Sukhoi - Comments by Mike McConville (the plane designer)

Source: RCGroups.com Aircraft - Electric - Airplanes - 3D Foamies -New Product - ParkZone Sukhoi SU-29 MM

http://www.rcgroups.com/forums/showthread.php?t=2166854&page=1

#52 - Page 4
To answer a question from a few pages ago, the wing construction is hollow like the Visionair. Not solid like the Extra 300. Its lightweight, very rigid and very true shape/airfoil.

#53 - Page 4
The SAFE programming is unique to the AR636 in the Sukhoi and likely won't work in other models. The AR636 can be reprogrammed with the open stock software which will allow you to adjust the AS3X settings and control throws, but you will loose the SAFE aspects, i.e. Stagility and Panic modes.

#63 - Page 5
Stagility Mode is for learning 3D. When flying 3D sticks are not in the center. Always moving. It's one of the modes. 3D mode and Precision modes are different. Have AS3X active but no self righting. You'll fly in those modes if your already proficient in flying 3D.

#113 - Page 8
It says 4+ channel TX as the Spektrum DX4e and up all support a 5th channel for SAFE modes and a 6th for panic mode. You will have all 3 modes.

#513 - Page 35
Guys,

After reading above, I think I should clarify a few points.

1. The 636 in the Sukhoi does not work with the APP. Because it has SAFE it was necessary to have unique firmware, so it is not programmable.
2. The software in the 636 already has dual rates and expos built in. They are appropriate to each mode. HOWEVER, we recommended starting with additional rates to further tone down aileron and rudder response as I felt that while they are great for an experienced pilot, they may be too responsive for a less experienced pilot.
3. Because Channel 5 (Gear) controls which flight mode you are in and AUX1 controls panic mode it is vitally important to set-up the Tx FIRST and be sure it is right.

As AUX 1 controls panic mode, if it is not in the correct position, you will have almost no control when you move the sticks. The SAFE system will fight to return the model to upright.
Once that is correct, you have to be aware of the position of the channel 5 switch. When in Stagility mode, the system will automatically go into Panic mode if rudder, elevator and aileron sticks are at neutral and the throttle hasn't moved for 1/2 second. If you try to fly around in this mode and satisfy the conditions above for 1/2 second without meaning to, you may think the system is glitching if you weren't upright and level. This mode is ONLY for learning 3D flying. Sticks always moving.

I hope this helps some. I'm happy to answer any questions that I can.

#572 - Page 39

After reading through this thread since my last post, seems several questions have already been answered. Here are a few answers to questions that still seem to be out there.

Trimming
- First, AS3X will not crash your airplane if you do not let it fly 2 seconds without touching a control. It simply won't work ideally. The biggest thing you might notice is that in Stagility mode, it won't auto panic because the Rx will think the trim is a stick command.
This is meant to be done in the air. After you have it trimmed, just let go for 2 seconds. You won't see anything happen. The best way to do it is to go full throttle and pull the nose up and let go.
The system ALSO does the same thing when powered up. So, if for some reason you can't take your hands off for 2 seconds in the air, just finish your flight. Next time you power it up, it will set itself automatically. Just go fly....

DX7 Panic
I think the manual is wrong here. Panic is activated by AUX 1 channel. I don't think it can be assigned to the trainer switch so you have to use the Aux 1 switch and be very aware of its position all the time so you aren't in Panic model without knowing. I'm looking into that now as soon as my DX7 is charged.

Expos and Dual Rates
These are "baked in" to each flight mode. Each of the three flight modes have different dual rates and expos. When you flip the flight mode switch, you get these automatically. A lot of things happen when you flip the switch so you don't have to worry about it. Gyro gains, expos, dual rates all change with the flip of the mode switch.

Modes
You Have to be aware of what mode you are in. 3D mode and Stagility mode both have a lot of control throw (identical to each other) and are intended for slow, 3D flying. If you

don't want o fly 3D, stay in Precision mode all the time. Easiest way to tell when looking, move the elevator. Maximum elevator throw in Precision mode is about 12 degrees each direction. In 3D and Stagility, its about 40 degrees each way. Welcome to 3D flying! Except for a very few pilots I know, almost all 3D pilots fly dual rates. 3D rate is too much to fly around especially elevator.
Typical 3D flying method is to do all flying around in Precision mode and flip to 3D mode just when you are slow and doing 3D. Flip out when you return to normal flying.

Stagility Mode
Its NOT heading hold, it has attitude awareness (SAFE). The concept is that if you are doing anything (moving sticks at all) you have full control, nearly identical to flying in 3D mode. BUT, if you get disoriented and are going to crash, just let go of the sticks and it automatically goes into panic mode.
If you are not seeing any control in Stagility mode, you are not in Stagility mode, you are somehow in Panic mode.

Don't try to read into the manual. Just set up your Tx per the manual. Read the explanation of the modes and go fly. It is a very complex system, but it's all baked in so you don't have to think through it. Just set your GEAR Channel and AUX 1 to the proper switch or button, understand the modes and fly.

Maiden Flight
Maiden flights should be done in Precision mode. Actually all takeoffs should be in Precision mode. ONLY use 3D or Stagility Modes when doing 3D aerobatics.

#575 - Page 39
DX8 Set-up is in the manual on page 8.

Here is a very broken down step by step explanation.

1. Enter Set-up mode by holding down the roller on the right side of the screen and turning on the Tx.
2. go to Model Select and choose a new unused model.
3. Scroll down 4 items and select Switch Select.
4. Scroll to GEAR, select it and scroll to change it to INH
5. Scroll to FLAP, select it and scroll to change it to INH
6. Scroll to F Mode, select it and scroll to change it to GEAR
7. Scroll to Trainer, select it and scroll to change it to AUX 1
8. Turn off power switch on TX and turn back on to enter program mode
9. Press roller once to enter programming.
10. Scroll down one click to SERVO SETUP and select it.
11. Scroll down one click to TRAVEL and select it.
12. Roll roller 2 clicks to change TRAVEL to REVERSE and select it.
13. Roll roller 1 click to THROTTLE and select it.
14. Roll roller 5 clicks to change to AUX 1 and select it.

15. Roll Roller 1 click to Nor/Rev and press roller once to change to REV.
16. Turn Tx power off.

That's it. Next bind it and you are ready to fly.

#657 - Page 44
Here are a few more answers to questions I've seen come up over the last day.

DX18/9 adjustment
No, these will not allow adjustment of the gains.

Amount of throw
I'm confused by statements that there isn't enough throw for 3D flight and I suspect you are either in Panic mode without realizing it or you have programmed low rates in Dual rate are on low rate in 3D mode. 3D Mode has huge throws. About 40 deg + elevator each way, rudder to the stops and lightning fast roll rate. If you aren't getting that, please look at your Tx set-up. Low rates in 3D mode is not recommended. 3D needs the max throw that is programmed.

Also, flying around in 3D Mode will oscillate. Fly around in precision mode.
If you feel like elevator is too unresponsive in Precision Mode for your taste, here is a trick instead of trying to change servo arms. Add -Negative Expo. Start with about -15% and tweak from there. That will sensitize the neutral and give you a more responsive feel.

9303 Programming
From what I have read, your programming is incorrect. You are changing Aux 1 with the flap switch, so all that is doing is putting it into Panic mode in one switch position and out in another. Essentially your flight mode and panic switches are opposite from what you think they are.

Channel 5 GEAR controls flight modes. AUX 1 controls Panic mode.
PANIC MODE TAKES PRIORITY, so if you are in Panic Mode, that all you have. Control throw will be very limited and it will also try to return to upright all the time. You CAN NOT FLY IN PANIC MODE. I think this is probably what is happening with the guys that say there isn't enough throw.

Stagility
When in Stagility mode it will return to upright when elevator, rudder and aileron are at neutral AND throttle is not moving. Where throttle is does not matter.
Here is a trick for flying around in Stagility mode. Just slightly vary the throttle if the control surfaces are neutral. This will keep it from triggering the auto panic.

Also, the attitude in Panic can vary a little. The objective is to return the model to upright

(a familiar attitude) when you get completely disoriented. The pitch attitude can vary a little. Moving the CG will have zero effect on this.

#661 - Page 45
Location of the Rx in the model is not critical. Orientation of the Rx and identical linkage orientation on all surfaces is.

#724 - Page 49
A few comments for today. Hope they are helpful.

CG
This is to taste and the recommended starting point is conservative. Don't want guys to start tail heavy and think there is a problem. Slide it back till its where you like it. Personally, I prefer it slid back to the point that the rear end of the battery is on the EC3 plug from the ESC.

Elevator Position
Yes of course its calibrated to know level. It's a tail dragger, so it sits on its wheels nose up. If in Stagility it is seeking level flight so it will give some down elevator. Raise the tail up to level and the elevator will follow and neutralize.
By the way, this is also the case with the trainers with SAFE.

Elevator Throw in Precision Mode
This is set so a full deflection pull or push will give you maximum radius without causing a tip stall. This is how I set up all precision models even up to TOC/IMAC competition planes. Very much the proper way to set it up.
OK, as for pulling out of a dive at 10 feet....REALLY? It would take a square corner and would still likely hit the ground. Why would you want to do that?

Happy Flying Guys and to those in the US, Happy 4th! I'm headed to the flying field to fly my jet.....and SU-29MM!

#4906 - Page 328
The Rx is not locked down. Settings can be adjusted using the APP, and the SAFE (it only has panic button) can be turned off by re-flashing the Rx if you want.