KNOX COUNTY RADIO CONTROL

July 2020 Newsletter

Knoxville TN AMA #594
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www.kcrctn.com
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2020 Elected Officers
President…….....Frank Allemand
Vice president……...John Basalone
Secretary……..Richard Love
Treasurer …….....Mike Catlin
Executive Board
Jeff Prosise
Allan Valeo
Ed Dumas
Safety Officer
Jim Maines

PRESIDENTS CORNER

The June meeting had a very loud and argumentative portion dealing with the FPV spotter rule at KCRC. As you know, the FPV proposal presented at the meeting was approved subject to a Special Committee reviewing the whole area and making its recommendation.

- Eric Knieper agreed to head up the Special Committee. Eric has been flying drones commercially for four years. His two Committee members were Ed Dumas, who has been involved with KCRC's drone oversight, and Rick Thompson, who is an FPV flyer that has been against the FAA and AMA rule from the beginning.
- The result of the Committee was to affirm the proposal, but to also rewrite it to be crystal clear: ONE FPV AIRCRAFT = ONE SPOTTER, and ONE DESIGNATED FPV AREA (like the drone course) = ONE SPOTTER SAFETY OFFICER.
- Additionally, the Committee addressed other safety issues like drone pilot call outs and drones crossing the runway.
- In summary, the position of the KCRC Executive Committee has always been the FAA and AMA spotter rules must be followed to be in legal compliance, to be protected from liability, and to not lose being an AMA club and site. Now that the AMA has eased up on many aspects of the rule, it is not particularly difficult or burdensome to follow. The

Committee believes following the FAA and AMA spotter rule at KCRC is important from a safety standpoint and also good common sense.

At the June meeting we also discussed some aspects of the clubs financial future, but it was cut short. For long term planning purposes, it is important to get a little bit more feedback from the membership about the various options. None of these items are up for a vote; it is only to keep us moving gradually but efficiently in the right direction.

- How do members feel about dues increases over the next few years?

- Just how much recruiting is realistic? We are setting up a training program (details are in the meeting minutes), but I think we all agree that recruiting and training needs to be done slowly and carefully so there is minimal impact. Again, it is important to set up the right goals and long term program.

- Barton Smith had a new idea to run several Monday to Friday summer day camps for youngsters to learn to fly. If done effectively, it could bring in a lot of money and also provide the kind of publicity in Knox County that could protect the clubs future position. One obvious question is how much this would impact flying. We should discuss the concept and its impact in detail, and see what everybody thinks.

- Now that the AMA has removed the FPV spotter requirement for drones on a designated drone course, there is no real impediment to having a drone club. Kevin Turner said he would begin to plan some events. Do we have member support to help this along a little by spending some money to make it happen faster?

The Executive Committee has agreed with me that we should have a special meeting in July to get your thoughts on these long term issues and to also plan the special event being considered for August. Based on the turnout we got at the meeting and the ongoing turnout at the field, am I right to assume many members would come out for a good event? And does everyone feel comfortable with having food?

At the special July meeting we will also have the Model of the Month and Crash of the Month, both of which got dropped for lack of time.

Frank

PS The special meeting for July will be at the normal date and time of a regular scheduled meeting, i.e., Tuesday July 14, 7 p.m., at the field.

KCRC MEETING MINUTES: JUNE 9, 2020

This meeting was held at the field with CDC recommended social distancing.

Attendees:

Officers:
President ……..Frank Allemand
Vice President… …John Baselone
Secretary……...Richard Love
Treasurer…… …Mike Catlin

Executive Committee Members:
Jeff Prosise
Allan Valeo
Ed Dumas

Safety Officer:
Jim Maines

President Allemand opened the meeting at 7:00 PM with a brief summary of the agenda.

Attendees numbered 36 in total, which is essentially the same as the last meeting in February.

Introduction of New Members

There were 7 new members added to the club last month. Three of them were in attendance and they are Dave Doucey, Barton Smith, and Eric Knieper. Barton has 3 years rc experience, Dave and Eric have 50+ years. Additionally, Eric has a professional drone pilot license.

Treasury Report and Membership Status

The ending treasury balance in February was $13,380.

Currently, the balance is $13,955.

Major expense items are electricity, portapotty, maintenance materials, rent, and AMA dues.

Frank made the point that our basic expenses come from mowing ($4000 if John did not do it), about $1000 for the potty, about $1500 for field and runway maintenance, and about $1000 for utilities and everything else. Assuming we make $1,000 on events, that leaves $6500 in expenses to be covered by dues. At $72 per per person, that would be 90 dues paying members versus the 65 we currently have. Ways to increase revenue mentioned include recruiting new members, raising dues, and eliminating honorary memberships.

Work continues on verification of some of the data in our membership roster.

Field Report and Runway Status

John Basalone reported that he has purchased some new filler and patch material to test for possible use in our next runway repair project. It was suggested that he also seek advice from the prior contractor on what they felt was needed next time and also if anything could be covered under warranty.

A new opening in the fence on the West side of the pavilion has also been made for closer vehicle access to the flight line. This will prevent damage to the field due to wet grass and soft ground near the portapotty. We are asked not to block the openings unless the space is needed due to the parking area getting filled up.

Safety Report

Jim reported that visitors are now allowed to advance to the flight line stands, but no further. Signs to this effect are posted under the flight line cover.

We were cautioned not to wear loose clothing in front of a running engine as it could be pulled into the prop.

Propellers and spinners do come off occasionally. It is suggested that you do not sit or stand in front or aside a turning propeller.

We were also cautioned to mind the position of the wings behind the wing stops (vertical posts) on the stands. If a wing gets over one of the posts, the plane could turn into a rotating “buzzsaw”. Flyers with tall high wing aircraft should also be cautious should their wings be close to the top of the stops.

Quick Informational Update Topics

Website: Jeff added the new simplified rules to the web site. Jeff is also trying to add a feature for new members to be able to pay on line when they submit their application.

Car Track: The car track has been made smaller, easier, and is ready to use. It was suggested that we should approach hobby shops that sell cars to promote the use of our KCRC track.

Drone Club: To increase use of the course, Kevin Turner has suggested that we have a drone club event.

Rockets: Very recently, we have been approached by two people inquiring about our facility to launch rockets. It will be allowed, but with different considerations due to the different type of rockets.

Newsletter: A show of raised hands by the membership at the meeting indicate that a majority do read and like the newsletter..

Event Planning

July 4th picnic: Not discussed due to lack of time.

Planning the August CubFest/all out Picnic/EDF Jet Event: Not discussed due to lack of time

New Business

Training New Pilots and Responsibilities:

A recent event occurred when a student crashed his plane into the fence on takeoff and it was badly damaged if not destroyed. He was under the supervision of an instructor who is also a club officer.

An executive committee decision was made for the club to buy the student another plane and to pursue the club providing more instructors and “true” trainer airplanes.

In addition to the two current instructors (Phil Cope and Frank Allemand), we have added two new instructors: Dave Doucey and Eric Knieper.

Since one of the club goals is to increase and retain new members, the action was taken to keep the new member motivated to continue in the hobby. This will not be repeated in the future as students will be strongly advised to use our club trainer airplanes and not their own. Students will not be responsible for club trainer plane accidents when flying with the club instructors, however, if the student chooses to use his own plane, they will be responsible for the loss.

Other comments pertaining to the training process included:

- Members were asked to not communicate criticisms or suggestions directly to student pilots, but preferably to take their comments to their instructor.

- Also concerning criticisms and suggestions, members were asked not to speak to the student and instructor while they

are flying. Using a warning sign or wearing a special shirt were some suggestions to help serve as a reminder.

- It was agreed that students and instructors could have sole use of the field for a student's initial orientation flight and for their first lessons on landing practice. However, this needs to be done very carefully and courteously so any negative impact to regular flying is minimized. Reserving specific time slots for students was discussed, but for now is not being considered. Let courtesy determine when to fly as we do with pattern practice runs, EDF jets, inaugural flights, first solo flights, etc.

Old Business

Discussion of the FAA/AMA FPV Spotter Rule:

As discussion of this topic continues to flourish and the AMA has agreed to certain changes, a proposal was put forward for how the rule should be followed at KCRC.

The discussion was LIVELY, LENGTHY, AND CONTROVERSIAL.

The proposal was approved by voice vote. It was also agreed to form a special committee to study the issue further, and to submit any changes that should be made to the proposal back to the Executive Committee and club members for their consideration.

Potential members for the committee were Eric Knieper (to chair), Ed Dumas, and Rick Thompson.

Model of the Month

Not done due to lack of time.

Crash of the Month

Not done due to lack of time.

The meeting was adjourned at 9:00PM

FASTEST PLANE AT KCRC

By Frank Allemand

Have you ever wondered who has flown the fastest plane at KCRC and how fast it has gone?

I have seen a few that kind of shocked me as they whizzed by.

I would like to start a little contest of sorts to see how fast people can fly at KCRC, and what plane they are using.

To kick it off I flew my Habu 32 edf jet the other day (June 14th) and the GPS clocked it at 113mph. Temporarily it is the fastest plane only because it is the only one in the contest. I am sure there are others considerably faster, and look forward to hearing about them.

Please fly your fastest plane at full power, use a GPS or radar gun, and let me know how fast it goes. Anything over 113mph is an instant winner.

Keep in mind the plane has to make the speed record while flying at KCRC. And for it to count in the contest there must be a successful landing getting it back down.

Steve Bayless did the speed measurement on my Habu jet plane using his GPS. I have a GPS too if anyone wants to borrow it.

So for now:

FASTEST PLANE AT KCRC

Habu 32 EDF Jet
June 14, 2020
113 mph
Pilot: Frank Allemand
Owner: Frank Allemand

DRONE AND FPV RULES FOR KCRC

Rick Thompson, Ed Dumas, and myself (Eric Knieper) have researched the matter of First Person View Aircraft activity at KCRC and as the head of the committee I am recommending the following to be adopted as rules that comply with not only the Academy of Model Aeronautics, but also the Federal Aviation Administration.

- Any and all First Person View Aircraft activity performed outside of the designated KCRC DRONE COURSE but initiated at KCRC property will require a spotter to maintain a Visual Line Of Sight of the Aircraft. ONE AIRCRAFT - ONE SPOTTER. The spotter must be next to the pilot and advise the pilot about losing Visual Line of Sight and warn about the presence of people, cars, and low flying aircraft, especially helicopters. Pilots should call out their intentions just as the Line of Sight pilots do, see recommendation #4 for call outs.

- First Person View Drone racing on the KCRC Drone Racing Course will require a Safety Officer. The safety officer is one who knows and adheres to the rules of KCRC FPV Drone Racing Rules. The Rules will be printed and available to whoever is chosen to act as KCRC FPV Drone Racing Course Safety Officer. At the same time this person will also be the spotter for all drones participating in the activity at the KCRC Drone Racing Course. ONE DESIGNATED AREA WITH FPV ACTIVITY– ONE SPOTTER/SAFETY OFFICER.

- Pilots who do not use FPV equipment and fly by Line Of Sight do not need a spotter as the pilot is in compliance with the FAA and AMA rules regarding maintaining a Visual Line Of Sight of the Small Unmanned Aircraft System. These SUAS should generally not use the runway, but be taken off and landed at the helicopter take off/landing pad and follow the same verbal courtesies as fixed wing aircraft.

- Call outs for a Helicopter/Drone/Quad are required just as for aircraft. Call outs are also needed for crossing the runway. Helicopters, Drones, and Quads may only cross the runway when there is no traffic, or cross at 200 feet or higher if there is traffic. Hovering aircraft shall give the right of way to fixed wing aircraft, especially during landing and take-off of a fixed wing aircraft.

- Aircraft of any kind are not allowed at anytime to fly over people or places that are designated for people to occupy.

FPV SPOTTER RULE: ANALYSIS AND CONCLUSIONS

On Jun 11, 2020, at 9:12 AM, Edward Dumas <ed@eddumas.com> wrote:

Hi Eric and Rick,

First, Eric, thank you very much for spearheading the effort to get the FPV spotter rules in order. I'll bet you didn't expect to be put to work so soon after attending your first club meeting!

I am happy with the FPV spotter rules as written and presented at the club meeting on Tuesday, June 9, 2020. As reference material for my decision, I looked at the FAA rules for recreational drone flying, here, and the AMA rules for FPV flying, here. The KCRC FPV rules are in-line with the requirements from the FAA, without question.

As far as the AMA rules go, the KCRC rules are in compliance with the AMA rules with the exceptions that are noted in item 6 that were communicated verbally by senior AMA officials to Frank. I have also seen email communications from 2 sources (between Frank and Andrew Griffith, District V VP, and between Brian Waagner, president of the Loudoun County RC Flyers in Northern Virginia and Tony Stillman of the AMA) that agree with the exceptions that are noted in items 3 & 4. Given that the AMA rules on FPV flying are more strict that those from the FAA, and that the AMA is willing to have exceptions to certain aspects of their rules to allow for more practical application of those rules, I agree with Frank's reasoning that not complying with every extreme detail of the AMA FPV rules is an "acceptable risk" in case of an investigation or lawsuit. Additional communications with other clubs in the area by Frank have also reinforced that other clubs are using this approach as well.

Therefore, my vote is to accept the KCRC FPV spotter rules as written and move forward.

Regards,

--Ed

Focke-Wulf Ta152 H-1

Michael Catlin

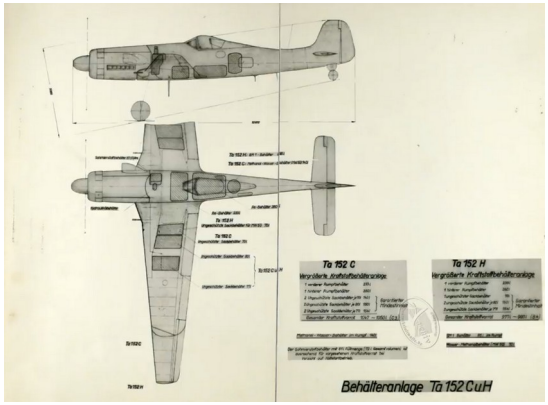
Germany was taking a beating from Allied bombing with the 8th Army Air Force by day and England's Bomber Command by night. While the daylight bombing raids were hampered by fighters both were hampered by Flac. When word of a new and improved bomber leaked from America, one that could fly nearly as fast as the current Luftwaffe fighters and fly above the range of the Flac guns, a new aircraft was ordered.

Enter the Focke-Wulf Ta152 H-1

The TA-152 H-1 had a very similar airframe to the FW-190 but in place of the radial engine it had an inverted Junkers 213 EV-12 engine with 35 Liter displacement (2135 cubic inches) with 3 valves per cylinder capable of 3300 RPM. While delivering a modest 1,726 horsepower at take off what made it special was a two stage three speed supercharger with intercooling.

The Ta-152's performance at sea level was 358 MPH compared to the P-51D's 355 MPH. At 6,500 feet the first supercharger speed begins to fail to hold boost and horsepower begins to drop as the aircraft ascends. At 8,900 feet the second stage of the supercharger engages and speed at 23,000 feet the speed tops out at 433 mph. At this altitude the P-51D can reach 430 mph. Why is this important? Because most aerial combat took place around this altitude and the TA-152 had a speed advantage, although slight.

Twenty three thousand feet was also when the Ta-152's supercharger 3rd speed engages allowing the aircraft to reach 454 mph. The P-51 running on High Blower can reach 440 mph at 25,000 feet where speed begins to fall due to the supercharger failing to hold manifold pressure. The Ta-152 begins injecting a water alcohol mixture at 37,700 feet which allows it to reach 456 mph. The P-51D would struggle to reach this altitude and would have a speed of around 320 mph giving a clear advantage to the Ta-152. But wait, there's more. At 41,000 feet the Ta-152 begins injecting NO2 or Nitrous Oxide giving a speed of 466 mph well above the P-51D's service ceiling. Not only did the Ta-152 have water and alcohol mix but it had a supply to last 30 minutes versus the Allied aircraft's 5 minute supply and a 85 Liter Nitrous tank (22.45 gallon). The Nitrous Oxide was injected into the intercooler something that could only be done if there was no fuel in the intercooler air. This was no problem as the Junkers engine used direct fuel injection where as the Merlin engine added fuel to the air before entering the supercharger.

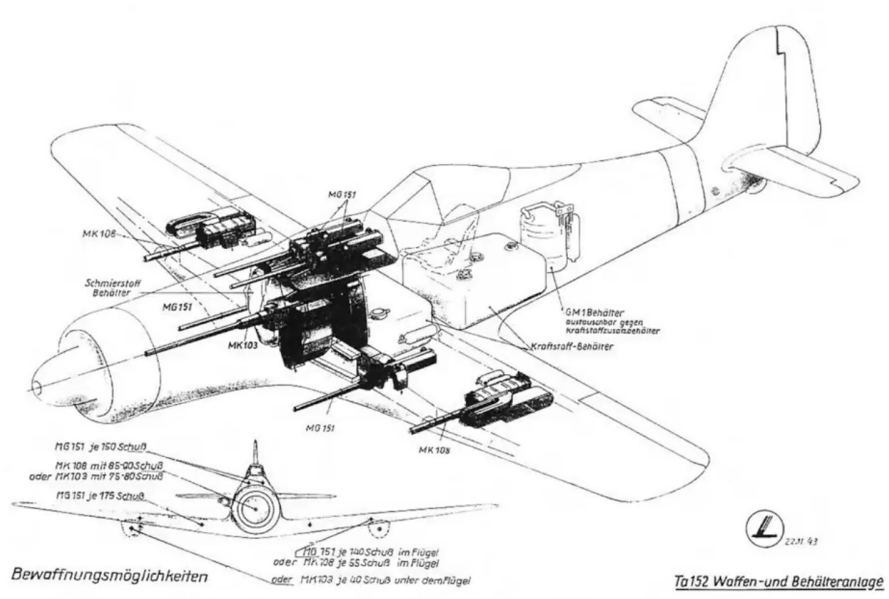


The Ta-152 H-1 also had long thin wings or what is known as a high aspect ratio. Why is this important? High aspect ratio wings allow the aircraft to fly slowly and at high altitudes 466 mph is slow where stratosphere aerodynamics are concerned. Look at the U-2 and Global Hawk. Both have high aspect ratio wings. Even with high aspect ratio wings the U-2 is nearing "coffin corner" where the speed of sound and the stall speed are the same. The Ta-152 also had steel wing spars. Whether this was because of metal shortage or the need for extra strength remains unknown but the aircraft's maneuvering performance was not reduced.

Altitude	Time of useful consciousness
45,000 feet MSL	9 to 15 seconds
40,000 feet MSL	15 to 20 seconds
35,000 feet MSL	30 to 60 seconds
30,000 feet MSL	1 to 2 minutes
28,000 feet MSL	2½ to 3 minutes
25,000 feet MSL	3 to 5 minutes
22,000 feet MSL	5 to 10 minutes
20,000 feet MSL	30 minutes or more

The Ta-152 also sported a pressurized cockpit. Once the aircraft was above 20,000 feet the cockpit began to pressurize to maintain an equivalent of 26,000 feet and at 41,000 feet the cockpit pressure reached 5.29 psi. One may ask, why not just supply the pilot with pure oxygen? Even pure oxygen at this altitude does not have enough pressure to sustain life. The Apollo spacecraft was pure oxygen at 5 psi to support the astronauts going to the moon. The Ta-152 had an engine driven compressor supplying compressed air to the cockpit. The pressure was regulated by bleeding air out of the cockpit by an outflow valve. The canopy was sealed by an inflated rubber tube which was inflated against the aircraft structure.

The Ta-152 was heavily armed with a 30mm cannon firing through the spinner, 2 wing mounted 20mm cannons, and machine guns mounted in front of the pilot in the cowling. The Ta-152 C model has shorter wings and 2 more wing mounted cannons. The battle plan was probably to climb to an altitude above the reach of Allied escort fighters, dive into the bomber formations and then outrun the escorts while climbing back to altitude.



Two aircraft survived the war. One was tested by the Royal Air Force and then scrapped and one airframe is in storage in the Smithsonian.

Thanks to Greg's Airplanes and Automobiles YouTube channel and Wikipedia

Membership

Current paid 2020 membership is 64 and I have a lot of member packets left to give out. Each packet contains a welcome letter, an information sheet to allow members to update their information, a return address label to send back corrected information sheets and the all important 2020 club sticker to be placed on the upper left side of your transmitter. If you need more than one sticker simply ask. Since we are now getting Drone members, be on the lookout for Drone stickers which have a drone image on a blue background.

After February there is a $5 penalty ($77). I am accepting mail in renewals. Send checks to (no cash please)

KCRC c/o Michael Catlin
6812 Adrian Rd
Knoxville, TN 37918

The gate combination will be emailed to current members only and only current members will receive email notices and newsletters. Newsletters will still be posted on the clubs website http://www.kcrctn.com. However, this may change in the future and only newsletters from previous years will be available to non-members.
Remember, only those with current AMA membership will be allowed to fly at the field and do not tell anyone the gate combination without checking for membership. If there is a question about membership there is a membership roster in the lock box with the applications. Non-members do not receive email notifications about club events or newsletters.

Upcoming Events
(Notice events may be canceled)

~~**July 4th flying and first class lunch**~~

House Mountain Aug 5–9. Huckfest

Tennessee Eagles Charity Event Saturday September 19 Tennessee Eagles R/C Club, Harriman TN

House Mountain Sept 25 -27. Warbirds

Bradley County Radio Control Model Aircraft Club Warbird fly-in May 23 AMA sanction event

Fall Fun Fly - October 17, 2020

Don't forget to visit KCRC Knox County Radio Control on Facebook!

230 members strong.
Daily 3 day weather predictions
Daily aviation photos
Event advertisement from other area clubs
Items for sale.
Articles, information and aviation related videos.
https://www.facebook.com/groups/817242841697766/