APS *NEWS*

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TeST's TST-10M "ATLAS" Self-Launcher in Serial Production

Above: Test Pilot Pavel Stanek prepares for flight in the ATLAS

The TST-10M is a non flapped, single seat, 15-meter span sailplane using glass-fiber composites construction. It has a retractable engine with fixed landing gear, air brakes and a steerable tail wheel. It is built to European light aircraft standards with a maximum gross weight of 661 lbs. The power plant is a 45hp Rotax 447 2-cylinder air cooled, single ignition 2-stroke engine with a drive belt reduction ratio of 1:2. The ATLAS has completed test flights and production orders are being taken. The price of the basic aircraft EXW Czech Republic is EU 30,460/$35,933 (Based on June 17, 03 exchange rate of $1.1797 per 1 EU). The price includes airspeed, altimeter, compass, vario and engine instruments. Adding winglets, wing tip wheels, forward canopy hinge, trailer, VHF radio, and sea freight brings the price to about $51,500 delivered to a US East Coast port. The factory says if a firm order is placed within 10 days of the initial inquiry a 5% discount will be offered. Some details:

1. Engine erection and retraction is by an electric screw jack.
2. Flight controls hookup is with pins and castle nuts secured with cotter pins.
3. A 12volt 14ah battery is supplied for engine erection and retraction and start cranking. A generator resupplies power to this battery during engine operations. As an option, if desired, a separate battery can be specified for instruments and radio power.
4. The seat back and the rudder pedals are ground adjustable.
5. The fuel tank holds 3.4 US gallons.
6. Engine starting primer is manual using a hand bulb.
7. Tests for takeoff and climb performance have been conducted at high altitudes in a Rotax 503 powered 2-place TST-8 The results of these tests show that for an altitude of 8,500 ft msl the estimated liftoff roll is 1,312ft with an expected climb rate of about 394fpm.

Editor's Notes: High altitude takeoff performance test estimates compare well with a DG-400 weighing about 1,000lb powered by a 43hp Rotax 505 self-launching from a hard runway at the same density altitude. The light weight of the ATLAS and low wing loading may prove to be adequate for high density altitude launches. However, the responsibility for attempting a high altitude self launch remains with the pilot in command and depends on runway surface, length, wind direction and velocity.

TST-10M ATLAS Specifications

Wing Span	15M (49.2ft)
Wing Area	106 sq.ft.
Empty Wt	452 lb
Pilot Weight	143-209 lb
MTOW	661 lb
Wing Loading at MTOW	6.24 lb/sq/ft
Stall Speed	35kts
Max Speed with extended air brakes	76kts
Maneuvering Speed	76kts
VNE	97kts
Max G Loads	+5.26/-3.26

Performance*

Max Glide Ratio@ 56kts/661lbs	40:1
Min Sink @ 39kts	122fpm
Takeoff Liftoff Distance	492 ft.**
Takeoff Rate of Climb	800fpm**

*All performance data is estimated.
** Sea Level Standard Conditions

More images on Pages 3 & 6.....

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"THE FIRST 1000km in Brazil"

By Thomas Milkó

As Edited by Pete Williams

otes: Thomas Milko made Brazil's first 1000km flight on 2002 This was a straight out distance flight in a DG- ering 1059,6km (658.48sm). He soared from a field at vos 100 mi inland from the NE Atlantic Ocean coast of sing over 470 mi of semidesert landscape with the last the flight over a lush green tropical area. His general as about 260 degrees magnetic as he flew toward the rt of Brazil. His landing at Balsas airport put him g the edge of civilization for about 200 miles farther uld be over a remote jungle and the watershed area of the d other rivers as they make their way to the northern azil. This is one huge country (larger than the USA) and a rp contrasts when one considers the 10 million people in u Paulo, Milko's home, and the sparsely populated tback stretching for up to 1,500mi.

position for this flight required six days of soaring ering about 1,500 mi to position the DG at Currias the maps below for the courses and destinations of these nning finally paid off for Thomas giving him a steady or the flight. The average terrain ground level for the light was about 900ft msl and the ground temperature The high for the flight was 10,000ft msl and the low was sl.The 1,000k was covered in slightly less than nine hrs. story.

ations: The day before the 1000k flight I took off at 8:30 ro do Norte, where I had stayed for a week, with a small 1000km. However weather was not good to the West. I unch as far to the East as possible to use the steady winds 10° from the Atlantic Ocean . This way most of the flight ver the semi-desert area and only the last few hundred would be over the humid area of Maranhão, avoiding the rovince (amazonic area).

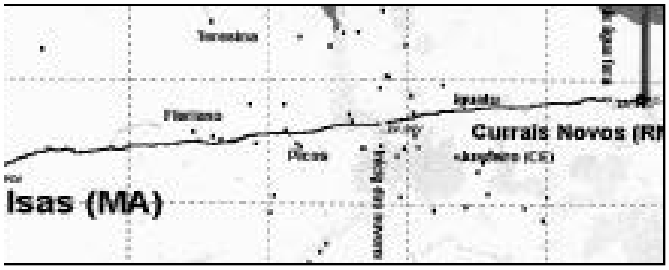
To chose a suitable place to launch, I flew over a number of small airfields. The small city of Currias Novos was selected after discovering it had a paved strip. The runway asphalt was new in 1987, but it was good enough for my landing. The 22m wide tarmac was a bit tight for my 18m sailplane. I requested a night caretaker, to make sure my plane would be safe. The Tungsten Hotel gave me a much needed rest, as I had flown already 8.5 hours and next day would be "The day".

The Flight: After a frightening motorcycle-taxi ride (no helmet !), I arrived at the airport before 8:00am. At 8:15 I took off and climbed to 2,700ft agl and at 8:25am stowed the engine. The start of the flight was difficult with thermals of less than 1m/s, I flew low, between 1,500ft and 3,000ft agl. The sky was totally blue. By 9:00am I had dumped 8 gallons of water, as I was not climbing much and very tense. During the first hour the average speed was only 43mph. I was low, over unlandable terrain with a blue sky above. These were the most stressful moments of the whole flight.

The second hour was similar, but I had stronger thermals, around 2m/s. I was not sure I would be able to achieve the 1000km. I was spending too much time circling in weak thermals. After two hrs of flight, I had still 543mi to go. To reach my objective before 17:59, sunset I needed a speed of 74mph.

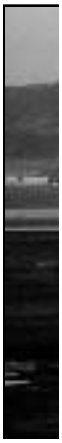
During the third hour everything improved, but it was still not a strong day. I checked the average flight speed every hour to estimate time of arrival at Balsas. At 11:25 I was abeam North of Juazeiro exactly over the Iguatu valley. Small clouds worked well, and I could see the horizon (near Picos) full of nice Cu's, which gave me a boost. Still had 462mi to fly, not easy.

From the fourth hour on, the weather turned to out be very good and cloud base climbed to 8,800 agl. Near Picos I was making an hourly speed average of 90 mph, I realized that there was a possibility of success to arrive. Continued on Page 5.....



The logged course flown is shown above from Currias Novo to Balsas.

To reach the departure airfield Milko flew from his home field near Sau Paulo to Brasilia in 2 days covering 400mi. (A). From Brasilia he flew 932 mi in 3 days arriving at Juazeiro Del Norte.(B) From there he flew 200 mi to the departure field Currias Novos. (C) This was approximately 1,532 mi to reach the departure airport in 6 days. He then soared 1,059.6km (658.42mi) to the Balsas airport.



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News and Views

uno's ASH-26 E rests on the flight line at Minden. He made another wave run attempt from Cal City to CA and return on 25 April for a round trip distance of 1,250km. He lost contact with the wave and landed at er a short pause Kemp returned to Cal City in wave all the way in just 3hrs at 94.35 mph covering 283sm. .5hrs of soaring that day departing Cal City at 8:45am and landing at 5:20PM. He plans on at straight out of s summer from Bishop to Montana.

Two TeST TST-10M ATLAS self-launchers prepare for flight.

Roger Buchanan and his Alisport Silent IN. Story on Page 7.

AC-5

I regret reporting this
and might even preve
basic mistakes. On 4-1
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DG-80

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ıccident Report

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ıe right wing and impacted soft soil
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ıe 5M suffered some serious damage

ned a problem into a serious accident.
went all wrong. I have had excellent
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ble area straight ahead. This is all just
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ı some very nice FAA people. The
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, High sink rate and higher stall speed.
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d perfectly. About 4 days after the
with me. We found that the torque on
e belt tension had backed-off to about
e day before the accident. We think a
may cure this problem. It should be
ider pilot (59yrs.old) with most of my
Safe flying to all

Gene Hess

el On/Off Valve Leak

fuel to flow from the fuel tank to the
l fuel leaking into the bay forward of
ed to the On/Off Fuel valve were wet.
embly it was determined the packing
g due to the nut securing the stem not
800B was 2 years old and the previous
a fuel leak but was unable to locate
l the leak stopped when the fuel valve
ı with the valve was turned on.
107/2T; MS58 PTFE; DN 8; PN63

are:
o tighten the stem nut and it was not
to installation.
actuation lever to the stem shaft, the
tened upward against the bottom of the
ure on the packing. Only the top nut
ıe control lever.

QC suggestions for the DG factory: 1. Check the stem nut tightness of the valve shaft prior to installing the fuel valve control lever.
2. Tighten the top nut only to secure the the control arm to the valve's shaft.

Fuel hose leaks continue to be a fact of life in retractable engine motorgliders. The DG factory specifies all fuel hoses be changed every 6 years. Historically leaks have been found in DG motorgliders after 3-4 years. Many USA pilots have installed SAE hoses as the factory hoses have not proved to be reliable. Hose clamps are also at fault as they cut into the thin walls of the factory hoses. Swaged couplings on fuel hoses using screwed unions is one answer to this problem as is a tougher hose with reinforced walls. Fuel system integrity in auxiliary powered sailplanes continues to be a serious flight safety item and needs to be addressed by motorglider sailplane factories.

Pete Williams

Checklists

How many times have you competed a procedure only to suddenly realize that you have forgotten a key step? Hopefully it was not a problem, or the situation was rectified before tragedy struck. It is said that most all accidents or incidents are a result of more than one failure in a process leading up to the actual unfortunate situation. This being the case, we may have more than one opportunity to correct a situation before it gets out of hand. However, with diligent use of a printed checklist the first mistake might not happen. A checklist should be used to complete the process of putting the plane together, and a cockpit check when preparing for any flight. Always use a printed checklist rather than depend on recall.

Flying a powered sailplane brings forth a whole new realm of complications and procedures including preflight engine check, self- launch, transitioning from motor glider to glider and glider to motor glider, landing with the engine out, etc. we must realize, even further, that the "work-load" necessary to complete these tasks safely and efficiently demands the use of an printed checklist that has been well thought out and used many times so that the pilot is comfortable with the procedures. Checklists are usually supplied by the manufacturer, or it may be a compilation of the manufacturer's list, the pilot's knowledge of the situation and consideration for those changes that are typical of the pilot and the motor glider. I have made my own checklist by typing it on a 5x7 card and putting it in a plastic envelope. The checklist is not a panacea but it is a way of insuring key procedures are attended to. Checklists have to be used regularly in order to have a clear understanding of what is to be accomplished for a safe flying experience. If the pilot and/or the plane have not flown for awhile, it is very important to go over a printed checklist so that you understand every point of the procedure you are involved in. Checklists --- please use them.

Soar Safely,

Skip Atwell, President ASA

)0K Continued from Page 2.....

ter Picos it was a whole new world. The runways were getting arcer and always of very doubtful usability. Floriano was the last asonable landing possibility. Further inland were only dirt strips. At 16:15 I was ready for final glide but I wanted to make re the arrival was safe. Below me was only the “cerrado” with thick getation and the Balsas river with it’s many turns. The thermal day as ending and I deviated 30-40° from the heading to remain high. ıe cumulus were big and fat but they were getting more and more stant from each other. At Balsas I arrived with plenty of height. A heard my arrival and asked if I need a landing priority. Proudly I ld him that I would fly 6 more mi. He did not understand this formation. What crazy person was flying a glider in the middle of aranhão and not wanting to land? I saw him on final while crossing e airport. Returning, I heard a Mitsubishi arriving, I found it very range all this air traffic in such a remote area.

fter landing at 17:27 on the very wide Balsas airport runway, I found at Mr Sarney (ex-President and Senator) and other politicians had rived. My DG had far more attention from the people than the very odern Citation that landed before me. The TV station came to terview me. Many people were around the sailplane trying to feel e white bird with their hands, and I was very tired. The first 00km in Brazil was done in less than 9 hours, as I landed at 17:27. **sssss !!!!!!!**

ıe local pilots were very nice to me and put the DG inside a hangar. ıey even supplied me with an electrical extension so I could charge y batteries. At night, while I was having thoughts about the flight, der a nice shower, there was a total electricity blackout at the city r almost 2 hours. I went for dinner with my small torch, always th me, arriving at an ultramodern hypermarket nearby.

teorology: The weather was very even, with blue sky and constant nd blowing from the sea, I had an average wind of 11mph from 110° ring most of the flight. There wasn’t overdevelopment in the lsas region, which often happens this time of the year (it’s a very mid area). As it took time for the cloud base to rise, I flew low for a ng time.

me Afterthoughts: It is crucial to be in good physical shape, as hours inside a small cockpit with a strong sun makes it a bit tiring. ıad already flown nine consecutive days, with and average of hours/day. During some of these flights I was very sleepy, metimes dozing a bit. A good food balance is also important. My vn “formula” consisted of a heavy breakfast with fruits and cereals o coffee or tea). In the glider I always had biscuits and 2 werbars. I always took 3 liters of water, but drank carefully as tting rid of “excess water” is not very easy in a modern glider

ıe location of the departure field is vital for flights in this region, as e first 2 hours of flight are the most difficult. This region offers any possibilities, There are other regions to be explored with ntastic sceneries and weather for even longer thermal flights. This st 1000km in Brazil is dedicated to the pilots who love to glide !
omas Milko, São Paulo, Brazil

itor’s Notes: Returning the DG-800B to the São Paulo area was a job itself. Thomas flew 310mi a day for 3 days then trailered the bird r another 190 mi. leaving it at its field and then driving 37mi to his me in São Paulo. All in all Thomas traveled for almost 3 weeks in rsuit of Brazil’s first 1,000km record. But this is nothing new to m as in 1992 he flew an Ximango AMT 100 from Brazil to Canada d then back to Boulder, CO. He completed a 750k FAI Triangle on ptember 29, two days before his 1,000km flight. For next year he is thinking about new soaring adventures in Argentina which would volve a car/trailer journey of 2,500mi.

Milko’s crewless DG-800B at Currias Novos Strip ready for the flight. A crooked stick supports the wing.

Milko overflies the Currias Novos strip and town the day before the 1000km flight. This is late in the day hence the cloud shadow. He will launch under a blue sky the next morning.

Almost there as he thermals under a nice cloud over the winding Balsas River in preparation for the final glide. No place to land here.

Thomas Milko is 35 years old and operates a Mini-Storage business in Sao Paulo. He has a total of 1,500 soaring hours, 500 of which are in powered sailplanes. His DG-800 was built in 2000 and has 556 airframe and 21 engine hours.

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SWAYING IN THE WIND

By Gary Evans, DG-808B, GE1

trailer sway? Mine sure did! I have a Cobra aluminum ch I tow with a Toyota 4-Runner. Above 60 mph any side would start serious oscillations in both the trailer and car that mediate braking. After trying all of the easy conventional decided cost wasn't an object since the alternative could be a trailer/sailplane and Pete Williams' suggestion to just slow 't sell. Some time back Jim Herd published an excellent oaring magazine on trailer coupling methods that described a ch made by AL-KO Kober Corporation and sold in Europe h a 50mm ball. I found an AL-KO UK mail order site and ll sum of $380 received the hitch and special 50mm ball in <http://www.alko.co.uk/mail order/towball_kit.htm>

opens and closes like a standard model via the top silver e difference is that after attaching to the ball you turn the dial t side inward until it ratchets. This moves two small brake the sides of the ball. You then push down the red handle on e, which applies force to the pads.

o use their ball rather than welding a standard one to the ll adapter. Since the hitch uses ball friction to dampen you cannot just use a bolted ball as it could slip. I fabricated bracket to which the special ball attaches with two bolts. use a standard lock pin to hold the ball bracket in the car sed two 5/8 attachment bolts to eliminate any possible side ccomplish this I ground down the length of a 5/8 coupling it would fit tightly inside the square tubing. After the nut ed it was retained with a 5/16 roll pin installed vertically. To bolts wouldn't loosen they were drilled for safety pins. My f this hitch was a recent trip to Marfa during which I d strong gusting side winds. The difference in trailer tracking ng. At 80mph (sorry Pete) with wind gusts of 20mph the e trailer would move over slightly and then straighten. at the rear of the car was almost totally eliminated. Thanks l on this hitch Jim! I owe you a beer.

TeST's ATLAS in Flight

The Sept/Oct 03 APS NEWS will cover the ATLAS test pilot's flight report.

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Notes: John Sullivan was appointed in 2003 will retire in 2004 and be eligible for reselection to complete his term retiring in 2006.
A requirement of the Bylaws. *Lloyd Atwell*

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ot Report on the Silent-IN

By Roger Buchanan

Background

ew Silent-IN last October and made my esterday. I now have a total of 20 hours and a little over one hour on the engine. my eighth sailplane and my fourth with other auxiliary-powered machines were Ventus CM, and a Stemme S10-VT.

In-Flight

hat I initially regarded the Silent-IN erim machine while I waited for a t it has slowly won me over, first in the he ground. This sailplane is very easy n and it turns. Ever have a day when all inuscule? This is a day for the Silent. It small-circle specialist. As long as you o run like an 18meter ship, you'll love

Ground Handling

neter Eta would be fun to fly too, but I be days when it seemed like too much out of the hangar, and definitely too some assembly were required. In ent minimizes pre and post-flight work. sembly of my Silent was a little "snug" y to get out of the trailer and to an empty weight of 440lbs and a span of expected. But there are innovative h as a wing dolly that doubles as a wing oly, and as a wing wheel to keep the ship eeled around. If you are fortunate, as I assembled in a hangar then all you need is 440 lb beauty out the door, do your art the engine. My Silent has the eel option, which provides surprisingly ing. I was so impressed the first time that t taxiing around in circles in front of the ng it out to the runway is a piece of

Engine Operation

Silent has a FADEC, fuel-injected one- Turn on the master, press the engine- in the mirror for engine extension, pull press the start button and it starts. No g or fussing is required. To retract the the ignition, look in the mirror, wait for extend the prop stop, tap the starter er is centered, press the engine-down e engine and prop are down they are by pushing a lever forward.

Propeller

The Silent-IN has a unique single-blade propeller that halves the length of the bay for engine and propeller. It runs smoothly, and the only disadvantage that I can see is that everyone who sees it seems compelled to tell you that "you need at least one more blade on that propeller".

Takeoff

I keep my Silent-IN on its tail wheel until I have enough airspeed to steer with the rudder, at which point I adopt a level attitude. I stay off the nose wheel on a paved runway, but on grass I find that it goes onto the nose wheel if I add power too abruptly. Heavy pilots will probably make more use of the nose wheel.

Landing

With a touchdown speed of about 35 knots, the Silent is ideal for landing in a short field. Winter Haven does not require such short-landing capabilities, but it is often busy so prompt clearing of the runway is essential. The steerable tail wheel makes it very easy to exit at the desired spot and coast over to the hangar.

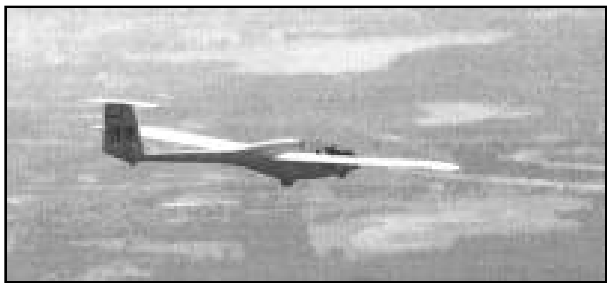
Support

The Silent-IN is marketed and supported by Alisport's North American representative, Leo Benetti-Longhini who can be contacted at info15@alisport.com. For detailed information and pictures, see the website www.alisport.com. The support I have received from Mr. Benetti-Longhini has been truly exceptional. He has a thorough understanding of the Silent-IN. He gave me detailed training on its systems, checks in periodically by phone to see how I am enjoying it, has visited me twice at Winter Haven to look over the ship, and is very prompt and thorough in answering questions.

Overall

My Silent-IN can often be seen in the air around central Florida, trailing a pack of 18meter ships that share the same hangar. If you want a self-launcher that is easy to get in the air and back in the hangar, and is fun to fly, the Silent-IN is hard to beat.

Roger Buchanan has over 2000 hours in gliders, most of it in the late 70s and early 80s, but hopes to start getting in the air more often. Below: Roger soars his IN over southern Florida.



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FOR SALE....DG-800B

1996, 500hrs TTAF, 50hrs TTE. Fully Instrumented with GPS and 02 system. 50hp MidWest Engine. 15 & 18 Meter Wing Tips. Engine and gel coat in excellent condition. Cobra Trailer. $115,000.
Ed Shilen 903-887-9720 (TX)

Ventus Bt FOR SALE

NDH, Cobra, instruments, oxygen, logger, winglets on 16.6 tips, new gel coat, profiled. 970-898-4453 (CO) <gjk@fc.hp.com>

FOR SALE//PIK-20E

1979 454hrs TTAF Rotax 501 Oxygen
Factory Trailer, Parachute $38,000
303-790-1907 (CO)

FOR SALE // GROB 109A

1983 TTAF 550, NDH, GPS/Com
Ilec Variometer, Transponder
Turn Coordinator, Strobes
$45,000 602-770-9245 (AZ)

FOR SALE...PIK 20EIIF

1985, 280hrs TTAF 60hrs engine Rotax 505; all instruments parachute, oxygen, Factory PIK Trailer, transponder and more. $40,500
Klaus 702-249-6153
klausbruno@accesswest.com

Return to Kitty Hawk Race Entry List

As of mid-June there were 41 ships and 50 pilots entered. 14 ships were motorgliders (3 sustainers). June 19-July 4, 2003
<http//members.aol.com/JPAviation/RTKH.htm>

Sept-Oct APS NEWS will contain complete coverage on Alisport's new Silent 2 currently completing flight tests. It has new 13m carbon fiber wings which, according to the factory, increases the L/D to 40:1. Other improvements include a revised flapperon linkage and trim system, increased cockpit room plus higher Va and Vne.