

Fixed total validity scoring

A different scoring system for fun and fairness

In the GAP scoring system, which is normally used in competitions, the results of all flights are summed to give an overall competition result. To take into account the effect of luck on dodgy days, GAP gives different validities for different days. Each pilot's total is a fair comparison, because each pilot had the same opportunity to score the same maximum score. However, sometimes we cannot or do not want to include all days for the total score. Examples are:

- A weekend competition series where pilots can't turn up every weekend.
- We want to encourage racing by allowing pilots to drop their worst flight(s) in a comp

For the abovementioned situations, Tim Cummings, from Australia, invented the Fixed Total Validity (FTV) scoring method.

How it works

Fixed Total Validity (FTV) is a procedure to score pilots on their best task performances, rather than all their tasks. To this end, only a percentage of the total available task points is said to be valid, and for all pilots the best tasks or parts thereof are accumulated until the maximum valid number of task points is scored. Fixed Total Validity means; the sum (total) of available points (validity) is set (fixed) to the same value for each competitor.

The following steps calculate a pilot's FTV score:

1. Determine the Fixed Total Validity value, i.e. calculate how many task points are valid.
2. Calculate for each task the pilot's relative performance percentage, i.e. the pilot's task score divided by the day's maximum available points.
3. Arrange all flights in descending order of performance percentage
4. Total up the pilot's actual task scores (not performance percentages) in order of performance percentage (best flights count first) until the sum of validities for those tasks reaches the pre-decided Fixed Total Validity value.

The net effect of this scoring is that a pilot who flies well on bad days can include more of these bad days (low validity) in their total score than a pilot who only flies well on good days (high validity) and still get the same overall score.

Basically FTV scoring discards your worst days. This you can use to your advantage in multiple ways: you may miss a competition day, or you can push yourself for faster flying without having the risk of losing your position in the competition.

An example of the effect on the results

In the 2014 DeBeNeCUP Kurt flew rather well in the competition, but he couldn't be present on the last task. On the last day, the weather gave some good flying. So Kurt missed out on quite some points, by which he missed out on 3rd place.

In the table below are the 2014 DeBeNeCUP totals as it resulted from standard GAP scoring.

| | | Task 1 | Task 2 | Task 3 | Task 4 | Task 5 | Total |
|----|--------|--------|--------|--------|--------|--------|-------|
| 1 | Jochen | 847 | 151 | 406 | 979 | 555 | 2938 |
| 2 | Koos | 663 | 103 | 109 | 747 | | 1622 |
| 3 | Gijs | 331 | 61 | 109 | 564 | 424 | 1489 |
| 4 | Kurt | 133 | 61 | 357 | 705 | | 1256 |
| 5 | Mario | 292 | 61 | 163 | 640 | | 1156 |
| 6 | Daphne | 111 | 110 | 146 | 677 | | 1044 |
| 7 | Ruud | 111 | 61 | 173 | 563 | 97 | 1005 |
| 8 | Tom | | | 247 | 559 | | 806 |
| 9 | Coen | 208 | 91 | 155 | 118 | 140 | 712 |
| 10 | Martin | 425 | 61 | | | 135 | 621 |
| 11 | Frank | | | 173 | 244 | | 417 |
| 12 | Erik | 111 | 61 | | | | 172 |
| 13 | Edward | | 61 | | 57 | | 118 |
| 14 | Rob | | | 109 | | | 109 |
| 15 | Thomas | | 61 | | | | 61 |

Step 1 - If we had scored the competition with a FTV factor of 50%, we would use for every pilot only the best half of the scores. Jochen's total score of 2938 points was the maximum achievable points for the competition. With our chosen 50% FTV factor only half of the competition is valid. This sets the fixed total validity value to 1469 points.

Step 2 - In the table below are the relative performance percentages for Jochen and Kurt. As Jochen won all tasks with the maximum points, his performance is 100% for every task. Kurt had better and worse days, so his performance differs for every task. And, because Kurt was not present on the last day his performance was 0% for task 5.

| | Task 1 | Task 2 | Task 3 | Task 4 | Task 5 |
|----------------|--------|--------|--------|--------|--------|
| Maximum points | 847 | 151 | 406 | 979 | 555 |
| Jochen | 100% | 100% | 100% | 100% | 100% |
| Kurt | 16% | 40% | 88% | 72% | 0% |

Step 3 - From the relative performance percentages we can clearly see that Kurt's best task was task 3, followed by task 4 and task 2.

Step 4 - For Kurt we first count task 3, that gives him 357 points out of 406 valid task points, then we count task 4, which gives him another 705 points out of 979 valid task points. For both tasks together Kurt has been scored for 406+979=1385 valid task points. The FTV value is 1469 points. Thus, for Kurt we may count another 1469-1385=84 valid task points. This we do, by partly (for 55,5%) including task 2, which gives Kurt another 34 points out of 84 valid task points.

In the table below are the 2014 DeBeNeCUP totals as it results from the FTV method.

| | | Task 1 | Task 2 | Task 3 | Task 4 | Task 5 | Total |
|----|--------|--------|--------|--------|--------|--------|-------|
| 1 | Jochen | 847 | 151 | 406 | 65 | 0 | 1469 |
| 2 | Koos | 663 | 0 | 0 | 474 | 0 | 1137 |
| 3 | Kurt | 0 | 34 | 357 | 705 | 0 | 1096 |
| 4 | Gijs | 0 | 0 | 0 | 527 | 424 | 951 |
| 5 | Daphne | 0 | 110 | 122 | 677 | 0 | 909 |
| 6 | Mario | 0 | 34 | 163 | 640 | 0 | 837 |
| 7 | Tom | 0 | 0 | 247 | 559 | 0 | 806 |
| 8 | Ruud | 0 | 34 | 173 | 563 | 0 | 770 |
| 9 | Martin | 425 | 61 | 0 | 0 | 94 | 580 |
| 10 | Coen | 203 | 91 | 155 | 0 | 0 | 449 |
| 11 | Frank | 0 | 0 | 173 | 244 | 0 | 417 |
| 12 | Erik | 111 | 61 | 0 | 0 | 0 | 172 |
| 13 | Edward | 0 | 61 | 0 | 57 | 0 | 118 |
| 14 | Rob | 0 | 0 | 109 | 0 | 0 | 109 |
| 15 | Thomas | 0 | 61 | 0 | 0 | 0 | 61 |

FTV scoring in the 2015 DeBeNeCup

The upcoming DeBeNeCUP will be scored with the FTV method. The percentage is not yet decided, but probably the FTV factor will be around 70%. That means, when you would miss out on 1 of the 3 weekends, you will still have a fair chance of a good score in the totals. This should give an interesting and fair competition for all pilots.