

Sailplane Cross Country- Preparation, Weather, Equipment, Retrieval, Survival

Steve Hill, 2020

Introduction

- Sailplane XC Pilot since 2007
- HG from 1974-1996
- 63K+ logged XC miles
- 3 field land outs, 3 airport “land outs”

Introduction

- Trailer Prep
- Retrieve Vehicle Prep
- Glider Prep
- Pilot Prep
- Survival
- Self Preflight Briefing
- First XC Flights
- Conclusion

Trailer Prep

- Retrieval Checklist for your Crew
- KEYS!!
- Tires, Wheels, Bearings
- All Necessary Equipment in Trailer
- Trailer is identifiable and accessible
- Bolt Cutters and Spare Locks
- Functioning Lights

My Retrieve Checklist

Taped to inside of front door of trailer
and
In passenger seat of retrieve vehicle

Retrieve Checklist

May 5, 2020

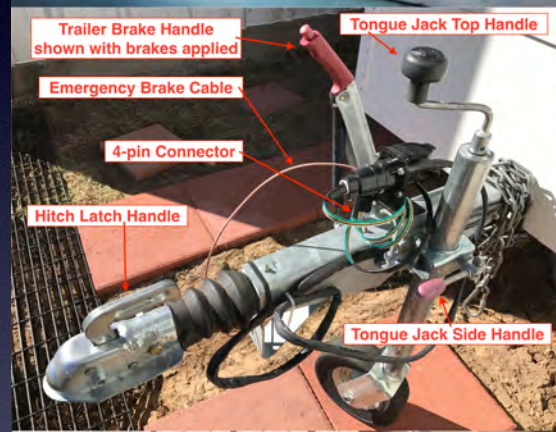
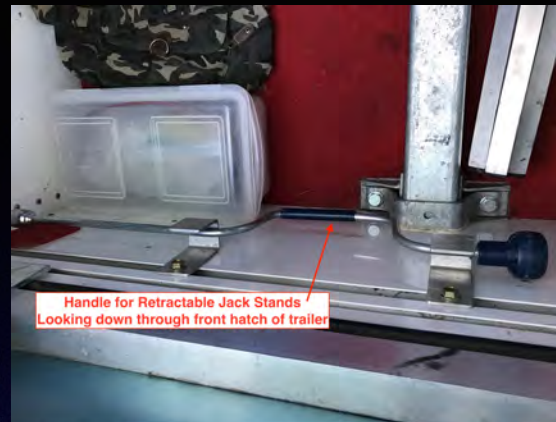
1	Trailer marked "XC" is located between Hangars 40 and 41 or on the west ramp. Everything necessary is inside the trailer.
2	All trailer keys are on key ring of white Toyota 4Runner (XXX123) or grey Toyota Tundra (111WCW). At Hangar 40. See pics.
3	Remove hitch lock if installed and stow in front of trailer
4	Remove wheel chocks and stow in front of trailer
5	Verify that the trailer tires are aired up
6	Retract jack stands at back of trailer. Handle is hanging inside trailer under front door. Shift trailer to clear building if reqd.
7	Verify that the three rear latches are secure. One in the middle and one on each side. Turn middle latch horizontal and lock with key.
8	Verify that current license plate is installed on back of trailer. Plate should be in front of trailer in plastic box if not installed.
9	Remove Hitch Area Cover and stow in front of trailer (see pic)
10	Release trailer brake (large lever with red handle) Push button and swing forward and down. (see pics)
11	Move trailer to vehicle. Trailer can be easily moved by hand. WATCH OUT FOR DOWNSPOUT ON CORNER OF HANGAR 41!
12	Adjust height of tongue to vehicle hitch by turning top handle on tongue jack (see pics)
13	Pull up latch handle on trailer hitch (see pics)
14	Lower trailer hitch onto vehicle ball. Latch handle should close
15	Attach Safety chains
16	Clip emergency brake cable to vehicle (see pics)
17	Plug in trailer lights on left side of vehicle (see pics)
18	Retract tongue jack wheel all the way up by turning top handle
19	Loosen side handle on tongue jack and remove tongue jack completely. Stow in trailer or vehicle. Tighten side handle on tongue (see pics)
20	LOCK Front trailer door with key!
21	Tow carefully and remember that trailer can always be unhitched and moved easily by hand

Retrieve Checklist

May 5, 2020

Helpful Photos for Crew

Taped to inside of front
door of trailer
and
In passenger seat of
retrieve vehicle



Retrieve Vehicle Prep- Participate in your Successful Retrieval!

- Checklist for Crew
- KEYS!!!
- HITCH!!
- FUEL!
 - Cash or CC for crew's use
- Working Trailer Lights
- Factory or Dash GPS

Glider Prep- Retrieve

- Adequate Electrical Power
 - 6 hour flight mission + extra for land out
- Gear
 - Phone, SPOT/InReach, Spare batteries or ways to charge phone, SPOT/InReach. SPOT X & InReach are 2-way satellite comm
 - Tie Down Kit
- Food, Water, Pilot Relief System
- Clothing
- Spare Trailer Keys

Glider Prep-Survival

- Signal Mirror, Flares
- Whistle
- Handheld Strobe Light
- Matches or fire starter
- First Aid Kit
- Leatherman
- Space blanket
- Phone Power Bank
- Spare hat
- Spare sunglasses, prescription glasses
- Flashlight
- Parachute cord
- Knife
- Sunscreen
- Handheld Aviation Radio
- Anything else you can fit

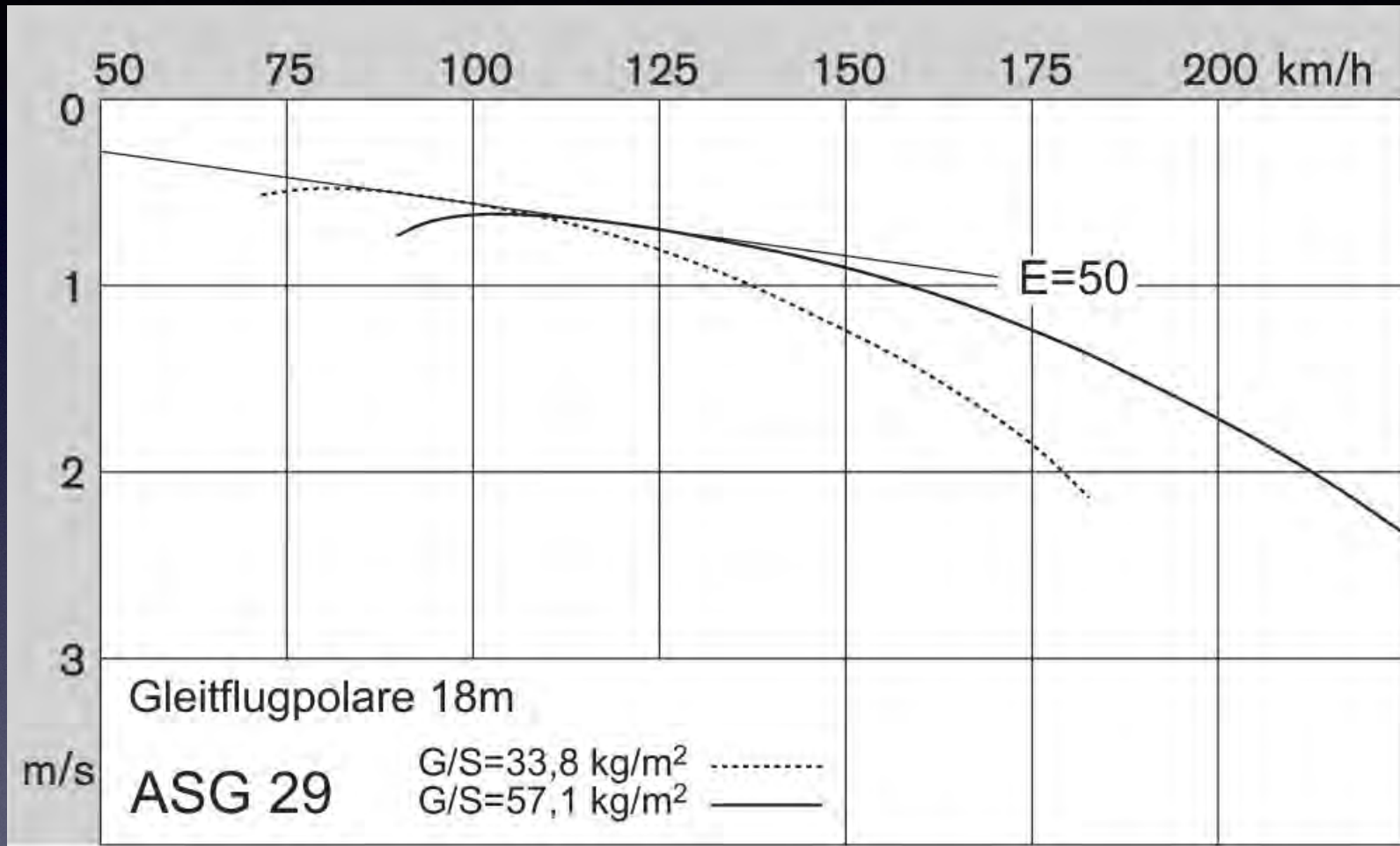
Glider Prep- Retrieve & Survival

- You can make an adapter to attach to the glider main battery with the appropriate charging interface on the other end, USB, 12 volt socket, etc. Carry the appropriate cables for your devices.

Pilot Prep

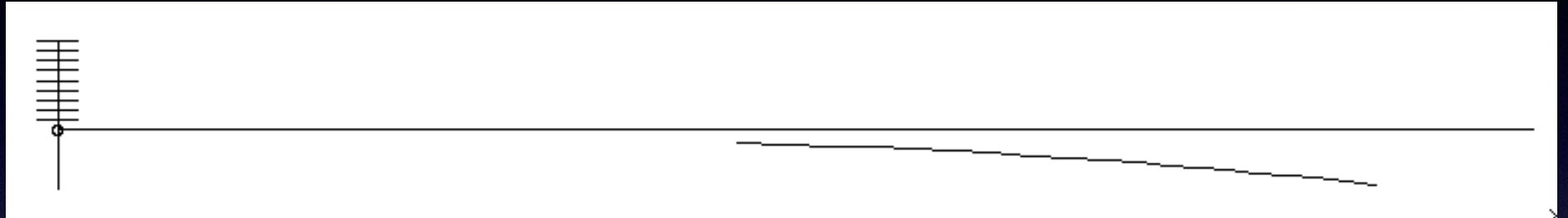
- Proficient with low energy spot landings within 1000 ft
- Consistently able to stay in 80% of thermals
- Good knowledge of equipment and confidence in the info it provides. Manual excerpts in glider.
- Student of the weather, Skew-T diagrams
- Student of Speed-to-Fly- MacCready Theory, Polars
- John Cochrane's "Safety Glides" and "Flying Faster"
- Familiarity with Task Area
 - Airports, safe landing zones, hazards
- Advanced Soaring Made Easy by Bernard Eckey

Pilot Prep



Polar Example

Pilot Prep



Polar Reality

50:1 L/D = 1.14 Degrees Glide Angle

25:1 L/D = 2.29 Degrees Glide Angle

10:1 L/D = 5.71 Degrees Glide Angle

Survival- Bail Out- Participate in your Successful Rescue!

- Make Rescue Information Available to Others
 - Rubus SAR Questionnaire
- Know how to use your SPOT/InReach!
 - Make starting and configuring your device a part of your pre-takeoff checklist
 - Have a list of recipients for each button on your device in the glider for reference. Distribute list to all recipients so they can coordinate.
 - Keep a manual excerpt in the glider or wallet for reference
 - Include yourself on some messages to verify function

Survival- Bail Out- Participate in your Successful Rescue!

- Carry essential items on your body/parachute
 - SPOT/InReach, signal mirror, whistle, 1st aid
 - Tactical or Fishing Vests
 - Wreckage may be inaccessible
- Watch Dave Nadler's SSA 2020 Convention Talk

CFR 91.103

§91.103 Preflight action.

Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight. This information must include—

- (a) For a flight under IFR or a flight not in the vicinity of an airport, weather reports and forecasts, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays of which the pilot in command has been advised by ATC;**
- (b) For any flight, runway lengths at airports of intended use, and the following takeoff and landing distance information:**
 - (1) For civil aircraft for which an approved Airplane or Rotorcraft Flight Manual containing takeoff and landing distance data is required, the takeoff and landing distance data contained therein; and**
 - (2) For civil aircraft other than those specified in paragraph (b)(1) of this section, other reliable information appropriate to the aircraft, relating to aircraft performance under expected values of airport elevation and runway slope, aircraft gross weight, and wind and temperature.**

Self Preflight Briefing

- Ford Forecast- Height of the -3
- NWS Area Forecast Discussion
- NWS Hourly Temps, Wind, Clouds, Precip
- RASP BlipMaps- Dave Leonard's site
- NOAA GSD Sounding- Interactive Skew-T for ABQ
- GOES East Water Vapor Animation
- SkySight, XC Skies, Top Meteo, Dr. Jack
- FAA TFRs

First XC Flights

- Try a few triangles that are within glide of home
 - Moriarty can be the Start/Finish point (Regular triangle)
 - Moriarty can be in the middle of the first/third leg (Start/Finish on Leg triangle)
 - Moriarty can be in the middle of the triangle (Remote Start/Finish triangle)
- Fly with buddies
 - Dedicate the whole day to flying with a full morning of weather study, task planning, and prep
- “OLC” flying vs tasks

First XC Flights

- Verify that your flight computer is giving you accurate final glide (Arrival Height) information that you can trust
- Use a higher MacCready setting for final glides and a lower one for speed-to-fly
- On final glides watch for trends- Arrival height getting better or worse? L/D to Destination getting better or worse? Areas of sink better than MacCready or worse?
- Announce landing intentions at least 10 miles out so you and other traffic can coordinate with each other
- Arrive with plenty of altitude to fit in with other arriving traffic
- Use SeeYou to analyze your flights

Expanding Your Horizons

- Once you are hooked on XC expand your horizons by flying airport to airport. Use Vaughn or Zorro or Las Vegas for “home” until you can make it to the next airport.
 - Be prepared and willing to land at another airport if necessary. Don't be afraid to reverse course back to a safe airport
- Fly with a mentor
- Drive or fly in a powered aircraft to verify and study safe landing fields

Conclusion

- Cross Country Soaring is addictive, challenging, and rewarding
- Moriarty is one of the top 10 locations in the world for XC soaring so take advantage!
- Preparation and planning can minimize the risks
- PARTICIPATE IN YOUR OWN SAFETY, SUCCESSFUL RETRIEVAL, and RESCUE