

FLARM – NOT SO FALSE AN ALARM

A report back of the experience at the Cape Gliding Club

Flarm has now been enjoyed at the Cape Gliding Club since the middle of 2004 and around 30 units have been sold, most of which have been installed and are fully functional.

In order to assess, albeit on an informal level, the functionality of FLARM as perceived by the pilots I caused a questionnaire to be circulated posing 7 questions. 15 pilots responded, 14 of whom answered the questions posed. I analyze the responses with respect to each of these questions.

1. Do you think / feel that Flarm provides a false sense of security?

93% of the pilots responded that Flarm did not create such a false sense of security.

Many of these answers were, however qualified to a greater or lesser extent. Some of the more important qualifications were as follows

“No, it is a useful tool, but good look out continues.”

“It gives me a secure feeling knowing that I have also an instrument watching others”

“No, absolutely not, nor do I get a false sense of security when I wear a seatbelt.”

“Yes, I’ve quite often caught myself looking at the flarm rather than outside – I think Flarm encourages you to fly more ‘in the cockpit’”

“No, Flarm simply supplements your normal scan of other traffic.”

“It can, but it shouldn’t. We are VFR pilots and are trained to fly outside and refer inside.” “An audio warning that requires a 1 second glimpse at an instrument should be something that the most/all pilots can cope with without compromising LOOKOUT”

“No. It is important, however, to understand that although FLARM may provide a useful warning, it does add to cockpit workload (albeit not very much). Since most traffic does not fly with FLARM, lookout can in no way be replaced. In the Cape we fly in a narrow band of airspace along the ridges, and lookout is mandatory to avoid rocks, but also because of the confined area of flight-paths.

However, even if all gliders are mandatorily flying with FLARM, you cannot be sure it is on or working. Even with FLARM we will not drop our mandatory radio reporting procedures to improve ‘visibility’ of glider traffic.”

2. Have you (flying without Flarm) ever been in a position where (notwithstanding your efforts to keep a good look out) you saw the other glider too late (for your own comfort)?

93% of the pilots responded yes.

Not many answers were qualified, but the following are notable as being from contest pilots, relating incidents from contest situations flown from 'flatland' contest sites.

"I had two near misses at the 2004 GRC one at the start the other on course. I've never seen a glider so close and from such an angle (the bottom). My and other experiences that year led to an extra minutes briefing by Keith (Ashman) stressing the point."

"Certainly. Once in the UK during a competition start where the flarm would have completely sorted it out - I still don't understand how we avoided a mid-air. Once on a ridge near Worcester where a less experienced pilot created a double blind-spot. This is really frightening and the only choice was to leave the ridge."

3. Have you (flying without Flarm) ever been in a position where you were unable to see the glider coming from the opposite direction (on the ridge) and passing you, despite being in radio contact?

64% of the pilots responded yes (one of the pilots who recorded a "no" was in fact involved with me in just such as situation – but I have not changed his answer to "yes").

One comment included

"Yes, very scary."

4. Has any of the above two examples happened since you have had Flarm installed?

100 % of the pilots responded "no". (two pilots who did said "yes" qualified their answer indicating that they had not observed the other traffic until warned by Flarm, which I have accordingly taken as "no")

"On multiple occasions, I have been alerted to a (previously undetected) glider passing in the other direction by the FLARM. On one occasion the 'other' glider was on the wrong frequency. I have not avoided a 'near miss' with the flarm (yet) and I have a goal never to need it for this."

5. What are your personal views on Flarm?

Notable comments were as follows

“Must be in all sailplanes especially at FAWC. At Gariep I experienced a language, frequency and position reporting problem ...

You have to do is speak to the people that fly in the French Alps, I have first hand experience. Each club has at least one death per season from mid air collisions. Contact the CFI at Vinnon for horror story's.”

“An excellent aid. Not a cure al, but a very good safety feature”

“It is a good solution – I question the audible signals though ... too many beeps syndrome. The Flarm remote panel should be mandatory and positioned high enough that while the pilot’s head is upright, he/she will see the Flarm visual indications”

“A great concept but essentially and AID that should never substitute the need for a CONSTANT GOOD LOOKOUT. The danger to me lies in the pilot becoming complacent. Say you are flying the ridge with a glider behind you and your flarm constantly warning you of the gliders presence. Suddenly your flarm registers another glider on your 1 o clock but you keep thinking it is the glider behind you so you don't refer inside to your flarm.(a different audio tone for the second glider can get your attention) Same with a flarm equipped tug plane that has a glider on tow. The pilot can become so use to a flashing flarm showing the glider behind him that he ignores/omites seeing a new warning. Let me add that I would chose to receive any form of additional warning/caution as a secondary supplement to keeping a good lookout.

I have had occasions when the FLARM has alerted me of other gliders in the area before I have spotted them particularly when they are in or close to a blind spot. In the mountains the presence and position of other planes is predictable but in the open they are not, particularly when you have been flying by yourself and someone joins you unannounced for a "free ride". This is of great concern when I intend leaving the lift area and there is suddenly a glider in my escape rout. This is when I have found it most useful.”

“It reduces the probability of mid-air collision. It won't prevent all, but if it alerts pilots to even 50% of the unseen situations, it will halve mid-air rates. IMHO, it should reduce collision rates by more than 50%”

“As long as the pilot understand the function and mounts it high on the panel (when the alarm goes you need to be scanning quickly) I think it is invaluable. Regardless of the SSSA view, we will not allow entry into the Cape Gauntlet without a FLARM.

There is a valid concern that the use of the wireless frequencies that the FLARM currently uses is on the increase and interference is ever more likely. However, this is

unlikely to have a significant impact on the South African use of the FLARM in the medium term future.”

6. Should Flarm be compulsory for all gliders?

The overwhelming answer (69%) was yes.

Notable comments were as follows

“Yes, without a doubt. It can only work at its most reliably when every glider has one.”

“Difficult to say. It would be interesting to see how many, if any, life's could have been saved due to midair's had Flarms been installed. I do think the tugs should each get one.”

“Yes, definitely. System is not effective unless everyone complies. Should absolutely be mandatory for X-C.”

“No, not all. There are a number of reasons why a glider might not have Flarm. Or the Flarm in a particular glider might not be operational on a particular day. Thus it could prove difficult and very unpopular to enforce.

A significant problem is that the units do not have ICASA approval. Thus there is a grey area surrounding their legality, which would make it very difficult to force installation in all S African gliders.

Another problem is that these units are not constructed to the same standard as other A/C equipment, such as radios, transponders and loggers. The software has also proven to be less "mature". Thus we can expect more equipment problems with Flarm than we have with other avionics. If a Flarm packs up, is it fair to ground the glider until such time as the Flarm is repaired?

Some clubs (eg with few gliders and lots of space) will get less benefit from Flarm than others.

A single Flarm is useless. You need to get a significant portion of a glider fleet flying in a specific area to be equipped to make it work.

Thus it makes a lot of sense to campaign for Flarm installation at a Club or Contest level. In this environment a lot more benefit can be derived from making Flarm compulsory than other technologies such as ELT's or transponders. It is also easier to have skills and spares on hand to maintain the equipment. Focusing effort on specific identified fleets of gliders will derive maximum benefit.”

“I should very much like to see this. I am concerned about making additional equipment compulsory as I think we should be very circumspect about constraining the rights of

individual pilots. However, I am persuaded that the benefit it is sufficient and would add tugs and motorgliders to this list.

How many more pilots have to die in mid-air accidents before we realize that the cost/benefit equation in the cockpit (workload vs instrument benefit) is massively positive?

[[Interesting thought: could I sue another pilot because they are not taking reasonable steps to remain visible to other pilots? Perhaps not, but what if that pilot flies into me because they don't have a Flarm?]]

The FLARM consumes negligible power and provides a logging facility (which includes logging of alerts and warnings. I would like to see a system on each airfield which automatically interrogates gliders on landing and downloads the data for (anonymous) analysis.”

7. What does your spouse say about Flarm being compulsory for all gliders?

Notable comments included

“Without FLARM she believes gliding is a widow maker (RSA has 2 widows).”

“There will be less orphans in the world.”

GENERAL

COMMENTS

Cape Gliding Club runs a monthly contest known at the Cape Gauntlet (see <http://capegauntlet.blogspot.com/>). It is obligatory to have an operational Flarm unit in order to fly in the contest.

In summary one of the pilots stated as follows

“I see few downsides and significant benefits for installing a FLARM. I would recommend its compulsory installation in all gliders, motor-gliders and tugs.

The SSSA may need to be cautious around the compulsory specification of an instrument which is essentially using an uncontrolled frequency.”

I wish to thank those pilots who has responded, I am certain that the responses shall be of assistance to the SSSA Exco.

I associate myself with the positive responses to Flarm.

Sven Olivier