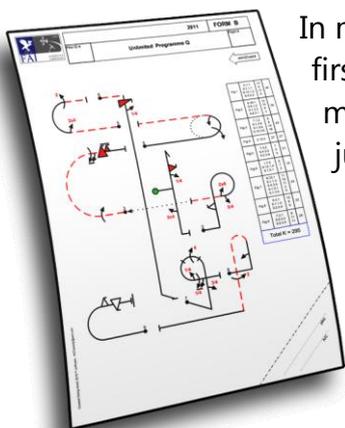


Processing Judges marks and CIVA's FairPlay System (FPS)

A thorough review of why a "system" is necessary in aerobatic competition judging, and what FPS does for us



Sports Results and Judging Systems



In most competitive sports selecting the winner is easy ... it will be the first race-car past the finishing post, or the football team that scores the most goals, and so on. However some sports require experienced judges to rank the artistic and technical skills on display, and competition aerobatics is one of many activities where it takes a trained expert to tell how well each performance has met the standard required. Where such complicated judgements are required it is normal to assume that the performance can theoretically be perfect, so we simply need to count the "errors" that are seen and calculate the mark for each item by subtracting the total of errors seen from a fixed number - the winner of course is the one with the highest remaining score after adjusting for complexity and other factors.

An unfortunate aspect of these subtractive marking processes is that skill variations between judges tend to have a reversed effect. A less experienced or more timid judge is unlikely to recognise so many errors and will often award higher marks in a relatively narrow range, and these are likely to influence the result rather more than a judge with greater experience who is liable to see more downgrades - and so give lower marks and with a broader spread. It is also very difficult for any judge to prevent honest preferences and dislikes from affecting his or her decisions, whether these are applied consciously or not. At international events the influence of national characteristics can be intrusive and unusually hard to avoid.

Practical aerobatic judging

At aerobatic events Judges use their skills to cumulate the downgrades for each figure to the nearest half-mark, then subtract this total from the 'perfect' ten to give a mark which can range from a maximum of 10.0 down to 0.0 or numeric zero. In addition there are specific occasions where fleeting hard-to-spot technical errors, such as when a snap-roll, tail-slide or spin does not display some essential characteristic, are 'perceived' and we write PZ to denote a Perception Zero, and also if the figure flown is not the one specified on the judges paperwork then an



HZ is used to denote that a 'Hard Zero' has been applied. The PZ is a personal view from each judge and must be evaluated just like the numeric marks, whereas if any judge has given a HZ then the Chief Judge must confer with the judging panel and decide either that the HZ should be applied for all judges, if possible using a video recording to guide this process, or the HZ must be rejected and the figure fully marked. For occasional lapses of concentration a judge can ask for a suitable "average" mark to be provided by the system; this will be a simple average of the marks from the scoring judges, to the nearest half mark.

Settling differences of opinion

For humans the usual way to handle collections of potentially unreliable opinions is to encourage as many observations as possible and then average them to minimise the influence of any unusual elements. This is a valid strategy as long as we can also accept the occasional disturbance that the questionable or way-out judgments will almost certainly cause. Final championship score differences between the leading aerobatic pilots

however can be very small, and to accept every mark without question could easily lead to publishing the wrong result. There should be a better way to identify marks that simply "don't fit" so that they can be given the attention that they deserve, and with FPS there certainly is.



Combining this into a plan ...

All the "raw" information from the judges goes into the scoring computer. What we need now is:

- A preparation system to overcome the effect of differences in judging styles and ability.
- A way to detect 'unusual' marks when compared to other judges marks for the same figure.
- A practical test so that we can evaluate unusual marks as either "OK" or "Not-OK", and ...
- A method for substituting a more suitable mark where a Not-OK decision requires it.
- All of this must be done in a completely 'open' way that allows Pilots and Judges to see what has been done, and with enough supporting information for everyone to assess just why any changes have been made.

Of course – the computer can not judge, but it can make very smart comparisons between what each judge says and, on the reasonable assumption that the dominant panel view is the 'correct' one, it can painstakingly analyse every element and employ sound mathematical techniques to reach a result that treats each judges' output in a fair and balanced way, and where necessary ensure that this always errs in favour of the pilot.

How to Compute the Results?

Over the years we have moved away from plain raw marks and its unavoidable problems, briefly through

'Bauerising', and then for some years CIVA used a statistical solution called TBLP in which a simple all-pilots/all-figures/all-judges table was used to compare all the marks together, substituting averages from the surviving judges where a mark failed the SD based acceptance test. With

TBLP however every mark from every pilot affected every other mark, and while it provided some benefits it was said that judges could adapt their marking style to get an artificially improved result and eventually the confidence of pilots and contest administrators was lost. Rather than risk a return to using raw marks, CIVA set out to create a better solution.

Rank	Team	MP	Pilot	Aeroplane	Registration	Free
1	RSA	M	Nger Hopkins	MX2	N88MX	2736.10
2	FRA	M	Julian Estland	CAP 231	F-GDTT	2670.27
3	FRA	M	Baptiste Vignier	CAP 231	F-GVFF	2669
4	RUS	M	Anton Berusov	Yak 55	RF01178	2669
5	RUS	M	Reinold Beyer	Extra 300L	N779R	2669
6	RSA	M	Markus Bereznezhnykh	SP 55	RA1034G	2669
7	UKR	F	Mark Hensman	MX2	N88MX	2669
8	FRA	M	Tamara			2669

CIVA's FairPlay System

The process was developed during 2005 from a completely fresh approach that combined our comprehensive championship judging experiences with a number of robust statistical testing processes to meet the very high analytical standards required. The result has proved to be a reliable scoring system which has built a good level of trust among judges and competitors alike. It was revised in 2018 to include proportional assessment of any unusual marks, to smooth the effect of repeated results calculations on individual pilots' rankings.

The system works within the following broad headings:

1. Separate the Raw Marks into figure Groups

First the system assembles the judges "raw" marks into groups on a figure-by-figure basis, so that like is always compared to like and different opinions of the same thing can be precisely reviewed. For Free and Free Unknown sequences where figure composition is more flexible a 'SuperFamily' system is used to group similar types of figures together to ensure that the judgement comparisons remain on a like-for-like basis.

2. Balance the Judges within each figure Group

An essential first step with each group is to re-balance the judges marks so that no Judge has more or less influence than any other. The statistician's word for this balancing act is 'normalisation', and without it comparisons between the judges would simply not be valid. In our normalisation each judge's complete set of non-zero marks is moved up or down and the scatter of the marks squeezed or expanded about their centre so each then has the same overall effect as the panel average. This completely resolves the experienced / inexperienced judge dilemma, the influence of every judge now being equal. This is the move that changes the pilots' marks from simple whole and half numbers to many decimal places.

3. Identify and resolve "Unusual" Marks

For each group of marks FPS calculates an idealised table of 'Fitted Value' (FV) marks that is matched to each judges own style. A statistical confidence test at 98.5% is now carried out to check the validity of each normalised mark against its corresponding FV. If the test meets the FPS confidence requirement then the mark is accepted and carried forward to the next stage, whereas if the test fails then the original raw mark is labelled Missing. In this way every normalised mark is in turn either accepted or noted for further

treatment. When this initial group processing is complete, if any mark has

Processed Marks Check-Sheet - Pilot 013
Nick Onn (GBR) Sukhol 26M G-XXVI
 Unlimited - Power level - Programme 1
 FAI 25th WAC 2009, Silverstone, Northamptonshire, 20th-22nd

Chief Judge: Graham Hill (non-scoring)
 Judges: 1 - Graham Hill (GBR) 2 - Vadim Kotelnik (RUS)
 3 - Francois Her (FRA) 4 - Quentin Heaton (GBR)
 5 - Tomas Korinek (CZE) 6 - Hervez Cava (ESP)
 7 - Lyudmila Zelenina (UKR)

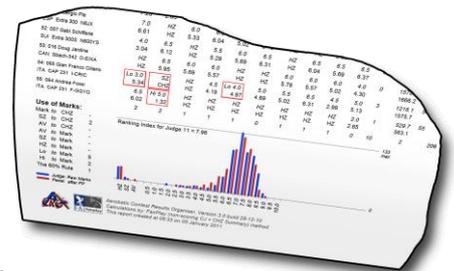
Fig	K	SF	No.	Factor	Cut	J1	J2	J3	J4	J5	J6
1	81	7	OK	7.0	7.0	6.5	6.0	7.0	6.0	7.0	6.0
				6.69	7.22	6.79	6.41	6.41	6.41	6.41	6.41
2	49	5	OK	5.5	6.0	Lo 3.0	4.0	4.0	4.0	4.0	4.0
				6.30	6.95	6.95	6.95	6.95	6.95	6.95	6.95
3	32	7	OK	6.5	7.0	8.0	8.0	8.0	8.0	8.0	8.0
				6.45	7.33	8.09	8.09	8.09	8.09	8.09	8.09
4	63	7	OK	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
				5.01	6.01	5.77	5.77	5.77	5.77	5.77	5.77
5	50	7	CHZ	HZ	Lo 3.0						
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

been set to Missing then the normalisation procedure is run again excluding the raw marks identified as Missing, and a new set of Fitted Values calculated from the very beginning. These new FV's will correctly match each judge's style but are not influenced by the raw marks that were set to Missing. Each Missing mark is now replaced either by a proportionately blended value part-way between the renormalised mark and the new FV, or if its confidence is below 95.0% the FV is adopted unchanged. These substitutions are shown 'boxed' on the Pilots

check-sheets to indicate where they have been made. This final set of marks can now be multiplied by the figure K-factors to build a new table of scores for each pilot by each judge ready for the next step.

4. Identify and settle any High and Low Biased Scores

The FairPlay System now uses the above table of scores as the basis for another Normalisation, Fitted Values and Missing data process very similar to that of the marks assessment procedure. This time however the process is used to detect and resolve any unusual scores that may have survived; the confidence levels required are now slightly more relaxed at 78.5% and 90%. Biased scores are possible because even though all unusual raw marks have been removed a judge may still have given overall an under or over-stated assessment of a competitor, and the score can thus be unacceptably high or low when compared to the other judges. Such bias can for example be the result of over-enthusiastic assessment of a home team pilot, or simply national likes and dislikes that have not been successfully kept in check. FPS as usual replaces any scores that fail their confidence test with the judges Fitted Value score, and again any such changes are clearly shown on the Pilots check-sheets.



5. Penalty handling

After the of the marks and scores processing has been completed for all groups the penalties are subtracted, and the sequence results are now ready for publication.

6. Create detailed feedback for the Judges

Now the FairPlay System can turn to its other great strength – a thorough review of judging performance. An individual analysis shows for each judge how he compares to his colleagues, while for the Chief Judge the statistics for the whole panel are collated and ranked to show which judge most closely matched the panel view and by how much the other judges were out of step with all their colleagues. In this way FPS is able to provide a great deal of easily distributed feedback for the entire judging team, something not available until the advent of this system.

Publication of Results

After approval from the Chief Judge and the Jury, the scorer can now publish the results on paper and to the web, and make the Chief and individual Judges sequence analysis available

to the panel so the pilots and the judging panel can each see in detail just how they have performed.

The Judges Ranking Index

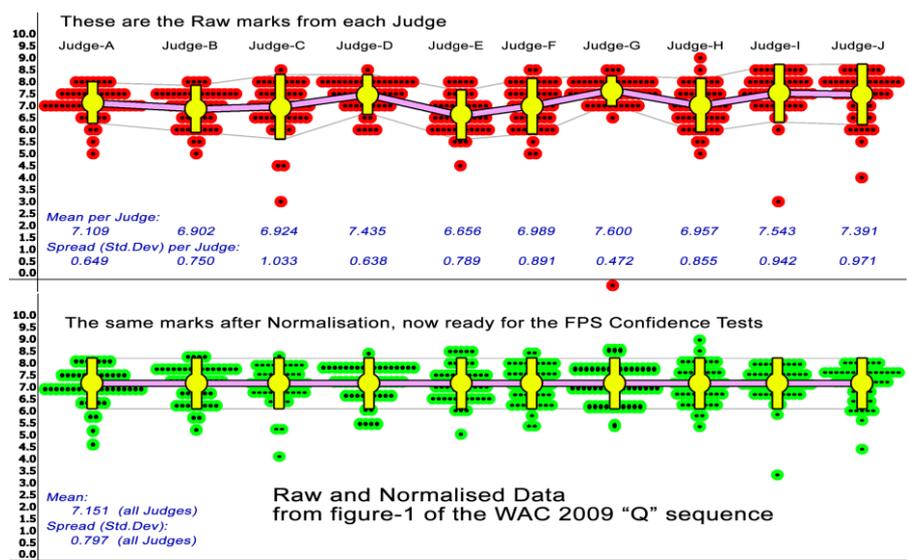
In an ideal world each judge would rank the pilots in the same order as the final result based upon the views of the whole panel. Whilst minor differences would generally be of little concern, significant mis-ranking of pilots compared to the panel's final conclusion would be a clear indication that a judge's views are not shared and so are less likely to be correct. To measure this effect FPS determines each judges own pilot ranking from a specially prepared set of normalised raw scores, taking into account any rejected PZ's for which judges are not penalised, then builds a personal Ranking Index (RI) that will be zero if the judge is perfectly in-tune with the panel but is triggered upwards by each rank and score difference combined. At a major championship an RI value below about 10 for each sequence would indicate pretty good agreement with the published result, numbers above this level giving increasing cause for concern - a review of the judges own analysis would then be the right place to identify just where the discrepancies are being seen.

Beside the obvious advantage arising from the ease with which any judge can now review their contest performance against the published result and see where they most need to target their personal development effort, experience shows that this system can now be used as a reliable and proven basis upon which to base the selection of judges for international championship duty.

An example of Raw Marks Normalisation

First diagram:

Each red/black dot represents one mark given by each judge at that value. The yellow circles show the mean for each judge, the vertical yellow strips indicate the spread of the judges marks (this is the 'standard deviation'). The pink and grey lines emphasize the style differences between each judge – some judges give higher marks than others, and some judges spread their marks over a wider range than others.

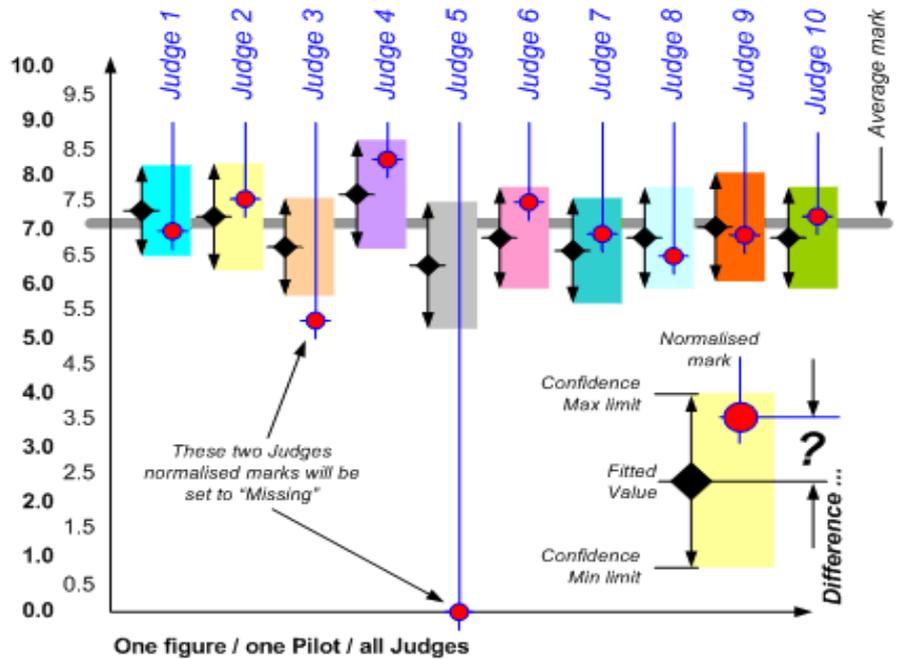


Second diagram:

During the Normalisation process each judges block of marks has been moved up or down so that their average is equal to the average for the all of the judges, and the spread of each judges marks has been squeezed or expanded to be equal to the average spread for all judges. Because all the judges now have an identical style of marking it is possible to start comparing any judge against the others in a meaningful way.

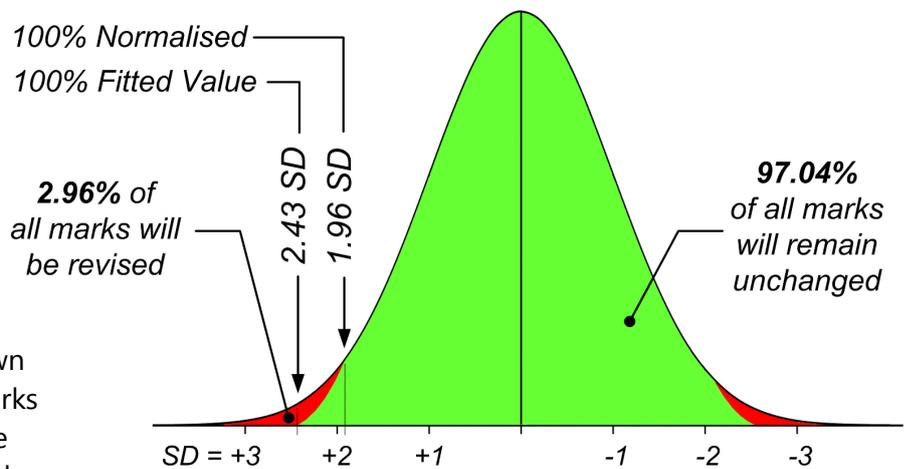
How does the FairPlay confidence test work?

Taking each normalised mark in turn through the whole group, FPS carries out a statistical test on each one to obtain an 'Uncertainty' valuation for it. This is done by taking the numeric difference between the mark and the Fitted Value (FV) that FPS has calculated for it and dividing by the Residual Standard Deviation (SD) for the group. In the upper diagram each judge's mark is shown as a red circle and the Fitted Value as a black diamond. The height of the black arrow indicates the 98.5% (2.43 SD) confidence range within which the mark can be accepted. Any that are outside this range are too different to the value we should expect the judge give, and they must be adjusted.



If the result of the confidence test is between 98.5% / 2.43 SD and 95% / 1.96 SD the mark is proportionately blended between its normalised value and the FV. Any that are beyond 95% are simply replaced by the FV.

To understand this look at the idealised distribution of marks shown in the lower diagram. In FPS the marks in the central 97.04% green area are accepted without change, those in the left/right red areas between 1.96 and 2.43 SD are blended proportionately from their normalised value to the FV, while those with SD above 2.43 are directly replaced by the FV.

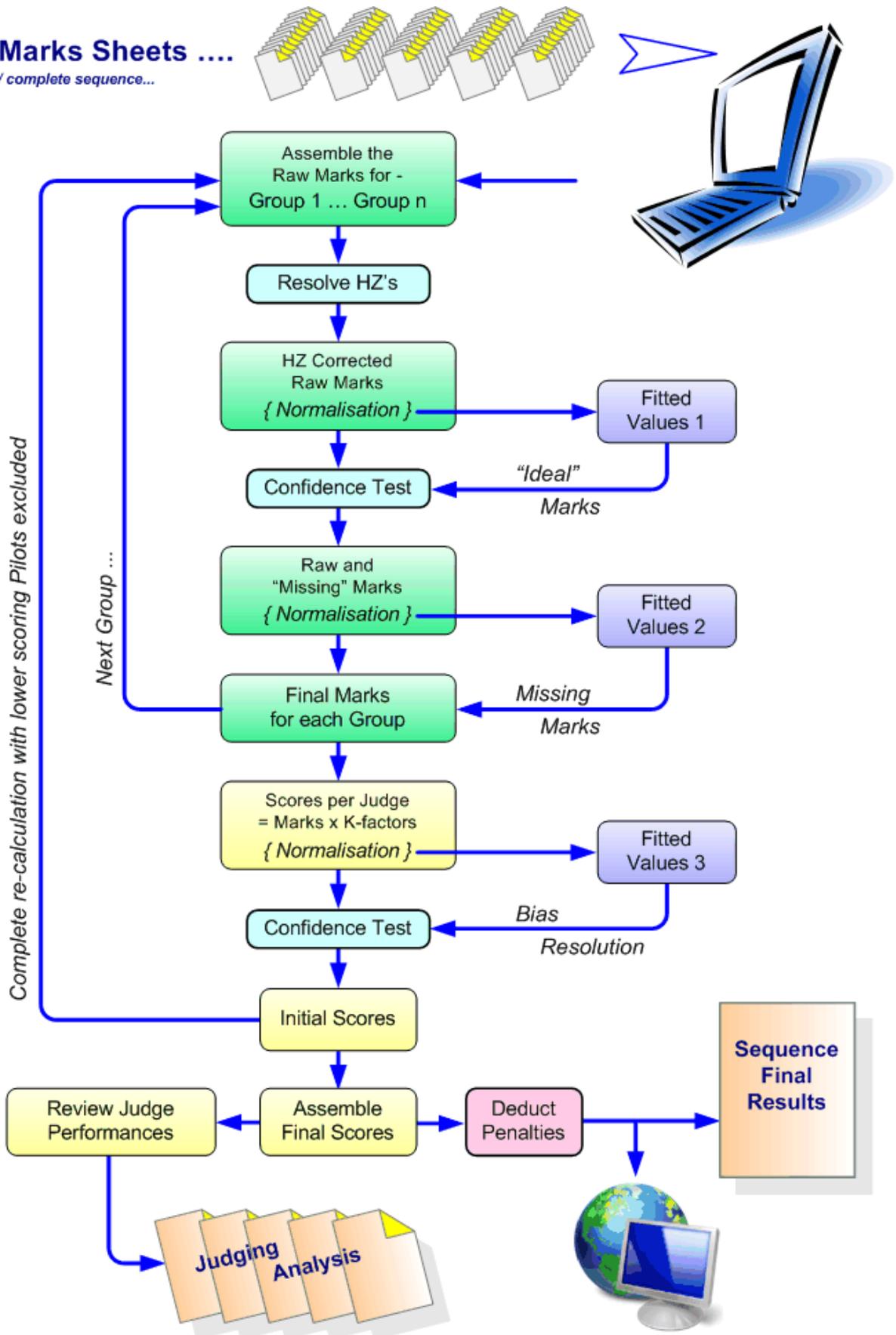


In response to feedback from pilots over many years regarding the extent of individual pilot rank changes that are an inevitable feature of statistical systems when results calculations are repeated as the number of pilots marks entered gradually increases, the FairPlay System was thoroughly reviewed and developed for the 2018 competition season to incorporate the above proportionate blending process. In practice this mimics the subjective methodology that humans apply to these situations as confidence in a comparison slides from high to low, and the degree of minor rank changes has now been reduced by about 50%.

The FairPlay Process map

Raw Marks Sheets

All Pilots / complete sequence...



Decoding the Pilots FairPlay Check-Sheet

How to 'de-code' your Pilots ACRO FairPlay Processed Marks sheet

The header describes the pilot, nationality and aeroplane details, the level and sequence being flown and the event, place and date.

Figure numbers and K-factors for each figure.

All marks that FPS determines as "wrong" are shown boxed. This HZ was not matched by a Confirmed Hard Zero from the Chief Judge and must be replaced by a Fitted Value.

For a non-scoring Chief Judge, the gradable figures are labelled "OK" whilst figures given a Confirmed Hard Zero are shown as "CHZ".

The Chief Judge has awarded this figure a "Confirmed Hard Zero" and any non-HZ Judges marks are accordingly boxed.

The Positioning mark and if applicable the Harmony mark are shown by their first 4 characters.

Explains that all flights in this sequence have been completed, and the scores given here have been approved by the Jury for final publication.

The ACRO version and FairPlay settings are shown above the time and date of the report.

Example ONLY!



Fig K SF

Processed Marks Check-Sheet - Pilot 005 Joe Bloggs (GBR) Sukhoi 26 G-ABCD Unlimited level - Programme 2: Free Unknown

17th FAI EAC, Touzim CZE, 02. - 12 Sep 2010

Chief Judge: Nick Buckenham (non-scoring)

Judges: 1 - Nick Buckenham (GBR) 2 - Francis Iler (FRA) 3 - Gabor Talabos (HUN)

4 - Algis Orlickas (LTU) 5 - M. Bezdenzhnykh (RUS)

6 - Vladimir Kolenikov (RUS) 7 - Georges Brocard (SUI)

8 - Lyudmila Zelenina (UKR)

No.	Factor	CJ1	J2	J3	J4	J5	J6	J7	J8	Avg	Equiv.
1	66	7	OK	6R 7.0	4.06	3.83	2.80	2.64	3.16	3.36	221.76
2	6	5	OK	8.0	8.0	8.5	8.0	9.0	8.0	8.21	212.08
3	46	7	OK	8.53	7.90	8.23	8.97	7.86	7.93	8.32	49.91
4	53	7	OK	6.5	5.0	AV	7.5	6.5	7.0	6.50	299.00
5	6	7	OK	6.67	5.87	6.51	7.46	6.49	6.87	6.65	306.09
6	38	6	OK	6.59	6.10	6.47	7.19	6.80	7.26	5.79	306.87
7	37	5	OK	HZ	6.0	8.0	7.5	7.5	7.5	6.82	391.44
8	66	7	OK	7.26	6.80	7.18	7.80	7.50	7.30	7.26	43.54
9	6	7	OK	7.0	6.5	7.0	5.0	7.0	7.0	6.64	252.32
10	31	7	OK	7.17	6.87	5.71	5.76	6.64	6.92	6.62	251.50
11	22	2	OK	7.0	6.0	7.5	7.5	8.0	Lo 6.0	7.00	259.00
12	6	7	OK	7.23	6.11	7.32	7.73	7.29	7.55	7.21	266.64
13	44	7	CHZ	5.69	4.83	5.00	6.20	4.07	4.61	5.26	347.03
14	40	7	OK	8.22	7.52	7.29	7.69	7.56	7.04	7.57	45.42
Post	60	1	OK	7.0	7.56	7.16	8.20	6.72	6.99	7.33	227.11
				7.08	7.25	7.42	7.61	7.04	6.82	5.71	125.62
										6.51	143.25
										7.20	16.74
										7.92	47.50
										0.00	0.00
										0.00	0.00
										6.43	257.20
										6.44	257.47
										7.00	420.00
										7.25	454.99

Sequence has been completed. Sequence scores here are FINAL

Normalises: (High)

Scores: 2915.88 2924.05 3046.74 3203.07 2995.33

FP-sub: 2915.77 3032.50 2921.06

Final processed score total (of max. possible 5270): 2964.90

Minus 300 penalty points: 2664.90

Processed score valuation: 50.57 %

Aerobic Contest Results Organiser, Version 3.0 build 26-12-10
Calculations by: FairPlay (non-scoring CJ + CHZ Summary) method
FAI Training This report created at 12:13 on 29 December 2010

The Chief Judge (with non-scoring or scoring status) and the Judges details are listed in full.

FPS has determined for this figure that more than 60% of the Judges marks failed the relevant confidence test, and all marks for the figure have been replaced by Fitted Values.

An "Average" mark has been requested by the Judge, and FPS has given a Fitted Value.

In each pair of data rows the upper italic number is the raw mark given by the Judge.

The lower bold figure is either -

- the Normalised mark when this satisfies the relevant FPS confidence test, or ...
 - the Fitted Value, substituted by FPS when the normalised mark fails the confidence test
- Hi or Lo, or the raw mark is already boxed.

Marks that are above or below the FPS calculated figure confidence limits are boxed with their Hi or Lo prefix, and the Fitted Value is substituted below.

For information purposes only and to assist Pilots to quantify the relative value achieved in each figure, the two right-most columns display the average mark for all Judges together with the "equivalent" score.

These are NOT formal FPS steps, nor is this data used in any subsequent calculations.

The FPS score for each Judge is shown. If FPS detects a High or Low sequence anomaly the score is annotated and the Fitted Value substitution shown below.

The final FPS processed score is shown, and any penalty points that have been awarded are deducted. The overall percentage scored is shown on the last line.

Decoding the Judges Individual Analysis Sheet

Judge Individual Analysis example

The standard data describing the event, judge, place, date, level and sequence.

Pilots are presented in the rank order of their final post FPS scores PRIOR to the deduction of penalties.

Where an FPS fitted value is substituted for the judges grade it is boxed in red and the anomaly identified.

Reasons are:
Hi - the grade is too high
Lo - the grade is too low
6R - the 60% rule is applied

Pilots with the same nationality as the judge are boxed in blue to highlight this association

Summary of the grades revised to fitted values.

The FPS Ranking Index (RI) for this judge.

Histogram key.

The Histogram shows judges use of each raw grade compared to post-FPS all judges average use.

The judges raw grade for each pilot is shown in italic type.

The normalised grade is shown below the raw grade, rounded to 2 decimal places.

A Hard Zero is here replaced by a fitted value because the Chief Judge did not give a CHZ.

A Perception Zero rejected by FPS is replaced by a Fitted Value and shown boxed in Green

In this column the number of FPS fitted values for this pilot is cumulated.

Judges Single Sequence Processed Marks Analysis for J3 - Henry Sharpeyes (GBR)

17th FAI EAC, Touzim CZE, 02. - 12.Sep.2010
 Level: Unlimited, Sequence: Programme 2: Free Unknown

FP Rank before Penalties	Fig-1	Fig-2	Fig-3	Fig-4	Fig-5	Fig-6	Fig-7	Fig-8	Fig-9	Fig-10	Fig-11	Fig-12	Fig-13	Fig-14	Posi	No	From RI marks K's RI FP JUDGE DIF
1 038 Renaud Escalle	8.5	9.0	8.5	9.0	8.5	8.0	8.5	7.0	8.5	7.5	8.0	9.0	8.5	8.0	8.5	0	4286.0
FRA Extra 300SC F-TGCI	8.08	8.71	8.48	8.66	8.42	8.01	8.38	7.52	8.27	7.57	8.07	8.68	8.36	7.91	8.39	0	4296.0
2 003 Mikhail Almetsov	8.5	9.5	9.0	6.5	9.0	8.0	7.5	8.5	8.5	8.5	7.5	9.0	8.0	8.0	8.0	0	4197.5
RUS Suchoz 20M3 RF-00031	8.08	9.23	8.89	7.13	8.82	8.04	7.64	8.33	8.42	8.17	7.60	8.72	7.96	7.91	7.92	0	4202.5
3 028 Alexander Kostov	8.0	8.5	8.5	8.0	9.0	7.5	7.5	9.0	9.0	8.0	7.5	8.5	7.0	8.0	8.0	0	4202.6
RUS Suchoz 20M3 RF-00065	7.79	8.41	8.38	8.30	8.82	7.65	7.64	8.66	8.88	7.87	7.60	8.27	7.16	7.91	7.92	0	4196.3
4 018 Elena Klimovich	8.0	9.5	8.5	8.0	8.0	8.0	8.0	7.5	9.0	8.0	7.5	8.0	8.5	8.5	8.5	0	4280.6
RUS Suchoz 20M3 RF-00031	7.79	9.23	8.38	8.30	8.37	8.01	8.06	7.65	8.88	7.87	7.60	8.72	8.36	8.35	8.39	0	4281.4
5 007 Victor Chumal	8.0	8.5	8.5	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.5	8.5	7.5	8.5	9.0	0	4230.8
RUS Suchoz 20M3 RF-01059	7.79	8.41	8.38	8.30	8.30	8.06	8.06	7.99	8.42	7.87	7.60	8.27	7.56	8.35	8.86	0	4229.5
6 045 Vlad Stopyanov	7.5	8.5	8.5	8.5	9.0	7.5	8.0	8.0	8.0	8.0	7.5	8.5	8.0	8.5	8.0	0	4131.0
RUS Suchoz 20M3 RF-00065	7.50	8.41	8.38	8.60	8.88	7.65	8.06	7.99	8.27	7.82	7.60	8.45	7.86	8.35	7.92	0	4132.0
7 032 Olivier Masard	5.75	8.27	5.97	5.0	8.5	7.5	8.5	8.0	7.51	6.97	6.19	8.27	5.97	5.71	6.00	1	3250.0
38 025 Pierre Mamy	2.0	8.5	7.0	4.0	8.0	7.0	5.5	8.0	8.0	8.5	7.0	8.5	8.0	8.5	7.0	1	Lo 2934.6
SUI Suchoz 26 HBMSO	4.29	8.41	6.83	5.18	8.0	7.30	5.97	8.0	7.97	8.17	7.13	8.27	6.55	7.03	6.97	1	3218.8
37 034 Jerome Cusin	5.0	8.5	6.0	7.5	8.5	7.5	7.0	2.5	8.0	5.5	Hi 6.0	8.0	6R 5.0	6.0	7.0	2	3365.0
SUI Extra 300SC HBMTM	6.04	8.27	6.38	7.65	8.42	7.65	6.83	4.00	7.82	6.37	5.01	7.61	3.50	6.15	6.97	2	3225.4
38 023 Francois Rallet	HZ	8.5	6.0	6.5	Lo 7.0	6.0	7.0	4.0	7.5	5.0	6.0	7.0	6R PZ	8.5	2	2860.8	
FRA Extra 300SC F-TGCI	HZ	8.28	6.51	7.00	8.37	6.48	6.86	5.14	7.50	7.56	5.40	6.22	7.20	2.02	8.31	2	2950.5
39 005 Joe Bloggs	GR 7.0	8.5	7.5	7.0	Hi 8.5	8.0	Hi 7.5	8.5	8.0	Hi 8.5	9.0	HZ	7.5	Hi 8.5	5	Hi 3762.0	
GBR Suchoz 26 GABCD	4.78	8.28	7.61	7.32	7.44	7.94	8.36	5.14	8.40	7.84	7.20	8.62	HZ	7.43	7.25	5	3054.8
40 040 Ulrich Paide	4.70	9.0	PZ	PZ	Lo 6.0	5.5	7.0	HZ	7.82	7.56	6.81	6.70	8.0	8.0	6.33	0	2825.7
44 008 Hanspeter Rohner	3.0	9.0	5.0	7.0	8.5	6.0	6.0	HZ	7.0	5.5	5.5	8.5	HZ	7.5	7.0	0	2454.9
SUI CAP 232 F-GXCP	4.35	8.69	5.87	7.35	8.42	6.50	HZ	HZ	7.07	6.45	6.29	8.23	HZ	7.46	7.12	0	2474.6

Ranking Index for Judge 3 = 7.92

Use of Marks:
 Mark to CHZ -
 PZ to CHZ -
 AV to CHZ -
 AV to Mark -
 PZ to Mark -
 HZ to Mark -
 Lo to Mark -
 Hi to Mark -
 The 60% Rule -
 Judge Raw Marks
 Pilot, after FP

The upper number in each pair is the judges raw score for each pilot, cumulated from the raw data prepared for the RI and each figure's K factor.

The lower number is the FPS score for this judge per pilot, cumulated from the judges own final FPS grades and each figure's K factor.

This is the rank for each pilot based on this judges raw score.

The difference between the judges raw pilot rank and the pilot's final overall FPS rank (excl. penalties) is given.

Where the FPS confidence test shows the judges sequence score to be too high or low and replaces it with a fitted value, the score is boxed in red and the anomaly identified.

If the sequence fitted value is used and the nationality of the judge matches the pilot, the score is boxed in blue to highlight the relevance of this match.

Cumulative totals line for anomalies in the above data.

Number of times the most used grade was applied.

Example ONLY!

Note the system works in double-precision mode using 16 significant characters, viz. 123.456789012345
 The printed output is normally rounded to two decimal places for clarity.

Decoding the Chief Judges Overall Analysis Sheet

Judge Overall Analysis example

The standard data describing the sequences in this analysis and the event, place and date.

The use of marks by each judge, cumulated in 5 categories.

Cumulative totals in each analysis area from all judges.

Comparison of Judges marking style against the Panel Average style

The FPS figure anomalies from each judge, cumulated in 9 categories.

The FPS sequence anomalies from each judge, cumulated by pilots nationality.

Analysis of Judges Combined Anomalies

Sequences: Programme 1: Free Programme (UNL), Programme 2: Free Unknown (UNL)

17th FAI EAC Touzim CZE 02. - 12.Sep.2010

All Judges		RUS	UKR	RUS	HUN	SUI	LTU
No	%	Vladimir Kotelnikov	Lyudmila Zelina	M. Bezteneznykh	Gabor Talabas	Georges Brocard	Algis Orliskas
74	1.1	11	12	10	10	10	11
35	0.5	6	1	7	15	2	1
988	14.1	151	173	137	200	110	110
5888	84.1	828	816	845	774	875	875
15	0.2	4	0	2	0	3	0
7000		1000 ... (81)	1000 ... (81)	1000 ... (81)	1000 ... (81)	1000 ... (81)	1000 ... (81)

Average and Style		FRA	UKR	RUS	HUN	SUI	LTU
Average	Style	Francis Jiter	Lyudmila Zelina	M. Bezteneznykh	Gabor Talabas	Georges Brocard	Algis Orliskas
7.39	1.59	7.20	7.38	7.27	7.28	7.64	7.61
		1.34	1.48	1.54	2.17	1.52	1.45

Raw Marks Factors:		RUS	UKR	RUS	HUN	SUI	LTU
Average %	Style %	Vladimir Kotelnikov	Lyudmila Zelina	M. Bezteneznykh	Gabor Talabas	Georges Brocard	Algis Orliskas
100	100	99	100	98	96	103	103
		102	93	97	137	96	91

Figure anomalies		RUS	UKR	RUS	HUN	SUI	LTU
HZ to fitted value	Mark to confirmed HZ	Vladimir Kotelnikov	Lyudmila Zelina	M. Bezteneznykh	Gabor Talabas	Georges Brocard	Algis Orliskas
5	0.1	1	1	1	2	1	1
7	0.1	2	1	1	2	1	1
0	0.0	-	-	-	-	-	-
23	0.3	3	1	4	14	1	-
1	0.0	-	-	-	1	-	-
14	0.2	4	3	2	3	3	2
70	1.0	9	12	11	13	7	12
44	0.6	8	6	1	11	5	9
7	0.1	1	1	1	1	1	1
171		25	23	20	44	18	26

Sequence anomalies		RUS	UKR	RUS	HUN	SUI	LTU
CZE	FRA	Vladimir Kotelnikov	Lyudmila Zelina	M. Bezteneznykh	Gabor Talabas	Georges Brocard	Algis Orliskas
3 Lo 3 HI	2 Lo 3 HI	3 HI	-	1 Lo	-	1 Lo	-
5 Lo 6 HI	1 Lo 2 HI	2 Lo	1 HI	2 Lo	-	1 Lo	-
1 Lo 1 HI	1 Lo 1 HI	-	1 HI	-	2 HI	1 Lo	-
7 Lo 4 HI	2 Lo 4 HI	1 Lo	-	1 Lo	1 HI	1 Lo 1 HI	-
2 Lo 1 HI	1 Lo	1 Lo	-	3 HI	-	3 Lo	2 Lo
1 Lo 0 HI	2 Lo 1 HI	-	-	1 Lo	-	1 HI	-
2 Lo 1 HI	2 Lo 1 HI	-	-	1 Lo	-	1 Lo	-
24 Lo 21 HI	3 Lo 3 HI	3 Lo 3 HI	2 HI	4 Lo 3 HI	1 Lo 3 HI	6 Lo 1 HI	7 Lo 5 HI

Example ONLY!

Aerobic Contest Results Organiser, Version 3.0 build 28-12-10
Calculations by: FairPlay (non-scoring CJ + CHZ Summary) method
This report created at 14:56 on 29 December 2010

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2011

NHB – November 2019