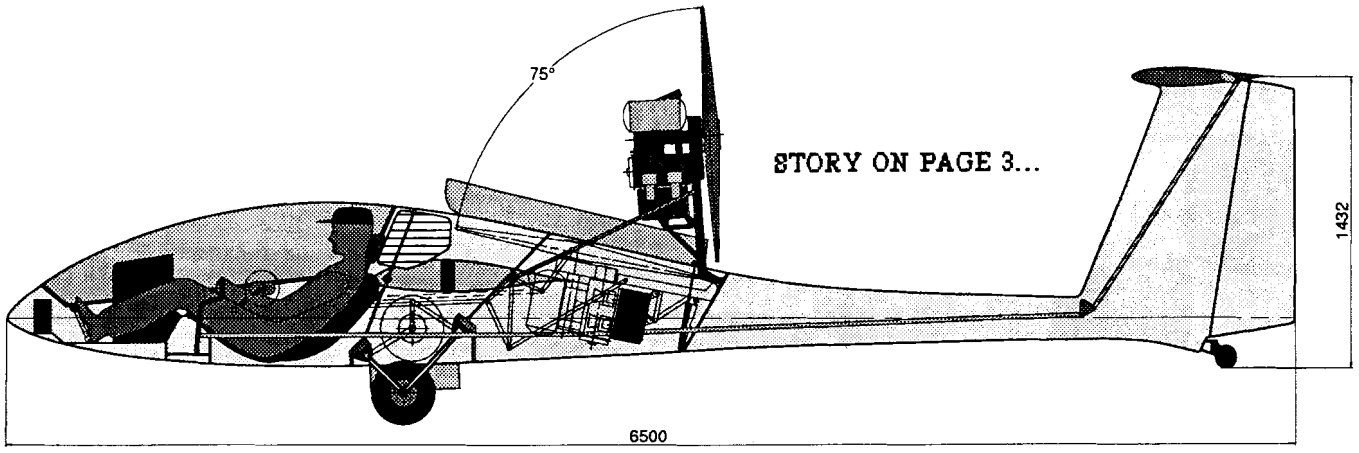
Pusher Retractable Engine Concept by Jukka Tervamaki



Self-Launching Sailplane Pilot's Assn.

N E W S L E T T E R

MARCH-APRIL 1990

Published Bi-Monthly by SLSPA, Inc. // Pete Williams, President and Editor // Jim Culp, Vice President // Issue # 1, Volume II

SLSPA ACTIVITIES AT SSA '90 CONVENTION

Motorglider Pilot's Luncheon Feb. 17, 1990:

Fortysix pilots were in attendance . In addition to the welcome chat by Pete Williams, Jerry Wenger and Don Aitken gave an account of their world record flight in Jerry's Nimbus 3DM followed by Pat Costello of Carroll and Associates Insurance Co. A Survey was taken of the attendees to determine the types of pilots present, experience level and their preferences for self-launchers.

A summary of the survey follows:

Currently own or fly a motorized sailplane-18 pilots
SLS now on order- 2-place/3 pilots; single pl./2 pilots.
Expect to order by 1992- 4 pilots
Soaring Hrs.- over 500 hrs-13 pilots (avg=1,800 hrs)
- under 500 hrs-21 pilots (avg=220 hrs)
SLS Hrs - over 100 hrs-12 pilots (avg=325 hrs)
- under 100 hrs-13 pilots (avg=15 hrs)
Homebuilders- 11 pilots.
Hang Glider Time- 5 pilots
Power aircraft time-30 pilots (Avg hrs=1,170)
Years flying experience-26 avg.
Years SSA Member-14 avg.
SLSPA Members-19 pilots
Ratings: ATP-2/Commercial Pilot-16/Private Pilot-13
CFIG-4

SLSPA Membership Meeting:
A majority of the those present indicated that SLSPA should become a Division of SSA. It was also suggested that SLSPA become more active in providing guidelines to the Contest Committee for establishing motorglider contest rules and U.S. Team selection procedures.

Motorglider Regional contest entry was discussed. Some members suggested it should be possible for a MG to enter a Regional contest when a class entry group of three MG cannot be assembled. The recommendation was to permit entry in the Sports Class, use of engine to launch and zero score for the day if engine used on course. Self-retreive permitted.

SLSPA will request a consenus of the membership via questionnaire and forward the survey results to the SSA Contest Board . Continued on page 2.....

SLSPA/SSA Convention Continued...

SLSPA Board Meeting..

Members present: Tom Dixon, Alan Greer, Bud Schurmeier, Pete Williams.

The following motions were made and carried by majority vote:

1. Pete Williams nominated Chairman of the Board.

2.Tom Dixon Nominated Treasurer of SLSPA.

3. SLSPA to make application to SSA to become a Division of SSA.

4. To establish a Motorgilder Flight Safety Seminar to be presented at the 1991 SSA Convention.

SLSPA MEMBERSHIP RENEWAL TIME!!

If your newsletter contains a yellow slip, please complete it and return with your annual dues by April 30, 1990. Our policy is to renew all members annually in April.

PRODUCTION RETRACTABLE ENGINE SAILPLANES

This list represents the latest sailplanes available. Prices are computed on 1.886DM to the dollar. (2)=2-place

Type	L/D	Ex-factory $	Launch/Sustain		Span
ASW24E	43	54,501	Yes		15M
ASH25E(2)	57	104,312	Yes		25M
ASH22BE	60	108,746	Yes		25M
DISCUSBT	42	43,213		Yes	15M
VENTUSCT	48	52,226		Yes	17.6M
VENTUSCM	48	60,392	Yes		17.6M
NIMBUS3DT(2)	57	94,379		Yes	24.6M
NIMBUS3DM(2)	57	109,226	Yes		24.6M
JANUSCT(2)	42.5	67,338		Yes	20M
JANUSCM(2)	42.5	79,003	Yes		20M
DG600M	48.5	58,539	Yes		17M
DG400	44.5	53,708	Yes		17M
DG500M(2)	47	81,685	Yes		22M

BATTERIES FOR DG-400....

Karl Tulp reports fitting his 400 with four Powersonic PS6100 6V 10ah batteries purchased from a local supplier in San Francisco. Each battery had 1/4" tabs to which he soldered a 3/8" brass strip with a 1/2" brass bolt (10/32) soldered in place. He then supported the tab with bolt attached with and epoxy/microballoon mixture to form a stiff platform using red or black pigment to denote positive/negative. Karl claims the whole job (4 batterys) cost about $90. More details? Contact Karl per enclosed roster.

DG-400 ELECTRICAL SYSTEM TROUBLE SHOOTING.....

Fred Jacobs shares what he did when:

1. Tach/Generator/Elapsed Time Meter failed-

Traced to a white powder found on the inner end of the Generator fuse. Cleaning the fuse and inside of fuse holder cured the problem.

2. Tach/Generator failed but time meter ok-

Engine time was 37 hrs. Factory advised either generator or voltagle regulator defective. Also provided drawing of electrical system which identifies wires by numbers.

Generator Test: Disconnect leads #53 and #54 from voltage regulator. With engine at idle, check AC voltage between leads #53-#54. Results: 15+VAC. Conculsion: Generator OK.

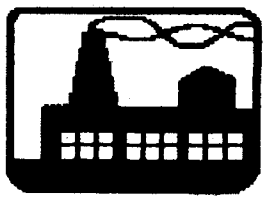
Voltage Regulator/Rectifier Test: All leads connected except lead #59 from + terminal. With engine running at moderate speed, check DC voltage between + terminal and ground. Results: 3.5VDC Specified: 0.5-1.0 Volts above battery voltage. Conclusion: Regulator defective.

Doide Test: a. Check DC voltage lead #59 to ground.
b. Connect + terminal of 12-14V battery charger to ammeter to lead #59 and minus terminal to ground. Results: a. 0 volts
b. current flowed to batteries. Conclusion: Diode ok.

The regulator was removed and tested with an ohmmeter which showed a shorted diode between "red dot" terminal (for lead #53) and the case and the ground terminal. Upon opening the regulator it was discovered one of the rectifier diodes pressed into the bottom of the case was defective. A new "reverse polarity" diode (anode is case) was obtained from a local electronic store for less than $4. Bench tested again after installation. Repotted with RTV silicone rubber and reinstalled. Tach worked. DEI showed 14.2 volts while turning 3,500 rpms.

This is a fairly technical procedure and some pilots may choose to simply replace the regulator. Any questions- contact Fred at 203-529-3692.

FACTORY REPORTS...



DG-400 TN 826/22:
This a rather involved TN somewhat difficult to interpret. Basically, it is concerned with beefing up the mount for the starter and replacing the rear bolts that attach the support tower for the propeller to the engine. Exchange of front engine mounting bolts is also required as well as setting the ignition timing on the engine. All DG serial nos. are affected. Execution is required if any play found in mount system or next 25 hr. inspection.

TN 826/22 continued...
The reason for the TN is vibration damage on some DG-400s caused by rear engine mounting holes on SOME engines not being deep enough. A licensed inspector must ign off this TN. This work and the work required by ROTAX Tech Bull 505-05 (see Jan-Feb Newsletter) can be accomplised by Glaser-Dirks Sailplanes (Oliver Dyer-Bennet) and I am advised by Steve Beatty of Airscrew Performance in Glendale AZ (See Roster) that he has the ability to accomplish such work. The factory furnishes the parts at no cost for TN 826/22 and Rotax should be contacted for the cageless bearings.

New Developments at Glaser-Dirks...

Wilhelm Dirks advises that winglets will be available for the 15 meter version of the DG-600 to boost L/D to 44.5. He also advised that an energy absorbing foam seat cushion is available for all DG models.

He is also currently developing an 18-meter self-launcher that will be designed as a self-launcher from the drawing board up." Look for this ship in about 3 years", he said.

TERVAMAKI's Concept.....

The following is an excerpt from Jukka Tervamaki's letter to SLSPA. (He designed the original PIK-20E).

"It was Christmas Eve, while waiting for Santa Claus, hen I started playing with my Macintosh to see how well the Claris CAD program would fit for serious motorglider design. It appeared to be perfectly suitable although my work was not very serious. Anyway, I managed to produce some drawings of a motorglider concept which I have been tinkering with for some years.

One of the drawbacks I do not like in my PIK-20E prototype is the high engine position making full power on soft ground useless. To avoid scratching the belly, I usually climb out of the cockpit to taxi out of soft spots while walking beside the plane. Therefore, a pusher engine configuration with engine retraction forward will allow for 30cm lower propeller thrust line and a smaller moment arm about the main gear allowing easier taxiing on soft ground.

I would improve also the seating position and visibility (of the pilot). However, I still like the manual retraction system but would modify it only slightly. In my PIK-20E prototype it takes only 8 turns of the crank and about 3 seconds to fully retract the engine. These numbers do not include the time needed to stop the propeller, but even this could be faster due to the pusher configuration.

The "dirty" engine reduces the air stream power to the windmilling prop. Naturally, there would be some drawbacks as well, like possible engine cooling problems. "Another might be that anything which is shaken loose from the engine goes to the spinning prop. (an experience found with 2-cycle powered pusher type ultralights). Anyway, I hope some homebuilding oriented readers will find the sketches interesting eventho they are not yet fully engineered motorglider drawings." J.T. Harmaapaadentie
12A, Helsinki, Finland

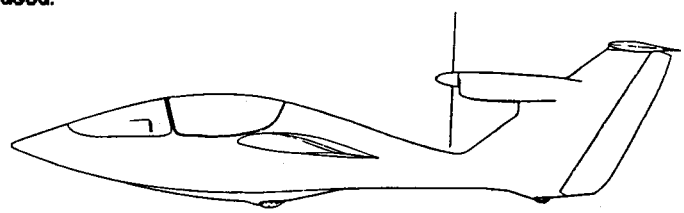
Anyone desiring a copy of his drawings send $2 and 50 cents stamps on 10X13 SASE. Ed.

AUX. POWERED NATS-LITTLEFIELD, TX. AUG 4-11...
To date the following pilots have indicated they will attend:
Ken Ferguson-DG-400
Rolly Clark -DG-400
Bus Suddard -DG-400
Paul Stone -Ventus CT
Pete Williams-DG-400
Call Red Rivers at 1-806-744-8766 for entry form.
And please advise SLSPA!

CALL FOR INFORMATION AND PHOTOS...

This request is directed to all pilots and sailplane manufacturers for specifications, 3-view drawings, photographs and historical data concerning any self-launcher, sustainer or motorglider. This data is being compiled into a book to be titled "The Self-Launching Sailplane...A Primer for Beginners and Experts"
Also needed are specifications, photos and operational data for engines used in motorized gliders.

This book will contain information on the evolution of the motorized sailplane, types currently available, first flight information such as syllabus, check lists, cockpit procedures, proficiency and performance flying, instrumentation, takeoff and landing techniques, engine extension/retraction, maintenance and upkeep, engine info., weight and balance, fuel and electrical systems, pre and post flight inspections, periodoc inspections, check out procedures required by FAA, flight safety and emergencies. Good photos either color or black and white of in-flight or ground shots are highly desired. This includes closeups of engines, cockpit layouts, engine controls and retraction systems. Anything that provides detail information concerning new development projects is also needed both eng ine and airframe. Full credit will be given to all specifications data, procedures, historical data and photos used.



12 Meter WINDEX 1200 Kit Sailplane: Contact G.G. Sailplanes, 650 Normandy Rd. Madeira Beach, FL 33208