



SMOKE SIGNALS



MEROKE RC CLUB

OUR 1ST ANNUAL - AMA SANCTIONED

FLIGHT NIGHT

OPEN TO ELECTRIC ONLY

LUFBERY AERODROME

CEDAR CREEK PARK SEAFORD, NY

SATURDAY APRIL 27, 2013

4:00 PM - 9:00 PM

Rain Date APRIL 28, 2013

Pre event date registration fee \$5

Event date registration fee \$10

All Flyers must have a Valid AMA Card contact Alan Berg
 at Email extragiles@yahoo.com for registration.
 Limited to 40 pilots.



On March 18th the Meroke Annual Auction took place as part of our regularly scheduled meeting. The event was hosted by Mr. Mark Klein who showed a great deal of knowledge about our hobby and the articles up for sale that evening.

Calendar

April 4, 2013

Club Meeting
Show and Tell

April 15, 2013

TAXES DUE!!!

April 19, 2013

Club Meeting

April 27, 2013

FLIGHT NIGHT

4:00 PM - 9:00 PM

**AMA SANCTIONED
EVENT**

Electric RC Aircraft
only

Open to all RC Flyers

BIRTHDAYS

April 13 **Curtis Underdue**

April 18 **Mark Klein**

April 26 **Ted Evangelatos**

April 30 **James Tavernese**



DEGREES IN RC: colleges offer drone pilot classes

From "Model Airplane News" - By Isolde Raftery, NBC News



Randal Franzen was 53, unemployed and nearly broke when his brother, a tool designer at Boeing, mentioned that pilots for remotely piloted aircraft – more commonly known as drones – were in high demand. Franzen, a former professional skier and trucking company owner who had flown planes as a hobby, started calling manufacturers and found three schools that offer bachelor's degrees for would-be feet-on-the-ground fliers: Kansas State University, the University of North Dakota and the private Embry-Riddle Aeronautical University in Daytona Beach, Fla. He landed at Kansas State, where he maintained a 4.0 grade point average for four years and accumulated \$60,000 in student loan debt before graduating in 2011. It was a gamble, but one that paid off with an offer "well into the six figures" as a flight operator for a military contractor in Afghanistan.

Franzen, who dreams of one day piloting drones over forest fires in the U.S., believes he is at the forefront of a watershed moment in aviation, one in which manned flight takes a jumpseat to the remote-controlled variety.

Randal Franzen went from being unemployed to earning a six-figure salary as a drone flight operator in Afghanistan. Courtesy Randal Franzen

While most jobs flying drones currently are military-related, universities and colleges expect that to change by 2015, when the Federal Aviation Administration is due to release regulations for unmanned aircraft in domestic airspace. Once those regulations are in place, the FAA predicts that 10,000 commercial drones will be operating in the U.S. within five years. Although just three schools currently offer degrees in piloting unmanned aircraft, many others – including community colleges – offer training for remote pilots. And those numbers figure are set to increase, with some aviation industry analysts predicting drones will eventually come to dominate the U.S. skies in terms of jobs.

At the moment, 358 public institutions – including 14 universities and colleges – have permits from the FAA to fly unmanned aircraft. Those permits became public last summer after the Electronic Frontier Foundation filed a request under the Freedom of Information Act. The government issues the permits mainly for research and border security. Police departments that have requested them to survey dense, high crime areas have been rejected. Some of the schools that have permits have been flying unmanned aircrafts for decades; others, like Sinclair Community College in Dayton, Ohio, received theirs recently to start programs to train future drone pilots.

Alex Mirot, an assistant professor at Embry-Riddle who oversees the Unmanned Aircraft Systems Science program there, said this generation of students will pioneer how unmanned aircraft are used domestically, as the use of drones shifts from almost purely military to other applications. "We make it clear from the beginning that we are civilian-focused," said Mirot, a former Air Force pilot who remotely piloted Predator and Reaper drones used to target suspected terrorists in Afghanistan, Pakistan and elsewhere for four years from a base in Nevada. "We want them to think about how to apply this military hardware to civilian applications."

Among the possible applications: Monitoring livestock and oil pipelines, spotting animal poachers, tracking down criminals fleeing crime scenes and delivering packages for UPS and FedEx.

With U.S. military involvement in Afghanistan winding down, drone manufacturers also are eager to find new markets. AeroVironment, a California company that specializes in small, unmanned aircrafts for the military, recently unveiled the Qube, a drone designed for law enforcement surveillance.



The FAA hasn't allowed police agencies to fly drones over populated areas – because of concerns about airspace safety, as drones have crashed or collided with one another abroad. But that hasn't stopped some agencies from buying them in anticipation of their eventual approval. The Seattle Police Department, for example, has two small aircraft, which two officers occasionally fly around a warehouse for practice. For now, a police spokesman said, federal rules are too restrictive to use them outside. The domestic market is



so nascent that there isn't even agreement on what to call unmanned aircraft – “remotely piloted aircraft,” “unmanned aerial vehicles” – UAVs – or by the most mainstream term, “drones.” The latter makes many advocates bristle; they say the term confuses their aircraft with the dummy planes used for target practice – or with the controversial planes used to kill suspected terrorists abroad.

Industry attracting engineers and pilots

Students at Embry-Riddle train on flight simulators that closely resemble the Predator, an armed military drone with a 48-foot wingspan, because the FAA will not issue a drone license to a private institution. Without guidance from the FAA, Embry-Riddle has struggled with how to create a robust program that will turn out employable graduates. “As of now there aren't rules on what an (unmanned aircraft) pilot qualification will be,” Mirot said. “You have to go to employer X and ask them, ‘What are you requiring?’ And that becomes the standard.” The bachelor's degree program also includes 13 credits in engineering, so students understand the plane's whole system, Mirot said.

Embry-Riddle recently graduated its first student with a bachelor's degree, but those who graduated earlier with minors in unmanned aircraft systems have fared well, Mirot said. “I had a kid who deployed right away and he was making \$140,000,” Mirot said. “That's more than I ever made. Yeah, he's going into Afghanistan, but he had no previous military experience or security clearance.” Mirot said many of his students aspire to be airline pilots. But with salaries for commercial airline pilots starting as low as \$17,000 in the first year, they plan to start in unmanned systems to pay off their loans, then maybe apply for an airline job, he said. The University of North Dakota, which launched its unmanned aircraft systems operations major in 2009, has similar success stories. Professor Alan Palmer, a retired brigadier general of the North Dakota National Guard, said 15 of the program's 23 graduates now work for General Automics in San Diego, which makes the Predator and Reaper drones used in Pakistan and Afghanistan.

Engineering and computer science students, too, are in demand by the drone industry. At least 50 universities in the U.S. have centers, academic programs or clubs for drone engineering or flying. Many of the engineering students work on projects making the drones “smarter” – that is building more sensitive sensors – and studying how the robots interact with humans.

George Huang, a professor at Wright State University in Dayton, Ohio, who builds drones the size of hummingbirds, said nearly all his 20 students work as researchers for the Air Force. This means they're earning between \$60,000 and \$80,000 a year while still enrolled, instead of the \$15,000 stipend that graduate students typically receive from their schools.

At the University of Colorado in Boulder, doctoral candidate Sibylle Walter said unmanned systems appeal to her because the results are immediate. In the past, she said, aerospace students typically ended up at Boeing or another big company and spent years working on one element of a project. Instead, she is working with her adviser to build a supersonic drone capable of flying up to 1,000 mph. “The link between education and application is much more compact,” Walter said of the unmanned aircraft. “That translates to this new boom. You can build them inexpensively – you don't need \$100 million to build one.”



Ethical warfare?

Despite the promise of numerous civilian applications, drones continue to be controversial because of their role as weapons of war. At Texas A&M University, which has an FAA permit to fly drones, computer science student Brittany Duncan is unusual among her peers: She's a licensed pilot, a computer scientist and a woman. She probably could land a high-paying job for a military contractor, but she's intent on staying in academia, studying robot-human relations, specifically how robots should approach victims of a natural disaster without scaring them.

On a recent hot, dusty morning, Duncan, 25, pulled a small aircraft from the back of a 4x4 pickup. Wearing black work boots and Dickies, she quickly assembled a remote-controlled aircraft that resembled a flying spider, then launched the aircraft – equipped with sensors and a video camera – over a pile of rubble to practice capturing footage. At her side was Professor Robin Murphy, her adviser and a veteran of real-world unmanned aircraft operations, having flown over the World Trade Center after 9/11, the Gulf Coast in the aftermath of Hurricane Katrina in 2005 and the nuclear reactor in Fukushima, Japan, after the 2011 tsunami and nuclear disaster there (although she stayed in Tokyo). She believes drones could revolutionize public safety. “I could show you a photo of firefighters from today, and it could be a photo of firefighters from 1944,” Murphy said. “They haven't had a lot of boost in technology. [Unmanned aircraft] could be a real game-changer.”

Duncan knows there is resistance from communities where drones have been introduced. In Seattle, for example, the ACLU argued that drones could invade privacy. But as Duncan sees it, this makes her work even more relevant. “That's the most important thing to me – that people understand good can come from drones,” Duncan said. “Every technology is scary at first. Cars, when they went only 6 mph, people thought there would be a rash of people getting run over. Well, no, it's going slow enough for you to get out of the way. And it'll change your life.” Duncan said she considers the implications of working on machines that are for now mostly used for war. Despite conflicting reports on civilian casualties in drone strikes, she's convinced that unmanned aircraft offer a more-ethical battlefield alternative because they take the pilot's “skin” out of the game.

Disaster City, a giant search-and-rescue training ground in College Station, Texas, is home to a destroyed strip mall, a mock-up movie theater and towering buildings all made to be torched in the name of emergency preparedness. Clint Arnett describes how Disaster City works. “If you're flying a UH-60 Blackhawk Helicopter and look down and think someone has a surface-to-air missile, you're going to shoot first and figure it out later because you're a pilot and your life is in danger,” she said. But with drones, “(You) can afford to make sure that someone is a combatant before they engage – because you don't have your life on the line. It takes your emotion out of the equation.” While that debate continues, the Department of Defense is showing no loss of appetite for drones, despite the drawdown in Afghanistan. This year, it plans to spend \$4.2 billion on various versions of the unmanned aircraft, 15 times more than it did in 2000. For Professors Mirot and Palmer, that is evidence that their programs will stay relevant, no matter how the domestic deployment of drones plays out.

Looking ahead

There is an ironic twist to Randal Franzen's move to climb aboard the cutting edge of aviation: When he went to Afghanistan, he learned that his assignment was to monitor surveillance video from a tethered balloon near the Afghanistan-Pakistan border – a military technology that – minus the cameras – dates to the Civil War. From the base miles away, he monitored the rural area for Taliban activity, but mostly watched Afghans going about their daily lives. The retrained drone pilot said he found it fascinating. “I grew up in Montana, swam in irrigation ditches, and they do the exact same thing – they're just trying to make a living, raise some cattle and kids and do the exact same thing as everyone else,” Franzen said. There were moments that caught him by surprise – such as when he saw a man leading 10 camels through the desert while talking on a cellphone, walking several feet ahead of his wife, who was dressed in a full burqa.

Now home in Colorado, Franzen figures he'll take at least one more far-flung military assignment as he waits for the domestic drone market to open. This time, though, he'd like to put his newfound remote flying skills to better use. “I had three offers yesterday to go back and do the same thing for three different companies,” he said. “I talked to them about flying. I'd rather pilot something. I'd like to go play with something cooler.”



Duraflly DH-88 Comet 1120mm w/retracts & lights (PNF)

Joe Pelegrino sent me an e-mail showing me this unique airplane that he fell in love with and I can see why. Joe says "The De Havilland DH-88 Comet from Hobby King... It has retracts and lights, can do aerobatics." I am sure that when he has it put together Joe will be more than happy to bring it in for SHOW AND TELL.

The De Havilland DH-88 Comet was designed to win the 1934 MacRobertson Air Race from England to Melbourne in Australia, the beautifully sleek Comet not only won this event but went on to set several records. Several Comets were built for the race but the striking scarlet "Grosvenor House" comet won comfortably in a time of 70 hours and 55 minutes. It would be fair to say that the DH-88 is probably the most stylish of the Golden Era racers, bearing in mind that most airforces were still flying bi-plane fighters at this time, the Comet, with it's ultra sleek lines and 255mph top speed was a glimpse of the future in the early 1930's, the construction techniques developed for the DH-88 were later used on De Havillands most famous son.....the amazing Mosquito!



The Durafly DH-88 Comet is a faithful scale reproduction of this most elegant of race planes, it is constructed from tough EPO foam and is nicely painted in a deep scarlet, the final touch is courtesy of the pre-applied white waterslide decals, which help make this model really stand out both in the air and on the ground. All servo's are pre-installed as are the brushless motors, ESC and retracts in the screw on engine nacelles. The Comet is very practical, the 1100mm wing is removable for easy transportation and the huge canopy allows for easy & fast access to the ever-popular 2200mAh 3s Lipoly (not included). The scale detail is typical Durafly quality and features scale retracts with a nice slow operating speed, a front landing light, scale exhaust stubs, superbly molded cowls, purpose made spinners and counter rotating props.

The full size DH-88 Comet was designed for speed and as a consequence, didn't suffer fools at lower speeds! Durafly engineers have taken the best of the Comets attributes and managed to build in nice manners at lower speeds, the end result is a superb flying model! The DH-88 was of course designed for racing and the Durafly Comet will not disappoint fans of high speed models, scorching low passes never looked so elegant! Because of the Comet's impeccable manners at lower speeds, there is also plenty on offer for scale pilots and landing's & take off's are drama free courtesy of the counter rotating props and steerable tailwheel. Once again, Durafly have broken the mold and set the standard, just like the full size aircraft, this model has quality, style, elegance and performance, re-live the Golden Era of Air Racing with this amazing DH-88 Comet!



Duraflly DH-88 Comet

Features:

Tough EPO Construction
High Speed Model
Excellent Flight Times from 2200mAh 3s
Lipoly Battery (not included)
Plug and Fly, simply add your receiver &
battery and fly!
Full Four Channel Control
Counter Rotating Propellers
Fast and Simple To Assemble
High Level of Scale Detail
Bright LED Landing Light in the Nose
Scale Looking Servoless Retracts

Specs:

Wingspan: 1120mm
Length: 772mm
Flying Weight: 1100g
Wing Area: 14.85dm²
Retracts: Servoless Electric
Motors: 2010 Brushless Outrunner
1850kv x 2
ESC: 20A w/BEC x 2
Servo: 9g x 4

Requires:

Your own 5~6 Channel TX/RX
2200mAh 3s Lipoly (25c Min)





FROM RC UNIVERSE

Lots of folks at RCU have had questions about soldering, so we thought we'd give you a "How To" on the basics. Before we begin, I would like to say that this is not an all-encompassing bible on soldering, but for 95% of what we modelers do, the basics are all that is required. I'm not even going to start off with the typical "What is Soldering" topic, because most of you don't really care about the technical details anyway, you just need to get your pushrods or landing gear together, or you need to add a new end to your Servo, so I will cover both Electrical, and Mechanical Soldering.

One thing I will point out, since so many have asked, is which type of solder to use. Regular rosin-core solder should be used for Electrical connections. It will also work fine for most Mechanical connections. Silver Solder will work better on Mechanical connections, and I would recommend it for high-stress applications, but for most of what we do, plain 'ol solder will do just fine.

For now, all you need to know are the three basic rules to a good solder connection. They are:

- 1) Clean - Your metal surfaces **MUST** be clean.
- 2) Flux - Flux allows the solder to flow and adhere better to the metal.
- 3) Proper Heat - The metal must be hot enough for the solder to adhere to it, but not so hot that it damages the metals properties (for example, if you let landing gear wire get red hot, it will remove the spring-like properties of the metal, and your gear will bend every time you land!)

ELECTRICAL

For Electrical Connections, you'll need some Rosin Core Solder, Flux, and a Soldering Iron (or Gun). You will also need something to insulate the bare wires with afterward. Electrical Tape can be used for this, but I prefer to use Heat Shrink Tubing, which can be purchased at your Local Hobby Shop, or at a place like Radio Shack. (Note: If you do some Internet searches, you can find Heat Shrink Tubing in bulk)

The first rule in Soldering is Cleanliness. This is usually pretty easy to achieve with an electrical Connection, because most of the time, the wires will be protected inside their insulation. If you are planning to solder a wire that has been previously stripped of it's insulation, I recommend cutting the wire, and stripping the insulation from a fresh section.

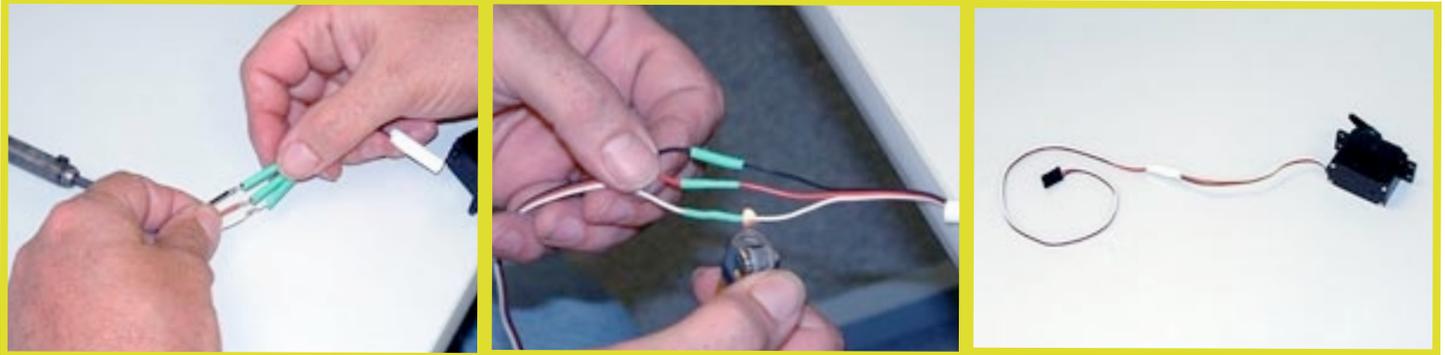
You can purchase special pliers to strip insulation, but I find that they are really not needed unless you do it on a daily basis. For the small wires that we work with, I just carefully nick the insulation about 1/4" from the end with a razor blade, then strip off the insulation with my thumbnail.

Once the individual wires have been stripped, twist the strands together to keep the ends neat. Now we're going to impregnate them with solder in a process that is called "Tinning". To do this, first I dip the bare ends of the wires in Soldering Flux to coat them. Next, touch the solder to the tip of the iron until it starts to melt. Allow a small amount of solder to accumulate on the tip. Then one by one, touch the ends of the wire to the tip of the iron long enough to heat the wire to the point where the solder will "wick" its way into the wire (if you are doing several wires, you may need to add more solder to the tip of the iron after you have tinned a few).



Once the ends are tinned, slip the Heat Shrink Tubing over the wires. I like to put one large tube over all of the wires, then a smaller one on each.

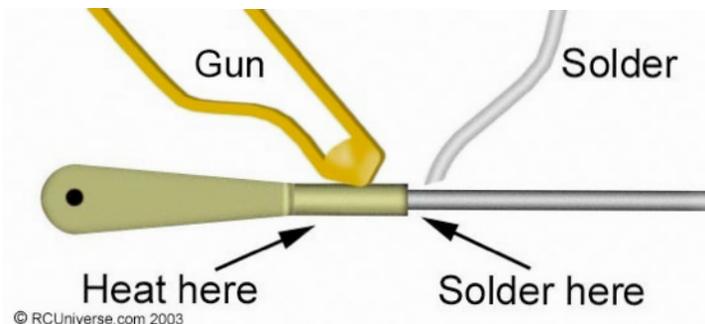
Now, hold the two wires together as you apply the heat. In most cases, the solder that is "Tinned" on the wire will be sufficient to join the two wires, and additional solder is not needed.



Once all of the wires are joined, slide the heat shrink tubing over the bare wire, and heat with a heat gun or, carefully (and quickly) run a flame under them (Note: In the picture above, it looks as though the first wire is being cooked! Actually, in that picture, I am heating the middle (Red) wire, and the heat is nowhere near the first). After shrinking the tubing, slide the large tubing over the other three, and shrink it to make a nice neat package.

MECHANICAL

For simple mechanical joints, like soldering a Clevis onto the end of a Push Rod, the rules are the same: Clean, Flux, Proper Heat. So first, clean the end of the Push Rod with sandpaper, then, dip the end into the can of flux, and insert it into the clevis until you can see the end of the rod is either flush with the other end of the hole, or protruding slightly. Now, heat the Clevis (not the pushrod). Allow the heat to transfer itself from the clevis to the rod. (Note: If you are using a Soldering Iron, this may take some time. A Soldering Gun would be better suited to these larger jobs.) Then apply the Solder to the joint where the Push Rod meets the Clevis, when the temperature is right, it will melt the Solder, which will "Wick" its way into the joint.



Remove the heat, and allow the joint to cool slowly without being disturbed until the solder has solidified (Usually just a few seconds). It can now be safely moved, however it should still not be quenched (cooled rapidly as by dipping it in water) for at least a minute.

BIG JOBS

When it comes to the larger jobs, you will usually find that an iron or a gun will not heat the metal sufficiently. This is where a propane torch will almost always be a necessity. The one thing you must be careful of (aside from the obvious hazard of working with an open flame), is that a torch can quickly overheat the metal.

Some metals, like the spring steel used in Landing Gear, are "Tempered" or heat treated during their production. Without going into a metallurgy lesson, let it suffice to say that you never want to let the metal get RED hot. This will destroy the Temper of the metal, and remove its "Spring- like" tendencies, leaving it about as soft as a thick wire coat hanger. But don't let this scare you. As long as you keep the flame moving, and heat it up a little at a time, you will reach the soldering temperature long before the metal gets too hot.



For this demonstration, I am soldering the Main Landing Gear on a 1/4 scale Piper Cub. The Plans require you to solder three wires together into a bundle. The first step is the same as before - Clean all 3 wires with sandpaper. Once they are clean, I wrapped all three together with soft copper wire, keeping the winds neatly aligned.



Once the wires are wrapped, coat the joint with Flux. Now it's time to apply the heat. Moving the torch back and forth, slowly heat the joint. After a few passes, stop, and touch the solder to the wires to see if it will melt, if not, remove the solder and apply more heat. Continue these steps until the joint is hot enough to melt the solder. Once it does, feed enough solder into the joint to sufficiently coat it (applying more heat if necessary). Once the wires have a nice coat of Solder, remove the heat, and let cool.

That's it! As I said earlier, there are a lot of technicalities involved, but for basic soldering that's about all you need to know. In fact, using these same techniques, you could even plumb a new bathroom in your basement (Guess what the Wife had me doing last winter!). - MinnFlyer



A tax preparer, uncertain as to whether a client's wife was entitled to the an additional exemption for being sixty-five years of age, sent the husband an e-mail requesting the information. The next day he got an answer back: My wife says she is not 65, nor will she ever be!

If a lawyer and an IRS agent were both drowning, and you could only save one of them, would you go to lunch or read the newspaper?

This [preparing my tax return] is too difficult for a mathematician. It takes a philosopher.
Albert Einstein

Did you ever notice?
When you put the 2 words "The" and "IRS" together it spells: "THEIRS."

The difference between the short and long income tax forms is simple. If you use the short form, the government gets your money. If you use the long form, the tax advisor gets your money.

Called in for an audit, Mr. Briggs was confronted by a surly IRS agent. "It says here, Mr. Briggs, that you are a bachelor; yet you claim a dependent son. Surely this must be a mistake." Looking him straight in the eye, Mr. Briggs replied, "Yup, it surely was."

A couple of weeks after hearing a sermon on Psalms 51:2-4 and Psalms 52:3-4 (lies and deceit), a man wrote the following letter to the IRS:

I have been unable to sleep, knowing that I have cheated on my income tax. I understated my taxable income, and have enclosed a check for \$150.00.

Sincerely,

Taxpayer

P. S. If I still can't sleep, I will send the rest.

