March 2008 Volume 19 Issue 3

AMA Charter 1344
Gold Leader Club

Hangar Talk

Inside this issue:

Upcoming meetings and events

March 27th club meeting

Dues Are due, if you have not paid its time to do so now.

Please send your dues (checks payable to MAS) to Les Sullivan, 6531 Teller St, Arvada, 80003. Also please submit the following information with your dues so that the club roster can be updated if necessary.

——————————— cut along line ———————————

Name _____

Street Address _____

City/Town._____

State_____ Zip Code _____

Home phone number _____

E-mail address _____

AMA number ----------

MEETING MINUTES

28 February 2008

The meeting started promptly at 7:00PM, with Hank Barron in charge, at the Gander Mountain store's conference room. In addition to Hank the following were present: Les Sullivan; Dennis Lesondak; Ron Martin; Bob Bubnich; Bob Salmon; Louise and Roy McGee; Eldo Rudinger; Milo Fritts; Dave and John Hogan; Greg Hight; Jake Martinez; Earl Keffer; Jeff Griego; John Fletcher; Lee Overholt and Randy Petrie.

Some of Bob Wallaces planes and equipment were on display to be sold, and some things were bought by those in attendance.

The Secretary's report was read and accepted.

Dennis Lesondak talked briefly about MAS's participation in the Adam's County Fair. MAS will have a static display and will put on a flying demonstration. Set-up for the static display will be at 4:00pm on 30 July. Flying will occur between 1:00 and 3:00 PM on 1 August.

Bob Salmon talked about the event at the Lowery Museum. The number of participants was down from last year (4 clubs were not there), but there were more visitors this time.

Les Sullivan passed-out a copy of the new AMA magazine for the Park Pilot Program. The subscription rate for quarterly issues is $9.95 to all AMA members.

Hank Barron discussed the apparent demise of the Love Air's Big Bird fly-in. They are going to concentrate on War Birds over Colorado; the big birds will not fly this year. There was some talk about MAS hosting the Big Bird event next year. It was decided to get more information from the Loveland club. Randy Petrie will do what he can to get that information.

Les Sullivan reported that of the 64 members in 2007, fourteen have yet to renew for 2008. By the next club meeting in March all non-renewers will be dropped from the roster and AMA so notified.

That pretty much wrapped-up the meeting.. John Fletcher won the fuel door prize.

The meeting adjourned at 7:40 PM.

Where Does Balsa Wood Come From?

Balsa trees grow naturally in the humid rain forests of Central and South America. It's natural range extends south from Guatemala, through Central America, to the north and west coast of South America as far as Bolivia.

However, the small country of Ecquador on the western coast of South America, is the primary source of model aircraft grade blasa in the world. Balsa needs a warm climate with plenty of rainfall and good drainage. For that reason, the best stands of balsa usually appear on the high ground between tropical rivers. Ecquador has the ideal geography and climate for growing balsa trees. The scientific name for balsa wood is ochroma lagopus. The word balsa itself is Spanish meaning raft, in reference to its excellent floatation qualities. In Ecquador it is known as Boya, meaning buoy.

How Does Balsa Wood Grow? There is no such thing as entire forests of balsa trees. They grow singly or in very small, widely scattered groups in the jungle. For hundreds of years, balsa was actually considered a weed tree.

They reproduce by growing hundreds of long seed pods, which eventually open up and, with the help of the wind, scatter thousands of new seeds over a large area of the jungle.

Each seed is airborne on its own small wisp of down, similar to the way dandelion seeds spread. The seeds eventually fall to the ground and are covered by the litter of the jungle. There they lay and accumulate until one day there is an opening in the jungle canopy large enough for the sun's rays to strike the jungle floor and start the seeds growing.

OBOT/plantmap/Balsa.html Wherever there is an opening, made either by a farmer or by another tree dying, balsa will spring up as thick as grass. A farmer is often hard put to keep his food plot clear of balsa. As the new balsa trees grow, the strongest will become predominate and the weaker trees will die. By the time they are mature, there may be only one or two balsa trees to an acre of jungle.

How Long Does It Take A Balsa Tree To Grow?

Balsa trees grow very rapidly (like all pesky weeds). Six months after germination, the tree is about 1-1/2 inches in diameter and 10 - 12 feet tall. In 6 to 10 years the tree is ready for cutting, having reached a height of 60 to 90 feet tall and a diameter of 12 to 45 inches.

If left to continue growing, the new wood being grown on the outside layers becomes very hard and the tree begins to rot in the center. Un-harvested, a balsa tree may grow to a diameter of 6 feet or more, but very little usable lumber can be obtained from a tree of this size.

The balsa leaf is similar in shape to a grape leaf, only a lot bigger. When the tree is young, these leaves measure a much as four feet across. They become progressively smaller as the tree grows older, until they are about 8 - 10 inches across. Balsa is one of the few trees in the jungle which has a simple leaf shape. This fact alone makes the balsa tree stand out in the jungle.

Nature evidently designed the balsa tree to be a "nurse tree" which would protect the slower-growing species of trees from the scorching jungle sun during their critical early years. For instance, in an area of the jungle that has been ravaged by a tropical storm or other natural disaster, the balsa trees will quickly sprout and begin to shoot up to impressive heights in a very short time. Their fast growth and the extra large leafs they have in their early years, provide shade to the young seedlings of the slower-growing forest giants. By the time the seed-lings are established enough to take care of themselves, the balsa tree is beginning to die. Undoubtedly, the balsa tree's rapid growth, fast spreading crown of first very large and gradually smaller leaves, and it's

relatively short life span were intended to make it the "perfect nurse" in the jungle ecosystem.

Final cutting and finishing of our model aircraft balsa is done right here at the SIG factory. As a result of the balsa tree's fast growth cycle, both the quality and lightness of the lumber obtained from a balsa tree can vary enormously depending upon the tree's age at the time of cutting.

The secret to balsa wood's lightness can only be seen with a microscope. The cells are big and very thin walled, so that the ratio of solid matter to open space is as small as possible. Most woods have gobs of heavy, plastic-like cement, called lignin, holding the cells together. In balsa, lignin is at a minimum. Only about 40% of the volume of a piece of balsa is solid substance. To give a balsa tree the strength it needs to stand in the jungle, nature pumps each balsa cell full of water until they become rigid - like a car tire full of air. Green balsa wood typically contains five times as much water by weight as it has actual wood substance, compared to most hardwoods which contain very little water in relation to wood substance. Green balsa wood must therefore be carefully kiln dried to remove most of the water before it can be sold. Kiln drying is a tedious two week process that carefully removes the excess water until the moisture content is only 6%. Kiln drying also kills any bacteria, fungi, and insects that may have been in the raw balsa wood.

Finished balsa wood, like you find in model airplane kits, varies widely in weight. Balsa is occasionally found weighing as little as 4 lbs. per cu. ft. On the other hand, you can also find balsa which will weigh 24 lbs or more per cu. ft. However, the general run of commercial balsa for model airplanes will weigh between 6 and 18 pounds per cu. ft. Eight to twelve pound balsa is considered medium or average weight, and is the most plentiful. Six pound or less is considered "contest grade" which is very rare and sometimes even impossible to obtain.

Most people are surprised to hear that botanically, balsa wood is only about the third or fourth lightest wood in the world. However, all the woods which are lighter than balsa are terribly weak and unsuitable for any practical use. The very lightest varieties don't really resemble wood at all, as we commonly think of it, but are more like a tree-like vegetable that grows in rings, similar in texture to an onion. It is not until balsa is reached that there is any sign of real strength combined with lightness. In fact, balsa wood is often considered the strongest wood for its weight in the world. Pound for pound it is stronger in some respects than pine, hickory, or even oak.

ON THE SAFE SIDE

by Jim Rice (AMA)

I like to have a plan for an airplane for an event. That keeps me focused on the mission of completing and test flying the airplane in time to fly it at the scheduled event. If that is your style, you know that the closer the event comes the faster you work, the later at night you work, and maybe the more careless you become. I try to keep a notepad by the bench so that as I think of things I really need to do before I complete the airplane, I can write them down. For example, if I have test fitted the engine and mount so that I can cut out the cowl but I haven't tightened the engine mount bolts or the bolts attaching the engine to the mount, I write it on my list so that I will remember to check that before I take it flying. Maybe I hook up controls but don't have loctite on the machine screws holding the metal servo arms to servos that have metal output gears; I write it on the list so that I won't lose a control surface on a later flight. Keep a notepad near your work site so that while you are daydreaming at work (you all do that) you can write yourself reminders to take home and put on your list.

I have a checklist to go through before every takeoff. If you get in a habit like that, you can head off problems on the takeoff/flight. Since I was a soldier for 26 years, I am accustomed to acronyms so my checklist is C.A.W.T.T. I tell my students "Don't get cawtt taking off without using your checklist. Go through the checklist before you take the main runway!"

Controls: Check control direction and all switch positions. With computer radios, you can have the wrong airplane or you may have changed something you didn't want to while changing a mix or throw between flights. Check for high/low rates, mix switches, or trim positions.

Antenna: I don't like to work on, start, or tune the engine with the antenna out so I keep it collapsed until I am ready to take the runway and I am safely behind the airplane and propeller. Make sure the antenna is completely pulled out and screwed in tightly. Wind: Check the wind direction so you know in which direction to take off. If there is no wind, take up the same pattern other pilots in the air are using. Note the wind check is after the antenna-up check so that you can use the antenna flag as your wind sock.

Time: Start your timer or check your watch so that you will know when to land.

Traffic: Clear yourself to taxi with other pilots. We don't have air traffic controllers so you have to do it yourself. Ask loudly enough for all other pilots to hear if you can come out. Do not take the runway until all pilots at flight stations—or their spotters—clear you. So many times I hear people yell "coming out" then they add power and run out on the runway. Not only might that startle other pilots, distracting their attention from their own airplane but, maybe your airplane will die or flip over on the runway creating a hazard for others who might be at the end of their fuel. Besides, it is more courteous to ask. After you are cleared by the others, quickly take the runway and get in the air. They didn't clear you to sit in the middle of the runway and do more checks. That is why I say to go through the checklist before you take the runway.

If you get in the habit of doing a checklist like this before every single takeoff, not just the first one of the day, you will be safer. When I teach a new student, I draw his or her attention to a good pilot as he is preparing to take off. Hopefully, he or she will methodically go through a checklist and reinforce your teaching. But if not, point out the things you think were left out and the reasons they should be done.

I tell everyone there are 1,000 things that can kill a model airplane and I have 750 of them covered. Every time you have an accident or see and accident do a post mortem to see if you can isolate the problem so it won't attack another airplane in the future.Q

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Mustang P-51

History: One of the most effective, famous and beautiful fighter aircraft of WWII, the P-51 was designed to fulfill a British requirement dated April 1940. Because of the rapidly-mounting clouds of war in Europe, the UK asked North American Aircraft to design and build a new fighter in only 120 days. The ***NA-73X*** prototype was produced in record time, but did not fly until 26 October 1940. The first RAF production models, designated ***Mustang Mk I***s, underwent rigorous testing and evaluation, and it was found that the 1,100-hp Allison engine was well suited for low-altitude tactical reconnaissance, but the engine's power decreased dramatically above an altitude of 12,000 feet, making it a poor choice for air-to-air combat or interception roles. Because of this, the RAF left its eight machine guns intact, but also fitted the Mustang with cameras. In this configuration, it served in at least 23 RAF squadrons, beginning in April 1942.

At the same time, the US Army Air Corps ordered a small number for tactical reconnaissance evaluation as the ***F-6A***. After the RAF found the aircraft's performance lacking, they tested a new engine, the 12-cylinder Rolls-Royce Merlin. This gave much-improved performance, and led to the USAAF fitting two airframes with 1,430-hp Packard-built Merlin V-1650 engines. These aircraft were re-designated ***XP-51B***. Practically overnight, the aircraft's potential began to grow.

Since the RAF had had good success with the Mustang in a ground attack role, the USAAF bought 500 aircraft fitted with dive brakes and underwing weapons pylons. These were initially designated the ***A-36A Apache***, but later retained the name Mustang. Almost simultaneously, they ordered 310 ***P-51A***s with Allison engines. Some of these were delivered to the UK as ***Mustang Mk II***s, and some became ***F-6B*** reconnaissance aircraft for the USAAF.

The first Merlin-engine versions appeared in 1943 with the ***P-51B***, of which 1,988 were built in Inglewood, California, and the ***P-51C***, of which 1,750 were built in Dallas, Texas. Both new versions had strengthened fuselages and four wing-mounted 12.7-mm machine guns. Many of these new Mustangs were delivered to the UK as ***Mustang Mk III***s, and others went to the USAAF as ***F-6C***s. The Merlin-powered Mustangs were exactly what the Allied bombers in Europe desperately needed, and they became famous for their long range and potent high-altitude escort capability. The most significant variant, the ***P-51D***, featured a 360-degree-view bubble canopy, a modified rear fuselage, and six 12.77-mm machine guns. 7,956 were built, and once again, many went to the UK as ***Mustang Mk IV***s and others became USAAF ***F-6D*** reconnaissance aircraft. Next came the ***P-51K***, which was generally similar. A third of these became RAF ***Mustang IV***s also, and over a hundred became ***F-6K***s. Very late in the war, the ***P-51H*** appeared, although only 555 of 2000 were completed before V-J Day caused the cancellation of the order. US production totaled 15,386, but at least 200 more were built by the Commonwealth Aircraft Corporation of Australia with imported parts and designated ***Mustang Mk 20/21/22/23***. None of these saw service before the end of the war. Under the Lend-Lease program, 50 P-51s were supplied to China, and 40 more were supplied to the Netherlands in the Pacific theater.

After the war, the P-51 remained in US service with the Strategic Air Command until 1949, and with the Air National Guard and Reserves into the 1950s. It became one of the first fighters to see combat in the Korean War. The RAF's Fighter Command used them until 1946. In addition, over 50 air forces around the world acquired and used the Mustang for many more years, some as recently as the early 1980s. When the US Air Force realigned their aircraft designations in the 1950s, the Mustang became the ***F-51***.

In the last 40 years, surplus Mustangs have been modified and used extensively as civilian air racers, but the latest trend is for private owners to restore them to almost perfect, historically-accurate condition. As public appreciation for the Mustang has grown, the monetary value of the few remaining examples has skyrocketed. War-surplus P-51s, once auctioned from storage for less than (US) $2000, are now usually valued at three-quarters of a million dollars or more. The restoration of existing airframes has become a small industry in the US, UK and Australia, and the total number of flyable examples, despite one or two accidents each year, is growing. Several Mustangs have been or are currently being restored as two-seat, dual-control ***TF-51***s, a trend which promises to ensure that today's operators are better-trained than any previous generation of Mustang pilots.

Nicknames: *Fifty One*; *'Stang*; *Peter-Dash-Flash*

Specifications (P-51D):

- Engine: One 1,695-hp Packard Merlin V-1650-7 piston V-12 engine
- Weight: Empty 7,125 lbs., Max Takeoff 12,100 lbs.
- Wing Span: 37ft. 0.5in.
- Length: 32ft. 9.5in.
- Height: 13ft. 8in.
- Performance:
  - Maximum Speed: 437 mph
  - Ceiling: 41,900 ft.
  - Range: 1300 miles
- Armament: Six 12.7-mm (0.5 inch) wing-mounted machine guns, plus up to two 1,000-lb bombs or six 127-mm (5 inch) rockets.

Number Built: Approximately 15,018 (including ~200 built in Australia)

Number Still Airworthy: Approximately 150

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Serving the Northeast Denver Area the Miniature Aero Sportsters flying site sits on 48 acres with a 500 foot paved runway. The club is open to all who have a current AMA membership. The Miniature Aero Sportsters consists of a group of individuals with a common interest in radio control aircraft. Club meetings are on the 4th Thursday of the month at Gander Mountain Sporting Goods located at 9923 Grant Street Thornton , CO. Meetings start promptly at 7:00 pm. All M.A.S. club members are encouraged to attend meetings, and to become actively involved in the club's activities

The first year there is a once a lifetime $125 initiation fee charged to all new members. Every year after that Annual membership dues are $90.

For membership information check out our web page:

http://home.comcast.net/~tglaess

All articles or items of interest should be submitted to me by the 1st Wednesday of the month. Newsletter editor (that's ME) reserves the right to accept, refuse and edit all articles submitted for publication. Articles or items submitted after the deadline will be included in the following month's newsletter. Send or deliver articles to:

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Published articles reflect the author's opinion and may or may not reflect those of the club in general, its officers, or the newsletter editor.