Sky Soaring Winch Information

Sky Soaring Board of Directors
July 16, 2022

1. **Financial** – From an operational perspective, the winch is a much lower cost system for launching gliders than an aero tow system. Operational costs are estimated to be around $1.00 to $1.50 per launch. However, there are other fixed costs which increase the per launch cost. In addition, the ability of a launch system to generate revenue and cash flow must be considered.
    a. Insurance – The annual insurance cost for the winch is $550. If a winch launch generates $9 of profit (which some members contend), it would take approximately 61 flights to pay for the insurance.
    b. Profitability - Assuming 400 launches, gas and oil costs will be around $200 (based upon data from 2018). Given other maintenance costs, the winch only starts to be profitable after 100 launches.
    c. Tow Plane – Since the tow plane is a requirement for the Club its expenses must be covered. Needless to say, if we operated the winch instead of the tow plane, we would still incur the cost of the Pawnee insurance and its Annual Inspection cost totaling $ 4,645 annually. That requires 663 winch launches just to cover the carrying cost of having a tow plane at the ready. Add another 100 launches to cover winch expenses and the Club is looking at almost 700 yearly launches just to cover our expenses.
    d. Value to the Club – The winch is the most valuable operational asset of the club and yet historically has been severely underutilized during its period of use.

2. **Club Asset Use**
    a. Club investment in the winch exceeds an estimated $70K, which makes it the single most expensive piece of Club operational equipment.
    b. Use – A significant percentage of the Club members, for various reasons, do not use this asset, even though their dues pay for it.
    c. Private Ships – Over 4 years of operation, no privately owned ship has launched from the winch.
    d. Declining Use – In its first full year of operation (2018) there were over 400 winch launches. Two years later (2020) only 39 launches were recorded, a 90% drop in utilization. Yearly statics shown below;

Year	2017	2018	2019	2020	2021
Flights	10	427	250	39	10 (est)

3. **Airfield Restrictions & Safety**
    a. Runway Length – Limits launch altitudes to approximately 1K to 1.5K. sufficient a limited amount of flight training, but seldom adequate for soaring away from the field. During its 4 years of operation and 700+ flights, it is believed that only 20 to 30 launches resulted in soaring flights.
    b. Single Runway – Limits the options for pilots in an emergency or critical maneuver. The runway 9 approach obstructions, and displayed threshold, further limit the pilot's options.

4. **Launch Crew**
    a. Size – Per the Sky Soaring winch operations manual the winch requires a minimum crew of 6 (vs 3 for aero tow):

Winch Required Crew	Aero Tow Required Crew
Pilot	Pilot
Winch Driver	Tow Pilot
Wing Runner	Wing Runner
Launch Director	
Mule Driver	
Tail hold down (2-33)	

    a. Launch Cycles – Although the winch can launch two gliders within perhaps 3 to 5 minutes, the cycle time to the next sequence of launches is not significantly better than the tow plane. In fact, in practice the cycle time was often longer than the tow plane. This seems largely due to the performance of the crew.
    b. Club Culture - The culture of the Club is accustomed to a very fluid operation, i.e., club members come and go from the field during daily flight operations.
        i. Crew Turnover – According to winch literature, winch operations must be rigidly controlled for safe operation. The composition of a winch trained crew shown above must be stable and consistent during a day's operation. This runs counter to ease of the Club's typical aero tow

operations where aero trained tow crew (tow pilot, wing runner) are changed often during the course of a day without ill effect.

ii. Crew Training – Each winch crew member should be thoroughly trained in their positions. Training records should be kept and updated each year.

iii. Skill Level – A high volume of winch launches is required to maintain a sufficient crew skill level for safe winch operations. European operators often have thousands of launches per year and have excellent safety records. It can be argued that 5 or 10 launches per month is not sufficient to develop a skilled crew.

5. Flight Training

a. Air Work Limitations – Winch launches typically achieve an altitude between only 1K ft to 1.5K ft. vs up to 2K to 3K ft for aero tow. This limits the amount of air work that an instructor can offer a student. Multiple winch flights are needed to accomplish the same amount of training that would be done by a single aero tow training flight.

b. Designated Pilot Examiner – DPE Ron Ridenour will not use the winch for practical testing. This means that student pilots looking to complete a the practical examination for a license must also have sufficient aero tow training to pass the check ride.

6. Conclusions

The Sky Soaring Board of Directors has unanimously voted that in the best interests of the club the winch should be sold for the following reasons;

a. The utilization of the winch has steadily, and precipitously, declined by approximately 90% over the years of its use.

b. The winch is not financially viable. It is a net money looser for the club rather than a net gain.

c. The winch has been operated outside the requirements of the approved Sky Soaring winch operations manual.

d. Before and during the implementation of the winch at Sky Soaring several key, knowledgeable, and long time members of the club, resigned from the club due to their view that winching at Sky Soaring was simply not feasible nor safe.

e. The winch is the most valuable asset of the operational fleet (winch and aircraft) and its value is best used elsewhere.

f. The best use of the winch's intrinsic value is by its sale.