



The President's Corner

by Gayle Yarnell, President - LMAC



As we head into February, I would like to remind all of our members that before the flying season starts all model aircraft are required to have a FAA number attached and the owner must be registered with the FAA. As far as the fee that everyone was required to pay, I would bet that we will never see that \$5.00 again, I will really be surprised, if they ever refund that fee, but Hay! what are you going to do but jump through their bureaucratic hoops.



As many good modelers as we have in the Club, I am looking forward to seeing a lot of new models this spring and a lot of high flying action. If this spring is as good as last spring, we should not have a shortage of good looking planes. While we are on that subject, this is a great time to do some maintenance on our older planes, recycle batteries, check servos, tighten screws and all of the other repairs that may be needed.

At our January Club meeting, David Price presented a great program on scratch building that included all the phases of building a plane. He included lots of tips, shortcuts and how-to's. If you weren't at the meeting you missed a really great program, thanks David. Gary Hyde took the Coyote Hobbies Plane of the Month Award with his electric fan jet, really nice plane.

Our February meeting will be held on the Saturday, February 13th at the Coyote Hobbies Shop starting at 11:00am. We will have Jim Martin as a guest speaker; he will present a program on the FAA registration program. Pizza will be served along with water to wash it down. This should be a good meeting and I hope all of you can make it, until then be safe.

Gayle Yarnell

President - Lexington Model Airplane Club

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Minutes of Jan 14th, 2016 Club Meeting

by Mickey Breunig, Secretary

The club meeting was called to order by Gayle Yarnell at 7:36 PM on January 14th, 2016 at Morning Pointe Senior Center, 150 Shoreside Dr., Lexington, KY.

A motion to approve the minutes of the December Meeting was made by Gayle Yarnell. The motion was 2nd by Jesse Harris and approved by vote.

The Treasurers Report was given by Carroll Ware.

We have 1 new member.

A motion was made by Gayle Yarnell to approve the Treasurers Report. The motion was 2nd by Bob Stewart and approved by vote.

The Safety Report was given by Jesse Harris.

Your cell phone can be used to store your airplane or transmitter manuals for use at the field.

Old Business

Curtis Adams printed the Donation Packet for the Kids Cancer Alliance.

New Business

Gayle Yarnell presented the Budget for 2016. The motion was made by Gayle Yarnell to accept the Budget. The motion was 2nd by Curtis Adams and approved by vote.

Kentucky Management Search and Rescue would like to use the field to demonstrate drone usage for search and rescue. The motion to allow the board to vote on allowing the field usage for the 5th of March provided all LMAC rules are met was made by Dick Suffoletta. The motion was 2nd by Curtis Adams and approved by vote.

Event calendar dates are due.

The meeting was adjourned at 8:38pm.

The next meeting will be at 11:00am on Saturday, February 13th, 2016 at the Coyote Hobbies, Lexington, KY.



Club Membership Renewal Time



As of January 1, it is time to renew your club membership. Go to the Club website (www.LMACKy.org) and print out the membership form. Mail it with a check to the Treasurer's address noted on the form.

As you know, it is your option to get an airfield gate key for a one-time key deposit of \$5. If you have a 2015 key, then exchange it at no cost for a 2016 gate key. The gate is always open when a member is at the airfield. Last person leaving the airfield locks the gate closed.

The airfield gate now has three locks, a 2015 lock, a 2016 lock and a KY Utilities lock. These locks are linked together on the chain securing the gate. The 2015 lock will remain on the gate until March 31, 2016 at which time it will be removed and you will need to have a 2016 key to open the gate. If you don't need a key, then your key deposit will be refunded with your key return. All 2015 keys must be returned to Treasurer. Don't lose your key.

February Club Meeting - Location Change *by Curtis Adams*



The February LMAC club meeting will be held at Coyote Hobbies, Eastland Shopping Center, Lexington, KY. The Saturday meeting starts at 11 a.m. We will furnish pizza and water for refreshments. There is ample room in the back room of the shop for the meeting. Some folding chairs are available for seating. To help with the seating, we are asking folks to bring a bag chair or lawn chair.

February Club Meeting Saturday, Feb 13th, 11am



The program will be a discussion about the new rules enacted by the FAA concerning drones using the national airspace. Jim Martin, who is an avid RC pilot and an FAA representative is coming from Dayton, Ohio to make this presentation. Jim has been in the RC hobby for many years and has lots of knowledge on this topic. Jim will be more than happy to answer questions at the end of the talk.

Treasurer's Report

by Carroll Ware, Treasurer



Reminder, it is time to pay club dues. Please go to the LMAC website (click on this link www.lmacky.org/membership) and print out the LMAC Membership application form. Then, mail the completed form with check and your old 2015 gate key to the Club Treasurer.

Gate keys are optional. Any member who doesn't already have a key to the airfield gate can include a \$5.00 (one-time) key deposit with your Club membership payment to the Club Treasurer, Carroll Ware, 3713 Haley Rd, Lexington KY 40516. (carroll.ware@gmail.com) You need to exchange your old 2015 key for new 2016 key at no additional cost.

Educational Savings Account Report \$621.37

Funds provided to LMAC by the Lex. City Council for use in Fayette County School programs.

Income and Expense Report

Register Report									
1/1/2016 through 2/13/2016									
Date	Account	Num	Description	Memo	Category	Tag	Clr	Amount	
BALANCE 12/31/2015								12,057.16	
1/6/2016	LMAC CHEC...	DEP	Deposit		Membership ...			1,681.00	
1/13/2016	LMAC CHEC...	2423	Michael Breunig		Chili For Num...			-52.19	
1/13/2016	LMAC CHEC...	2424	Curtis Adams		Event	Sanctio...		-25.00	
1/14/2016	LMAC CHEC...	DEP	Deposit		Membership ...			934.00	
1/14/2016	LMAC CHEC...	EFT	Ku	Electric for F...	Utilities:Gas &...	Field up...		-31.37	
2/8/2016	LMAC CHEC...	DEP	Deposit		Membership ...			820.00	
2/8/2016	LMAC CHEC...	2425	Dan Thompson		Event	Sanctio...		-25.00	
2/11/2016	LMAC CHEC...	EFT	K.U.		Utilities:Gas &...			-29.88	
1/1/2016 - 2/13/2016								3,271.56	
BALANCE 2/13/2016								15,328.72	

FAA Registration - Deadline Feb 19th



FAA Registration Website....www.faa.gov/uas/registration/

Registration is for pilots flying outdoor aircraft includes fixed-wing aircraft, not just multi-rotors or drones. You only need to register yourself and affix your registration number to all your aircraft. Pilots are required to have a hard copy or electronic copy of the federal registration certificate on them while flying. There is a \$5.00 credit card registration fee. The credit card transaction will be used to verify your identity.



Model of the Month

Gary Hyde won the Model of the Month with his ready-to-fly P-45 Boss Hawk manufactured by Freewing. This is a beautiful model with a 45 inch wing span that will fly 100 mph on it's electric powered 12 blade Ducted Fan motor providing a realistic jet sound. The battery is 6 cell 5,000mah. This fully assembled foam jet uses 14 servos to operate the leading edge slats, trailing edge flaps, ailerons, airbrakes, and robust retractable trailing link landing gear. To add to realism, the cockpit has a lighted instrument panel. Congratulations to Gary Hyde !!



Blast from the Past

by David Price



This series of articles will present advertisements from vintage modeling magazines. The intent is to illustrate technological advances that have taken place in our hobby. For some, it will bring back memories, for newcomers it will present a piece of history of radio control model aviation.

Here is an advertisement for the Muff-L-Aire from Dubro Products. I lost the source of the advertisement, but it was published around 1976. It was marketed as a strap-on/bolt-on universal muffler. The pictures show my mini-Muff-L-Aire. The idea was to adjust the number of plates to control noise level. The plates are separated with tiny washers. In reality, it was really noisy, oily exhaust went everywhere, it overheated the engine, and there was no pressure tap for you fuel tank.

MUFF-L-AIRE

IDEAL FOR PLANES, BOATS AND CARS.

- EXTREMELY COMPACT!
- FULLY ADJUSTABLE NOISE LEVEL AND BACK PRESSURE FOR BETTER PERFORMANCE!
- ADAPTS TO ALL ENGINES FROM .29 TO .60

ONLY \$795
No. 143

UNIVERSAL MUFFLER

Designed for installation on a wide variety of engines from .29 to .60 class. Varying the number of baffle plates controls noise level and back pressure to your desire.

MINI-MUFF-L-AIRE

IDEAL FOR PLANES, BOATS AND CARS.

\$5.95
No. 144

Designed to fit all engines from .09 to .25.

New .045 steel muffler straps are guaranteed not to break.

KWIK-KLIP

"QUICK ASSEMBLY"

Spring action locks the Kwik-Klip onto the glo-plug for continuous positive contact. Patent Pending

No. 151 (with battery wires) **\$1.25**

DU-BRO PRODUCTS INCORPORATED
480 Bonner Road Wauconda, Illinois 60084 U.S.A.



Keeping Vintage Radios Working

by Dan Thompson



3D printing is not new; it is at least 30 years old. Up to now, only corporations could afford these printers because of their cost. Now, one can buy a 3D printer for \$300 and up. There are different methods that 3D printers use to make parts, but this article will focus on the plastic deposit method.

A year or so ago, I decided I wanted a 3D printer to use to make parts that I could not buy. The parts encompassed obsolete as well as new parts that I need and are not available. Rather than purchase a printer, I researched the idea somewhat and found that anyone could print a part already designed, but they could not necessarily design the part. I decided to learn how to design the parts, first, before buying a printer. Reason being, it was going to take me a while to learn the design program. If I purchase the printer now, by the time I could print anything, a better and cheaper printer would be available. The technology is moving so fast that has proven to be true.

Just before Christmas, my son decided to transfer from Auburn, Alabama, back to Cincinnati, Ohio. He asked, if I wanted to borrow his 3D printer, while he was in the process of moving. It took me about three microseconds to say, "Yes." Borrowing his printer gave me the reason to learn the design program, which I was sluggish in doing. Since I would only have it for about two months that was another reason to dive in head-first.

3D printers are made by many different companies both in the USA and abroad. There are basically two major printer designs which are a cantilevered style and a box printer. Designed correctly, they will function fine, and they both have their pros and cons. My printer is a Printer Bot Simple Metal. It cost in the neighborhood of \$600.

Most 3D printers will operate stand-a-lone or by a connected PC. Which way is best is your preference. During part design, I prefer PC driven because you can design, and then print to test your changes. Once you have parts for production, the offline operation is better, because it frees up the PC as it is not needed. To perform the offline print, your designs need to be written to a SD card which is inserted in the printer.

What software is needed to do 3D printing? There are several 3D design programs and several programs that will drive the printer. I will only talk about what I am using, because I have not used any of the others and can't compare or recommend them.

At this point, I must mention that anyone can run a 3D printer to make parts. The hardest part is designing the parts to be printed. A part that takes 8 hours to design may print in five minutes. The time it takes to print is influenced by the size and complexity of the part.

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Reading various recommendations, I decided to use 123D Design program. This is a free program that is supplied by Auto Desk. Auto Desk is the company that developed Auto CAD which is used by many companies for design. I am sure 123D Design is a reduced function Auto CAD but is very good for our purpose.

For the printer driver, I am using CURA. CURA takes the .STL file produced by 123D Design and slices it into layers for the printer. You may also need to install a serial driver for CURA to see the printer through the USB port.

The process is design the part with 123D Design and save it as a STL file. Load CURA, read in the STL file, and send it to the printer. Sit back and watch your creation materialize.

Now that sounds simple and it is, after you have learned the 3D design program and learned how to change the printer parameters. 3D printing requires patience and a lot of experimentation to get a good part. Once you have it mastered, you will wonder how you ever got by without it.

The parts will require some post processing due to small holes not being perfect. If you need a 1/16" hole, make it 1/16" and then drill it out, as it will be smaller than 1/16" when printed. Exterior dimensions seem to be pretty good. Internal dimensions will require trial-and-error to get them to print correctly. For example, to get a 5mm hole, I had to design it as 5.2mm hole. This apparently is due to the nozzle size.

In picture 1, a layer of plastic is laid down first which is larger than the part. The purpose is to get the plastic flowing normally before the part is started.

I have had several problems printing parts. One problem is due to the bed of the printer having to be covered with a protective substance. Commonly used is masking tape. I use 3-inch wide Painters masking tape. Not all tapes are created equal; some will hold the part and some will not. I found I had to take very fine sand paper, and sand the tape after it is put down to remove the slick surface allowing the plastic to stick. The tape will last for many parts.

Another problem is that parts sometimes want to bow and lift one end off the table due to cooling. This can be helped by two different methods. One method is called, "Brim." The Brim method is done by the printer printing a large skirt around the part which gives more plastic holding to the tape. After the part is made, the brim is broken off of the part. The other method is called, "Raft." A raft of plastic several layers thick is laid down first. The part is then printed on the raft. Removing the part off the raft is easy by using a thin knife between the part and the raft.

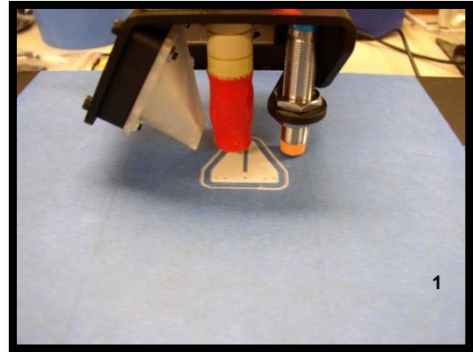
Two different types of plastic are commonly used. I use a plastic called, "PLA" which is derived from corn and is biodegradable. The other is ABS which requires a heated bed which this printer does not have. I have only used PLA, and can't talk about the others at this time. Also, various colors are available. The plastic is a 1.75 mm diameter filament that comes on a spool.

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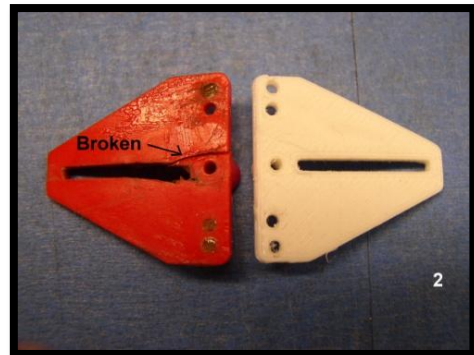
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Now, what good is this thing? As you can see from the pictures, I have been able to design and print various parts. The interesting ones are the function plate for a Rand LR3 actuator.

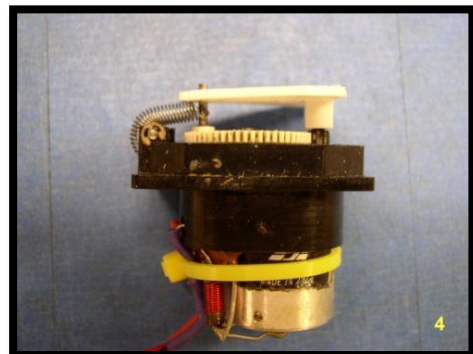
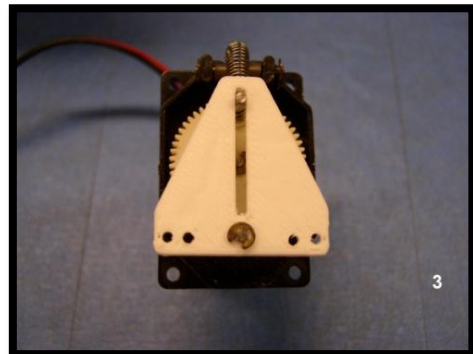
Picture 1, shows the part being printed.



Picture 2, shows the new part next to the old broken part.

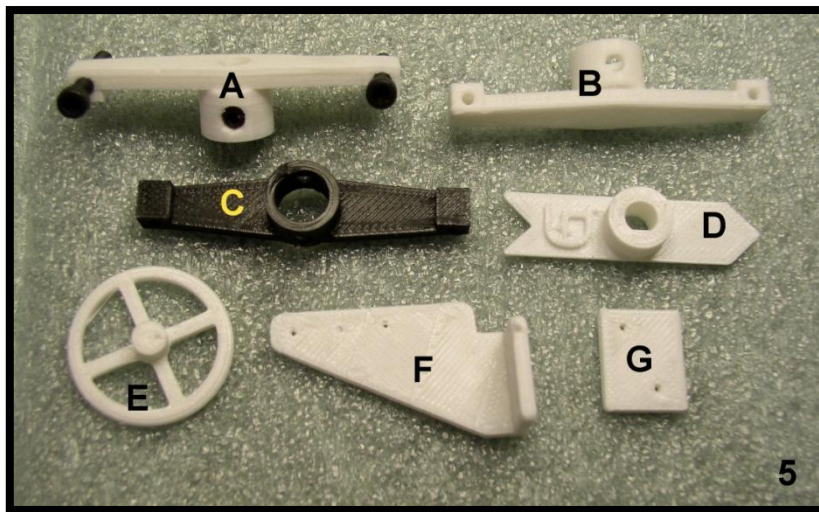


Pictures 3 & 4, show the part installed.



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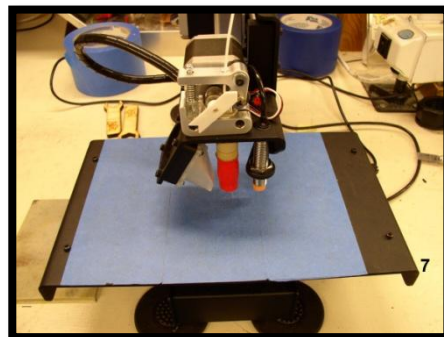
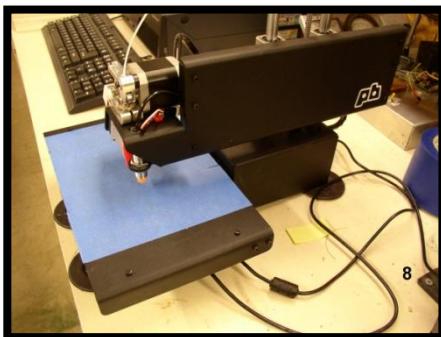
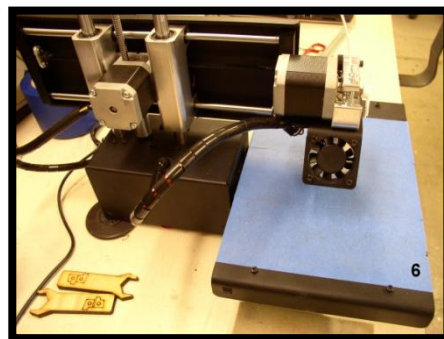


Picture 5, shows various parts I have designed. Items A, B, and C are versions of a tiller bar to be used on the nose wheel of a Falcon 56 plane. The original Falcon 56 did not have a steerable nose wheel. Since, I am using a Bellamatic servo for the control services, there is not enough power to steer the nose wheel. In order to get the plane to track straight, this part will allow very fine adjustment to align the nose wheel. Part D is one I designed to attach to the filament feed motor shaft of the printer so I could see it turn. Part E is an indoor plastic wheel, and part F&G is an attempt at a control horn.

Picture 6, 7 & 8 are three views of the printer.

To wrap up, is it worth the trouble and expense? My answer is, "Yes."

Let's see, \$600 divided by two good parts. Yea, it's fine!



2016 Calendar of Events

(Email Bob Cooper to add event dates)



Lexington Model Airplane Club (LMAC)

Numb Thumb Fly.....	Jan 1, 2016
Vintage Radio Control Society Fly-in.....	May 26-27, 2016
LMAC Club Picnic & Fun Fly.....	July 16, 2016
Thomson-Hood VA Center, Wilmore, KY	TBD
Coyote Hobbies Fun Fly & Picnic.....	TBD
LMAC Park Flyer Fly-in – Jacobson Park, Lex.....	TBD
LMAC Helicopter Fly-In.....	Sept 10-11, 2016
Kentucky Fall Classic Fly-in.....	Sept 15-18, 2016
NASA Scale Aeromodelers Competition.....	TBD
LMAC Swap Meet.....	Nov 12, 2016



Central Kentucky Float Fly (CKFF)

Charity Float Fly-in Event	May 28, 2016
Brown Bag Float Fly-in Event	Sept 3, 2016

Clark County R/C Barnstormers

Annual Membership Meeting.....	March 5, 2016
Spring Indoor Fun fly.....	April 12, 2016
Glider/Sailplane Fun Fly.....	May 21, 2016
Harold Brown Memorial Fly In.....	June 11, 2016
Brown Bag Fall Fun Fly.....	Oct 1, 2016
Fall Indoor Fly In.....	Nov 5, 2016



Somerset Model Airplane Club - Warbirds Fly-in.... TBD

Ohio River View RC Flyers

Fall City Warbirds Fun Fly, Rosewood, IN..... TBD

BalsaBusters Model Airplane Club, Berea, KY

Balsa Busters Helicopter & Fun Fly	TBD
Balsa Busters Club Campout and Night Fly.....	TBD
Balsa Busters Big Balsa Bust 2015	TBD

Next LMAC Meeting:
Saturday, February 13th at 11:00 AM

Meeting Location:

Coyote Hobbies

Eastland Shopping Center, Lexington, KY
Just off Winchester Rd.

Visitors are Welcome !!

2016 Club Officers

President	- Gayle Yarnell	(859) 707-1697	yarnellg@roadrunner.com
Vice President	- Dan Thompson		wb4guk@aol.com
Secretary	- Mickey Breunig		mbreunig@windstream.net
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Training Coord.	- Gary Hyde		g_hyde@hotmail.com

**Thanks to Coyote Hobbies for their support to
the Lexington Model Airplane Club**



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