

the

MONITOR

December

The MRCS Officers

2017

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<b>Newsletter Editor:</b> Ken Myers	<b>Next Meeting: Date:</b> Wednesday, December 6 <b>Time:</b> 7 PM Video & 7:30 meeting, EAA building	

**What's In This Issue:**  
 The November Meeting - November Show and Tell - Confessions of a Soldering Hack - Upcoming AMA Update with Tim Jesky, AMA District 7 VP, - Some Photos of Our Models by Bob Boulware - Upcoming Events

**The November Meeting**

**The 7:00 P.M. Videos**

FliteTest's FliteFest 2017 Video was shown.  
<https://www.youtube.com/watch?v=HPaebaGNeas>

It showed a lot of individuals and families enjoying a model aviation get together.

A second short video was shown to remind the members to store their LiPo batteries safely.

**Ken Myers and Denny Sumner** shared their 'safe' LiPo storage containers. Ken showed his real LiPo Sack, produced by Mark Wood in the USA, and Denny shared his Bat-Safe LiPo box, designed in the USA.

Real LiPo Sack:  
<http://liposack.com/>  
Bat-Safe LiPo Box:  
<http://www.bat-safe.com/web/>

**The Tech Talk: Soldering Basics**

Ken Myers shared a soldering video produced by Bruce Simpson of RC Model Reviews.

He also shared information on his HAKKO FX888D soldering station and how it has improved his soldering technique.

**The Business Meeting**

**Lynn Morgan**, club secretary, noted that we ended the year with 50 paid members, and a total of 57 members. He also noted that the 2018 application is available on our Web site at <http://midwestrcsociety.org>.

Applications are to be mailed to Lynn (see the header for his address), along with a copy of the 2018 AMA membership card and a check for the dues.

Membership cards are passed out at the club meetings, or if the member wishes to get the card soon, a self addressed stamped envelop can be sent with the application.

Members who joined near the end of the year, and whose dues cover 2018 as well, still need to get Lynn a 2018

<b>Helicopter Frequencies</b> 21,27,29,39, 41
<b>Sailplane Frequencies</b> 11, 12

application and copy of their 2018 AMA membership card.

**Dave Stacer**, club treasurer, presented no formal report this month. He noted that the profit from the Mid-Am was up slightly from last year and that the open air swap shape, hosted by **Peter Waters**, brought in some good money as well. He will give a formal accounting soon.

For the first time in many years, **Rudi Reinhard**, swap shop chairman, noted that not all of the table spaces had been sold by our November meeting. He also said that he is still receiving table reservations and expects that we will have a good outcome. He noted that we are hopping for crappy weather on Sunday, as that increases swap shop attendance.

**Ken Myers**, club vice-president, told the folks in attendance about the upcoming AMA Update to be held at the Ultimate Soccer Arenas in Pontiac on the evening of Monday, Nov. 20. Details are in this issue.

**Arthur Deane**, club president, listed the people who had been nominated for 2018 officer positions.

President Roger Wilfong

Vice-president Ken Myers

Secretary Lynn Morgan

Treasurer Dave Stacer

Safety Officer Bill Brown, Jr.

Board members at large Bill Brown, Sr. and Denny Sumner

Arthur called for any other nominations. There were none. It was moved, accepted and with a unanimous vote, those nominated were elected.

After the election, Arthur shared some parting notes.

He said that the flying field in good condition. We worked hard on road to keep in good shape, thanks to the help of Jim Ouillette and his tractor, but that the entrance road will continue to need maintenance.

He was pleased to see the glider group using the field. He said that the Friends of the Field Fund remains an important factor in our achieving a positive cash flow. Unfortunately, the membership is on the decline and will continue to do so. For MWRS to survive we might have to consider amalgamation with other local clubs. He reminded us to remember that we have assets so that we should not sell ourselves short in negotiations with other clubs.

Ken Myers nominated Arthur Deane for life membership in Midwest for his eight great years as president. There was a second. The motion passed.

Arthur we can't thank you enough for eight great years of service to Midwest. Your leadership and actions were always above and beyond expectations.

**Next month's meeting is our annual dessert and social gathering.** It starts at 7:30 with **no aviation video at 7.** Bring along something to share in the dessert and snack lines and enjoy a friendly evening of slinging the bull with your friends.

There will also be a gift exchange of sorts. Bring along a wrapped, useful item that you no longer have use for. You can tag it with your name. We will exchange these items/presents during our social. The idea is not to get rid of 'junk' but to allow someone else to have something that is still useful but that you no longer have a use for.

The meeting adjourned at a little after 9.

### November Show and Tell



President elect, **Roger Wilfong**, shared his EPP Black Spirit flying wing from Banggood. The kit was very inexpensive at \$16.50, shipped. It uses a quad motor and prop, which were also inexpensive. It flies very nicely and is quite easy to keep oriented with its downward facing tiplets. It does need a lot of lead in the nose area to balance properly.

## Confessions of a Soldering Hack

By Ken Myers

After all of these years, I am still a 'hack' when it comes to soldering.

This was pointed out very clearly to me when Mike Russell came over and we rebuilt a 3S2P 2500mAh A123 pack into a 6S 2500mAh A123 pack. While we were eventually quite successful, I was embarrassed by my soldering skills, or lack there of, in front of my flying buddy.

Following that visit, I started searching the Internet and YouTube to figure out what I'd been doing wrong all these years. Some of the information I found about soldering was new to me, but other bits of information were things that I'd forgotten about over the decades.



The photo shows my set of irons in May of 2017. Some have served me well over the years, while others not so much.

Someone who knows the ins and outs of soldering can immediately see what part of my problem was.

The top most iron in the photo is a Weller 40W with a Charlie White hammerhead tip. It was used to join NiCads and NiMH cells together into "sticks" for motor power packs. I still used it to solder power leads and cell interconnects onto A123 packs.

The 25W iron below it was sacrificed to become a tool to open up pushrod openings and air flow openings in iron on coverings over balsa airframes.

The middle iron is actually a high wattage 'leading' iron used for stained glass work. I used it to

solder power leads and cell interconnects on NiCad and NiMH cells before I had a hammerhead tip.

The K&S 60W iron, second from the bottom, was not taken care of and re-tinned after every use.

The bottom iron was supposed to be a 60W iron. I picked it up from a vendor at the Toledo RC Expo for cheap. It was!!! The tip bent into a crescent shape on the first heating.

With no decent flying weather at the end of April through the first part of May, and having at least a half a dozen soldering projects in the queue, I decided it was time to improve my soldering skills.

One of the first things I ran across was an old (copy write 1998) Weller document on soldering. <https://www.astro.umd.edu/~harris/docs/WellerSoldering.pdf>

It presented a lot of good information about solder and soldering. If you need more background about solder and soldering, I recommend that you download and read the document. It provides a good reference regarding proper soldering, and WHY it is proper soldering.

I wondered why it was no longer on the Cooper Tools Web site. They were listed as the authors of the document. Some more research showed at Weller Soldering Products | Weller Distributor | Mouser [www.mouser.com/weller/](http://www.mouser.com/weller/):

"Weller distributor Mouser Electronics sells Weller soldering equipment. Weller is part of Apex ToolGroup (Formerly Cooper Tools)."

With a somewhat better understanding, I looked for soldering videos by Bruce Simpson (RC Model Reviews) on YouTube. He is my "go to" guy when beginning research on YouTube. After watching his videos about solder and soldering, I watched videos by other people on YouTube.

In the following section, I've presented Bruce's video segment first. It is followed by other video segments on the same topic, or that disagree with the information provided by Bruce.

The first annotated time indicates where into the video the segment will start and the second annotated time is where that segment ends.

### Tip and Tip Care

On wet sponge, dry brass 'sponge' and tip protection.  
Time: 3:07 - 3:54

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<https://youtu.be/nS0bEuYPJoA?t=187>

What is a soldering tip? How it is made. How to protect it.

8:26 - 16:10

[https://youtu.be/\\_exJEnZN9QI?t=506](https://youtu.be/_exJEnZN9QI?t=506)

Clean tip before start soldering

9:09 - 9:47

<https://youtu.be/y5weXfQvCgM?t=549>

Don't file the tip!!!

14:46 - 16:10

[https://youtu.be/\\_exJEnZN9QI?t=886](https://youtu.be/_exJEnZN9QI?t=886)

Weller on tip cleaning using the 'dry' cleaner

Very short video

<https://www.youtube.com/watch?v=1y1xQ0Xefac>

### Special Note:

I ran across this dry sponge while 'surfing'. I was thinking of giving one a try, but while the Web site says secure checkout on the page (<http://www.soldersponge.com/>), the https is crossed out in the URL. If anyone has tried it, I'd love to hear about your experiences with it.

Dry solder sponge - tip cleaning

<https://www.youtube.com/watch?v=BAuUengThFc>

### Useful Tools

Bruce Simpson's suggestions

5:05 - 7:18

<https://youtu.be/nS0bEuYPJoA?t=304>

EEVblog #180 - Soldering Tutorial Part 1 - Notes recommended tools

0:36 - 2:08

<https://youtu.be/J5Sb21qbpEQ?t=34>

### Difference between heat and temperature

Bruce tries to clarify the difference between the two

10:04 - 12:46

<https://youtu.be/nS0bEuYPJoA?t=604>

### Tip Temperature for Soldering

Temperatures that Bruce uses

13:37 - 18:39

<https://youtu.be/nS0bEuYPJoA?t=817>

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Leaded solder 250-deg C to 260-deg C or 482-deg F to 500-deg F

He says that 280-deg C (536-deg F) is too hot

Another recommendation:

14:07 - 14:42

[https://youtu.be/\\_exJEnZN9QI?t=847](https://youtu.be/_exJEnZN9QI?t=847)

716<sup>0</sup>F for lead solder and 725<sup>0</sup>F for lead free, but he also says he uses 650<sup>0</sup>F for lead solder, but can run as low as 550-deg F.

### Soldering Techniques and How To

Pre-tinning wire and connectors and shrinking heat shrink tubing. Demonstrated using the XT60 connector.

21:00 - 31:10

<https://youtu.be/nS0bEuYPJoA?t=1260>

Soldering connectors

25:21 - 34:05

<https://youtu.be/fYz5nIHH0iY?t=1521>

HOW TO SOLDER Beauty and the bolt less than 10 minute video that touches upon the basics in a "Fun With Flags" style

<https://www.youtube.com/watch?v=ZwU9SqO0udU>

How not to solder

31:35 - 33:40

<https://youtu.be/nS0bEuYPJoA?t=1895>

After years of hit and miss soldering success with plug-in soldering irons, and poor technique, I decided to purchase a soldering station with temperature control along with several useful size tips for the type of soldering that I do in my RC hobby.

Bruce Simpson uses a Hakko brand FX888. I noted that many of the folks in the videos also used a Hakko brand soldering station.

I watched a complete review of the current Hakko FX888D by at Sparky's Widgets on YouTube.

[https://www.youtube.com/watch?v=\\_exJEnZN9QI&feature=youtu.be](https://www.youtube.com/watch?v=_exJEnZN9QI&feature=youtu.be)

I checked out a few alternatives before purchasing the Hakko.

There was an older version of a Hakko known as the 936. Hobby King sells a 'reengineered' version for \$18.34.

[https://hobbyking.com/en\\_us/soldering-station-with-adjustable-heat-range-us-warehouse.html?\\_\\_store=en\\_us](https://hobbyking.com/en_us/soldering-station-with-adjustable-heat-range-us-warehouse.html?__store=en_us)

Bruce Simpson looks at Hobby King version and shares his opinions.

<https://www.youtube.com/watch?v=MS11aCh45bo>

Dave Jones reviews this 'reengineered' version on his EEVblog.

<https://www.youtube.com/watch?v=0GdV7XBae74>

<http://www.bestsolderingstation.net/> has ratings and reviews for soldering stations in the \$50 to \$150 range.

The Weller WES51 also seemed like a quite usable unit with decent reviews.

Both the Hakko FX888D and Weller WES51 analog soldering stations are available *through* the Home Depot Web site.

**Hakko FX888D:** \$96.37

<http://www.homedepot.com/p/Hakko-70-Watt-Digital-Soldering-Station-FX888D-29BY-P/204215981>

The Web page says that no tips are included. That must mean extra tips, as the iron comes with the laser engraved T18-D16 installed, as noted on the Home Depot page. All real Hakko tips are laser engraved with the tip number. Counterfeits have the number printed on the tip.

**Weller:** \$88.89

<http://www.homedepot.com/p/Weller-Analog-Soldering-Station-WES51/203525863>

I couldn't find tips for the Weller on Home Depot Web site.

I ordered my Hakko FX888D through Home Depot. It is not carried in their stores. I assume that my unit came directly from Hakko USA, as the tape used to seal the shipping box had Hakko printed all over it, yet the packing slip was invoiced through Home Depot.

I ordered it on April 27 and it arrived at 5:30 p.m. on May 4.

Ordering it through Home Depot, finding Hakko tape used to seal the shipping box, having a colorful consumer information sleeve around the box containing the unit, noting a typical California warning label about lead dangers on the unit's box and the unit's box containing what appeared to be recycled fibers, allayed my fears of it being counterfeit. (See: "The Counterfeit Hakko FX888D Problem" near the end of this article.)

The only piece of paper in the unit's box was the tri-folded Instruction Manual, in English.

[https://s3-us-west-2.amazonaws.com/hakko-production-images/staging/digital\\_catalog/um/fx888de20150501.pdf](https://s3-us-west-2.amazonaws.com/hakko-production-images/staging/digital_catalog/um/fx888de20150501.pdf)

As usual for me, the print was too small for me to read comfortably, so I read the downloaded version, enlarged on my computer.

After reading through the manual, I decided that I wanted to get started. I wanted to tin the new tip with 60/40 rosin core solder. In Section 7 of the manual, tip maintenance, it said to set the temperature to 482°F when soldering is finished, which was supposed to be the default preset number 1. I watched the video on initializing the presets and selecting them.

<https://www.youtube.com/watch?v=SzPYi05nw80>

The Instruction Manual noted the default preset temperatures in Fahrenheit degrees were 482, 572, 662, 752 and 842 degrees. That's not what displayed when I had set the base station to preset mode. They were set to; 600, 700, 750, 800 and 850 degrees Fahrenheit.

I then had to watch "How To Change the Preset Temperatures".

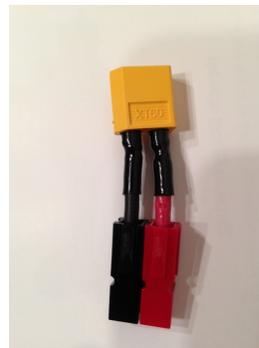
<https://www.youtube.com/watch?v=r1pl61mbhOo>

I set all five presets to the Fahrenheit temperatures noted as the default temperatures in the manual.

Preset 1, now set to 482°F, was chosen and the temperature was allowed to stabilize. The tip was cleaned using the new sponge and distilled water and then tinned with the solder.

### My Soldering Projects to Date

Since receiving it, I have successfully soldered an XT60 to APP adapter, several wire extensions, several wires and 1157 light bulbs involved in my battery internal resistance research, two A123 4S 1100mAh battery packs and a cell replacement in an older A123 pack.



### The Counterfeit Hakko FX888D Problem

I previously mentioned that the 936, sold by Hobby King, was 'reengineered' and not a fake or

counterfeit, as they did not put the brand name Hakko on the unit, even though it was 'implied' by the number.

There are true counterfeit Hakko FX888D units available on the Internet, with a lot of them on eBay. They are produced to look exactly like the real unit and they are marketed as the real thing. The counterfeit units are mostly aimed at the 220V market outside North America.

A quick search of eBay, from here in the U.S., showed two obvious counterfeit sellers of 120V units. One of the sellers was located in China and the other in the USA. It seems that most of the sellers of the FX888D on eBay use the same photos, and they are not the photos of the actual product being sold. The photos are no clue, but the price is a fairly good indicator.

Luckily, eBay has a money back and no return necessary policy on counterfeit products.

The following videos show what to look for when identifying a counterfeit Hakko FX888D.

Fake Hakko FX888D on Ebay.

22 min. 37 seconds

<https://www.youtube.com/watch?v=z-S8rtx0lzA>

Hakko FX-888D - Real vs. Counterfeit - how to spot a fake

6 min. 40 seconds

<https://www.youtube.com/watch?v=VvOJL8aAUO8>

Hakko FX888D unboxing 2

19 min. 21 seconds

<https://www.youtube.com/watch?v=FWW-kqTftUI>

### **Fake Hakko FX888D on Ebay**

<https://www.youtube.com/watch?v=z-S8rtx0lzA>

#### **What to look for:**

Fake iron shiny plastic, real one is more matte

Grip covers part of nob to get to heating element on fake iron, not on real

Loose fit on tip over heating element on fake, snug on real.

Yellow iron holder on stand of fake comes off and has no silicone ring, real doesn't come off and has silicone in the holes from the ring inside.

Iron flops around in fake stand and fits well in real stand.

No rubber feet on bottom of the fake iron holder that are on genuine.

No grounding taps on the fake on the bottom of the iron holder.

Bottom of tray that comes off is metal on fake and release button comes off. Same item on real is plastic with aluminum insert and button is attached to it.

Can clearly see the segments on the LDC of the fake and not so on the real one.

Bottom plate of base station is a rough plastic with a sticker that doesn't go all the way between the feet.

On the real one the plastic is smooth and the sticker goes all the way across between the feet.

No rubber feet on the fake but are on the Hakko.

On/Off switch is loose on fake and not on genuine.

Fake has AMEL brand IC chip and real has an unmarked, in-house Hakko chip.

Programing pins on the edge of the main board are marked on the fake and not the Hakko.

### **Hakko FX-888D - Real vs. Counterfeit - how to spot a fake**

<https://www.youtube.com/watch?v=VvOJL8aAUO8>

Fake box it came in is not recycled material, even though the graphic shows it to be. Box for genuine is recycled as can be seen from flecks in it and 'wet newspaper' smell.

No metal insert in iron holder, and there is one in a real Hakko.

He does say die cast bottom on iron holder, which differs from above.

Strain relief on fake iron is hard and not flexible like on genuine.

Plastic on base unit cover is not smooth feeling like genuine.

His knock-off doesn't have fused daughter board on top of transformer and AMEL chip.

### **Hakko FX888D unboxing 2**

<https://www.youtube.com/watch?v=FWW-kqTftUI>

David Taylor describes what happened to his fake and shows a genuine one.

Genuine has iron in top of box with cardboard over it. It is not in plastic and space is provided for the iron in the box itself.

Base unit not in plastic.

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Aluminum tray visible in iron holder during unpacking.

Fake unit he had previously did not have the metal insert in the iron stand.

Noted that cord between main unit and iron is the good silicone, nice and squishy.

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Bob is the gentleman that comes to our field with his camera. Here are a few shots he wants to share.



## AMA Update with Tim Jesky, AMA District 7 VP

Monday, November 20, 2017

Time: 7 PM - 9 PM

Ultimate Soccer Arenas

867 South Blvd.

Pontiac, MI 48341

**SPECIAL GUEST JAY SMITH**

EDITOR: *MODEL AVIATION*

AND

*PARK PILOT* MAGAZINE

New Products

Special events

Pilot's prizes

No Charge to attend.

Call or write with questions.

See you there

Joe Hass

248-321-7934

joehass@gmail.com

Some Photos of Our Models by Bob Boulware



To change your email address contact Ken Myers at [kmyersefo@mac.com](mailto:kmyersefo@mac.com)

The 2017 membership application is available at the club Web site,  
<http://www.midwestrcsociety.org>,  
for downloading with the link on the homepage.

**Upcoming Events:**

**Tuesdays**, Indoor flying at the Ultimate Soccer Arenas, 10 a.m. - 1 p.m., Oct. 24 - April 10 (details in this issue)

**November 20**, Monday, AMA Update at the Ultimate Soccer Arenas, Pontiac, MI, 7 p.m. (Details in this issue.)

**December 6**, Wednesday, Monthly Midwest RC Society meeting, EAA building, Canton-Plymouth Mettetal Airport, 8550 N. Lilley Rd., Canton, MI 48187

No 7:00 p.m. Aviation related video this month 7:30 meeting is our annual social meeting

Members are invited to bring snacks and desserts to share during the evening

There will be a gift exchange of sorts, for those who wish to participate

details about the "I no longer need this, but it is still good" gift exchange are in the December newsletter

Midwest RC Monitor  
Editor: Ken Myers  
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**The Next Meeting:**

**Date:** Wednesday, Dec. 6, 2017

**Time:** 7 p.m. aviation video(s) - 7:30 meeting

**Place:** EAA building, Mettetal Airport, Plymouth, MI