



Pitts SPECIAL



*Official Newsletter of
Metrolina Control Line Society (MCLS)*

We Fly Control Line!

And Have been Doing It Since

September, 1981

AMA Chartered Club #1811



June 2018 Issue

— Pitts Special Archives —

This Month's and all Back Issues are Here:

<https://www.dropbox.com/Pitts Archives>



MCLS Club Officers:

President:	Will Davis	willddavis@msn.com
Vice President:	Watt Moore	medplans@truvista.net
Sec./Treasurer:	Don Jenkins	d.l.jenkins33@gmail.com
Safety Officer:	David Smith	smitty8126@yahoo.com
Information:	Howard Shenton	panzer4hs2001@yahoo.com
Newsletter:	Rusty Knowlton	RknRusty@sc.rr.com

MCLS is also in association with:

Mecklenburg County Parks & Recreation Dept. through the
Waymer Aeromodelers Chapter of Academy of Model Aeronautics (WACAMA)
MCLS Representatives to WACAMA are Max Flowe and David Smith

The next MCLS meeting is Saturday, June 23rd, 2018

at David B. Waymer Field

15401 Holbrooks Road

Huntersville, NC

GPS: [35.401170, - 80.814600](#)

**There will be flying in the morning, Lunch around Noon,
And more flying until the 2:00 meeting**



June, 2018

By Will Davis

This will be a brief President's report due to all of the traveling over the past month. we had a busy May with Huntersville and Joe Nall, I and then Brodak's Fly-in in June. I will give a complete report at the club meeting on Saturday June 23rd.

The Triple Crown Trophy was unclaimed in 2017. This year, Mike Waldron won at Huntersville, and then the Joe Nall event was cancelled, so a winner in all three events was not possible for 2018. The Triple Crown Trophy will be presented to anyone that wins Expert PA at Huntersville in the spring, Joe Nall, and then Brodak. These three events are the same weekend as the Triple Crown events of Kentucky Derby, Preakness, and the Belmont. Several people say it will be impossible to do in Stunt. We know it can be done in Horseracing.

Park Dept News:

We continue to have issue with the walking trail that comes out onto the lower paved circle... Just like any time we fly close to non-modelers, we need to be aware of our surroundings.

The WACAMA website (wacama.com) has been updated with a join/renew option to purchase a park pass and our club in transaction.

MCLS has a web site that is linked through the WACAMA Web site.

MCLS.WACAMA.COM

In the Shop:

James Duckworth is working on a new Firecat, Watt Moore is busy building models every day, Don Jenkins is building a new PA75 Dreadnought. Rusty is building a Cardinal. Will Davis is building a Max Bee, David Smith has a new Gee Bee R3. Max Flowe has a new Allen Brickhaus Legacy flying, we are working on the trim and power issues, and he will have it at the field this Saturday.

Members News:

- o John Gibson has been in Rehab over the past month, please keep John in your thoughts and prayers. Looking forward to seeing him back at the field.
- o Kyle Anderson had a minor procedure done on his foot the day after we got back from Brodak's... Just had to call a **Toe** Truck.
- o Howard had to cancel his trip to Brodak's this year due to a lingering infection. He is doing well now but really hated to miss the trip.
- o Rusty is still recovering from his hip surgery, but is looking forward to some good summer time flying, He will be tough this year in Advanced, He and David Smith have their eyes set on the Ringo Trophy.

(Editor's note: Lol, I just want to **Belong** in Advanced before I start worrying about any trophies.)

Nats News:

- o Sarah and David Smith will compete at the 2018 Nationals in Navy Carrier. And they are making a road trip to go back to his hometown to see his Dad's family in Iowa, go by the Kentucky horse park, AMA site, and other sights along the way. Wesley and Connor will enjoy the Nats with them.

Upcoming Events:

- o **July**
AMA Nationals Stunt /Carrier - July 8 -14 July
- o **August**
Paducah Kentucky Contest... Charlie Reeves
- o **Sept**
King Orange International
- o **Oct**
Carolina Criterium Contest Huntersville - October 19, 20, & 21, 2018
- o **Nov**
- o **Dec**

Keep on Keeping on!

Will Davis
President - MCLS

Club Meeting:

The Next Meeting of MCLS will be Saturday June 23 2018 at Huntersville flying field. We will break for lunch around 12:30 and fly before the meeting at 2:00.

Contributions from our subscribers

This article by an unknown author was submitted by Will Davis

This is the 3rd and final part of a lengthy article.
[Click Here](#) to download and/or read the article in its entirety.
(allow a minute for it to completely load)

Functions of trim adjustments - Part 3

Pitch Adjustments:

Nose weight/CG: used to adjust the CG of the airplane, which controls the stability, and secondarily, controls pitch rate/lift ratio. More nose weight makes airplane require more control movement and thus control force for a given pitch rate and is more "stable". More stable also means more tendency for corners to "open up" in the wind. The more aft the CG the less control motion it takes for a given pitch rate, and the less "stable" it is.

Handle spacing: used in conjunction with the CG adjustment to create the desired control response for the pilot. More spacing = more sensitive, less spacing = less sensitive

In general set the CG the way the airplane wants, usually as far aft as it can go and still have *slight* positive stability. The maximum allowable aft position depends on the tail volume coefficient. Then set the handle spacing for the control sensitivity you want.

Flap/Elevator movement ratio: used to set the pitch rate/lift ratio, which sets the quality of the turn. In some sense this depends on the wing loading - heavier and you want more flap motion than elevator, and lighter and you want less flap motion than elevator. This can be a rather subtle adjustment and for most people just setting it to 1:1 (or whatever the original designer wanted) is probably going to work for you.

Flap/Elevator neutral/incidence: Used to adjust the inside/outside turn rate, OR, maximize tracking/stability. Most airplanes of conventional layout need some down elevator at neutral flap to fly best. Partly this is because of aerodynamic asymmetry (thrust line/wing/tail out of line and/or other drag asymmetry) but mostly it seems to be due to the pitch component of gyroscopic precession (which creates a constant nose-up pitch torque, for which the "down elevator" is compensating).

Adjust to find the "sweet spot" in tracking. Usually, ANY "up" elevator at neutral flap is severely destabilizing, and a lot of down seems to be pretty well tolerated.

Positive stab incidence is just a (permanently built-in) version of the same thing. I would recommend doing this ONLY if you have discovered that a particular design always needs it. It's obviously hard to adjust so leave this to the experts (fools) like myself. If you build an Infinity it wants to be about 1/4 degree.

Downthrust - Used for roughly the same purpose as Flap/elevator neutral, compensating for the same asymmetrical pitch effects. More downthrust raises the thrust line, creating a nose-down pitch torque. Easier to adjust than positive incidence, assuming you don't mind messing up the spinner fit. Once again, build in only if you really know it's necessary or beneficial. I would guess it's less likely to screw anything up than positive incidence.

On the topic of these pitch asymmetries - Folklore indicates that "since the airplane has to fly the same upright and inverted everything has to be 0-0". Once again, folklore is vaguely correct, in that it needs to fly the same upright and inverted. But our airplanes are nowhere close to symmetrical in the pitch axis even if the wing and tail are aligned perfectly. So there's nothing magic about 0-0-0 (wing/tail/engine), in fact it's a gross oversimplification. That knowledge helps ONLY to break the closed-minded assumption that if you put it all at 0-0 and it doesn't fly perfectly, it must be "misaligned".

I think this more or less covers most trim adjustments.

Basic (simplistic) trim process

This is a very over-simplified sequence, but if you do it correctly it will get you very close to the optimum trim, assuming the airplane doesn't have any serious misalignment of the stabilizer to the wing.

Set the CG: The desired starting CG position depends on the tail volume. It's somewhat of a debatable strategy, but Ted Fancher has a rule, that despite it's simplicity works out about right assuming you have a relatively conventional airplane. Compute the ratio of the tail area to the wing area (including flaps of course). That should come out to something like 0.18-0.26 (or 18 to 26%). Then set the CG at about that fraction of the mean chord.

Continued on next page

Contributions from our subscribers

Continued

Functions of trim adjustments - Part 3 of 3

So, for example, you have a 25% tail, and an 11" mean chord. The CG should be about 2 3/4" from the leading edge at the point of the mean chord. This is the MAXIMUM aft position. If you are going to make a mistake, or can't get it quite where it says, err on the side of further forward.

And, importantly, don't leave it in the wrong place to save weight! If you need 3 oz. of nose weight, then so be it. You can't save weight by compromising the trim. Or, actually, you can, but you'll lose an awful lot of contests that way. Same with tip weight. Trim is more important than weight, period. That's so important I will repeat it - Trim is more important than weight!

Leadouts: Plug in all your numbers into LINEII and make sure you take out the "whip angle" that is in the default settings. Then put the leadouts where it says relative to the CG. (labeled "Leadout Offset"). For a check, a typical 64 ounce 40 -60 airplane on .018 lines, it comes out about 3/4". So put the centerline of the leadout guide 0.75 inches behind the balance point.

Unless the designers says otherwise, set the flap/elevator ratio to 1:1 and the flap/elevator neutral to 0-0 or a little bit (maybe 1/16) of down elevator at neutral flap, and no downthrust.

Fly it upright and inverted. If the outboard wing is high both ways, add tip weight until it's level. If the outboard wing is high one way and low the other, tweak the flaps to roll the airplane so it's the same upright and inverted. Watch in hard corners. If the airplane rolls away from you in hard corners, take out tip weight. If it doesn't, add tipweight a little at a time, until it does noticeably roll away from you, then take out the last bit you added. If it pulls hard in level flight but severely falls off overhead, or tends to go loose on the first leaf of the clover, move the leadouts forward a bit (1/16 at a time). If it suddenly "comes loose", usually on insides, move the leadouts back a bit until it stops doing that.

That should get you pretty close. If you have an abnormally light airplane watch for a tendency to "swoop" into corners (looks like it rotates around a point behind the airplane) increase the elevator motion relative to the flap A LITTLE BIT. If you have an abnormally heavy airplane you might need to increase the flap motion relative to the elevator.

Adjust the handle spacing to get an agreeable control response. Don't set it up for excessively quick response.

Once you get it close, start watching for the airplane to "leap" around corners, come out higher than you expect on round loops, or have the control effort suddenly become "light" in square corners. If that happens, try moving the CG forward a little bit at a time until it stops, and then readjust the handle to get the right sensitivity.

If the airplane feels heavy on the controls and wants to come out lower than expected on round loops, move the CG aft a little at a time until it quits.

Another CG measure is what happens when the engine quits. If the airplane pitches "up" right when the engine quits or is very "floaty" in the glide, the CG is probably well too far aft. If the airplane pitches "down" as the engine quits, and is very easy to "whip" in the glide, the CG is probably well too far forward.

That's as far as I think we can go in the hypothetical, but it will be *very close* if everything is straight and reasonable weight and power.

The End

[Click Here](#) to download and/or read the article in its entirety.

Thanks Will Davis for submitting this interesting article. And thanks Unknown Author. I know there are more like it with similar but varying opinions, but that's partly why we read them. So we can fine tune the consistency of our own personal methods. Just like the forums, rather than off-handedly following everyone's advice, we can cherry-pick it to suit our own way of solving problems and answering questions, thus forming our own unique way of attacking a model.

The Secretary Treasurer's Report

Minutes from the April, 2018 meeting, by Don Jenkins



Metrolina Control Line Society (MCLS) held their regular monthly meeting at Waymer Flying Field in Huntersville, NC. Despite the typical windy conditions, lots of flying was accomplished, and Ed Ruane brought many control line items including two planes to be sold and/or donated.

The following members were present: Will and Melissa Davis, Don Jenkins, James Duckworth, Howard Shenton, Max Flowe, John Gibson, Ed Ruane, Jo and Everett Shoemaker, David, Sarah, Wesley and Conner Smith

The meeting was brought to order at 2:00 PM.

Financial Report:

The club remains financially stable and has the funds available to support the 2018 contest season.

Health and Well Being of Fellow Modelers:

Gene Guffy is not doing well and he is in our thoughts and prayers.

President's Report:

All arrangements are scheduled or completed for the Carolina Classic May 4, 5 and 6.

Joe Nall is May 12-19, and the contest is May 18 and 19.

The Brodak Fly-In is June 11-18.

No meetings were held with WACAMA or the Parks and Recreation Department.

Vehicles damaged the upper grass circle. Concrete curbs are available on site that could be used to outline the circle, which would prevent recurrence and still allow a mowing entrance. The Parks and Recreation Department will be contacted to ensure they concur with this plan.

Unfinished Business:

The Carolina Classic is scheduled for May 4 through 6, 2018, at Waymer Flying Field in Huntersville, NC. The following items need to be accomplished in support of this event:

Field mowing: Max Flowe

Field set up (carrier deck, tables, score board, cones): David Smith, Will Davis and Howard Shenton

Grading the road: Parks and Recreation Department

Replacing the American Flag: Max Flowe

Servicing Porta-Johns: Contractor

New Business:

We have lost many fellow modelers recently and they will be included in the memorial service conducted by James Duckworth

at the Brodak Fly-In. If you know of someone you want to be included in this memorial service, contact a club officer.

Howard Shenton was reimbursed for trophy expenses and the Club Charter Fees were paid to the AMA.

Discussed the upcoming ruling by the FAA concerning model aircraft.

The next MCLS Meeting will be June 23rd at Waymer Flying Field.

The meeting was adjourned at 2:38 PM.

Respectfully,

Don Jenkins
Secretary and Treasurer

Carolina Criterium



Control Line Contest

Oct 19, 20, 21, 2018

Stunt, Combat, Navy Carrier



Waymer Flying Field 15401 Holbrooks Road Huntersville, NC 28078

ENTRY FEES Each Event Open \$10.00 (\$30 Max) Jr./Sr. \$5.00 (\$15 Max).

Control Line flying on Two Paved Circles and One Grass Circle, Combat and Carrier circles are on two grass circles at the end of R/C Runway. Large Pavilion with picnic tables for Contestants & Spectators.

Lunch available on Saturday at noon break

NO PARKING IN THE PAVILION AREA

No Appearance points. No BOM, All PAMPA & AMA Rules Apply.

STUNT Registration at the Shelter

COMBAT & CARRIER Registration at each event site

All Circles open for practice THURSDAY & FRIDAY.. May 4 & 5 all day

Friday Oct 19 : Fri. 1/2 A Combat (.061 plain bearing ok) 4:00 PM start
Judges Clinic 4:00 PM to 6:00 PM ..open to all

Saturday Oct 20: Registration 9:00 am ..Stunt Pilots Meeting 9:45 AM

- **Stunt** - OTS, N-30, Profile Stunt 10:00 AM Start
- **Basic Flight** 12:00 Noon Start
- **Navy Carrier** - Class I & II Glow & Elect, Profile Glow & Elect, 15, Nostalgia I, II & Profile, 9:00 AM Start
- **Combat** - Speed Limit & 1/2a 9:00 AM pilots Meeting

Sunday, Oct 21: Registration 8:00 am.. Stunt Pilots Meeting 8:45 AM

- **PAMPA** - Beginner, Intermediate, Advanced, & Expert. 9:00 AM Start
Combat & Carrier if needed to finish TBD by ED's

CONTACTS: (for event rules) Hotel Info / map by request

Will Davis --- (Contest Director)

James Duckworth --- (Admin) colduck@netzero.net

Will Davis --- (ED Stunt) willddavis@msn.com

David Smith --- (ED Carrier) smitty8126@gmail.com

Howard Shenton ---- (ED Combat) panzer4hs2001@yahoo.com



The Editor's Sandbox

This month's issue started out to be a quickie, due to all the action that's been filling our time since the Spring contest season started. But every time I sit down and start typing, it seems to snowball into a full-on production.

Howard Shenton

Wrote a great report on the May Carolina Classic contest in Huntersville.

It can be read on the forum in its entirety if you [Click Here](#). To read the Word Document, [Click Here](#)

I've had no time to compile a Brodak report, but for those of you who can access Facebook, there are a gazillion posts and videos in the Control Line Flying group. It can be accessed at the following link: <https://www.facebook.com/groups/906304736107218/>

As for the rest of you, the Open forum at [Stunthangar](#) has some limited posts, scores, etc., mostly by Will Davis, Bob Zambelli and a few others. Bob's posts feature the new museum, still a work... a big work in progress.

Also the Stunt Hangar YouTube channel has a few good videos shot by Robert(Sparky) Storick that can be found here:

<https://www.youtube.com/channel/UC96GB5I5-INYSEtieSfFFCQ/videos>

Sparky's YouTube channel movies include interviews and flying. They are in chronological order, so Brodak stuff should be easy to find in the list that my above link takes you to.

You'll also see a bunch of reruns of my twice-weekly video hangout show, in case you've never watched one. It helps to FF through to catch the best parts, but most get pretty lively especially in the last hour or two. Will tells me lots of folks at Brodak asked if I was coming, and I appreciate that. Most, I presume, are either show watchers or newsletter readers.

Unfortunately the trip to PA is just not ever going to fit into the logistics that enable me to make such an expedition. But I'm thrilled that maybe I'm doing something that's entertaining from right here at home. It's fun for me and helps keep my head in the game while I work on getting the rest of me back in the game.

Looks like Summer officially started about 29 minutes ago as I type this. It came in with a thunder storm too. So y'all have a great summer and send me stories, pictures, and videos about it. Or come on the show and tell us in person... Show and tell is actually a big part of it. Lots of guys are building as they hang out and talk. We share ideas and ask and answer questions. So, anyway, I look forward to seeing some of you in person, maybe in October. Till then...

Take care,
Rusty Knowlton

rknrusty@sc.rr.com
803-603-5532

Here's a sample of Sparky's Brodak videos.



2018 - METROLINA CONTROL LINE SOCIETY / FLYING ACES PILOTS ASSOCIATION - 2018

MEETINGS, CONTROL LINE & RADIO CONTROL CONTESTS / INTERESTS & HOLIDAYS

Legend	Holidays							MCLS Activities (Meetings, Contests, Ect.)							C/Linterest							FAPA Activities							Updated: 20-Jun-18									
Mo / Day Weekend	Sun	Mon	Tue	Wed	Thr	Fri	Sat 1st	Sun	Mon	Tue	Wed	Thr	Fri	Sat 2nd	Sun	Mon	Tue	Wed	Thr	Fri	Sat 3rd	Sun	Mon	Tue	Wed	Thr	Fri	Sat 4th	Sun	Mon	Tue	Wed	Thr	Fri	Sat 5th	Sun	Mon	
2018 January		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
		New Years Day					Frosy Dog Electric fly in							Allan Brickhuse Memorial Dinner Gastonia NC					6:00pm Market Street Resturant								NO Mtg											
February					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28						
														Swap Meet				Valentines Day										MCLS At										
														Statesville NC														Watts										
March					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
					S/E Model Show															St. Patrick's Day							MCLS At											
					Swap Meet Perry Ga																						Htrsvl											
April								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
																																		MCLS At				
May					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
June								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
July	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
				4th of July																																		
August					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
September																																						
October					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
November					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				
December								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31



Metrolina Control Line Society

AMA Club # 1811

2018 Membership Application

Name AMA #

Birthday (M D ?Y)

Mo Day (Y Year - optional if you want it known)

Spouse / or?

Address

City

State

Zip

Home Phone

Cell Phone

email

General Interests / Comment

Control Line Flying Interest ☐ Stunt (St) ☐ Combat (Cb) ☐ Speed (Sp) ☐ Sport (Sr)
☐ Carrier (Cr) ☐ Scale (Sc) ☐ Racing (Ra)

Membership Dues ☐ \$0 JR/SR AMA Member or ASSOCIATE non flying member
☐ \$20 INDIVIDUAL or non flying member wanting to support the club
☐ \$25 FAMILY- Only if all members are flyers. Need separate applications for all family members.
☐ \$0 NEWSLETTER ONLY- MCLS Membership not required but we would like your personal information for our mailing list. AMA card not required

Make Checks or Money Order Payable to:
Metrolina Control Line Society
Send to

Don Jenkins
4042 River Oaks Road
Lake Wylie SC 29710

Phone: 803-831-1753
email: D.I.jenkins33@gmail.com

Please record the date on your current
AMA or MAAC (Canada)
MEMBERSHIP CARD

Month - Year
Ex: 01-2018

**You must be an 2018 AMA member
to fly with us at Waymer field**

SURFING THE WEB - USEFUL WEB SITES FOR CONTROL LINE:

Stunthangar.com
Control line forum



Non-member visitors can close the Log-In nag window.
Click the "Do not display again" button.
Guests can post in the "General Questions" forum

Stuka Stunt Works - www.cstunt.com/htdocs/dc/dcboard.php

Brotherhood of the Ring - <http://brotherhoodofthering.info/>

Airfield Models - <http://www.airfieldmodels.com/>

One of the best sources of modeling and building explanations and illustrations on the web

PAMPA - <http://www.pampacl.org/>

You must be a member of PAMPA to access many areas of this valuable site

AMA - Academy of Model Aeronautics - <https://www.modelaircraft.org>

Brodak - www.brodak.com

Complete Control Line hobby shop and manufacturer of supplies and kits

Sig Manufacturing - sigmfg.com

Bob Machado's Museum and Gallery: www.hobbyistparadise.com.

Phil Brown's Web site: www.mastercontrollinelinksite.info/

A complete listing of control line web sites.

Tulsa Glue Daubers Website - www.tulsacl.com/

Flying Lines Website - <http://flyinglines.org/>

Great site out of the Northwest. Lots of columns on all aspects of CL modeling.

**Pitts Special Archives, all back issues plus the annual club Calendar
of events and contest flyers:**

[https://www.dropbox.com/sh/b66ijo7zsvrfqp9/
AAD5XUYeMXHoTDqtKsajRThNa?dl=0](https://www.dropbox.com/sh/b66ijo7zsvrfqp9/AAD5XUYeMXHoTDqtKsajRThNa?dl=0)

VENDORS' CORNER

The following are club members and frequent contest attendees who provide parts, tools and supplies.

Norine Armish - Phone: 717-805-4457. Email: karmish@ptd.net

We are a small, neighborhood shop in Selinsgrove, PA. I do artwork on wood, tin and slate, and I have two associates who do stained glass and crochet.

Website: <https://www.facebook.com/ArmishsCountryStar>

Phil Cartier - Phone: 717-566-3810. Email: philcartier@earthlink.net

Combat & Stunt kits, Cores & misc. combat & Stunt CL items.

Website: <http://home.earthlink.net/~philcartier/webcat/catalog.html>

Tom Dixon - Phone: 770-592-3279. Email: bdixon@mindspring.com. (Does not use email-Call)

Plans and accessories for the stunt flyer. Double Starr engine importer. Stunt eng. mods.

Website: <http://tomdixon.tripod.com/tomdixon.htm>

Bob Krug - Phone: 923-696-1291. Email: rlkrupa@sbcglobal.net

Supplies Powermaster fuel and other miscellaneous items for sale at contests. Does not ship fuel. Contact him for contests he will attend.

Jim Lee - Phone: 785-266-7714. Email: jlee9@cox.net

Expertly machined parts and tools for model building.

Website: www.leemachineshop.com

Bob Machado - Phone: 508-404-6376. Email: bobandedy@aol.com.

Buy /sell CL and everything else from the website info. Also has a model museum.

Website: <http://www.bobmachadosgallery.com>

Brian Malin - Phone: 321-537-1159. Email: brian@bmjrmodels.com

Laser cut FF, CL & RC kits.

Website: www.bmjrmodels.com

Bill Mandakis - Phone: 336-499-1192. Email: mandakis@bjm-home.com

Brodak distributor

Website: <http://www.bjm-home.com/modelshop/openingselectionwindow.html>

Randy Smith - Phone: 687-407-9376. Email: Randy@aero@msn.com

Full service stunt items, Engine tuners, Plans, Props. Engines, etc...

Website: <http://www.aeroproduct.net>

Tom Morris - Phone: 256-820-1983. Email: ctmorris@cableone.net

Extensive line of built models. Electric supplier.

Tom's supplies are available through <http://stunthanger.com/hobby>

Watt Moore (Brodak distributor) - Phone: 803-789-9430, 803-517-1153 Email: medplans@truvista.net.

He can order anything from the Brodak catalog or may have it in his shop.

John Saunders (Brodak distributor) - Phone: 856-697-0656. Email: Stiletto46@comcast.net.

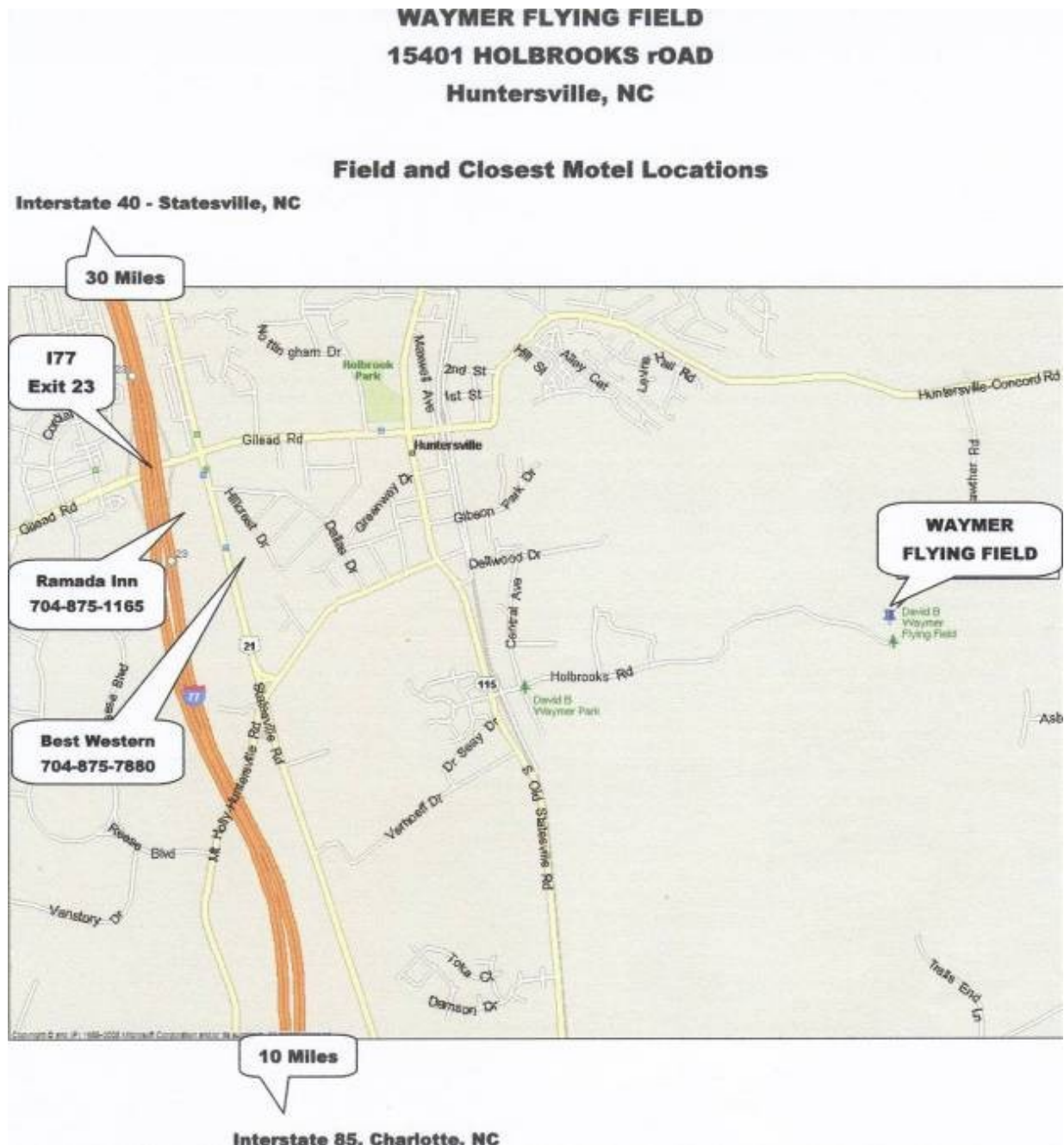
Look for John at contests with all sorts of CL supplies. Brodak Dealer.



Stunt Hangar Hobby
314-723-6112

If you find any broken or erroneous links, addresses or phone numbers, please notify me at RknRusty@sc.rr.com

Directions to Waymer Field in Huntersville, NC



GPS: [35.401170, - 80.814600](#)

And that's a Wrap for June, 2018
Thanks for Reading

If you have any questions, trouble reading or
accessing the newsletter, mistakes, correc-
tions or any other reason, please contact me:

Rusty Knowlton

RknRusty@sc.rr.com

803-603-5532

[Browse the Pitts Special Archives here](#)

**All current and past Issues with printer friendly
calendar and articles**

Airline Mechanics Credo

*We the willing
Led by the ungrateful !!!
Have been doing the impossible
For so long
With so little
That we are now qualified
To do anything
With nothing at all...*

That's all Folks

See you in July