PLANE TALK NEWS

The Des Moines Modelaires Newsletter

Upcoming Events

Tuesday, 6/2/2015
7:00pm – 9:00pm

Club Meeting
West Field

Saturday, 6/6/2015
11:00am - 6:00pm

EDF / Jet Fun Fly
$5 Landing fee
EPJ

Saturday, 6/13/2015
10:00am - 2:00pm

Coffee and Fun Fly
West Field

Fri, Sat, Sun, 6/12, 6/13, 6/14
SIG RC Fly

See Flyer at end of newsletter

Saturday, 6/13/2015
Drones Benefit Iowa Farmers

See Flyer at end of newsletter

Tuesday, 7/7/2015
7:00pm – 9:00pm

Club Meeting
EJP

Saturday, 7/11/2015
10:00am - 2:00pm

Warbird Fun Fly
EPJ

Saturday, 7/13/2015
10:00am - 2:00pm

Coffee and Fun Fly
West Field

HI everyone,

Every time you think the flying season is getting into full swing it gets cold and rainy again. It sure seems like a long time ago that we were flying in shorts and tee shirts! I'm personally trying to get some projects finished around the house so I can spend more time at the fields. We recently had the Multi-Wing Fun Fly at West Field. Talk about lucky.

The weather before and after the event was just awful but the Saturday of the fun fly was perfect with only a mild breeze. I believe everyone had a good time as there was quite a bit of flying and there was definitely a lot of good conversation. One of the most enjoyable aspects of these events for me is visiting with people. It was also nice to see some newer members participate.

Some reminders:

Mowing:

We are still looking for volunteers to help with mowing. If anyone is willing to help please contact:

EPJ - Dave Heuton at dcheuton@aol.com or 515 971-1677

West Field – Keith Page at pathfinder_page@msn.com or (515) 210-8953

Any help would be great even if it is only for one or two weeks.

Training Program:

We are still looking for volunteers to help with the club training program. The program runs every Monday evening at our EPJ field in Elkhart from Memorial Day to Labor Day from 6:00pm till dark.

While we need instructor pilots we also need people to help check students in, organize the process of getting students to instructors, etc. Basically there are lots of jobs that are not related to being an instructor pilot so any help you are willing to give would be great. You do not need to commit to being there every Monday. Remember this program is a great way to introduce interested people to the hobby and our club!

If you can help in any way please contact:

Ben Erickson at beelectric@ymail.com or at (515) 402-2363.

Fun Fly

Our next Fun Fly is the EDF / Jet fly - June 6th from 11am to 6pm at EPJ. There will be a $5 landing fee.

As always, please be safe and make sure you remain aware of others around you when flying. But most importantly, have fun and enjoy the hobby.

See you all at the fields,

Alan Annear

Elkhart Fun Day Demo!

Gents, I need volunteers to help with the Elkhart Fun Day Flight demo. The city of Elkhart has asked us to put on a flying exhibition. The event date is June 27th from 12:00 noon until 3:00 PM. The designated flying site will be on the Northwest corner of town on the Catholic Church soccer field. The site will have an East – West flying pattern, and we should be able to fly just about any type of aircraft except for small electrics that would need a smooth runway. Hand lunched electric planes would be great!

I would like to have as many volunteers as possible for both flying and static display.

Thanks in advance for your help. Please contact me if you are interested.

Tim Nissen

nissentimothy@mchsi.com

In an effort to get to know our club Board we will profile one Board member in each newsletter. Tim Nissen – Club Board Member

Who is Tim Nissen?

That is an interesting question. Well it started a long time ago in a land not too far from here. I was born and grew up on a farm in Nebraska. Some time at a very early age I was bitten by the aviation bug. Maybe it was brought on by hearing all of the sonic booms growing up. I can't really remember a time when I wasn't interested in aviation. During my high school days, I had even applied for entrance into the Air Force Academy. That didn't quite pan out, but I was enrolled in Air Force ROTC during my college days at the University of Nebraska. My life long goal was to be a pilot!

My first ride in an aircraft was during my college days. It was in an Air Force C-130 cargo plane. Not the most glamorous, but still worth remembering. My most memorable flight was also during my ROTC days. As a cadet, I was privileged enough to get a 30 minute ride in the back seat of a T-38, a twin jet-powered super-sonic capable trainer. That was the fastest 30 minutes and most exciting 30 minutes of my life.

After college I married my sweetheart, and have been with her for 38 years now. In 1980 we moved here to Ankeny Iowa and I started working at the John Deere Factory here in Ankeny. In 1985 a couple of my co-workers and myself decided to take the plunge into the RC hobby. After building (and crashing) my first plane, I decided I needed to join the Des Moines Modelaires. I have been a member of the club ever since.

During my time as a member, I have been President four or five times. Once when we had a membership of over 200 and the Modelaires was one of the top five largest AMA clubs in the country. I have been Vice-President a couple of times and have served on the board at least half of the time of my membership. During my time as a Modelaire, I also served as a board member of the Greater Des Moines Aviation Expo. That was the RC event that started in Ida Grove Iowa (Byron's Originals) and moved to central Iowa in the early '90s. I was also part of the first ever Des Moines Modelaires annual auction, and have participated in that event almost every year since. I have also participated in several of the annual Sig Fathers Day weekend Fun Fly's over the years. I have served as one of the club instructors numerous times.

I have just completed my 35th year with John Deere and I am now in the process of becoming retired. I hope to spend a lot more time at both fields here in the very near future, and hope to see you there.

So in response to "Who is Tim Nissen?" If you were to ask my wife, she would tell you "If it doesn't have wings or a propeller, he's not interested in it!!!" Well, that's not entirely true, but a pretty fair assessment!

Hope to see you at one of the fields soon.

Tim (RCAV8ER) Nissen

The Des Moines Modelaires - General Membership Meeting Minutes

May 5, 2015

The meeting was held at the club's EPJ Field in Elkhart. The meeting was called to order by club President Alan Annear at approximately 7:00pm. There were 14 members present.

The club Secretary read minutes from the last club meeting. They were accepted as presented.

The treasurer being absent, Alan reported that the Cub/Highwing fly netted $135.00 income for the club. Thank you John Faust for hosting the event. Everyone had a great time! Club membership is now at 108 adult members and 11 youth members.

Keith mentioned he has listed the club items for sale on Craig's list. Has already had a call about the John Deere cab.

The LP tank has been filled at EPJ so the grill is operational. Duane stated he has another full tank for EPJ.

Tim Nissen reported that he had met with the city of Elkhart about presenting our club on June 27. It will be at the soccer field adjacent to the Catholic Church on the northwest corner of town. The landing area will support medium size aircraft depending on the smoothness of the field. We need some members to help Tim and demonstrate our hobby. Any help would be appreciated, you could present planes via a static display or by flying. The event will be held from 12:00 noon to 3:00 pm. Please contact Tim Nissen at nissentimothy@mchsi.com to volunteer. This is one of the best ways to let people know about our hobby and our club.

Alan asked Ben to update everyone concerning his preparation for this year's training program. He updated those present on those efforts. Ben is still looking for volunteers to help with the program if you can help in anyway please contact him at beelectric@ymail.com. Ben has also been active in cleaning up the clubhouse and organizing the equipment.

Once again Alan reminded everyone concerning the National Model Aviation Day on August 15th. There will be events that day across the country to celebrate and promote our hobby. Alan suggested a Fun-Fly at both fields. He will head up the event at Westfield so we need a volunteer to head up the event at EPJ. Alan will be contacting the local TV stations to see if we could have some media coverage. Duane mentioned that the RC club in Ottumwa was having a large event that day also.

Dave Heuton asked for volunteers for mowing at EPJ. Please contact him at dcheuton@aol.com if you can help. Also, contact Keith Page at pathfinder_page@msn.com if you can help with mowing at Westfield.

Alan stated the Club Board is in the process of reviewing the club By-Laws for any updating or changes that may be needed. He invited members to contact any club officer or director if they have any suggestions or concerns.

Jim Lewis reminded everyone that he still has hats and shirts available and he brings them to almost every meeting he attends.

Alan reminded all present of the Multi-Wing Fun Fly at Westfield on Saturday April 9th, from 10:00 AM to 2:00 PM.

Meeting was adjourned at 7:45 PM.

Submitted by Keith Page

The following was submitted by Dave Beecher and LaVerne Sanders

I often hear people talk about Watts per Pound, Kv, Outrunners, etc; what does all this mean?

There are two general types of electric motors in use. Inrunner motors are "classic" motors with an outer housing or "can", and a central core with copper windings, which is the part that spins. These motors have a high motor constant (Kv), and can spin at a high RPM but with not much torque. Inrunners are often used with a gearbox to slow down the propeller, and are found on slow flyers and small, light trainers. Several examples are the Night Vapor and the Champ, both of which have a very small inrunner motor with a gear reduction system.

Outrunner motors have a different setup – the central core with the copper windings is stationary. The outer housing has magnets glued to its inside surface. It is the outer housing of this motor that spins, powering the propeller directly with a bolt on shaft on one end of the motor housing. Outrunners generally have a lower Kv, and consequently spin at a lower RPM but with more torque. A couple of pluses are that you can replace the motor shaft if it should be bent in a crash, and there are no brushes which can wear out. In general the remainder of the discussion will refer to outrunners, which are very common on RC aircraft, other than slow flyers.

I have referred to Kv, or motor constant, without explaining it first. There is a simple formula to determine how fast the motor will spin (when unloaded, or without propeller). It is:

Kv * voltage = rpm (unloaded)

An example would be an electric motor with a Kv of 560, using a 5S power system (22 volts)

560 Kv * 22 volts = 12,320 rpm (unloaded)

Electric motors may have a single voltage for operation (i.e. 3 cell packs) or have flexibility in voltage. Some motors can be safely operated with 3, 4, 5, or 6 cell batteries. In these cases voltage applied determines the rpm, and discussed later, the propeller size. If a motor can be run at several different voltages, it is generally more efficient to run it at a higher voltage and rpm, then a lower voltage and rpm. Although there are exceptions, many aircraft motors in use approach 10,000 rpm, and some several times that. In general larger props should be turned at lower RPMs, and smaller props turned much faster. The RPM will depend on the purpose of the aircraft as well. Amp draw, indicating load on the motor, is more important than a very specific RPMs. Many pilots use an amp meter to test the power system and see if the propeller is too large or too small, drawing too many amps or too few. Several calculators are available to help with component selection, this is the URL of one example. http://adamone.rchomepage.com/calc_motor.htm

For decades the most common power system for RC planes were glow engines. They were designated by displacement size in terms of cubic inches, such as 25 or 60, meaning 0.25 or 0.60 cubic inch displacement. Some electric motor vendors name the motor with a reference to the glow motor equivalent i.e. "Speed 60", or mention in the description the glow equivalent. If you have purchased a 60 sized ARF, the electric motor reference to a 60 size glow will help with selection.

Another way to select electric motors is using the "watts per pound of aircraft" method.

First, you can estimate watts by using this formula: Watts = volts * current

Current is expressed in amps, which may be measured in a power system or found as data in a motor description.

Examples

7.4v * 15amps = 111 watts
11.1v * 40amps = 444 watts
22v * 80amps = 1760 watts

For a typical comparison of power, 1 horse power = 746watts

Guidelines for picking a power system by watts per pound follow, but do vary by source. The following is a merge of several internet sources.

Motor watts required per pound of airplane weight:

50 – 75 w/lb	slow flyers
75 – 100 w/lb	trainers, basic scale flying
100 – 150 w/lb	limited 3D & aerobatics
150 – 250 w/lb	full power 3D & pattern aerobatics

An example would be a three pound trainer aircraft: 100 w/lb * 3 lb = 300 w

Motors are often referred to by a series of numbers. Rather than attempting to re-write what the numbers mean, I have included a slide by Wayne Rademacher, from February 2009, found at http://www.tcrconline.com/ at the end of this article. Full credit to Mr. Rademacher for this information.

Electronic speed controls, or ESCs, are a critical part of a power system. They take power from the battery to power the motor, and also the signal from the aircraft receiver for throttle setting. Motor description or manuals will include the maximum current draw in amps. Size your ESC, measured in AMPs, to be larger than the max current draw. The correct ESC needs to be selected to handle the correct peak amp draw, i.e. a 20 amp ECS will burn up if you need a 60 amp ESC, and for the correct battery cell count, be it for a single voltage or over multiple voltages. Some ESCs will only work with one cell count, while others will work with a range, for example with 3S, 4S and 5S cells.

ESCs can also be programmed with failsafe setting such as what to do if the receiver input is lost, or adjust the motor timing. Some ESCs can provide power (usually 5 volts) for the servos in the aircraft, while some ESCs do not have that capability. If the ESC does not provide power for the servos directly, an external BEC, or Battery Eliminator Circuit, will be needed for that function. BECs internal and external to ESCs will have limitations to how many servos they can power, so understand that before putting an ESC in a model with 12 servos.

Propeller selection is a challenge with many approaches used. Use of a watt meter with the actual power system under load is perhaps the best, so you can choose a propeller that does not draw more amps then the ESC and battery can deliver. However many of us rely on manufacturer charts, internet calculators and what is used in similar successful power systems. The perils of picking by guess include having a propeller which is too small or too little pitch, and under powering the model, to having a propeller that is too large with too much pitch which will over tax the ESC and battery, causing them to fail.

A few other propeller considerations – electric motor propellers are different than those for glow engines. Spend a few dollars for an electric motor propeller which is sized appropriately rather than fitting a heavy wood propeller. Two blade propellers tend to be more efficient than three or four blade props, you should also consider ground clearance when picking a power system and propeller. I acknowledge that some models just look better with three or four blade propellers, like the full scale versions, so looks will sometimes trump efficiency. Using the same motor, a high cell count battery will use a smaller propeller then the same motor with a lower cell count power system. So if you have an aircraft running on 3S, and switch the battery to 5S, likely the original propeller will draw too much current on 5S, and likely will need to be replaced with a smaller propeller.

As stated above, propeller selection can be a challenge. Key values to determine what prop to use are motor KV, max motor current, and voltage. If available, read thru the manufacturer data charts that are part of many motor descriptions. You will see various prop sizes, voltages, power levels and thrust values in this data. Almost all motor descriptions will tell you the max voltage, current (amps), and wattage. Refer to the math examples above if the power value is missing.

A first question to answer is what type of performance envelope will this airframe be expected to accomplish? Using the "Motor watts per pound" info above, should answer this. Common sense also needs to be used here. Simply, don't put a 3D power system on a slow flyer, or, a slow flyer power system on a 3D frame. Match the power system to what the frame is intended to handle. If you put a 500 watt motor on a 100 watt frame it will probably destroy the frame and can be a dangerous combination and someone will probably get injured.

General thinking is:

1. The higher the motor KV, the smaller the prop and/or voltage needs to be.
2. The lower the motor KV, the bigger the prop and/or voltage needs to be.
3. If you go larger in prop diameter, you will probably have to reduce prop pitch. Usually results in more thrust, but, less speed.
4. If you go smaller in prop diameter, you can increase the prop pitch. Usually results in less thrust, but, higher speed.
5. If the motor is hot to touch after a flight, it probably has too big a prop.
6. If the ESC is hot after a flight, then it can't safely deliver the required current for the motor/prop combination.
7. If the battery is hot, it can't deliver the required current to support the motor. Make sure the "C" rating is sufficient. For example, a 3 cell 2200 lipo with a 20C rating is supposed to be able to deliver 44 amps (divide 2200/1000 and take that times 20=44). If the motor/prop combo draws 60 amps, you are over loading the battery. You should be using at least a 30C lipo that is designed to deliver 66 amps. Better to use a 35C in this example. A hot lipo can catch fire!

Motors can behave differently than expected. You can't know for sure how your motor is reacting to a specific battery/ESC/Prop combination unless you use a watt meter.

Use of a watt meter with the actual power system under load is the best method to match a motor/ESC/and prop. The goal is to not draw more amps than the ESC and battery can deliver, and, not melt the motor!!

Here is an example of an inexpensive Watt meter ($20):
http://www.hobbyking.com/hobbyking/store/__34137__HobbyKing_HK_010_Wattmeter_Voltage_Analyzer_US_Warehouse_.html

You can learn a lot about how the motor, ESC, and prop work together by playing with a software program designed to theoretically calculate the key values of a power system. This software can also help determine what the calculated speed would be. Which is another important factor in keeping the frame in the air. The software can also calculate full throttle flight time. What's nice about software like this, it doesn't destroy any parts to experiment!

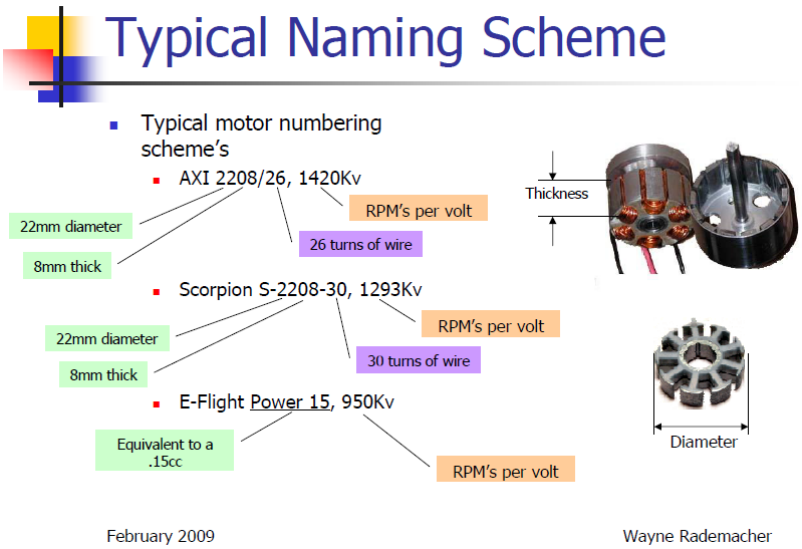
It is well worth your time to check out this free online calculator:

http://brantuas.com/ezcalc/dma1.asp (Free online app)

MotoCalc has been around a long time and is a great product.

http://www.motocalc.com/ ($39) (30 day free trial)

Keep it all running cool, and you'll have a great summer flying electrics!



2015 Calendar of Events

(Dates and locations are subject to change)

- Club Meetings are generally the 1st Tuesday of the month at alternating flying fields during the flying season
- Coffee / Fun Fly or Coffee and Hang out and chat at West Field are generally the 2nd Saturday of the month
- Fun Flies are generally the Saturday after a club meetings during the flying season

January 1 - Penguin Fly/Club Meeting (EPJ 9am)
January 10 - Coffee/Fun Fly (West Field 10am)
January 31 - Indoor fly/Club Meeting (Catholic Church 9am)

February 12 - Club Meeting (Catholic Church 7pm)
February 14 - Coffee/Fun Fly (West Field 10am)

March 7 - Coffee/Fun Fly (West Field 10am)
March 14 - Indoor Fly/Club Meeting (Catholic Church 9am)

April 7 - Club Meeting (West Field 7pm)
April 11 - Coffee/Cub and High-wing Fly (West Field 10am)

May 5 - Club Meeting (EPJ 7pm)
May 9 - Coffee/Multi-wing Fun Fly (West Field 10am)
May 25 - Training Program (EPJ 6pm)

June 1 - Training Program (EPJ 6pm)
June 2 - Club Meeting (West Field 7pm)
June 6 - EDF/Jets Fun Fly (EPJ 11am to 6pm)
June 8 - Training Program (EPJ 6pm)
June 13 - Coffee/Fun Fly (West Field 10am)
June 15 - Training Program (EPJ 6pm)
June 22 - Training Program (EPJ 6pm)
June 27 – City of Elkhart Demo (12-3pm)
June 29 - Training Program (EPJ 6pm)

July 6 - Training Program (EPJ 6pm)
July 7 - Club Meeting (EPJ 7pm)
July 11 – Warbird Fun Fly (EPJ 10am)
July 13 - Training Program (EPJ 6pm)
July 18 - Coffee/Fun Fly (West Field 10am)
July 20 - Training Program (EPJ 6pm)
July 27 - Training Program (EPJ 6pm)

August 1 - Coffee/Fun Fly (West Field 10am)
August 3 - Training Program (EPJ 6pm)
August 4 - Club Meeting (West Field 7pm)
August 8 - Electrics Fun Fly (EPJ 10am)
August 10 - Training Program (EPJ 6pm)
August 15 – National Model Aviation Day
August 17 - Training Program (EPJ 6pm)
August 24 - Training Program (EPJ 6pm)
August 31 - Training Program (EPJ 6pm)

September 1 - Club Meeting (EPJ 7pm)
September 5 – Sailplane Fun Fly (West Field 10am)
September 7 - Training Program (EPJ 6pm)
September 12 - Coffee/Fun Fly (West Field 10am)
September 17-20 - 3D Harvest Huck (EPJ)

October 6 - Club Meeting (West Field 7pm)
October 10 - Coffee/Gasser Fun Fly (West Field 10am)
October 24 - Fall Auction - Ray Pick (Catholic Church)

November 3 - Club Meeting (EPJ 7pm)
November 14 - Coffee/Fun Fly (West Field 10am)

December 1 - Club Meeting (Jim Porter's House 7pm)
December 12 - Coffee/Fun Fly (West Field 10am)

January 1, 2016 - Penguin Fly/Club Meeting (West Field 9am)

February 13, 2016 - Indoor Flying (Catholic Church 9am)

Fun Fly Information:

April 11 - Coffee/Cub and High-wing Fun Fly (West Field 10am to 2pm) - John Faust, $10 Landing Fee (includes lunch)
May 9 – Coffee/Multi-wing Fun Fly (West Field 10am to 2pm) - Alan Annear, $10 Landing Fee (includes lunch)
June 6 - EDF/Jets Fun Fly (EPJ 11am to 6pm) - Dion Kintz, $5 Landing Fee (open grill)
July 11 – Warbird Fun Fly (EPJ 10am to 2pm) - Ray Pick
August 8 – Electric Fun Fly (EPJ 10am to 2pm) - Ben Erickson/Duane Vierling
September 5 – Sailplane Fun Fly (West Field 10am to 2pm) - Dave Beecher
September 17-20 - 3D Harvest Huck (EPJ) - Duane Vierling
October 10 – Gasser Fun Fly (West Field 10am to 2pm) - Denis Roy, $10 Landing Fee (includes lunch)

Club Officers

President	Alan Annear	(515) 491-9039
	raannear@gmail.com	
Vice President	Bill Garrett	(515) 473-1488
	billg@sprayers.com	
Secretary	Keith Page	(515) 210-8953
	pathfinder_page@msn.com	
Treasurer	Denis Roy	(515) 249-1617
	DenisRoy81@gmail.com	

Board Members	Darwin Chapman **	chapman@dps.state.ia.us
	Ben Erickson *	beelectric@ymail.com
	Dave Heuton **	dcheuton@aol.com
	Tim Nissen **	nissentimothy@mchsi.com
	Bruce Parmelee *	bdp1sgedd@hotmail.com
	Karl Schultz *	iakarl@yahoo.com
	Duane Vierling *	dwvierling@gmail.com

* Term expires on December 31, 2015

** Term expires on December 31, 2016

Safety Officers

EPJ – Dion Kintz
West Field – John Faust / Dave Beecher

Membership Denis Roy
1872 NW 150th Ct
Clive, Iowa 50325
(515) 249-1617
DenisRoy81@gmail.com

Newsletter Denis Roy
DenisRoy81@gmail.com

Club Training Team

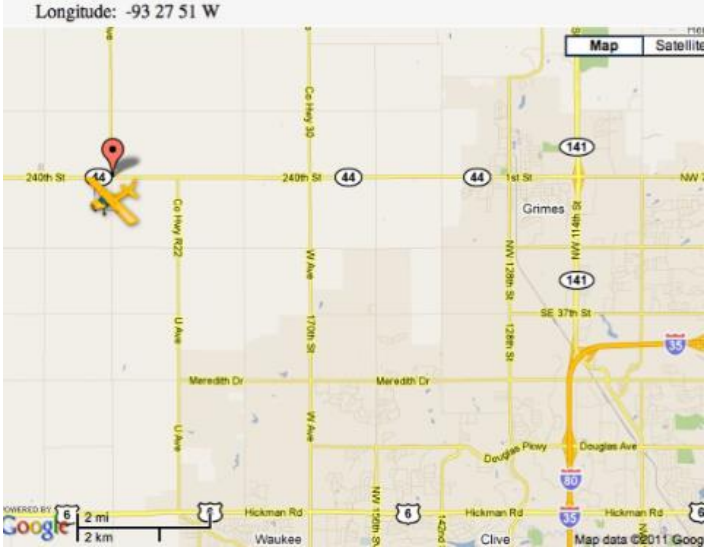
If you are interested in learning to fly please contact any one of these fine instructors

Joe Pitts	360-4471	bikrpitts@mchsi.com	Airplane	
Jim Lewis	289-1144	clone2tb@gmail.com	Airplane	
Darwin Chapman	964-8872	Chapman@DPS.state.ia.us	Airplane	
Tim Nissen	964-9307	nissentimothy@mchsi.com	Airplane	
Doug Griffith	480-1585	duggriff@yahoo.com	Airplane	Mode 1 & 2
Kelly Brown	494-4884	kbrown@dwx.com	Helicopter	

Our Field Locations

E. Paul Johnson Field (EPJ)
12559 NE 72nd St, Polk County, Iowa (East of Elkhart, Ia.)
Latitude: 41 40 51 N
Longitude: -93 54 45 W

West Field
T Avenue (West of Grimes, Ia., 1/4 mi. S of Hwy. 44)
Latitude: 41 47 25 N
Longitude: -93 27 51 W



2015 Des Moines Modelaires Membership Application

(Please Print Clearly)

You must be a member of the Academy of Model Aeronautics (AMA) before joining the Des Moines Modelaires

Name: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Phone #: _____ AMA #: _____

Birth Day: Mo _____ Day _____ Year _____

Email Address: _____
(Used for club newsletters and club informational emails
May we share your email information with the club membership? Yes _____ No _____

- **Flying Membership:** Must have a current AMA membership and Club membership. Can fly at both our fields, be a club officer / board member, vote concerning club business, take part in all club activities, and receive club newsletter via email.

Annual Dues are: Adult (19 & over at any time during 2015) $75.00, Spouse $20.00, Youth (18 & under) $5.00, Family $100.00. Dues are in effect from January 1st through December 31st, after July 31st, adult flying membership dues are $40.00 through December 31st.

Send this membership application, a copy of your AMA membership card, and check to:

Denis Roy
1872 NW 150th Ct.
Clive, IA 50325
(515) 249-1617
Email: DenisRoy81@gmail.com

Please make checks payable to: Des Moines Modelaires

Why joining the Academy of Model Aeronautics (AMA) is so important.

For just $58.00 per year ($48.00 if over 65) the AMA provides a wealth of information about our wonderful hobby along with their magazine, Model Aviation. For yours, and the clubs protection, the AMA also provides member insurance benefits: $2.5 million liability umbrella, $25,000 medical coverage, and $1,000 fire and thief coverage. Please go to www.modelaircraft.org to join the AMA and to learn more about the benefits of AMA membership and their insurance coverage.

Come Fly With Us At The 41st Annual

FREE MEAL!

FREE RAFFLES!

SIG® R/C Fly-In

June 12, 13, & 14, 2015
SIG Field
Montezuma, Iowa

SEAGULL MODELS
Exclusive U.S. Distributors

SIG AIRPLANES NOT REQUIRED

A R/C Fly-In open to all types of R/C model airplanes - glow, gas, and electric powered. Any Brands. Fun Fly events and special prize drawings for pilots.

PRE-REGISTRATION BY MAIL IS RECOMMENDED
ON-SITE REGISTRATION AND TX CHECK-IN AT 8:00 A.M. FRIDAY
PILOT'S MEETING AT 10:00 A.M. FRIDAY AND 9:00 A.M. SATURDAY
FOOD WILL BE AVAILABLE ON SITE

ENTRY FEE: $15.00 PER PILOT

For more information and an Entry Form, contact:
Bob Nelson, Contest Director or go to SIG website: www.sigmfg.com

SIG Mfg. Co., Inc.
P.O. Box 520
Montezuma, IA 50171-0520
Phone: 641-623-5154
Email: bobnelson@sigmfg.com

Concession Stand At Field

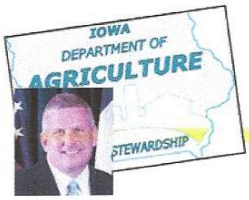
AMA SANCTIONED

On-Site "AERO-PICNIC" Saturday Evening

Once again registered pilots and their families will enjoy a free on-site "Aero Picnic" of fresh grilled hamburgers, beans, chips, dessert, and drinks on Saturday evening.

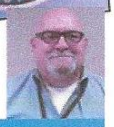
Skunk River Valley Days

Cambridge, IA 1PM-3PM, June 13, 2015
Methodist Church, 215 2nd St. Good will offerings accepted



Agronomists, Crop Consultants
Iowa Flight Team FPV Drone

Keynote: Bill Northey, Iowa Secretary of Agriculture
Speaker: Dan Michaelsen, FAA DSM FSDO District Office

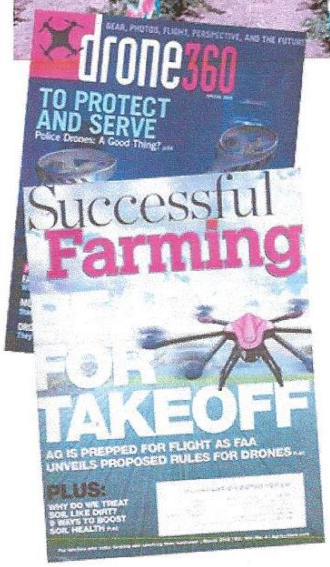


Drones benefit Iowa Farmers

Ten Vendors showcase UAV Ag Systems on farms and DYI

News Flash: First Ever International Drone Community (IDC) sanctioned event !

TEAM DRONESAREGOOD INTERNATIONAL DRONE COMMUNITY



1PM Drones on IA Farms
FAA Rules, Regulations
2:30

Nevada **eBee Ag UAV**
From Drone to Tractor
2:30

Cambridge, **Crop Scouting, Crop Management**
2:30
Dan & Rhonda Berchmier Farm, Maxwell
Ag Eagle to **Ag Leader**

Note: Flying and vendor displays at Ballard Community School if it rains

Norsemen MC Facility - Cambridge,

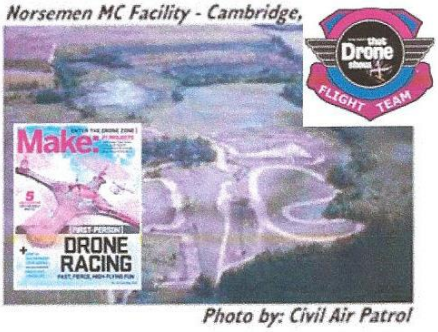


Photo by: Civil Air Patrol

2:30 IDC-515 FPV Drone Race
Cambridge ATV park outskirts of town
That Drone Show Televised in Cambridge!

Contact: Scott Olson, 515-250-1143, scotto0125@gmail.com **www.dronesharks.org**
IDC (say DRONE) Group rate at Best Western Metro North Ankeny, IA Call 800-903-0009

The Des Moines Modelaires

- We fly radio controlled model airplanes, helicopters, and quad-copters at our two private flying fields
- We hold monthly meetings generally the first Tuesday of each month
- We produce a monthly newsletter for our members and the general public
- We sponsor several fun flies during the year
- We will demonstrate our hobby at events when safety can be maintained and there is adequate room to fly
- We sponsor several swap meets during the year
- We conduct free pilot training programs and have volunteer trainer pilots

DES MOINES MODELAIRES
AMA CHARTERED CLUB #740 ESTABLISHED 1936

1479 NW 71ST PL
Ankeny, IA 50023