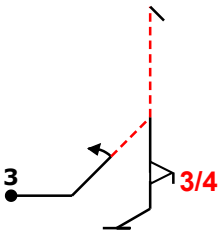


Fig C
5.3.2.1(24)
9.1.2.2(6)
9.9.5.3(11)
K: 41

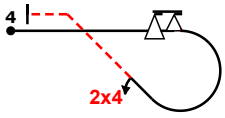


Fig D
8.5.8.3(11)
9.9.3.6(14)
9.4.2.2(7)
K: 32

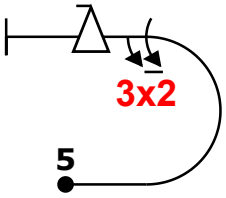


Fig E
7.2.2.1(6)
9.2.3.6(12)
9.9.3.4(11)
K: 29

Advanced F Total K 173

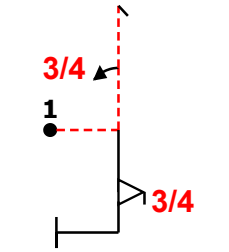


Fig A
5.2.1.4(22)
9.1.1.3(10)
9.9.5.3(11)
K: 43

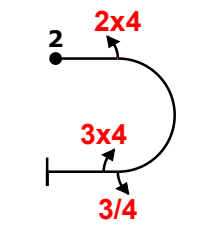


Fig B
7.2.3.3(6)
9.4.3.2(5)
9.1.3.3(6)
9.4.3.3(8)
K: 25

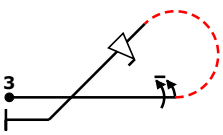


Fig C
8.5.7.1(12)
9.1.3.6(10)
9.9.4.4(11)
K: 33

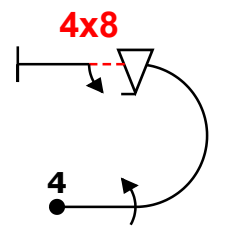


Fig D
7.2.2.1(6)
9.1.3.4(8)
9.9.3.4(11)
9.8.3.2(7)
K: 32

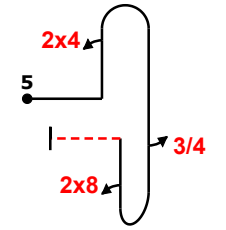


Fig E
8.8.1.1(18)
9.4.1.2(9)
9.1.5.3(6)
9.8.1.1(7)
K: 40

Intermediate Yak52 A Total K 109

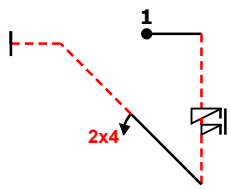


Fig A
1.2.8.3(15)
9.11.1.6(3)
9.4.2.2(7)
K: 25

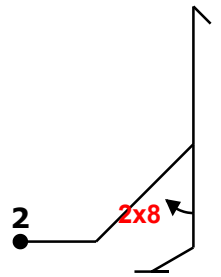


Fig B
5.3.1.1(18)
9.8.5.1(3)
K: 21

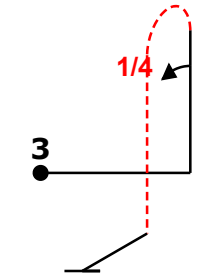


Fig C
8.4.3.1(15)
9.1.1.1(6)
K: 21

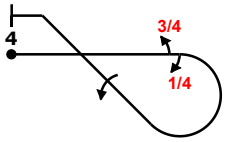


Fig D
8.5.7.3(10)
9.1.3.3(6)
9.1.3.1(2)
9.1.2.4(10)
K: 28

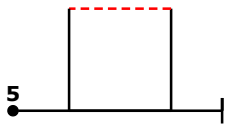


Fig E
7.4.3.1(14)
K: 14

Intermediate Yak52 B Total K 110

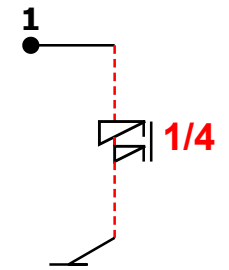


Fig A
1.1.6.3(10)
9.11.1.5(4)
K: 14

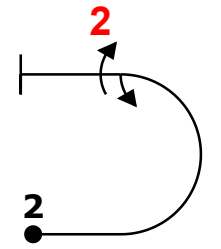


Fig B
7.2.2.1(6)
9.1.3.2(4)
9.2.3.4(9)
K: 19

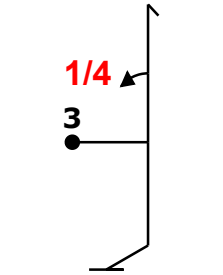


Fig C
5.2.1.1(17)
9.1.1.1(6)
K: 23

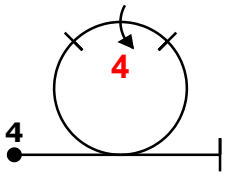


Fig D
7.4.1.1(10)
9.4.3.4(11)
K: 21

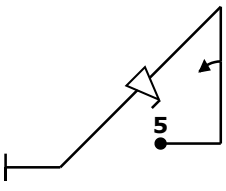


Fig E
1.2.6.1(14)
9.1.1.2(8)
9.9.4.4(11)
K: 33