

# **Rotax Falke & Pawnee**

## **Cost and Income Analysis**

# **Rotax Falke**

# Considerations

- **Operational Mar-19 to Feb-20 but out of service:**
  - 5 weeks for repairs and maintenance
  - 8 weeks due to runway contamination
  - Estimated 12 aerotow days lost as no tug pilot
- **Aerotows from June-19 to Jan-20 inclusive**
  - Information taken from flying daily log book
  - Tacho times from engine start to stop
  - Single and 2 seat gliders not separated
- **Flying times:**
  - Non-aerotow charged by the minute from flight start to finish
  - Tacho engine start to stop - includes taxi and warm-up times

# Flying Information

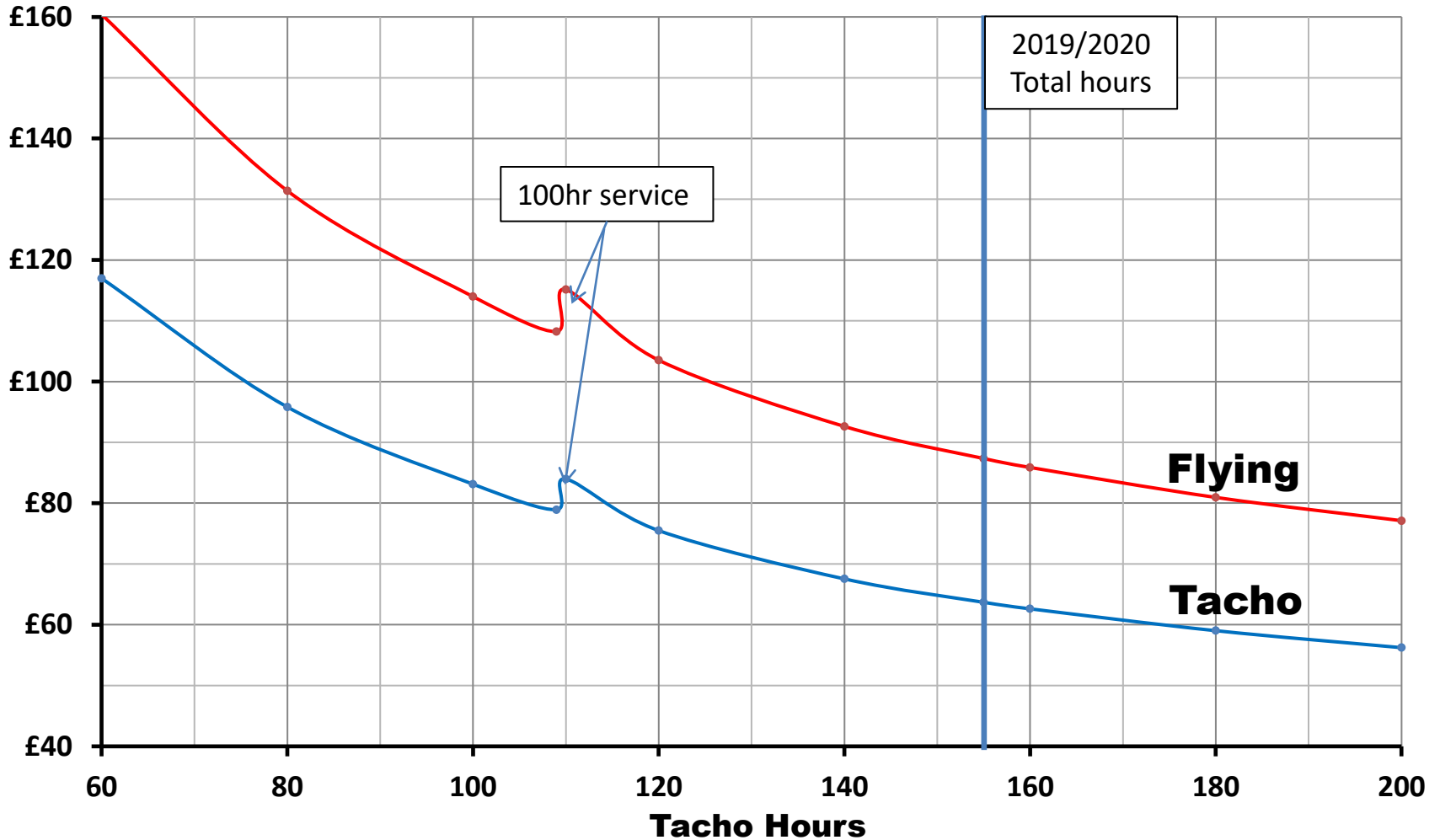
- **Days flown** - **70**
- **Number of flights**
  - **Total** - **306**
  - **Aerotows** - **167**
  - **Aerotows/hour** - **3**
- **Total times**
  - **Flying time** - **115 hr**
  - **Tacho time** - **156 hr**
  - **Aerotow tacho time** - **60 hr**

# Costs Used

- **Insurance** - **£4,400**
- **ARC** - **£180**
- **Engine service**
  - **Annual** - **£500 (including parts)**
  - **100hr** - **£100 (parts only)**
- **Airframe service**
  - **Annual and ARC** - **volunteers**
  - **100hr and repairs** - **volunteers**
- **Per tacho hour**
  - **Maintenance and repairs** - **£5**
  - **Fuel** - **£15**
  - **Engine replacement** - **£10**

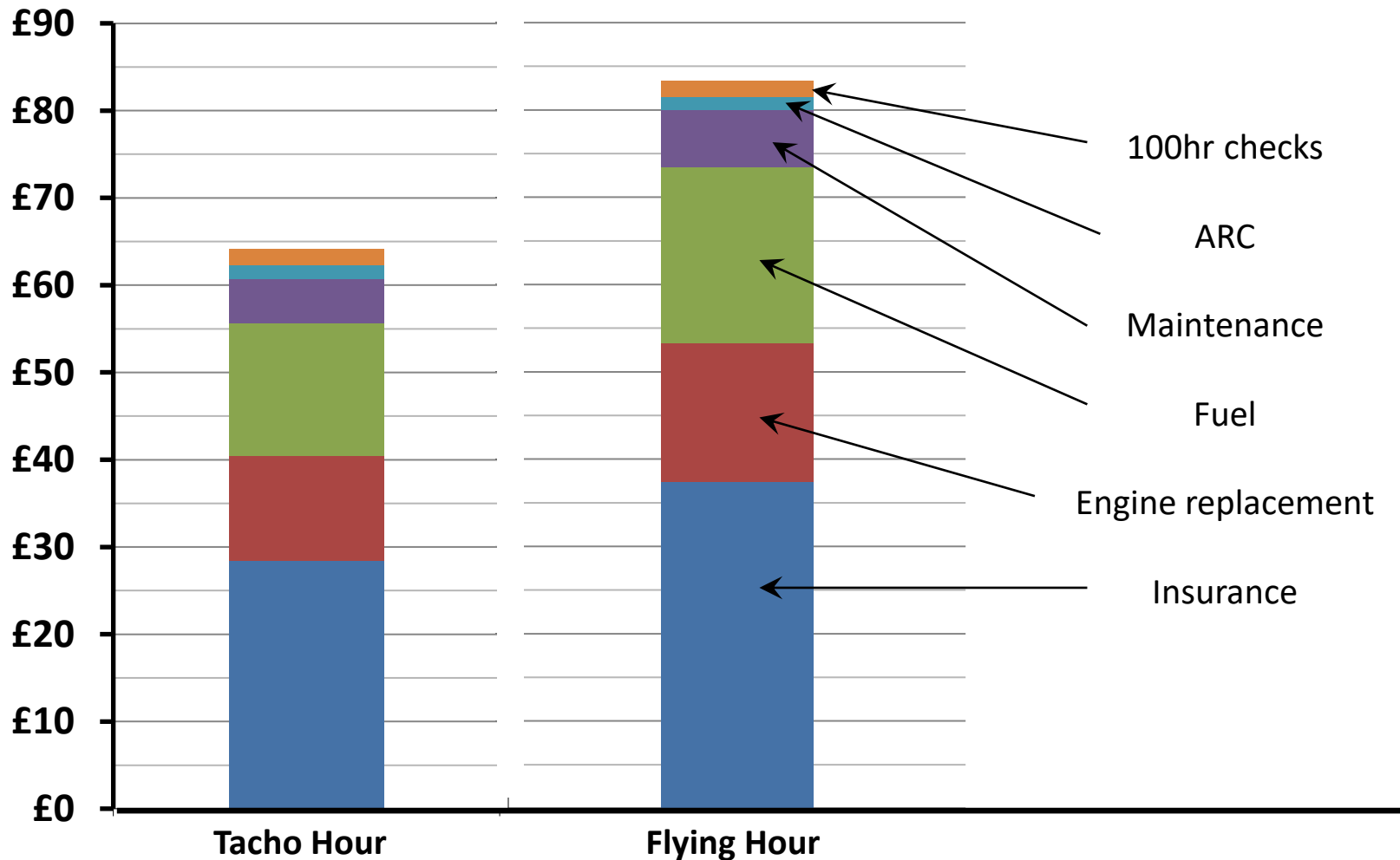
# Cost per Hour

12 months to end of Feb-20



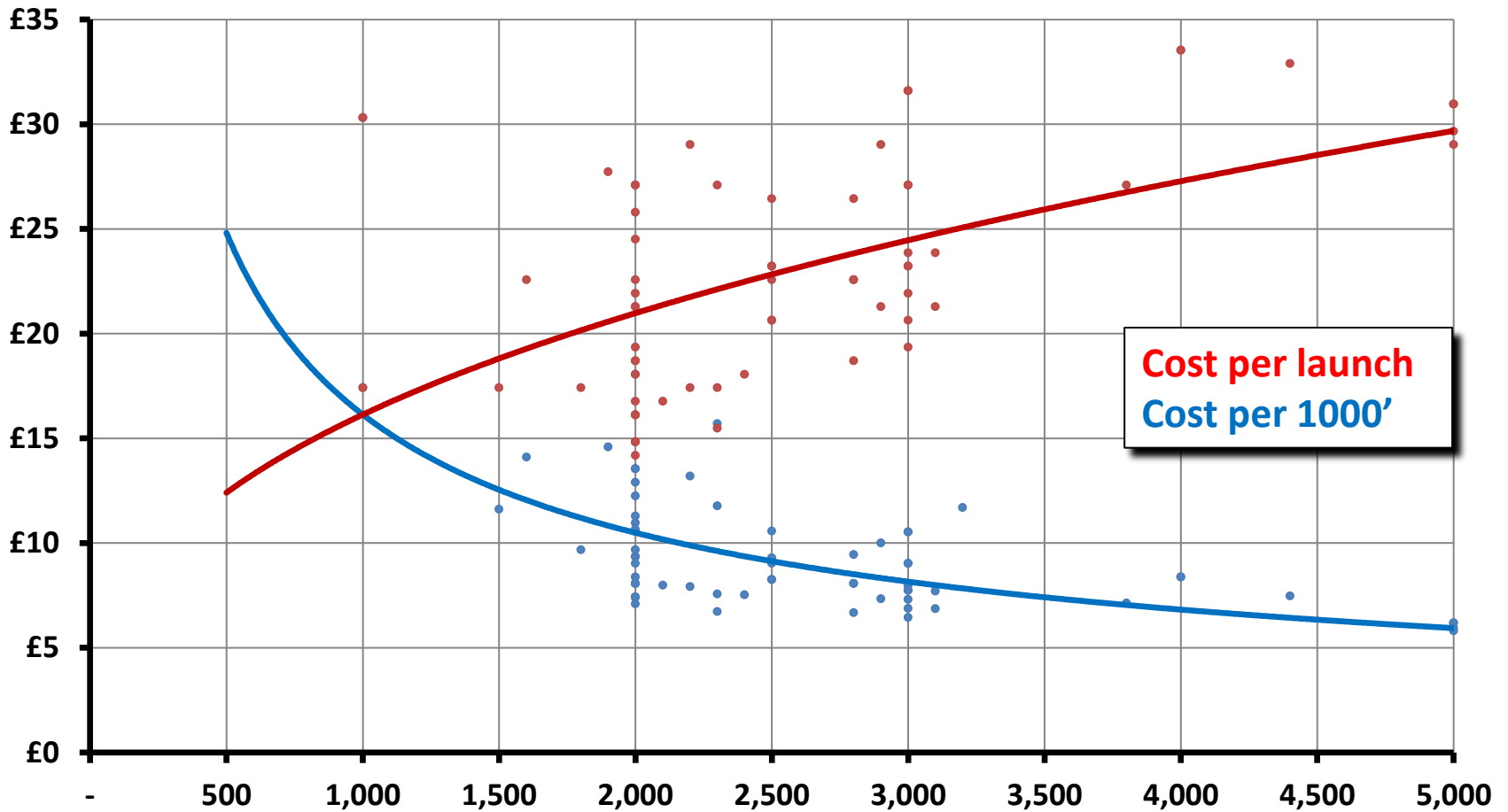
# Cost breakdown

155 hours for Mar-19 to Feb-20 inclusive



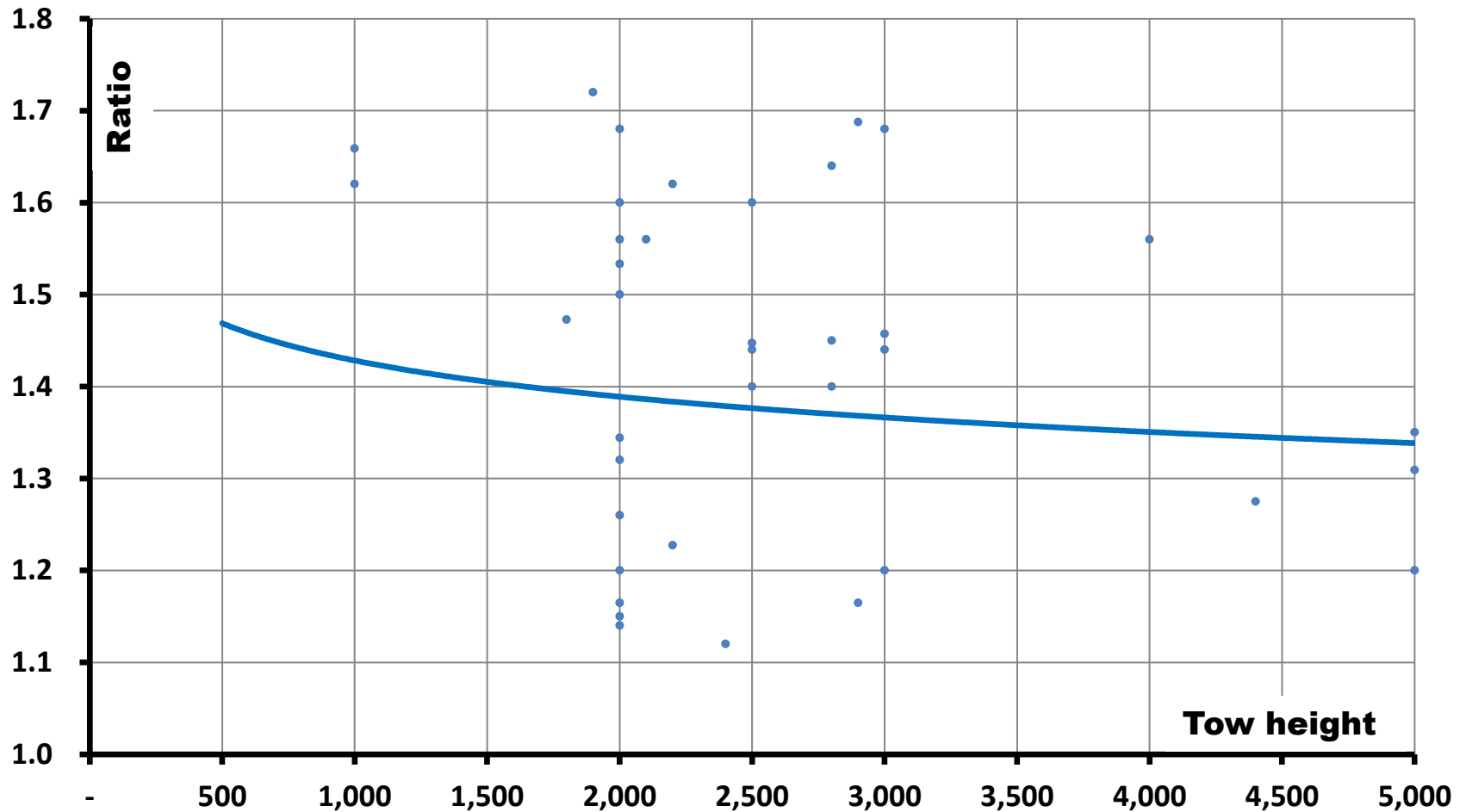
# Aerotow launch costs

## For Mar-19 to Feb-20



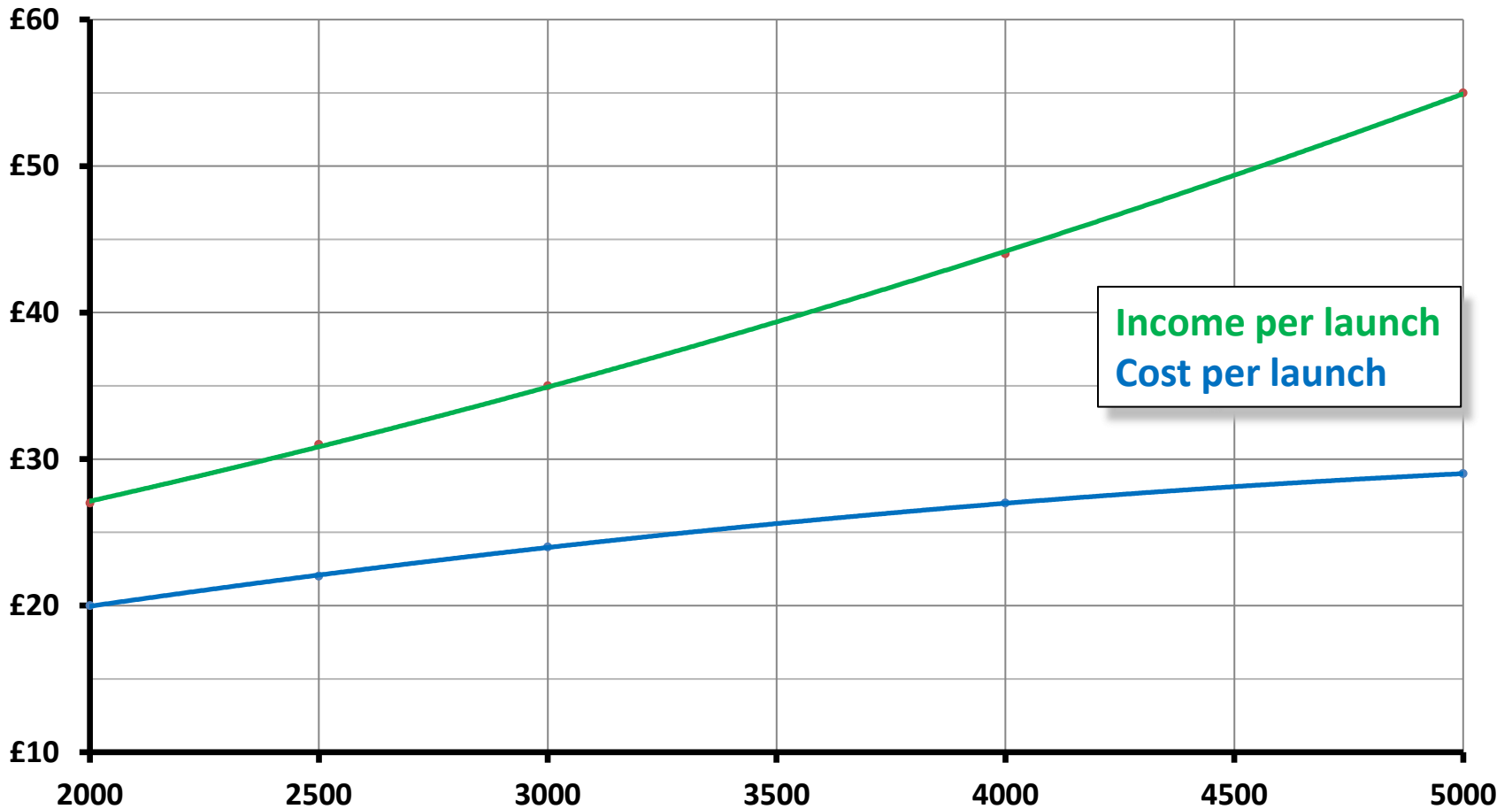


# Aerotow Tacho time to Flight time



# Aerotow costs and income

Assumes 155 tacho hours per year



# Cost Summary

|         | Tacho Hours | Flight Hours | No. Of flights | Cost  | Income | Surplus |
|---------|-------------|--------------|----------------|-------|--------|---------|
| Normal  | 96          | 71           | 129            | 6,115 | 5,647  | - 468   |
| Aerotow | 60          | 44           | 167            | 3,822 | 5,177  | + 1,355 |
| Total   | 156         | 115          | 306            | 9,936 | 10,824 | 888     |

Based on average tow height of 2500 ft

# Pawnee

# Considerations

## In use Mar-19 to May-19:

- Out of service Jun-19 to Apr-20 for repairs and maintenance
- Information taken for 3 months pre Jun-19

## Flying times:

- Single and 2 seat gliders not separated
- Tacho times from engine start to stop
- Taxi and warm-up times included

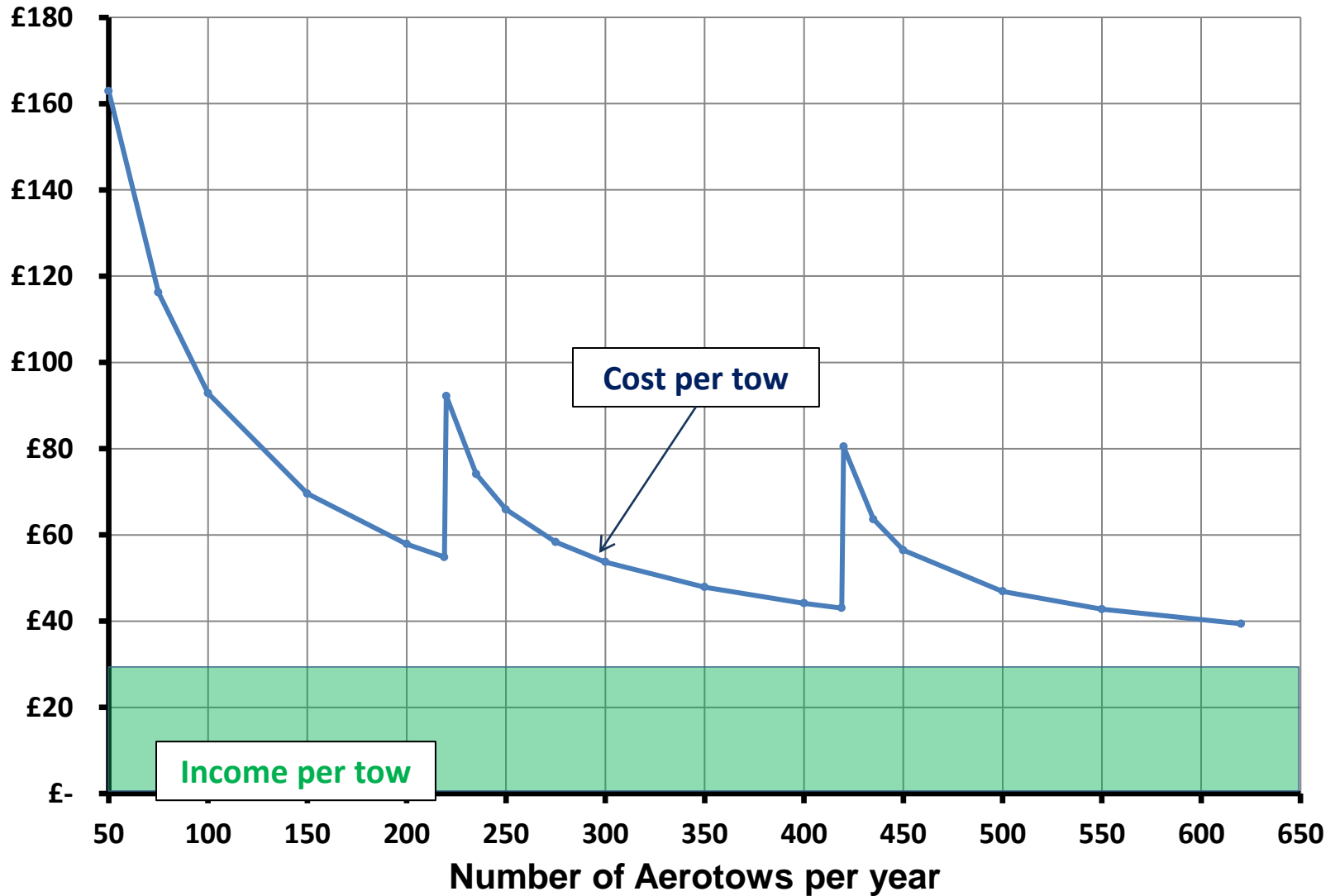
## Extrapolation

- Typically 550 aerotows per 12 months
- This has been used for following costings

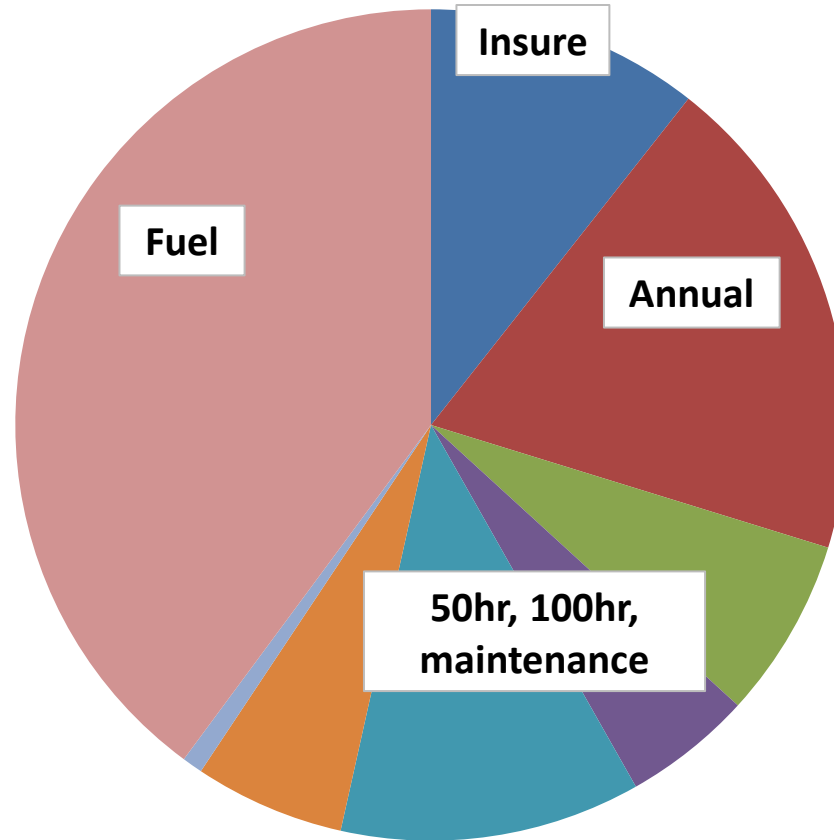
# Information taken from 4 month period

- **Days flown** - **32**
- **Total flights** - **92**
- **Aerotows** - **80**
- **Aerotows/tacho hour** - **3.5**
- **Flying time** - **No record**
- **Total Tacho time** - **24.9hr**
- **Aerotow tacho time** - **23.5hr**

# Cost for 2000' tow



# Cost distribution





# Cost summary

**The average aerotow height is 3000'**

**Assuming 500 aerotows each year**

- **Total income** - **£17,500**
- **Total costs** - **£23,500**
- **Loss per year** - **£6,000**

# **Cost Comparison**

## **Falke and Pawnee Aerotows**

# Cost comparison - Aerotows

| Launch          | 2000 | 3000 | 4000 | 5000 |
|-----------------|------|------|------|------|
| Income £        | 27   | 35   | 44   | 55   |
| Falke cost £    | 20   | 24   | 27   | 30   |
| Pawnee cost £   | 43   | 47   | 53   | 61   |
| Falke surplus £ | 7    | 11   | 17   | 25   |
| Pawnee loss £   | 16   | 12   | 9    | 6    |

**At 500 aerotows per year with average height of 3000'**

- **Falke surplus per year - £5500**
- **Pawnee loss per year - £6000**

**Hence total saving if Falke replaces Pawnee - £11500**