Self-Launching Sailplane Pilot's Association

N E W S L E T T E R

JUNE '88

Pete Williams, President and Editor // Jim Culp, Vice President

SLSPA MEMBERSHIP UPDATE

As of this newsletter, we now have 28 Charter Members in the SLSPA. The Maintenanace response forms are not, as yet, all in and everyone is encouraged to submit these as soon as possible. A profile of the membership is as follows:

(AVERAGES)
YRS SSA MEMBER: 14
AIRFRAME HOURS: 245
ENGINE HOURS: 30
TOTAL SOARING HOURS: 974
TOTAL SLS HOURS: 250
POWER AIRCRAFT RATINGS: 68%(19 PILOTS)
TYPE OF FLYING:
PLEASURE: -ALL PILOTS
X-COUNTRY:-22 PILOTS
RECORDS:-8 PILOTS
COMPETITION:-10 PILOTS
PURCHASED: NEW: 65% USED: 35%

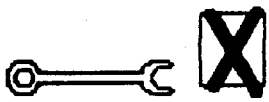
INSURING YOUR SLS

We have discovered that there is considerable variance in what members are paying for annual coverage. The reason suspected is that the insurance organizations that usually insure pure sailplanes are not sure what to expect when insuring a SLS. Hence, the cost is high. One member found costs to be considerably lower by insuring with a company that normally insures powered aircraft. Check out companies that have traditionally insured powered aircraft. Pik-West Insurance uses United States Aircraft Insurance Group. USAIG appears to be interested in the SLS type aircraft and offers very competitive rates. If any member has more information on insurance coverage, please send the data to the editor.

WHEN WAS THE LAST TIME YOU CHECKED YOUR ENGINE-DRIVEN FUEL PUMP PER THE HANDBOOK'S RECOMMENDED PROCEDURE?

MAINTENANCE & TROUBLESHOOTING

ROTAX-505
DG-400



Starter Repair- The Bosch starter (made in Spain) is out of production at this writing. It is repairable by most starter shops that normally handle Bosch starters. One member reports satisfactory repair of the wires that connect the brushes to ground plus replacement of tension springs for brushes. Complete rewinding of armature is still questionable here in the States as it is a very dense winding. If your starter will not crank, it is most likely the ground wires to the brushes are loose. Take it to your local Bosch starter shop and document exactly what was done. Vibration is suspected as the main reason for these wires coming loose.

Propeller Pylon Mount Bolts- One pilot reports one of the lower 10mm forward propeller pylon mount bolts (M10X35) was found loose (60 hrs. engine time). This was discovered during post-flight when the drive belt was found to be excessively slack. Examination showed the bolt to sheared where it entered the threads of mounting block 4M4. Repair involved a new bolt and mounting block. Torque is 30 ft/lbs. The factory has been advised. Check out the color marks on the bolt heads for movement very carefully after every flight as well as drive belt tension. Naturally,the drive belt must be detensioned and then retensioned to make a repair of this nature. To check this in the future, push forward on the rear of the aft prop mount pylon to test for excessive play. The main engine mounts (rubber) should flex ever so slightly with no reduction in drive belt tension.

Inadvertant Gear Retraction- Pilot reports the gear folded on roll-out in 2 separate cases. Handle was down and in detent. Landing normal in both cases. With the over-center geometry used in the DG retraction system, this should not happen. If any other pilots have had the same problem, please write the editor and give particulars. If there is a design flaw, full documentation will be made to the factory with a request for implementation of a Technical Note. Another pilot reports gear extends on its own in turbulent conditions. Any one else have this problem?

Maintenance and TroubleShooting continues....

Firing of Ignition System- Pilot reports the magnetos would not fire when battery voltage was 12.2 to 12.4. Has anyone else had this problem?

Plugged Fuel Vent- This is the small hole in the bottom of the fuse just aft of the gear door covers. This hole vents the fuse fuel tank. If it is plugged with dirt or otherwise obstructed, it is possible that the engine will not run or develop full power.

Starter Removal- It has been found that if the flywheel is removed, to get the starter out, the flywheel housing flange still obstructs removal of the starter. The only way to remove the starter is to first remove the aft pylon support of the propeller shaft.

Tender Tailwheel- The steerable tailwheel fork is not stressed for pushing backwards and it will bend when the tailwheel attempts to caster. Use a tail dolley for rearward ground handling.

Waxing der Bird- All DGs are waxed at the factory prior to delivery as part of DG's policy to protect the finish. It is not really necessary to wax as plenty is applied at the factory. If you do wax, use a non-silicone type normally not available at K-Mart. An auto paint supply store can provide a non-silicone Meguiars that meets factory specs.

High Altitude Jets- While there is no specific reference in the handbook as to use of high altitude jets (except to use same over 16,000), one pilot reports it is a good idea to install them when operating off fields that are over 4,000 ft MSL. Takeoffs, using the high alt. jets at lower altitudes creates too much heat due to lower volumetric flow of fuel and hence less lubrication. This pilot suggests that the use of low altitude jets for takeoffs above 4,000 MSL creates a very rich mixture and full takeoff rpm (6,000) may not be attainable. If anyone can clarify at what field altitude the high altitude jets should be used for takeoff and continuous operation, please advise the editor.

DG FACTORY INPUT

Small Wires on Ignition Boxes- Excessive vibration due to a loose drive belt can be a contributing factor in the failure of the small wires on the ignition boxes as well as other failures of bolts, etc..
Check the slack in your drive belt. If it is more than 1/2 inch, retighten.

Tillotson Carb. Parts- The factory advises that Rotax in Austria still has a lot of spare parts in stock. Order thru the DG factory.

Changing the Starter- Dirks advises that changing the geometry of the rear prop mount pylon to permit starter removal will violate the structural integrity of the mount. So continue to remove this pylon to get at the starter and make sure this and the forward prop mount pylon are carefully inspected regularly for cracks.

We hope to have regular input from Wilhelm and will publish same.

Engine Oil- Do not use outboard motor oil but only those marked"For Use with Aircooled Engines" Again, Yamalube R is recommended as available at your local motocycle shop. Mix 40:1.

Tailwheel Assembly Maintenance- Keep tail wheel axle well lubed with boat trailer axle bearing grease. The bushing should rotate with the wheel otherwise the bushing seizes on the axle and the plastic wheel rotates around the axle. Lube the wing tip wheel axle.

Aileron Disconnect- One member reports the left aileron was found to be disconnected during a routine launch. He noticed sluggish response to the ailerons and the left wing bouncing up and down in an uncontrolled manner. Needless to to say he aborted the takeoff just after liftoff and landed straight ahead. (Good idea to have lots of runway available-this incident happened at Minden). Upon examination it was found that the left Hotellier fitting was indeed not attached and the safety pin was STILL in place! It is recommended that all control connections be checked prior to EVERY flight by "hands and eyeballs on" It is not known whether a Positive Control Check was made prior to this flight. Take nothing for granted, especially if your bird has been rigged for some time. The SLS is subjected to more vibration than pure sailplanes.

Emergency Retract/Extend Switch-
Close quarters in the cockpit may cause actuation of this switch. If this happens the normal retraction circuits are overidden. Good idea to put a piece of tape over the red cover.

Air Start Thrills- Make sure the ignition switch is fully on and confirm same with that little green lite that sez you are go for an airstart.

Gel Coat Cracks- Several members have reported gel coat cracks near the speed brake boxes, on the ailerons and horizontal stabilizer. Some of the birds are relatively new.

gel-coat continued...
Application temperatures and the climate in which the craft is operated may have a bearing on this. One member discovered hairline cracks in ailerons after a wave flight. Please advise the editor of any problems you may have so we can advise the factory.

Elevator Trim- It just does not seem to work well, especially in nose-down trim, without pushing with your finger on the green flag trim indicator. Up trim works ok. Perhaps spring tension should be increased on the forward trim spring found underneath the left arm rest.

Fueling Der Bird- Use an external 12-14V battery to keep from draining the internal batteries. When filling from a jerry can or to extract fuel from the main tank, insert a brass rod (3/16X30") into the fuel hose. Locate the rod in the hose so the bitter end of the hose does not touch the bottom of the jerry can. This keeps trash and sediment from entering. Or, for pumping out the main fuel tank, allow the hose to touch the bottom of the tank to remove all sediments.

Unable to Develop Full Power- This can be several things: oily plugs, dirty carbs or extended idle/taxi time.

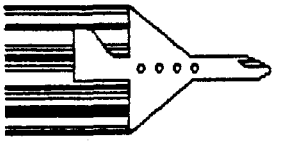
FLYING FROM AIRPORTS

Several members operate from regular airports and have found it advantageous to provide the local tower with SLS operating procedures that can help keep you from getting caught short and low with no place to go but down. The editor has an excellent letter written by a member that could be used as a guide to "educate" the tower on what an SLS can and cannot do. Ask for it and I will mail it right out. My personal experience has been to arrive high and "fit in" when there is a lull in traffic. This is no place for the classic final glide.

DG-400 MAINTENACE

The following list of names were furnish by members who have used them to maintain and repair their birds. Please send more names and we can make a list.

Eric Striedieck-Glaser Dirks West/Calistoga,CA
707-942-5727 (Complete parts and service)
Frank Snead-Flightcraft/Portland,OR
503-281-3300 (Annual Inspections)
Alec Williams/Apache Junction, AZ
602-982-6076 (25hr checks/Annuals/Maintenance)
Paul Gaines/Marietta, GA
(DG Factory Certified FiberGlass and Carbon Repair)
404-977-4444
With the exception of Gaines, all of the above have A&P ratings



SLS FLYS 681 MILES!!!

Yes, you read it right. David Stevenson has accomplished what promises to be THE record to beat for both SLS and pure sailplanes.Although all details are not in, here is a brief account of his 4-28 flight:
"Departed Art Matthews strip in the Sequatchie Valley. TN via Gadsden AL then to Crossville TN (approx 330 mi) then flew downwind free distance (in thermals) to Charleston SC for a total of 681 miles." More to come in next Newsletter. Congratulations Dave!

As a service to members, we are offering a classified ad service for both "wanted" and "for sale" items that pertain to SLS aircraft. This will be a "one-time" ad for a charge of $3.00 per item. A maximum of 25 words is established per item. Many members have parts and equipment needs that are peculiar to the craft we fly. This service is designed to fill those needs.

A NOTE OF THANKS...

As editor I want to thank all members for their responses including all of the data and comments submitted. Please keep the information coming and I will publish same. All info submitted is not yet in print, hence this JUNE Newsletter. More to come. I would also like to hear from you on specific flight experiences, operations from airports, high altitude field operations, use of the SLS as a business tool, cockpit and instrumentation layouts, team flying, record attempts, etc. From the data gleaned on membership application forms, it appears the average SLS pilot is an experienced sailplane pilot that takes the sport seriously and enjoys this type of soaring more than his non-powered counterpart.

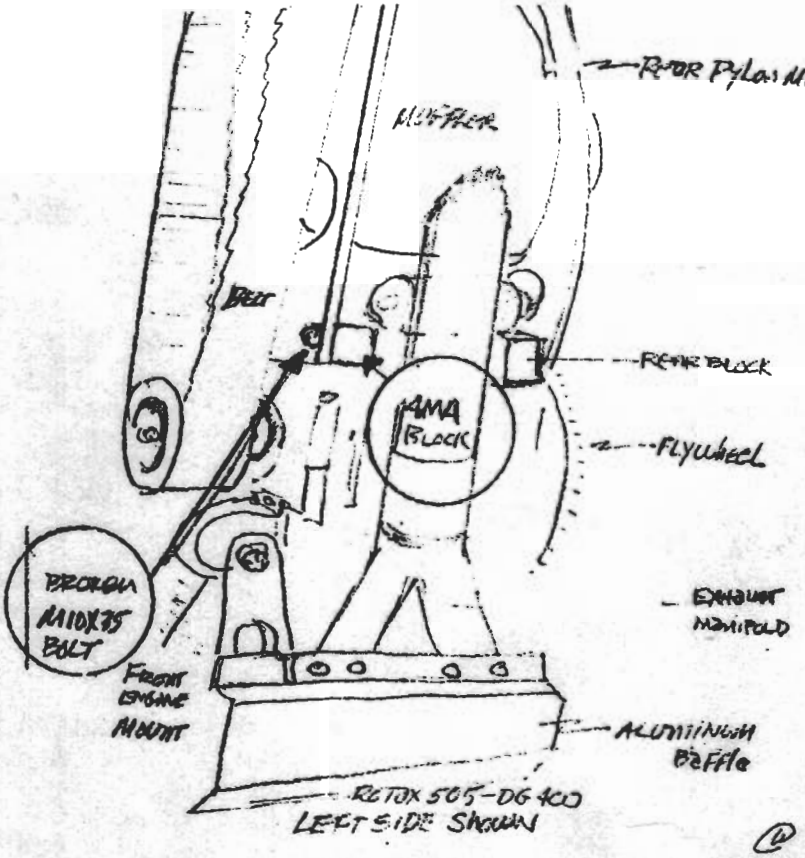
We also have to take a hard look at where the SLSPA fits within SSA. Should we be and affilliate or a division? What are the advantages? Should we enlarge the membership to include all types of "motorgliders"?

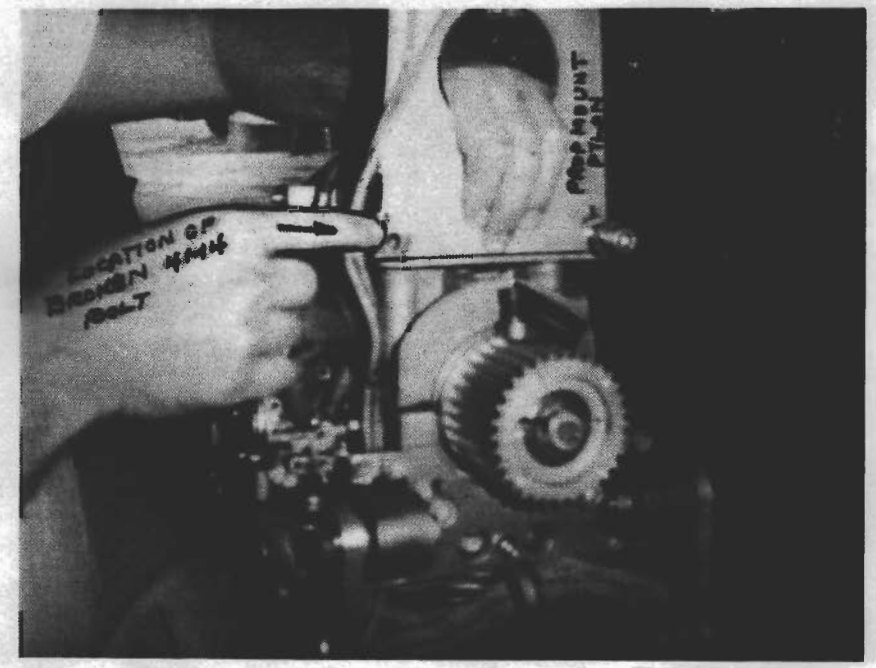
I will keep the SSA advised of our activities with the Newsletter as well as the sailplane manufacterers. We will have a News Release soon in Soaring telling of the establishment of SLSPA.

I need your input on all of these items, so feel free to write. As a matter of interest, we are looking into a decal that can identify you as an SLSPA member. Thanks again for your help.
Ed.

FORWARD PROP MOUNT PYLON BOLT FAILURE

It is possible for these bolts to fail without any cracking of bolt head marker paint. Suggest use a torque wrench to double check for integrity and ALWAYS check drive belt tightness after EVERY flight. Vibration is the enemy.





REMOVAL AND REPLACEMENT OF STARTER ON ROTAX 505 ENGINE

See Section 4, pages 36 & 37 in Maintenance Section.
GENERAL: This is a relatively simple procedure that should take about 1-2 hours. Basically, the aft propeller shaft tower support must be removed to provide enough room to slip the starter out. To accomplish this requires the removal of the following: prop shaft locking bolt, notched nut, washer and angled aluminum spacer-all located at the top rear of the prop shaft. Also remove the lower tower support bolts (10mm) and loosen the 3 aft bolts that screw into the muffler support springs. Naturally, the 2 8mm bolts that hold the starter must be removed as well as the electrical leads to the starter. It is also necessary to loosen the eccentric shaft at the rear of the prop shaft.

STEPS:
1. Disconnect electrical leads to starter.

2. Remove lock bolt and nut (4mm) on prop shaft.

3. Remove notched nut from prop shaft with a spanner. If none available, tap it loose at the slots with a metal pin. Remove spacer behind slotted nut.

4. Loosen tension on drive belt by inserting a 4mm rod thru hole. Turn counterclockwise. Not much movement is necessary. I used a model aircraft landing gear wire for a rod.

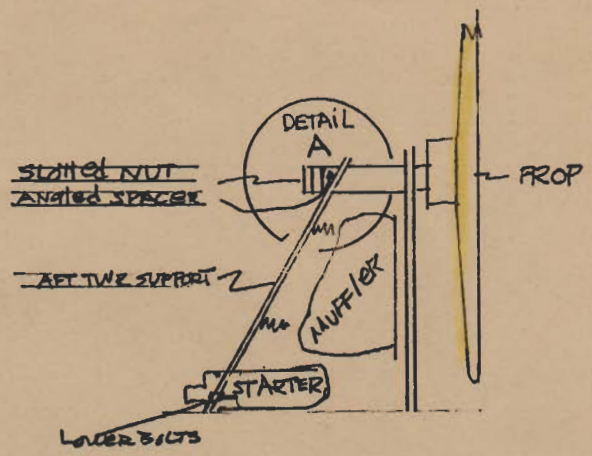
5. Remove lower tower support 10mm bolts.

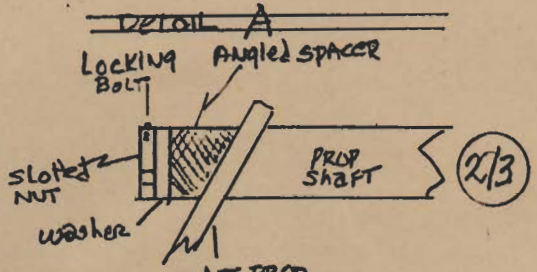
6. Loosen the 3 muffler spring tension nuts until they are clear of the face of the springs.

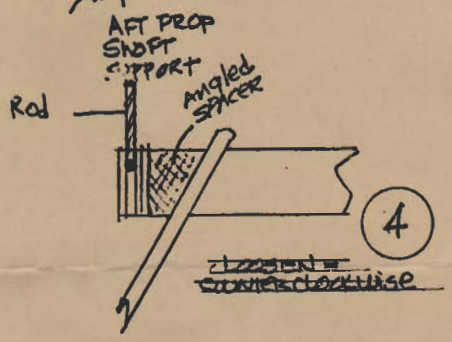
7. Using a piece of wood, tap the front face of the rear prop support tower to move the angled aluminum spacer aft off the shaft. This spacer fits tight on the prop shaft and should be tapped evenly around its circumference to prevent jamming.

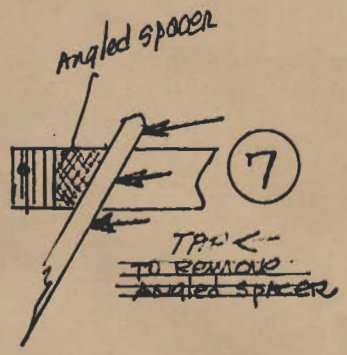
8. Remove lower bolts (10mm) on aft prop shaft support.

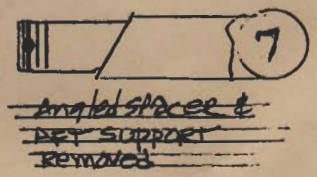
The complete aft prop shaft support assembly can now be removed allowing free access to the starter. Remove the 2 8mm bolts and extract the starter. Replace all in reverse and after tensioning the prop drive belt with the eccentric, it may be necessary to drill a new hole thru a flat in the slotted nut and the prop shaft to insert the locking (4mm) bolt/nut. 102 ft/lb torque is required on the slotted nut and can be measured directly by attaching a 3/8 drive slot at the center of the spanner to permit use of a torque wrench. This will require a weldment modification of the spanner. See Section 7 (page 51) Maint. Manual (Special Tools)
SEE DIAGRAMS FOR DETAILS.....











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