



It's been a long, soggy winter. Welcome back to Halton Aero Club and your aviation adventures!

In this edition:

Build up to the new season **Threat & Error Management**

How are You going to mitigate against Threats and Potential Errors when you fly next?

Thoughts from your Flight Safety Team & RAF Halton Ops — based on recent In-Forms & DASORs



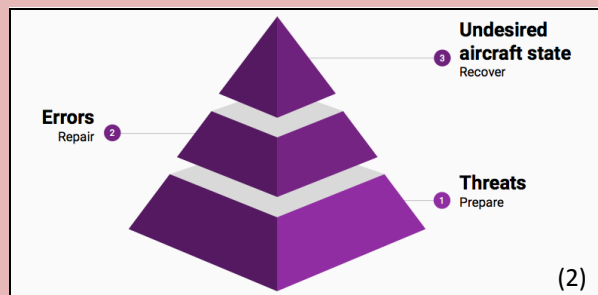
Welcome to the Roaring '20s

It feels like 16 years ago when the Wright Brothers made the first controlled, sustained flight of a powered, heavier-than-air aircraft. They were venturing into the unknown, hopefully that's not the case for you! With the help of RAF Halton Ops we've got some recent In-Form & DASOR influenced thoughts, so that you don't become a statistic on the History of Aviation Wikipedia page.

We've based this edition around a commercial aviation concept, Threat & Error Management (TEM). TEM does what it says on the tin. Here's the textbook definition:

It's like defensive driving for a motorist. The purpose of defensive driving is not to teach people how to drive a vehicle (e.g., how to change gears) but to emphasize driving techniques

that people can use to minimise safety risks (e.g., techniques to control rear-wheel skids). Similarly, TEM does not teach pilots how to technically fly an airplane; instead, it promotes a proactive philosophy and provides techniques for maximising safety margins despite the complexity of the flying environment. In this sense, TEM training can be framed as defensive flying for pilots (1).



Some thoughts on Threats and potential Errors...

Individual

Daily Inspection. When was the last time you completed a DI on this aircraft? If it's been a while you could ask someone to bring you up to speed. This is just one example of where your skill may have faded - you are human after all!

Flying Skills. You may be *just about* current, but are you competent? Grass / Paved / X-wind / Glide / Flapless landings, EFATOs, Stall Recognition / Prevention / Recovery.

Mass & Balance. How does your weight differ from last season? Have you got different luggage compared to normal? Have you calculated the M&B and performance figures for the actual aircraft you'll be flying in? Do you normally carry passengers?

At Halton

Other operators. Who else is operating today?

- How will they affect your **Taxy**? Taxy route with Chilterns operating. Separation with other SSEA & Microlights at the hold. Who will be around and behind you when you when completing your full power checks?
- **Launch Failures:** treat every glider launch as if it will be a failure. What will your actions be if you are airborne and a launch failure occurs?

FOD. Loose articles are out to get you! Both in your aircraft and across Halton. We've had some great reporting about FOD found on aircraft DIs - are you happy that your controls are not going to get jammed when you're airborne?

- An update from the SFSO Flt Lt Sarah Hindley: "Please remain vigilant as there are many sources of FOD. Having large skips at the edge of the airfield is not ideal, but something that we must live with; do not drive vehicles any closer to the skips than is necessary as FOD may be picked up in the tyres and moved around the airfield. If you put objects in the skips, make sure everything goes in and nothing else gets out. If you see FOD pick it up and bring it to Ops Sqn or call us to collect it; we will try to work out where it comes from to prevent a recurrence. Finally, remember that some FOD comes from aircraft and their crews!"

Further Afield

Weather. How will the weather affect your sortie? Are there any gliding competitions on? Will all the GA traffic operate in a certain area to avoid a weather system?

Loss Of Safe Separation. How do you make sure you're not going to collide with another aircraft, apart from using a good lookout with the Mk1 eyeball?

How confident are you on the radio? A 'Traffic Service' is a great help.

Are there likely to be non-transponding aircraft in the area you're operating in?

Have you considered the risks your lithium battery poses to you, your crew and your aircraft?

Halton has recently experienced a recent thermal runaway event (whilst charging a battery on the ground). This was despite all the correct precautions being taken: the battery was removed from the aircraft prior to charging & the correct charger (supplied by the battery manufacturer) was being used.

Lithium battery thermal runaways can be caused by damage or design / manufacturing quality / integration shortcomings. Examples of devices include smartphones, tablets, spare batteries, power banks, electronic cigarettes. As a pilot, what can you do to minimize the risk of lithium battery fires and explosions?

- Charge any of your own Portable Electronic Devices before you go flying. Don't charge them in the aircraft.
- Don't carry any PED that has been damaged.
- If you drop your PED and can't locate it, don't move your seat whilst airborne. Due to their small size, PEDs can easily be trapped in seat mechanisms. Crushing of PEDs during adjustment of the seat can lead to thermal runaway.
- If you replace your smartphone battery, make sure the work is carried out by a reputable company.

You're human. You will naturally make mistakes and encounter risky situations in aviation. Rather than try to avoid these threats and errors, work to manage these issues so you don't end up in an uncomfortable position. The goal is to maintain safety margins by detecting and responding to events that are likely to cause damage (threats) as well as mistakes that are most likely to be made (errors).

While you wait for the weather to clear...

Puzzle 1 (Medium, difficulty rating 6.50)

2	5				4		6	3
				9		4	5	
		9						2
1		3	4					
6	2					4	8	
				5	6		1	
3						1		
	7	6		2				
5	1		7				2	9

Puzzle 2 (Hard, difficulty rating 8.75)

2		8				6		
			7				8	
	6		8			9		2
4				8	7		2	
	8		4		3		1	
	7		9	6				4
3		5			4		9	
	4				9			
		7				4		5

Puzzle 3 (Medium, difficulty rating 6.40)

	9			8		5		
2	3					6	4	
			5	3	6			2
			4	9			5	
			8		1			
	4			7	5			
7			6	4	8			
	2	9					3	6
		6		2			8	

Puzzle 4 (Hard, difficulty rating 8.40)

	1	2		9				7
	9	4			3			
		8		2	1		5	
4						8	6	
			1		6			
	3	5						1
	4		3	8		5		
			2			4	9	
	5			1		7	2	

Puzzle 5 (Hard, difficulty rating 8.40)

7			9		2		4	1
						3		9
1			4		8	2		
2		5					6	
3								5
	8					1		2
		4	7		9			8
8		1						
6	2		8		1			3

Puzzle 6 (Medium, difficulty rating 6.40)

			3			7		
		3		8			6	
		9	1		4			
1			8	7			4	
	2	7	4	1	6	8	3	
	8			2	3			6
			7		1	3		
	9			5		4		
		5			2			

Thanks go to those who have contributed to this edition. Please share your lessons and thoughts so that those closer to home and further afield can learn from them.

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