



From the President

With the start of daylight savings we are a solid step closer to the full bore flying season. There has been a sprinkle of really nice days and I hear many of you have taken advantage of them. Heck, I even made it out to the field recently...there's hope!

I am pleased to say that as a board we have used the last three months to map out the coming season. There has been some very good work done and we have wrapped up the planning stage. The calendar of events is set, the leaders for those events are in place, a budget for 2008 has been completed, an audit of our accounts has been completed and a few more miscellaneous items. I'll give an update during the business portion of this month's meeting. As a board, we've earned a break from meetings so hopefully you will see more of us at the field enjoying our hobby with the rest of you. I do want to thank all the board members for their efforts in getting this accomplished in a timely and efficient manner.

For those of you that weren't at the February meeting I wanted to announce and thank Mark Klawin and Michael Keenan-Harte for taking the lead on the 15th Annual Big Bird Festival. And to Dan St. John for leading the Heli Fun Fly again in addition to expanding the Jet Fun Fly for 2008. Jim Brink is teaming with Bert Sutton on the IMAC and kicking off our season is Rich Perry with the pylon races. The season finale will be the 5th Annual Warbirds Over the Rockies led by Brian O'Meara and team. All these individuals and groups are well into the details of their respective events, if you would like to assist I'm sure they'd welcome the support.

Another nice, diverse line up of events to participate in, spectate at or volunteer at. Speaking of participating, the very affordable Skyraider Mach II and a .40-.46 engine are all that is needed to get your adrenaline flowing at the May pylon races. And it's a good flying sport plane the rest of the year. I can personally attest that this is a fun way to spend a day flying. Give it some thought.

With that I will sign off and hope to see you at the field with your latest project.

Mark Smith

New Members

Larry Turner

Next Meeting

Wednesday March 12th, 2008

Upcoming Events

Pylon Racing May 10

Scout Workshop May 16-17

IMAC Contest July 19-20

Heli Fun Fly June 27-29

Big Bird Festival Aug 15-17

Jet Fun Fly Sept 12-14

**Warbirds Over The Rockies
Sept 26-28**

February Meeting Minutes

Mark Smith convened meeting at 7:02

Guests:

Larry Turner, recently moved to Loveland from Arizona
Nathan Ladd
Matt Tahoma
John Beach

Minutes of the January meeting were approved as posted in the February newsletter.

Treasurer's Report

There was no report as the "books" are being audited. The audit is expected to be completed in the next few days.

Program

Van Kranzenstein gave an excellent program on tuning 2 cycle gas engines. Van indicated using the "Salsa" method of tuning is by far the most straight forward and best approach he has used. The article is posted on "Flying Giants forum (See Xipp engine tuning method (Salsa)). The most relevant information is pasted below:

"(1) The low end needle on a Walbro carb is ALWAYS the one closest to the engine, the high end needle is the closest one to the intake/choke.

(2) There is no fuel adjustment for idle fuel, only air feed set by the idle stop or servo.

(3) Both low end AND high end needles feed the top end fuel supply.

Let's tune up a Walbro!

Set the low end & high end needles to about 1 to 1 1/2 turns each. Choke the carb or prime it, until the carb is wet. Fire up the engine and let it warm up. Let's set the top end first since it's the easier of the two. Go to full throttle. Adjust the top end needle for peak RPM. Leave it wide open for about a minute to see if it changes any. Should the engine go lean, open the low end needle slightly, if this doesn't work... you will have to adjust the needle valve inside the carb. (I will explain this later) If the top end runs OK, then slowly pull the throttle down until the engine begins to "four cycle" hold the throttle there.

Adjust the low end needle until the "four cycling" stops. Now lower the throttle more until it "four cycles" again, and adjust the low end again. Keep doing this until you reach full idle. Now, from full idle begin to throttle up until the engine starts to bog or hesitate. Open up the top end needle just enough to eliminate the bog or hesitation. When this is done right, you will be able to set the throttle in any position and it won't four cycle, plus you will be able to transition from idle to full power without any hesitation at all."

Sale of Donated Items

There were a number of aircraft donated to the club to support junior activities in the club. Mike Harrington reported that all but three airplanes were sold to club members raising \$ 985.00. The remaining aircraft were sold at the JEFCO auction for \$ 155.00 minus 15% auction fee. Thus, Love Air realized a total of \$ 1116.75 which will be used to initiate a juniors program this year.

Big Bird Festival – August 15-18

A small group of members met to discuss the future of the BBF and decided that this was the Club's signature event. As such there was strong support for continuing the BBF in the format as in the past. Mark Klawin has assumed the role of event director. Mike Harrington will serve as CD. As in the past, a number of members will be needed to make the event successful.

Efforts will be made to make the event more pilot focused and to encourage more sport flying. Members will also be encouraged to participate. Current thinking is to have open flying through out the day. However, the BBF will not be a 3-D event, although this type of flying would be allowed after hours. A public raffle would be held but a RTF trainer such as an Avistar, Nextstar, etc would be given away each day. Tickets would only be sold at the event.

Jason Noll is being sought as the guest pilot with a clear expectation that he fully interact with members and guests.

There was general acceptance of the preliminary plan that Mark Klawin provided.

Warbirds Over The Rockies – September 26-28

Van Kranzenstein, Mike Harrington, and Brian O'Meara briefly described preliminary plans for WOTR. Major sponsors such as Model Airplane News are stepping up again this year. There are already inquiries coming from as far away as Europe expressing interest in attending. Based on the Board's recommendation, the club will receive a flat fee for hosting the event. Mike Harrington will serve and the Club's event director and also CD. Of course a number of members will be needed to make the event successful.

Respectfully submitted
Mike Harrington

IMAC 2008 News

Members who are interested in flying in the Love-Air IMAC July 19-20 should pre-register on the IMAC website. (<http://www.mini-iac.com/DesktopDefault.aspx>)

Just click on the pre-registration box on the upper left part of the home page.

Your pre-registration builds interest with other pilots and is an encouragement for sponsors to come on board. We have several sponsors now and the list is growing.

AeroWorks has even agreed to support a barbecue on Saturday night.

Bert Sutton and I are going all out to make this an event that will attract many pilots from around the area. Let's all get on board and talk this up with other pilots.

Jim Brink

Wednesday's Speaker

Our speaker will be Lt. Col. Dale "Sledge" Hanner, USAF Ret..

Sledge graduated from the U.S. Air Force Academy in 1975 and became a fighter pilot. During his 22 year career he flew five fighter aircraft including the F16, F-111F and F-117. He was one of the first two pilots to engage the F-117 in combat (during the Panama Invasion of 1989).

During Desert Storm Sledge served as an Air Liaison Officer and Ground Forward Air Controller with the 101st Airborne Division. He was Squadron commander of the last F-111F "Aardvark" squadron and flew the last F-111 to the bone yard in 1996.

Sledge will speak about his career, the aircraft he flew and his involvement in the F-117 Stealth Program.

I met Sledge in a road bike peloton I train with in the summer. He is a serious extreme athlete and competes regularly in Triathlons.

Since 1997, Sledge has been flying the B-737 for United Air Lines.

Don Simon



Last Month's Program Information

Last month, Van Kratzenstein presented information on tuning gas engines and in particular engines using a Walbro carburetor. The information was obtained from the FlyingGiants forum.

Xipp engine tuning method (Salsa)

Petrol (Gas) Engine Tuning

*** Carbs aren't too difficult to tune up if you know what you're doing. First of all, you need to know how the carb works and how the settings interact with each other. About 95% of all the gas airplanes I've seen at the field are somewhat out of tune. How can I tell this? Simple, at some point the engines "four cycle" in flight. Two Cycle engines are not supposed to "four cycle" PERIOD. This is caused by a rich mixture that is forcing the sparkplug to intermittently miss making it sound like a four stroke. This is not good. HOWEVER the good news is; gasoline two stroke engines are very tolerant of rich settings (most of the time) and will run fine. You'll just consume a little

more gasoline than necessary, and create a little more oil mess on your plane. You may eventually foul your spark plug as well. So why do so many people leave their engines tuned like this? Simple answer, the engine will start much easier when it's cold AND there's little or no warm up time needed prior to flying. Those are pretty good reasons! But the fact is... the engine is not running like it's supposed to.

(1) The low end needle on a Walbro carb is ALWAYS the one closest to the engine, the high end needle is the closest one to the intake/choke.

(2) There is no fuel adjustment for idle fuel, only air feed set by the idle stop or servo.

(3) Both low end AND high end needles feed the top end fuel supply.

Let's tune up a Walbro!

Set the low end & high end needles to about 1 to 1 1/2 turns each. Choke the carb or prime it, until the carb is wet. Fire up the engine and let it warm up.

Let's set the top end first since it's the easier of the two. Go to full throttle.

Adjust the top end needle for peak RPM. Leave it wide open for about a minute to see if it changes any. Should the engine go lean, open the low end needle slightly, if this doesn't work... you will have to adjust the needle valve inside the carb. (I will explain this later) If the top end runs OK, then slowly pull the throttle down until the engine begins to "four cycle" hold the throttle there.

Adjust the low end needle until the "four cycling" stops. Now lower the throttle more until it "four cycles" again, and adjust the low end again. Keep doing this until you reach full idle. Now, from full idle begin to throttle up until the engine starts to bog or hesitate. Open up the top end needle just enough to eliminate the bog or hesitation.

When this is done right, you will be able to set the throttle in any position and it won't four cycle, plus you will be able to transition from idle to full power without any hesitation at all. -Xipp, Flying*****.com Member

Understanding a Walbro Carb

Ok this is for people who need a little insight into how a carburetor works in this case I will be using a Walbro for example.

Starting from the gas tank, the fuel is pumped from the fuel tank and enters the

carb through the inlet. The fuel works its way through the fuel pump through a little diaphragm pump that's controlled by 2 one way valves (little flaps). The fuel then passes through a needle & seat that is controlled by the "float" diaphragm. This "float" diaphragm manages how much fuel is available for the idle, low-speed, and high-speed throttle positions. The "float" diaphragm opens & closes the needle through a small lever attached to the needle. The fuel is then "standing by" waiting in the float area for a vacuum signal at the various jets. The lever setting is very critical since it controls the available fuel to the jets. If the lever is too low, the engine will run lean, if the lever is too high, the engine will run very rich and will likely flood out at idle

The fuel starts its journey through the pump assembly first...

Then the fuel is regulated by the float diaphragm that controls the needle & seat.

All of these parts reside in the float cavity area as well as the fuel ready to be fed through the jets as needed. The amount of fuel available in the cavity is regulated by the lever and its relationship to the float diaphragm. So it's critical that the lever be set properly. Within the cavity, there are distribution holes that are managed by the low end and high end needles. Plus the idle circuit, which is a fixed size.

(Note) All Walbro carbs will run in any position, but they tune "best" as a side draft carb. The down draft position tends to run a little rich at idle, and the updraft tends to run a little lean at idle. No big deal though, it's easily tuned none the less.

This photo depicts one of Walbro's premier carbs, having a large bore and equipped with a high speed check valve and external fuel pump pulse inlet.

Now let's talk about the pulse signal for the fuel pump.

Your ENGINE will determine which pulse inlet type you need! If the engine "carb base" has a hole drilled into the crankcase you will use the STANDARD pulse port and the optional (if you have it) port must be closed off. If there's no hole drilled, you will find a fitting located somewhere on your crankcase. Use a piece of fuel line to connect the crankcase fitting to the fitting on the optional pulse inlet. There's no need to block off the standard port, as it's already blocked off

by the engine mounting.

The carb must get a pulse signal from the engine! This signal "pushes and pulls" on the pump diaphragm which feeds the carb fuel.

Now let's check out the "float needle & seat" setting.

This is the single most critical setting on a Walbro carb! Walbro offers a "setting gauge" to properly set the height of the lever for your particular carb. If you don't have one, the setting will be a trial & error adjustment and a real pain in the butt since you have to open up the carb to make the adjustment. For general purposes, the lever will be almost perfectly parallel to the carb base.

This will get you close. If the lever is too high, your engine will tend to run a little erratic at idle. If the lever is too low, your idle will be OK but it will tend to run lean on midrange and high end. It may also run the float cavity "dry" at full throttle and die, regardless of your high speed /low speed needle settings.

The needle valve seat is pressed into the carb base, and you should not remove this without having the correct tools and setting gauges. Do not remove it!

Typical PROBLEMS The engine stalls when accelerated: POSSIBLE solution: High end needle way too lean, or low end needle slightly lean

Engine goes rich in flight : Low end needle too rich, float diaphragm needle lever slightly too high

Engine goes lean in flight : High end needle slightly lean AND low end needle is rich, float needle lever may be set too low

Engine runs good, but no idle at all : There's crap in the idle jets, the carb will have to be removed and cleaned. You may also have an air leak at the base of the carb. The throttle butterfly could be damaged or worn out

carb leaks fuel when not running : float needle is bad or has crap stuck in it, or the float lever setting may be too high, or the float diaphragm is bad.

My engine four cycles momentarily when I back off the throttle, then runs normal : This is perfectly normal for carbs NOT equipped with a "check valve" high speed jet. If you do have the check valve, then your float needle setting is slightly too high, or your float needle is leaking a little

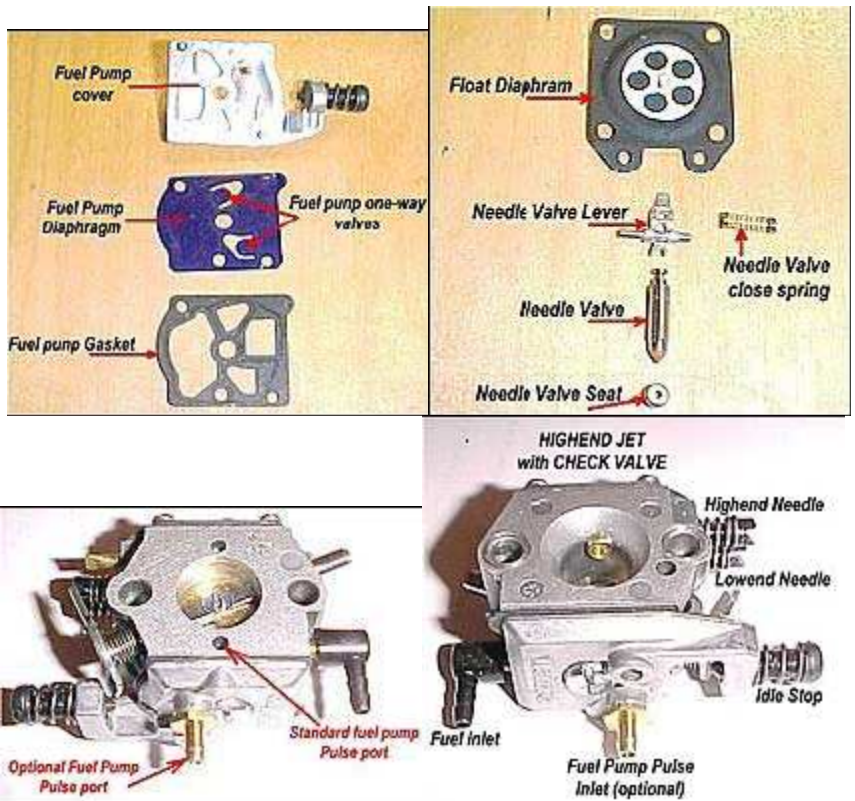
the fuel leaks back into the gas tank when it isn't running : Bad fuel pump membrane, or an air leak in the fuel line at the carb

NOTE 1:

A very common problem with cowled in engines is, the air pressure in flight changes the "natural" pressure on the float diaphragm. This causes the engine to run rich in flight. There are several possible fixes available. Most of the time you can simply tune your engine for flight by trial & error. However, the easiest fix is to open up the cowling around the carb area to lower the air pressure. You may also rotate the cover to different positions to see if that works. The "BEST" fix is to solder a piece of brass tubing where the vent is, and route the vent line to a better location. I normally route it into the fuse going through the firewall. It works perfectly every time! Plus, your ground tune doesn't change in flight!

NOTE 2

Carbs equipped with the high speed check valve are greatly superior for flying aerobatics, or flying whereby the throttle will be used extensively. The check valve prevents jet dripping when you back off the throttle. That's all it does... Straight through (non-check valved) jets always drip a little fuel while the throttle is being backed off, and causes a momentary four stroking of the engine until the jet stabilizes to the new air flow rate. This is completely normal.



Come fly with us.

The Love-Air R/C Club is a club organized to enjoy and promote the sport of flying radio controlled models. The club is a chartered member of the Academy of Model Aeronautics (AMA), a national organization whose purpose is to promote the sport of model aviation.

Meetings are held the second Wednesday of each month at 7:00 P.M. at the Ferrero Auto Center located in the Centerra Motorplex.

The annual membership fee is \$60.00 and covers from July 1st through June 30th. Membership cards are issued and a monthly newsletter is sent to each member. Current membership is required to fly at the Love-Air flying site. The club requires that all members who use the club flying field are also current members of the AMA. New members Welcome! Ask any member for information. See a club officer or check the box on the Freq. Board for membership forms.

	Adult	Junior	Family
Annual Dues (1/2 price after Jan 1st)	\$60.00	\$20.00	\$80.00
Runway Assessment (One time only)	\$75.00	-0-	\$75.00

Membership Chairman: Frank Ostermiller (970) 378-7836

Field Weather Station: Phone (970) 686-9026

LARC Home Page: www.loveairrc.org

LOVEAIR R/C



P.O. Box 1781

Loveland, CO 80539-1781

2008 Officers:

President	Mark Smith	667-3575
Vice President	Van Kratzenstein	330-7670
Secretary	Durbin Seidel	221-2559
Treasurer	Joel Stein	482-3396
Directors	Mike Maxwell	454-1431
	Tom Yamada	686-5045
	Mike Harrington	226-4820
Safety	Art Mutschler	
Newsletter Editor	Jeff Dinius	667-0633
Webmaster	Matthew Johnson	229-5816
Freq. Coordinator	Mike Harrington	226-4820

Instructors

Coordinator	Gene Burmeister **	674-9820
Lead Instructor	Dennis Spencer *	330-8917
	Brayden Fisher	219-8859
	Darwin Idler	214-3315
	Richard James	351-6042
	Durbin Seidel	221-2559

By appointment only

Andy Hiller	223-5068
Bob Ferrero	214-1716
Tim Farrow	472-1083

Flight instruction is offered at no charge to members. Beginners night will be on Thursday evenings from May through October. Priority shall be given to beginners flying with instructors. Anyone desiring instruction needs to make arrangements ahead of time with an instructor.

Special note: We need more flight instructors! If you are interested in helping, please contact Gene Burmeister.

Next meeting is Wed., March 12th, 2008