

President's Message

One serious thing we sailplane pilots are continuing to get wrong is that we are still attempting to fly our sailplanes when they are not airworthy. The last 12 months was a bad year for pilots attempting flight without having completed putting their ships together - controls not hooked up and, in one case, a tailplane not secured. None of us (even to most of our soaring friends) are careless or stupid or inexperienced people. Yet accidents continue to be caused, and suffered, by this seemingly smart group of people. Some of the victims have been very experienced, and apparently careful, pilots, yet they got it terribly wrong. The present 'system' is failing us too often. I believe we - every one of us - needs to take a new look at how we assemble and check our ships; we need to apply lateral thought or attempt to get some new insight, because at the moment, things are not working. None of those pilots hooked up to the towplane, or opened the throttle, not believing that their ship was fit to fly.

The SSA and the Soaring Safety Foundation have spent a lot of time and effort on this subject. One outcome has been the 'Critical Assembly Check' (CAC) approved and recommended by the SSA. This requires each pilot to come up with a CAC list for his ship - not just a positive control check, but whatever is truly essential to stop him taking off without controls hooked up, or essential parts missing or improperly attached. The pilot then carries out a CAC after each assembly, and arranges for an independent verification of it by another person. Once completed, the pilot makes a mark on the wing root gap seal tape by way of confirming that a CAC has been done. And tow providers are being asked to refuse tows if this has not been done. Notwithstanding the assistance of the independent verifier, the CAC, and the confirmation of it having been done, remain the sole responsibility of the pilot in command.

Clearly the built-in safeguard of being refused a tow does not work with those of us who self launch. However, the underlying logic of a CAC remains the same. I am sure we will all hear more about introduction of CACs, but the problem exists right now. Please take the time to review your own procedure - do this today. It might just save a life - yours.

Dean Carswell

Auxiliary-Powered Sailplane **NEWS**

The Official Publication of the Auxiliary-powered Sailplane Association, Inc.

Dean Carswell-President • Bruce Templeton-Vice-President

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Jim McGinn soars his AMT-300 Turbo Super Ximango, near his home in Durango, CO. An ex-Airforce fighter pilot and former VP with Merrill Lynch, Jim started soaring in the late 1980s and took delivery of his first Ximango, an AMT-200, at Oshkosh in 1995. Four years later he signed up for the Rotax 914 turbo powered AMT-300 and took delivery on May 20, 1999 at the Grupo Aeromot factory in Port Alegre, Brazil. He flew his the new ship to the states alongside another AMT-300 piloted by Heinz Peiere, a partner in the U.S. Ximango dealership. Their average flight profile was 500nm legs using a cruise-climb of 90Kts (75% power) to about 12,500ft. followed by level flight to within 100nm of the landing destination and a reduced power descent. This profile gave them a ground speed of 135kts with an enroute time of 3.7-4hrs.

In Jim's words: "We usually flew two legs a day and then relaxed in the evening so as to not fly in late afternoon thunderstorms and heavy rain over the Amazon, Bahamas and near Cape Kennedy. GPS was a vital accessory. We knew where we were all of the time. As for as oxygen, we had emptied our bottles for fear that the airline (Varig) would not allow them. Nowhere in Brazil or any of other enroute stops had the proper fittings to fill our O2 bottles, hence the 12,500' flight profile with no oxygen. L/D per the factory is 33:1 with the prop feathered. However as long as I can stay up, I am not really worried what the L/D is but will check it out in stable air. The winglets make it a lot more directionally stable and I love the simplicity of the retractable landing gear and wing fold mechanism. For me, the Turbo Ximango is the bird of choice."

This is an abstract of an article published in Motorgliding International <www.motorgliding.com>. Used by permission. Jim can be contacted at Email <gem@frontier.net> or 28 Rim Rock Dr., Durango, CO 81301

TROUBLESHOOTING ELECTRONIC IGNITION SYSTEMS

Contactless dual magneto ignition (CDI) systems are in use as the primary ignition system for Rotax, Solo and Midwest 2-stroke engines installed in many self-launching sailplanes. The primary advantage is there are no contact points to wear and should one of the circuits fail the engine still can operate on a single spark plug in each cylinder. Pilots should read the engine manual of their particular sailplane, however the following has been found to be an acceptable troubleshooting route to take as you work toward the solution. Before starting the troubleshooting sequence, study the ignition wiring diagram in the engine section of the handbook and clearly mark each ignition box with the numbers of spark plug it serves.

All actions suggested assume the battery cold cranking voltage is adequate to provide at least 300 RPMs for starting and the spark plugs have been inspected, properly gapped and cleaned or replaced. Make sure the spark plug wires are secure at the ignition box coil connectors and at the plug cap ends. Tie wrap these connections. The spark plug caps should be fully inserted with a positive grip. Route the spark plug wires carefully keeping clear of the cooling fins and other wires. Secure the wires with tie wraps.

SITUATION: During the ignition circuit test, one circuit fails (the engine quits). It should be noted that if this happens, the good ignition circuit, when selected, will show NO RPM drop. This is because the spark plugs served by the inoperative ignition circuit were not firing. Normally the two spark plugs per cylinder accounts for 100-150 additional rpms. Therefore, this is the normal rpm drop when testing the circuits. This drop can more and is dependent on the condition of the spark plugs. In fact, when one ignition circuit stops functioning, the spark plugs affected will show evidence of fuel fouling (wetness) since they were not firing.

ACTIONS:

1. Switch the cable connectors of the two ignition boxes. If the bad circuit now moves to the other circuit, that box could be defective. Defective can mean several things such as the external coil/s connected to that box may be defective. Defective meaning the small wires exiting the coils could be broken or not have sufficient contact with the box solid state circuitry. In boxes used in the Midwest engine, there is a fuse in each box which should be removed and inspected. The tightness and integrity of the cable connection at the boxes should also be inspected. Inspected meaning are the connector wires properly attached.

2.If after switching the ignition box connectors, the defective circuit remains the same, the first place to look is the integrity and tightness of the connections at the boxes. Are any wires broken? Inspect the spade connectors. It is possible to pot them using hot glue or silicone. Shrink tubing can be used for strain relief so that wire movement during engine vibration is not concentrated at a single point,. If the ignition coils appear to be ok, it is possible that a wire between the ignition box connectors and the ignition coils located behind the starter ring gear or flywheel could be bare or broken. Cut away the metallic RFI shield that covers the wires proceeding from the box connectors to the ignition coils and carefully inspect for insulation integrity. Broken wires or a poor wire connection can masquerade as a defective ignition box or ignition coil. Vibration of this wire bundle can cause insulation to be worn away on wires exposing a bare wire to the metallic RFI shield which shorts out as the wires vibrate during engine operation. The result is an ignition test that is ok sometimes but not operable at other times.



DG-800B Instrument Panel Project

I spent the winter working on configuring and installing a new panel in my Midwest powered DG-800B. It seems the instruments are never exactly where pilots want them to be, so a new uncut panel was ordered. It arrived and one of the first things I have always wanted to do was to change the color from flat black to gray. This was accomplished by lightly sanding the black surface and leaving enough texture to prevent reflections. Gray primer was then used and after sanding, the panel was a medium gray. The instruments now contrast nicely from this surface. Some details: Top row-Altimeter, Climb-Cruise and CHT switches, Filser LCD, Airspeed & Fire Warn Light.#2 Row: Auto-Prime Switch, Engine DEI, TE Switch and Master Engine Switch.#3 Row: Filser Vario & Borgelt Vario. #4 Row: Electric Turn Needle/Ball & Filser Vario Speaker. Switch in the center is for Turn Needle power.The main problem was getting the back of the instruments to not conflict with each other. This entailed some grinding. Would I do this again? Probably not. *Pete Williams*

2000 Motorglider Nationals

19-26 July, (Practice 17 & 18)

The 11th U.S.Motorglider Nationals will be held at Midlothian, Texas (near Dallas) in conjunction with the 1-26 Nationals. The contest will use GPS scoring using national FAI Rules with minor additions for auxiliary-powered sailplanes. Open Class and Limited Class (handicaps). International competitors are invited and are eligible to win the U.S. Nationals Motorglider Trophy. Please contact Rick Howell for more information and rules suggestions. Call 972-245-0830 or you can Email Rick at: PatRick HOWELL2@compuserve.com

Air in Fuel Lines

Fuel cannot flow and an engine will not run if there is air in the fuel lines. This can be evidenced by a loud “clacking” sound of the fuel pump and fuel filter/s not being full of fuel. The reasons for air in the lines can be varied:

- a) Fuel lines emptied by running engine to fuel exhaustion.
- b) Replacement of fuel lines (some or all) without removing the main fuel line to the carb and turning on the fuel pump to emit a steady stream of fuel.
- c) An air leak in a fuel hose connection caused by not being tightly connected which will draw air into the hose as the fuel pump attempts to pump fuel.
- d) A leaking fuel line.

Solving the problem:

Pressurize the system by blowing into the fuel tank opening while the fuel pump is running. Have an observer look at the fuel filter to see when the filter is full of fuel and listen for the fuel pump to stop “clacking” as it “loads” with fuel. You may have to do this several times to finally obtain a “head” of fuel.

Remember to cease cranking after two to three attempts at starting (10 prop rotations each try) as the battery can be depleted quickly. With adequate battery voltage the engine should crank at 300-500 rpm which should result in a clean start if all systems are working properly (starter, plugs, ignition and fuel).

DG-800B Starter Alert

A relatively new (approx 40 engine starts) DG-800B's starter become loose from its two mounting bolts, shearing one bolt during a ground start. The rotating starter gear lost its Bendix spring and cap and slightly damaged the starter ring gear teeth as the starter gear wobbled against the ring gear. Pilot indication was a metallic whirring sound and no movement of the propeller. Examination found the other bolt loose from its mounting hole with stripped mounting hole threads and gold colored filings from this fitting distributed on the aft face of the carbon fiber mounting surface. No evidence of Loctite was found on the mounting bolts. It is suggested that DG 800B pilots carefully check the integrity and tightness of the two mounting bolts that attach the starter to the carbon fiber tower lower face.

More information?

Contact Steve Eddy at 775-267-0808 (NV)

A Few Words about 2-Stroke Carburetors

Proper fuel metering and flow in carburetors used on 2-stroke engines is critical to optimum engine performance and fuel economy. Both Tillotson and Mikuni carbs can be found on just about all 2-strokes used in self-launchers.

Tillotson : This is an older carb and can still be found on some motorcycles such as Harley Davidsons. It employs a fixed Main Jet , an adjustable Idle Needle for the mixture and an Idle Speed Set Screw. The smaller outlet Main Jet should be used when the engine is operated from airfields above 4,000' msl otherwise the engine will not attain full maximum rpms during climb since it is running rich. Conversely the larger diameter fixed Main Jet should be used at lower altitudes. This is especially important to assure the engine is not running on too lean a mixture. Settings Sequence: The Idle Speed Screw should be adjusted first during a ground run up to attain an idle rpm of about 2,500. When engine temperature stabilizes, the Idle Needle should be adjusted to maximize rpms and then opened up just a bit toward the rich side. If an Exhaust Gas Temperature probe is installed, follow the instructions as per the engine manual. In dual carb applications, remember the aft cylinder will always run a little warmer. EGT values are valid at full throttle and may be higher during taxi or at less than full throttle settings. The Idle Needle Tommy Screw can be secured with heat shrink tubing.

Mikuni : This carb is found on practically all of the new powered sailplanes. Its basic design is similar to the Tillotson with the following differences:

- a) On the BN38, both the High Speed Tommy Screw and Idle the Tommy Screw for low speed adjustments are made. This is critical in that the needle setting instructions in the engine manual should be carefully followed and if anything always adjust to slightly rich and in small 1/8 turn increments. Settings Sequence: First adjust the Idle Speed Set Screw to 2,500 rpm then the Idle Jet Needle to maximum rpm and then set toward the rich side. Then adjust the Main Jet Needle at full throttle to maximize rpms and open to a slightly rich setting. If an EGT probe is used, adjust accordingly to 610°C +/- 10°C After setting secure the tommy screws positions with heat shrink tubing.
- b) Later model Mikunis (BN38 with a square cover plate) have a 2-position lever called the Fine Adjustment Nozzle. The normal position is fully anti clockwise (open). For high altitude operation, the nozzle may be turned in a clockwise direction. Settings Sequence: Adjust the idle adjustment screw to 2,500rpm on a warm engine. During a full power ground run up, adjust the idle nozzle to maximum rpm then richen a little, then set the Fine Adjustment Nozzle lever to obtain maximum rpm. EGT values should read 640°C (+) (-) 10°C.

Other Carburetor-Related Matters:

1. Choking: Pay careful attention to instructions for setting the manual choke for an initial cold start and a hot or warm start. It is easy to flood the engine. DG-800B carb models have an automatic choke system (no choke butterfly valve) that injects fuel into the carb venturi according to coolant temperature.
2. Transition from Idle to Full Power: Both the Tillotson and the Mikuni may have a flat spot or hesitation as the throttle is moved forward from idle rpm. This occurs when fuel flow is changed from the idle jets to the main jets. It is possible to lessen this “stumble” somewhat by careful Idle Needle adjustment to either richer or leaner. Another factor in this transition is the flexible diaphragm (membrane) which may be becoming a bit stiff with age and needs to be replaced.
3. Cleaning: Follow the manual's instructions on removing the carb's needle valve located behind the membrane. A clean jet of fuel should emit from this orifice when the fuel pump is turned on. Do this at the Annual Inspection including removal of the Main and Idle jet needles. Blow out carburetor passages with compressed air.

2000 SOARING EVENTS

STD NATS LITTLEFIELD, TX	JUNE 20-29
SPORTS CLASS NATS EHRATA, WA	JULY 4-13
PAROWAN CAMP PAROWAN, UT	JULY 15-27
REGION 11 SOUTH TONOPAH, NV	JULY 17-21
MG NATS MIDLOTHIAN, TX	JULY 19-26
HCS ELY CAMP ELY, NV	JULY 22-30
OPEN&18M NATS TX	AUG 8-17 UVALDE,
REGION 11 NORTH MONTAGUE, CA	Aug 30-Sep 3

**AUTOMATIC PRIMER USED
IN DG SAILPLANES**

By activating a switch, prime fuel is injected directly into the carb throat during the starting sequence when the starter button is pressed. The amount of prime fuel injected is controlled by the CHT value and prime ceases when the the temperature reaches a certain level. A blinking "P" will appear on the DEI indicating the primer system is open and working. To check this system, remove the air filter and turn on the ignition. No prime should be observed. Also from time to time, check the primer valve for tightness.

Heat Shrinkable Wrapping Tape

This is a black tape, looking much like electrical tape. It is a polyethylene tape that can be wrapped around a wire bundle and then shrunk using a heat gun. It comes in a 25ft roll and is 3/4" wide.

Available from: Russell Industries, Inc,
3000 Lawson Blvd., Oceanside, NY 11572
Part No. HUG-25TB. The manufacturer says it shrinks, molds, encapsulates, insulates and is waterproof. Temperature range is 0-176F. *This information provided by Pat Martin.*

DG-800B Fuel System Integrity

A major portion of the fuel system is isolated from the engine compartment by the firewall. It is accessible by removing the baggage compartment deck plates and the rear bulkhead of the baggage compartment. It can then be reached and serviced through the wing spar openings which requires the wings to be removed for access. This is a small area to work in and requires long reaches to check hose connections. Since adequate light is necessary to see everything, a shop light or fluorescent light wand is recommended. Listed below are the systems that can be viewed and inspected:

1. Fuel Tank including the drain outlet and Fuel Tank outlet to the fuel pump.
2. Electric Fuel Pump (at the Firewall).
3. Hose connections to Fuel Drain Valve, Tank Outlet to Fuel Pump, Pressure Valve, Fuel On/Off Valve, Fuel Filter & Fuel Pump.
4. Brake shoe actuating cable.
5. Landing Gear Box.
6. Elevator Control Rod.
7. Spoiler Control Rods.
8. Rudder Control Cables.
9. Refueling Inlet to Fuel Tank.

There is a white plastic "T" fitting that leads to the Fuel Tank Outlet, the Pressure Valve and to the Fuel On/OFF Valve. This "T" fitting is tie wrapped to the bottom of the fuselage to keep the fuel hoses clear of the aileron control arm.

The Pressure Valve is a small blue tank about 2 inches in diameter and 3 inches long with a fuel line attached on one end and wires at the other end. The function of this valve is to provide a signal to the electric refueling pump to stop operating when 22 liters are in the tank. This system is activated when using the fuel hose inlet in the baggage compartment. Filling the fuel tank using the inlet located on the fuselage will not activate the Pressure Valve.

FUEL LEAKS

If there is a fuel leak in this compartment, the fuel will migrate forward past the landing gear box and exit via the 2 drain holes at the tow hook area. If fuel is leaking from the wheel well, the fuel sample drain valve is suspect. The main fuel inlet to the carbs is via a single armored fuel line proceeding through the firewall to the carbs and the automatic primer system. Fuel leaks in this area will be contained in the engine compartment.

INSPECTIONS

Pre and Post-Flight: Only the engine compartment fuel lines can be viewed and checked for leaks. Oil residue found on the hoses can be a result of some fuel escaping from the fuel filter or can be due to hose clamps not being as tight as they should be. Any oil residue found at the bottom of the engine compartment warrants a close inspection and possibly a change of hoses.

Annual Inspection: Carefully inspect all forward bay hoses and tighten the hose clamps. Any oil residue in this area warrants a hose change.

The plastic "T" fittings (one in the forward bay and two in the engine bay) should be carefully inspected when changing hoses. Replacement with a metal "T" fitting is highly recommended. (Available at auto parts stores). Installation of American-made hoses is also recommended.

It is possible for fuel leaks to occur well ahead of the six year change out of all fuel hoses as directed by the maintenance manual. Therefore, for safety's sake, it is recommended a complete hose change out be completed at the first sign of a fuel leak. Changes in temperature, humidity and vibration take their toll over time. Please be advised that my recommendations are just that and in no way are intended to replace or amend the factory instructions.

Submitted by Pete Williams

News & Views



Mark Mason prepares to taxi his PIK-20E2F at Minden-Tahoe, NV airport during a February visit. Mark lives in Idaho Falls, ID and first soloed in a glider at Driggs, ID on 12 August, 1999. Mark's flying background has been mainly in hang gliders and ultralights (695hrs). His first self-launch was in a DG-500M while undergoing a checkout. He also has 51hrs in gliders and 207 power aircraft hrs. As of this writing, Mark has over 50 hrs in his PIK and is quite enthusiastic about self-launch. He purchased the PIK from long time ASA member Jack McKinney. Mark was introduced to soaring by his friend Al Whitesell, also of Idaho Falls, who flies a DG-400.

Pat Martin prepares to launch in his DG-400 at the Minden-Tahoe airport. Pat is a commercial fisherman who operates out of Alaska during the summer and desires to set some records flying in the wave from his home field in Bozeman Montana. He just missed setting a 100k triangle national speed record during his Minden visit but did earn his Diamond Goal Badge on April 9 while at Minden. He soloed a sailplane in Hawaii in April 1994 and has over 2,200 hrs pilot time with 125 in gliders and 25 in his DG-400. He has also completed his 500km Badge in the Minden wave. His reason for flying a self-launcher is "it is easier than getting tows during the off (Fall-Winter)season in Montana." His dream is to use the DG-400 to reach and fly the Montana "outback" seeking both wave and thermal lift for long distance, high altitude flights.



Steve Edly prepares for a flight in his new DG-800B which he bases at Minden-Tahoe airport. He recently moved to Carson City, is the owner of a Glassair and an active member of EAA. The DG-800B is his first sailplane.

IGNITION, Continued from Page 2.....

3. If the wiring has good continuity when you move it around, there may be a problem with the armature, primary ignition coils or trigger coils located behind the starter ring gear in the Rotax and Solo engines. In the MidWest engine the coils are located near each spark plug and the primary ignition coils are behind the flywheel. At this point resistance measurements must be made at the ignition box connectors as per the manual. If these measurements are not as specified, the flywheel cover must be removed and the faulty primary ignition coil located and replaced. Measure resistance again after replacement.

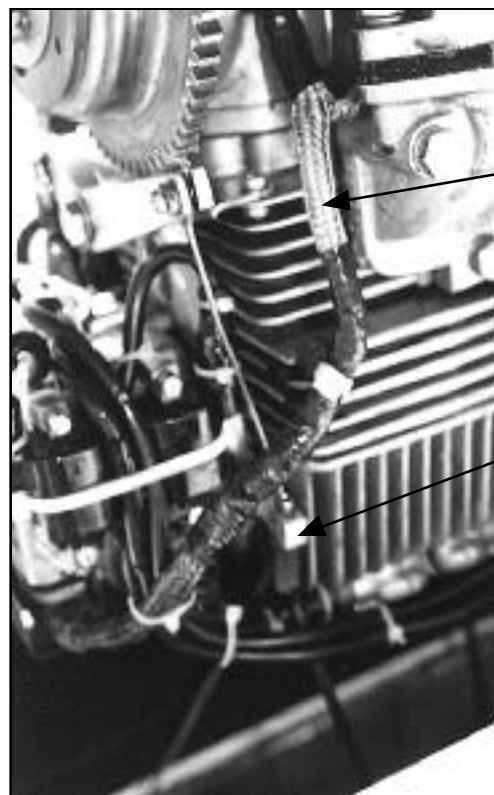
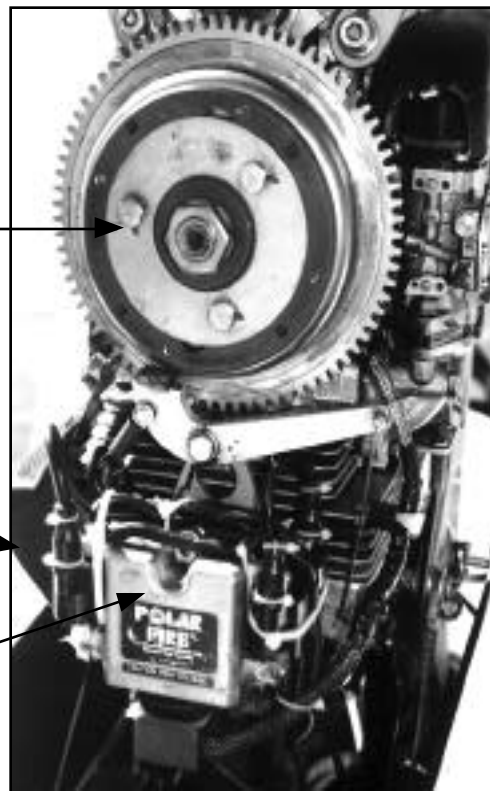
4. If the trouble persists, then the ignition test switch could be defective and require replacement.

PRECAUTIONS: Due to vibration, the small exposed coil wires on the ignition boxes should be covered with Silicone and the wiring bundle to the flywheel covered with shrink wrap, secured snugly with tie wraps and stress relieved as much as possible.

Flywheel and starter ring gear. Removal of the 3 bolts and one nut exposes the two ignition coils and the generator coil.

Coil connector wires from boxes to spark plugs

Two Polar Fire Ignition Boxes (or can be Ducati) installed on Rotax 505A



Ignition Cable wire group leading from bottom of each Ignition Box to the ignition coils behind the flywheel. Some metallic RFI sheathing is seen. The wire bundle is secured to the cylinder with a standoff short section of fuel hose. This is a prime vibration area.

Care should be taken to not interfere with the flywheel brake cable.

Siliconed small wires on the bottom of the coil attached to the ignition box



Ignition Box detail showing the exterior coils. Bottom plug to the ignition coil behind the flywheel. The connection wires are screw on to posts both at the box coils and at the spark plug push-on connector cap. Tie-wraps used for security and to minimize the effects of vibration. At the bottom of each coil are small wires that should be covered with Silicone- again, to protect and minimize vibration

Plug Connector at bottom of Ignition Box. The metal guard must be removed to unplug the connector.



Wire bundle cable is seen arcing up to the right on the way to the coils behind the flywheel.

TRANSPONDER TEST & INSPECTION

This information taken from AOPA
e-Pilot Newsletter 04-14-00
<aopa@mail.0mm.com>

Question: The transponder must be checked every two years. Does it have to be checked in the airplane with the pitot system if you plan on flying IFR? What about VFR? Can VFR-only pilots just take the transponder out and have it tested in the shop?

Answer: Your encoder and transponder are two separate pieces of equipment, and therefore are covered under two different regulations. The regulations are 14 CFR 91.411 and 91.413. Regulation 14 CFR 91.411 begins by stating, "No person may operate an airplane or helicopter in controlled airspace under IFR unless- (1) within the preceding 24 calendar months, each static pressure system, each altimeter instrument, and each automatic pressure altitude reporting system has been tested and inspected." This is the answer to part of your question; only your altitude encoder needs to be inspected for IFR operations in controlled airspace. Regulation 91.413 answers the second part of your question. "No person may use an ATC transponder that is specified in 91.215(a), 121.345(c), 127.123(b), or 135.143(c) of this chapter unless, within the preceding 24 calendar months, the ATC transponder has been tested and inspected..." Notice here that no mention is made of IFR or VFR, so we must assume that the FAA means all operations where a transponder is required.

Special Parts for DG-400, 800A & 800B

Designed and fabricated by Peter How, the DG Dealer in South Africa:

Long Instrument Console Cover: Provides for 3.9" more room ahead of the panel for tubing and longer instruments. Painted & ready to install-\$230

Tail Wheel Fairing Kit: Reduces drag and airflow noise-\$230

Tow Hook Cover: An very clean aerodynamic cleanup of this open area-\$46

Wing Tip Wheels: Replaces the factory small wheels. Machined aluminum hubs with round section rubber tire, ball bearing: Set of 2-\$86

DG-400 Air Duct: No more stop drilling holes as on the factory aluminum part. This carbon fiber part fits perfectly-\$170

*FOR THE BIRDS has the above parts in stock. Prices do not include shipping.
775-265-3877, Email: ftb@pyramid.net*



Production line at the DG factory showing seven DG-800Bs in process. DG will be building a new production facility on an airfield site to facilitate flight test and production rate. As of this newsletter, approximately 200 DG-800Bs have been or are in the process of being produced. DG photo.



Jim Leedy and Glen Reiboldt with Leedy's Taifun 17 at Minden. Jim & Glen flew nonstop from Richland WA to Minden-Tahoe airport(750mi) in about 5 hrs. The return flight was the same as in both cases there was a tail wind. Jim is part owner with Bob Moore of a DG-500MB based at Richland. Glen, also a sailplane pilot is a new ASA member. Williams Image



Wayne Martin taxis his new (to him) 17 meter PIK-30 for the first time at Minden. This was Bud Schurmeier's ship for many years. Wayne is now enjoying the ability to extend his soaring horizons at well over 40:1. Williams Image

ASA Mission

The Auxiliary-powered Sailplane Association, Inc. was founded as SLSPA in 1988 as a non-profit organization to encourage the design, development and safe use of motorgliders, self-launching and sustainer engine sailplanes.

ASA Membership

Membership in ASA is open to anyone interested in powered sailplanes. Write or call: Brian Utley, ASA Membership Chairman, 1930 S.W. 8th St., Boca Raton, FL 33486-5205
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Contributors are requested to submit hardcopy typewritten or keyboarded text . 12pt font size is best for accurate scanning. If submitting text on a floppy disk, please advise the word processing program used. Text may be edited as required to fit the newsletter. The newsletter is produced on a Macintosh G-3 using AppleWorks word processing software. Photos are always welcome and will be returned promptly.

The newsletter is delivered to the printer the last week in Jan; Mar; May; July; Sept & Nov. ASA desires input on what the members want in this newsletter and we are doing all we can to keep it informative and interesting. *It's your newsletter, so please let us hear from you!*

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May-June 2000
NEWSLETTER

INSIDE.....
Ignition Troubleshooting
DG-800B Starter Alert
Carburetor Adjustment
Fuel Hose Integrity



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