South Africa F5J Team Qualifier

A full report on the first class competition in Gauteng, South Africa on May 30th, 2021.

Mike Vos

F5J flight line ready for launch. Brett Lewis closest to camera.

For those not familiar with the FAI alphabet soup of class names, F5J equates to "thermal duration gliders with electric motor and altimeter/motor run timer" and Mike provides an excellent further explanation in his article. — Ed.

It's a cool, sunny morning at GEMS field, Gauteng, South Africa, and the first group of F5J pilots is standing ready to launch for the first flight of the day. The competition system counts down to the start horn and then you hear the power unleashed to get up and out of the hand to let the timers start the

clock. This early flight requires a high launch, but how high — every meter is penalty points against your score. Then 30 seconds later all the motors cut and it's quiet. Just pilot skill and experience searching for thermals and flying the plane as carefully as possible to maximise the opportunities.

***Photo 2**: Aldo Vos launching a Maxa 4m glider.*

The run-up to the Team Qualifier competition starts early in the year with planning and communication of the dates to the community and registering the events with the South African Model Aircraft Association (SAMAA). The team qualifier events follow a more formal approach from scheduling dates to running the event. This is to ensure all pilots who would later be interested to be in the running for the South African team to represent the sport at the

next World Championship have had a chance to participate. About two weeks before the competition the online entries open.

Two days before the competition the entries close to allow time for the competition organisers to create the setup and do the random draws for pilots to rounds and groups. For this specific event, we had eight pilots entered who would then fly in eight rounds of two groups each in a random selection order. The scorecards are created for the pilots to record scores consisting of the flight time starting when the plane leaves the pilot's hand until it touches the ground, the launch height is recorded and the landing distance of the nose of the plane to a marker on the ground is also recorded.

Photo 3: Model Gliding Association (MGA) *competition setup with timer to indicate working time left in a round.*

On the day the pilots start arriving in the early morning to unpack and assemble the beautiful gliders. The Model Gliding Association (MGA) trailer is there from which the large timer display, audio equipment, gazebo, 'spots' and other items are unpacked and set up by many helping hands.

***Photo 4**: Aldo Vos chilling next to his F5J Maxa.*

At this event two brand new *Plus X* F5J planes by Vladimir were taken out still to be set up and a 3rd *Plus X* also came in all the way from Natal. What beautiful planes. The field where we fly most of the Gauteng gliding competitions is at the East Rand Polo Fields surrounded by farmlands and open areas. A pilot's briefing starts the day, to get general rules highlighted before the start.

The competition then starts and effectively runs automatically on the audio announcements and large timer board. The rounds start with announcing the pilots from the group and then a preparation time followed by 10 minutes of working time when the planes are launched and pilots must try and use as much of this time as possible. F5J is a very strategic and difficult glider class. The pilot must try and launch his 4-meter glider as low as possible to minimise height penalties but ensure a safe height to try and make the 10 minutes of working time. In the minutes and seconds before the launch the pilots will scan the air, observe wind direction changes, look for birds or insects that could indicate the presence of a thermal in the area close to the ground to target for the launch.

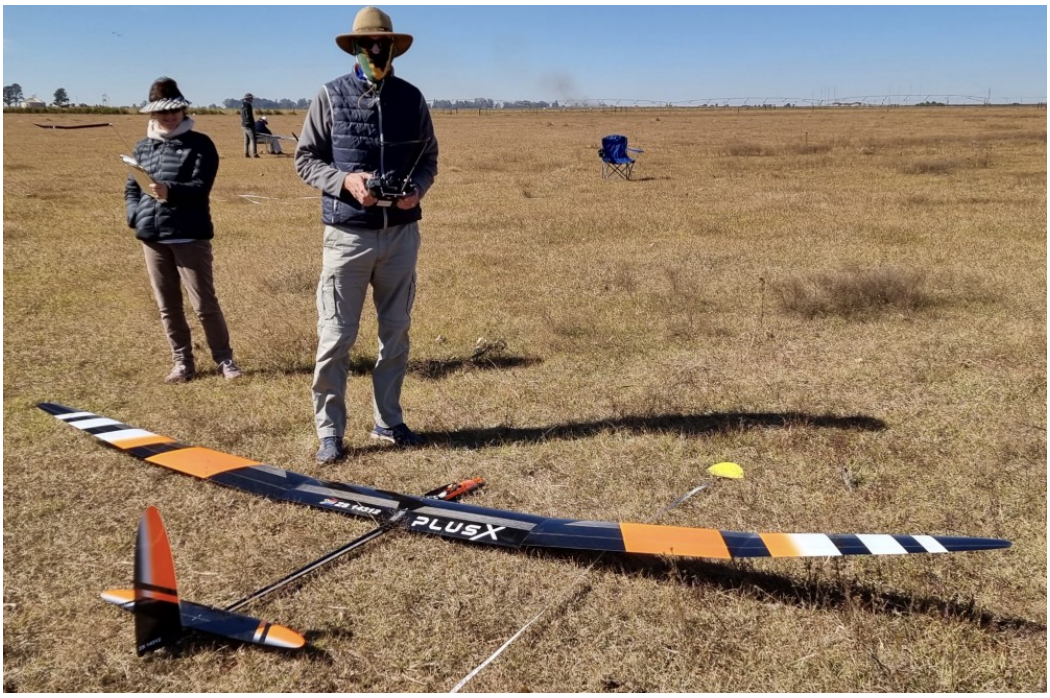

***Photo 5**: Neil Murray assisted by wife, Eileen. Landing his Plus X F5J close to the spot.*

Once the gliders are in the air, the pilots focus on the plane to observe any movement of the wings or tail that may indicate the presence of thermal activity. Then they start circling the plane in the area the thermal is believed to be in order to gain maximum height and energy from the rising air. In a competition, the pilot has a caller/timer that will stand next to him who needs to keep the time and score of the flight but also assist the pilot in helping to read the conditions and provide info to the pilot of conditions around the area. This helps the pilot to decide where the best places may be to maximise the flight. The helper will also tell the pilot how other gliders in the air perform and often a couple of gliders will use the same column of rising air. On our day of flying there was quite a bit of wind in the morning and that caused some of the first flights to be difficult and some pilots were caught and landed far out resulting in zero scores for a flight.

Coming in for landing the pilot tries to get the plane as close as possible to a landing spot. This is another tricky part with an F5J glider with quite an expensive motor and propeller setup that you rather not want to push hard

into the ground but need to stop where you want it. When gliders come in at the end of the working time the countdown and approaching planes raise the adrenaline and it is exciting to see who cuts it the closest without overflying the time and forfeiting landing points.

***Photo 6**: Brett Lewis with his F5J Shadow assisted by Wolfgang Steffny.*

The pilots help each other and although competition is stiff the atmosphere is friendly and social. The key is to have fun and enjoy it. Helping another pilot with timing also allows sharing of tips and experience to improve. Competitions are therefore probably the best scenarios to learn very fast from experienced pilots on how to improve. The competitions also push you a bit to ensure your planes are in good condition and always improving your flying skills beyond the point of just cruising around the sky.

***Photo 7**: Craig Goodrum won the lucky draw of the day.*

On this day the weather improved and around midday the pilots were starting to try lower and lower launches with varying degrees of success but always learning for the next time. Low launches are exciting. The pilot must work hard after the 30 seconds of motor run to get the weakest of thermals to lift the plane to heights to sustain the maximum working time. It is also great to watch this as the pilot can spend minutes a couple of meters above the ground and sometimes not make it and have to then at least try and get a decent landing.

After the days flying the pilots all handed in their scorecards and the calculations on the software then revealed the ranking of the pilots for the

day. Whatever the outcome, everyone enjoys it even when there are unfortunate mishaps of a plane hitting the ground with a 'thud'. That will be fixed and the plane will soar again and probably win the next round. The challenge of finding thermals and having to read these subtle signs of nature's hidden energy pockets makes glider flying exciting, challenging and fun.

At the end of the day we also had a lucky draw for all the pilots that participated and the lucky pilot was Craig Goodrum!

F5J TQ1 20210530 - Overall Results
[GEMS 30/05/2021]
www.GliderScore.com

Rank	Name	Ctry	RegnNo	Club	Score	Pcnt	Raw Score	Rnd1	Rnd2	Rnd3	Rnd4	Rnd5	Rnd6	Rnd7	Rnd8
1	GOODRUM, Craig				6872.1	*100.00*	7268.2	1000.0	*396.1	1000.0	993.6	878.5	1000.0	1000.0	1000.0
2	VOS, Aldo				6263.3	*91.14*	6263.3	*0.0	1000.0	1000.0	1000.0	1000.0	932.1	331.2	1000.0
3	GOODRUM, Michelle				6179.8	*89.93*	6179.8	860.0	1000.0	835.7	*0.0	1000.0	592.7	1000.0	891.4
4	MURRAY, Neil				5238.0	*76.22*	5238.0	577.3	642.3	924.2	*0.0	353.2	934.3	951.5	855.2
5	STEFFNY, Wolffgang				5226.9	*76.06*	5711.8	647.9	751.5	599.6	755.3	961.3	726.8	784.5	*484.9
6	VOS, Mike				4925.1	*71.67*	5227.3	1000.0	396.1	940.9	681.3	621.1	973.2	312.5	*302.2
7	VAN DER MOLEN, Jethr				3447.9	*50.17*	3447.9	0.0	0.0	0.0	*0.0	958.6	1000.0	878.2	611.1
8	LEWIS, Brett				3022.2	*43.98*	3022.2	0.0	0.0	0.0	1000.0	550.9	806.2	665.1	*0.0

***Figure 8**: F5J Team Qualifier 1 overall results for the day.*

An F5J Scoring Primer

The competition rules and scoring of F5J must be well understood to help perform well during a competition. Every pilot's score is compared to the best score of the group and calculated as a factor of 1000 of that score.

For example: Pilot A flies the best score at 3 minutes and 12 seconds and has a landing with a 50 bonus points score, that is a 'raw' score of 3 x 60 = 180 + 12, flight score is 192, add 50 points for the landing equals 242 points. This excludes the launch height penalty still to be calculated. This becomes

1000 points for that group.

Pilot B flies 3 minutes, 6 seconds and has a landing with a 40 points score — 'raw' score of 3 x 60 = 180 + 6 = 186, add 40 equals 226.
This becomes (226 / 242) x 1000 = 929.75 points for that flight group. Still excluding the launch height penalty.

Now let's add the launch height penalty calculations. Scoring starts when the aircraft leaves the pilot's hand with the motor running. The pilot may stop the motor at any point, but the higher he climbs the more the penalty points mount up. After 30 seconds the on-board system stops the motor automatically. The launch height is defined and measured by the onboard system (Altis) at the highest point during the 30 seconds of motor run and 10 seconds after the motor stopped.

The penalties are as follows: 0.5 penalty points per meter gained after release up to 200 meters and then 3 points per meter above that. As you get one point score per second flown for 10 minutes — 599 points (in practice 9:59 maximum) — if you fly to 300 meters (100 penalties plus 300 penalties) you can get a maximum of 199 points plus your landing points. Conversely if your launch height is only 30 meters because you could find a thermal and fly to a time of 9:59 minutes your score is — 599 minus 15, equals 584 points plus landing bonus points.

If we take the flight examples above and apply the following height penalties — for Pilot A, launch height of 94 meters and Pilot B launch to 50 meters scores change as follows: Pilot A — 3 min 12 sec = 192 minus 47 = 145 plus 50 landing points = 195; Pilot B — 3 min 6 sec = 186 minus 25 = 161 plus 40 landing points = 201.

Now Pilot B has the upper hand at 1000 points. Pilot A now has (195 / 201) x 1000 = 970.15 points for that flight group.

***Photo 9**: MGA Phoenix Voltanix 2m for training new pilots.*

Competitions do not require special gliders. Any glider that can launch with an electric motor, fitted with an Altis unit to limit run time and record launch height, can be used. Even a 'foamy' can be used and compete.

We want to get more pilots to fly in this exciting young class that only had its first world championship in 2019. The MGA bought three Voltanex *Phoenix V2* gliders recently with the goal to attract new pilots, especially juniors, to train and try this sport under the guidance of experienced pilots. In this way, they can join in the fun with a very low barrier to entry.

Resources

- FAI Sporting Code for F5J Competitions
- Location of Greenfield Eastern Models Soarers(GEMS) field.
- South African Model Aircraft Association (SAMAA)
- Model Gliding Association of South Africa (MGA)

*Text by Mike Vos and Jan Sime. Images by Mike Vos. Read the **next article** in this issue, return to the **previous article** in this issue or go to the **table of***

contents. A PDF version of this article, or the entire issue, is available upon request.