Cross-Country Travel in a Retractable Engine Self-Launcher

Jake Van Dyke says he has flown his DG-400 from St. Louis to Michigan several summers and described his trips as "very relaxing; slow but better than pulling a trailer" One-way distance was 600 miles and Jake set aside two afternoons to make the trip. He also made a return flight after each visit. He said the flights were never made on "boomer days" and that cloud base averaged about 5,000 agl with lift in the vicinity of 2-4kts. He crossed 50 mile dead bands with a long glides and was reluctant to use engine except when absolutely necessary. Hence, these flights were not "saw-tooth" ferry flights. Jake filled both fuse. and wing tanks and said the trip used about 20 liters (about one hour engine run time). He refilled his main tank after each engine run using the gravity feed system from the wing tanks.

Procedure used for filling the wing tanks:

The fuel pump with hoses and connector fittings should be setup so you can either pump fuel in or expell air out by reversing the hoses. Quick release connectors attach to the wing tank inlets. Each wing bladder holds 3.9 gal. Expell air from tank and then connect to pressure line. Fill from a container holding 3.9 gals. Do not force more fuel in the bladder. Repeat for other bladder being sure that the fuel valves are closed after filling and the drain line to the main fuel tank is re-attached. If the tanks have not been used for a period of time, fill partially and check for leaks first. When the main tank runs low, open the wing tank valve by pulling the control rod and close when 21 liters seen on the DEI.

Self-Launching Sailplane Pilot's Assn.

N E W S L E T T E R

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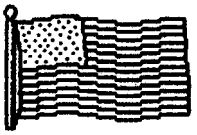


FUEL-WISE:

Jim Miles reports on some interesting information concerning the use of LL100 fuel in the Rotax 505. Jim lives in Honolulu, Hawaii and recently found that LL100 fuel was not available in the islands. Jim contacted Bombardier-Rotax as to the suitability of using U. S. Super-unleaded fuel and a digest of their 11-11-90 FAX is shown below:

1. Use unleaded premium fuel with octane rating of ROZ 95. (According to Hawaii UNOCAL officials Super Unleaded fuel with a 92 Octane Rating [R+M/2 system] has an ROZ Rating of 96-98).

2. Mix 50:1 with Super 2-stroke oil.

3. If LL100 used, it should be mixed with super unleaded in a 1:1 ratio and the following precautions taken due to lead content in the mixture:

a. Check for lead on plugs every 10 hours.

b. Change plugs every 20 hrs.

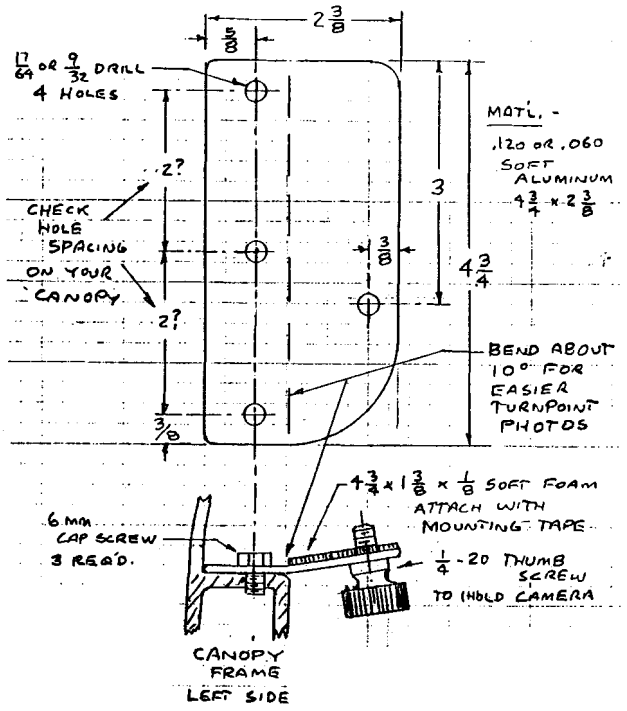
c. Check piston heads and burning chamber every 50 hrs. and remove any lead deposits found.

Editor's Note:
Glaser-Dirks Memo dated March 1987 warns against using any fuel that has alcohol additives such as methanol, ethanol and MTB. However, if such fuels are used a 1:1 mix with LL100 is acceptable. Yet the Rotax 505 engine manual says using LL100 is acceptable and no mixing with automotive fuel is mentioned. Suggestion:

1. If you are using auto super unleaded, make sure alcohol content is known. If alcohol content is 10% or over, mix equal parts of auto super unleaded and LL100.
2. If you are using LL100, inspect plugs every 10 hours and change them at 20 hrs.

SLSPA is sending a letter to Rotax to get final word on inspecting the combustion chamber every 50 hrs.

An Easy To Fabricate Camera Mount:
Below is a diagram of the dimensions for making a camera mount that attaches to the canopy sill. Most sailplanes have pre-threaded holes on each sill (usually 6mm) to accomodate camera mounting. Positioning of the hole that permits attachment to the 1/4-20 tripod mounting hole on the camera will vary from camera to camera.



SAFETY SURVEY RESULTS:
The motorglider safety survey conducted in Nov/Dec 90 is in the final stages of preparation and will be distributed at the SSA Convention. SLSPA members can recieve a copy by sending $2.00 to cover reproduction and postage.

Ventus CT and CM Engine Tuning:

CT: Paul Stone reports that he has increased the RPMs on his Solo engine by removing the muffler restrictors and changing the jets to #114 forward and #112 aft. An increase of 350 RPMs was experienced in this configuration. He tested the new setup at 60 degrees F between 5,700-7,000 msl and found best climb IAS to 43KIAS. The RPMs stay in the Green area at this climbing speed. Previous climb rate was 180 FPM. Jets available from Tom Knauff.

CM: Service Bulletin 825-1 was issued in December 1990 covering Carburetor calibration and the influence of temperature and altitude for the Solo 235 C engine installed in the Ventus CM. The factory has advised SLSPA that this bulletin was issued to all CM owners in the USA.
Some highlights from the bulletin:

1.Power Loss v.s. altitude (not counting the influence of temperature): 1,640'/5%; 3,280'/9%; 4,920'/14%; 6,560'/18% and 8,200'/22%.
2.A chart is provided that gives power loss or gain by density altitude. From this chart a 14% loss of power occurs at a field altitude of 2,625'msl with an outside air temperature of 86 degrees F.
3. Instructions are provided on how to adjust each carbs. main jet needle valve for maximum rpms (6,100).
4. Caution is advised on too lean a mixture and resulting high CHT causing engine damage.
For a copy of this Service Bulletin, send $1.00 to SLSPA or write H.Treiber, Schempp-Hirth, Postfach 1443, D-7312, Kirchheim/Teck, Germany.

Pilots Flight Manual takeoff distances assume proper rpms are attained. Example: Field elevation-4,920msl OAT-86F: Ground roll-1,696'; Dist. over 50' obstacle- 2,972'. Per Mar.1989 Section 5.2.3.

DG-400 Maintenance

Tillotson Carbs:
One pilot reports that when the engine failed to develop full power, the carbs. were cleaned and that solved the problem. Here's what he did:
1. Removed main and idle jets and diaphragm covers.
2. Blew compressed air into orifices.
3. Reassembled.
Be extra careful of losing the little springs that are seated in the diaphragm area. The pilot said he thought the problem was from dirt or grit contamination as they operate from a grass strip. He said to use as fine a filter as is possible when fueling but not your wife's panty hose as the fuel will dissolve it. Flushing of fuel tank will also help remove "junk" that over time seems to accumulate.

Engine Prop Door and Canopy Problems:
Pilot reports prop door stuck and came open late during engine retraction resulting in damage to the door's gel coat. Solved by sanding edge of door. Canopy would not close and latch when hot. Partial fix by enlarging hole for latch bolt but canopy loose when cold.

1991 Events Roundup:

MAR 23-31...Wave Camp Minden NV 415-426-1412

MAY 25-26...Regatta Vintage Sailplanes Hemet-Ryan, CA 619-579-6465. Motorgliders invited.

JUNE 4-11 Sports Class Nationals, Cordele, GA 404-532-8366. Motorglider Class entrys accepted.

JULY 2-11 4th US Motorglider Nationals, Marfa,TX 915-387-5133.

JULY 19-AUG 11..World Soaring Championships, Uvalde, TX 512-278-3012

MOTOR GLIDING IN SOUTH AFRICA...
This report comes from Peter How based at Magalies Gliding Club, 70km west of Johannesburg. Peter is a dealer for DG sailplanes in this area.

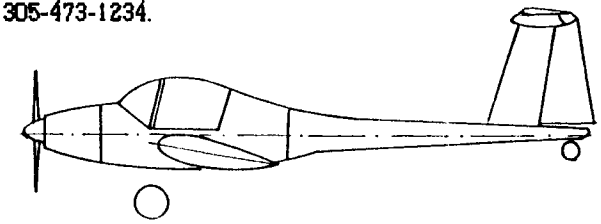
"Its a long time since a DG-400 flew here in South Africa, except of course the record breaking flights in Nambia. Our first batch arrived in October. One is operating near Cape Town amongst the mountains just south of the semi-desert areas where many pure sailplanes don't often venture. Our demonstrator operates out of Magalies. It's a grass strip smooth only over the first 100 meters and is 1,500 ft msl. Despite some hot days (95F) our takeoffs have been very good. We rotate and climb away better than the aero-tow behind a 180hp Super Cub. We are flying on total overcast days when the rest of the club goes home to bed. With our DG-400s we just set a task and go anyway only to find that it is soarable all the way. Last week we flew 350km out and return to visit a new club to the north. There was mostly 8/8 cirrus. limited ceiling due to controlled airspace and some populated areas where we had to stay high in order to reach landable areas. These gliders are opening up whole new regions to visit.

"It is interesting to note that we find ourselves not just giving up and extracting the motor when the lift gets far between. We just struggle on as if the motor did not exist. Perhaps we are afraid it might not start and we would be worse off. I have set myself a 500 meter limit over landable fields. We are running around 190-200C CHTand are using Avgas 100L. We can't get 100LL here and auto fuel with 93 octane has 10% alcohol. I was particularly concerned about the affects of alcohol on the glass fibre tank, so have decided to put up with the extra lead (8mg/liter) of 100L. We use Castrol Super TT, a mineral based, high temperature self mixing oil with low ash content and high flash point.

The only real limitation of the DG-400 seems to be the narrow range of wing loading. As a self-launcher, I don't believe anything else could operate safely at our density altitudes off grass. A DG-400 qualifys as a power aircraft here with no import duty at all while the pure sailplanes must pay 40%. So our ships were the first sailplanes imported here in the past 4 years. We are off to a gliding camp at Vryburg out in the semi-desert area to the West during the week before Christmas. There a 12 German gliders here on temporary import, mostly motorised. They come here for the 18.000' cloudbase, 40C temps and 5m/s climbs. No trailers as they are packed in 40ft containers and hoping for records." Peter How.

----------F O R S A L E----------

NEW IS28M2 LARK AIRCRAFT; 17 meter; side-by-side 2-place. Made in Romania by Brasov; 26:1; all- metal construction; Limbach 68hp 4-cycle engine; full feathering prop.; U.S. Dealer; FLITE-LITE, Inc. Howard Allmon; 305-472-5863 (FL) FAX; 305-473-1234.

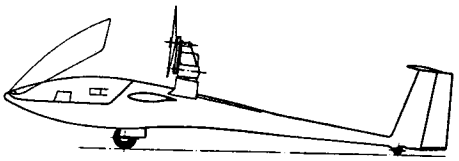


VENTUS "C" TURBO; 1987; 270 hrs. no damage; sealed control surfaces; tail tank; M-Nav.; Dittel; CAV II Vario @ Audio; Cobra Trailer. Only 10 hrs on engine. Never landed out. May 1991 Annual. $56,750. Also available Sage CV...$500 and one man rigging gear at current prices. Will carry 50% with appropriate guarantees. Paul Stone 414-336-1396

WINTER BAROGRAPH #5161, 12V.....$250.00
Ray Carter 904-771-6354

GLASER-DIRKS USA:

DG-400



DG-400-over 275 sold worldwide. The acknowledged leader in a self-launching sailplane with excellent ground handling and peformance. Rotax 505 engine.
DG600M-the self-launching high performance race leader in the 15/17M class. Carbon fiber-aramidfiber construction. Rotax 275 engine.
DG-500M-2-place self-launching sailplane with watercooled Rotax 535 engine.
FULL SERVICE SHOP FACILITIES-Any type of repair, parts, service or maintenance, engine or airframe for DG Sailplanes.
USED DG SAILPLANES BUY/SELL SERVICE- We have the contacts with DG owners and prospective buyers to locate the DG you are looking for or to sell your DG.
Contact; Oliver Dyer-Bennet 5847 Sharpe Rd., Calistoga, CA 94515 Pho; 707-942-5727//FAX; 707-942-0885.