Falke Fees Review

3rd Version - Jan 2008

Introduction

1. The Bannerdown Gliding Club RAFGSA (BGC) has been operating its Rotax engined SF25C Falke since collecting it from the manufacturer at the end of 2004. The combination of motor glider and tug was new to both Club and RAFGSA; introduction into service was developed slowly as experience built. 2007 has seen much fuller use of this astonishingly capable aircraft and sufficient details have now been recorded to enable recommendations for future fees. Although the figures can not be fully complete (1), they are comprehensive: this paper makes recommendations for 2008 fees.

Costs

2. Experience gives the following historic figures:

Flying per year	150 hours (2)	2,000' aerotow	0.20 tacho hours
Fuel burn	10-15 litres/ hour (3)		3 litres fuel burn (4)

3. This aircraft is different from the early Falkes, Chipmunks and Pawnees that the RAFGSA previously operated. These had low fixed cost but were expensive per hour. By contrast, G-CDFD has a massive insurance bill, the same if the aircraft flies 1,000' hours or if it never leaves the hangar, but, thanks to its modern frugal engine, the costs per hour are more modest.

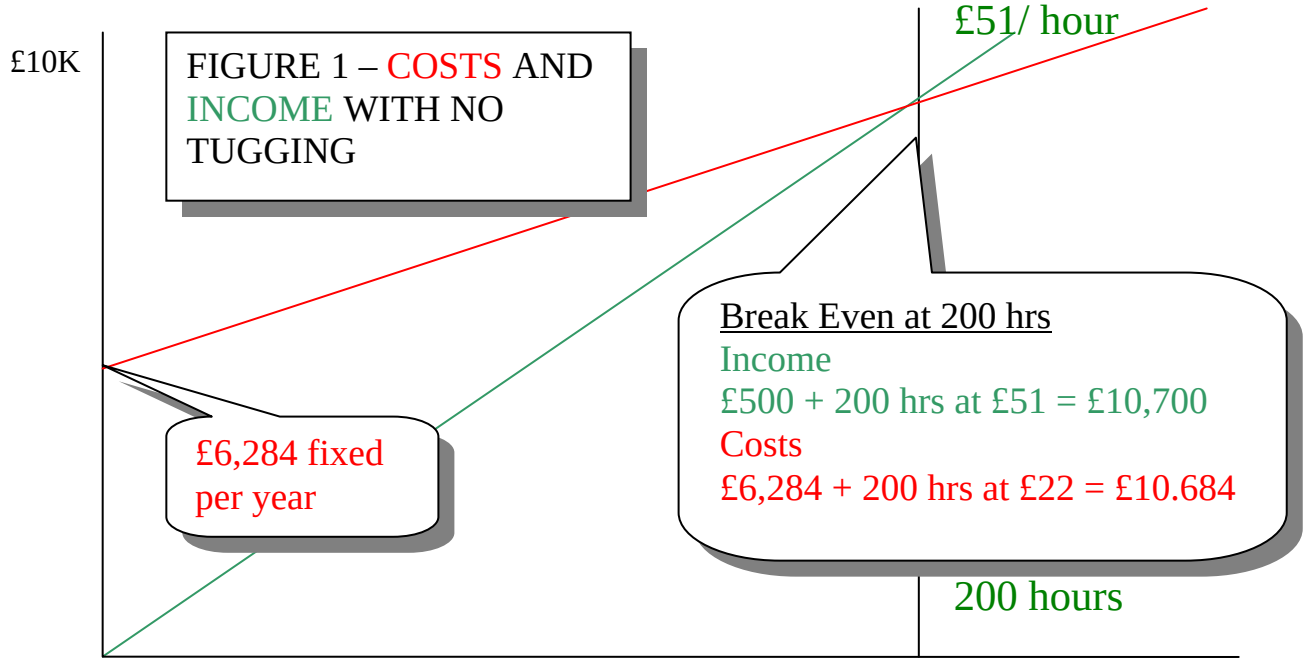
Fixed/ Calendar Costs		Variable/ Hourly Costs	
Insurance	£4,254	Fuel	£ 15.40 (3)
RAFGSA Capital Levy	£1,530	RAFGSA Engine fund	£ 4.00
Maintenance	£ 500 (5)	Maintenance	£ 2.60 (5)
Total	£6,284/ year	Total	£ 22.00/ hour

Income

4. The income it can generate is as complex as the variety of roles it undertakes. For example, club aircraft pay more soaring fees than when flying from the winch; private owners contribute to the facility as part of their annual fee. As a first simplification, £500 is estimated for these. Next, the proportion of hours used for towing is far from fixed. In a further simplification, figure 1 contrasts the income and expenditure for a situation with no tugging.

5. Utilisation As 2007 ends, a steady increase in utilisation is in prospect. There will soon be more PPL holders and tug pilots in the Club; the first request for National Competition towing has been received. 200 hrs/ year will be reasonable planning figure. This paper refers to tacho, not clock hours (6).

6. Non Tugging As with all fees, it is reasonable to add a mark up above the break even figure to cover other expenses. A 10% mark-up added to the £51 break even figure would suggest £56/ hour.



7. Tugging The break even rate gives an average cost to 2,000' of £10.20 (0.2 x £51). There is, however, increased fuel burn and engine wear during towing (7). An estimated £1.80 could be added for these. Further, the mark-up for aerotowing should be comparable with that for winching: BGC's current figure is £1 (8). It is fair to assume that one aerotow is equivalent to two winch launches: thus a £2 towing mark up

Break even to 2,000'	£10.20
Extra fuel and engine wear	£ 1.80
Club Mark-up	£ 2.00
Fee for 2,000' launch	£14.00

The current variation of +/- £2 per +/- 500' involves even more estimates but seems sensible.

8. Combined Fees It is cost effective to combine tugging and dual flying (9), but the combination of fees is complex. The following empirical fees suggestion can be supported by the figures:

"Combo Fee: Glider pilot: normal aerotow fee less £5; u/t tug pilot: normal tacho charge less £5"

Thus, a typical 2,000'/ 0.20 tacho hours launch:

glider pilot pays	£ 9.00	(£14 - £5)
u/t tug pilot pays	£ 5.40	(0.20 x £52 = £10.40 - £5)

9. Aerotow Retrieves In common with other clubs, the BGC is happy to offer a tow, when available, to help a visiting pilot return home. These are rare events for us; there are few figures available. The current quoted fee of £70 per hour is almost meaningless to a glider pilot who is trying to balance the cost of a tow with the expense and hassle of a road retrieve.

10. The following table, constructed at 80p/ km, minimum £25, gives reasonable figures:

Glider Return To	Distance	Fee
The Park	23km	£25
Upavon	23km	£25
Rivar Hill	40km	£32
Halesland	44km	£35
Sandhill Farm	44km	£35
Aston Down	50km (avoiding LYE)	£40
Nympsfield	50km (avoiding LYE)	£40
Yeovilton	50km	£40
Lasham	76km	£61
Odiham	81km	£65
Weston on the Green	88km	£70
Bicester	95km	£75

11. Aerotow Collection Collection – where our tug flies to a distant airfield and tows one of our own gliders back to Keevil – should be charged at the normal tacho rate.

12. Circular Argument The fees are based on 200 hours/ year, but the actual hours achieved are, in turn, influenced by the fees charged. The numbers are so highly dependent on hours actually achieved that a mid year review would be appropriate

Summary

12. BGC experience now shows that it is reasonable to expect the Falke to fly about 200 hours per year, producing an average break even cost of £51 per tacho hour. The following fees are recommended for 2008:

Non towing flying	£56/ hour
Aerotow to 2,000’	£14
+/- 500’	+/- £2
Combined Flying:	Glider pilot: normal aerotow fee less £5
	u/t tug pilot: normal tacho charge less £5
Aerotow Retrieve	As in the table above
Aerotow Collection	Normal tacho charge

13. It is also recommended that the AGM authorise the committee to review these figures half way through the year.

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Notes

(1) Two reasons. Firstly, as a safety measure, the record keeping required of tug pilots is kept down to an absolute bare minimum. Although it would be nice to know the fuel burn and tacho time for each tow, they are not recorded. Flight times, however, are noted by the gps and available after engine shut down. Secondly, by its very nature, the aircraft flies a mixture of flying tasks. Dividing fuel use and engine life between them involves a significant degree of estimation.

(2) 31 Aug 06 to 31 Aug 07 140hrs; calendar year 2007 up to 31 Aug 106hrs

(3) Field landing training -10 litres/ hr; cruising (85kts) -13 litres/ hr; circuits -15 litres/ hr; overall average, say, 14 litres/ hr at £1.10/ litre = £15.40/ hour.

(4) Approximations: there is a big difference between 2 seaters and single seaters and an even bigger difference between experienced and inexperienced tug pilots.

(5) My estimates: a 7 yearly prop overhaul is mandatory and will be expensive. They produce a figure close to the £1,000 used in Bannerdown's financial plan.

200hrs at £2.60	= £ 520
Fixed	= £ 500
Total	£1,020

(6) Although the aircraft flies well with the engine off or idling, it makes an indifferent soaring machine. Experience has shown the flying hours and tacho hours to march hand in hand almost 1:1. As an administrative simplification, the committee has agreed to replace the current published fees of £40 per hour tacho and £12 per hour flying with a single charge of £52 per hour, but this has not yet been implemented.

(7) The only reliable figures for tacho time and fuel burn during towing are those taken from batches of launches. So far, each batch has been flown by a very experienced pilot, achieving lower figures than could reasonably be expected from average ones.

(8) Estimate agreed with BGC committee members.

(9) The aircraft's flight manual forbids tugging when two up, except for tug pilot training. The BGC's Tugmaster takes a broad view of the minimum pilot experience required before starting this training, although this does not extend as far as trial lessons.