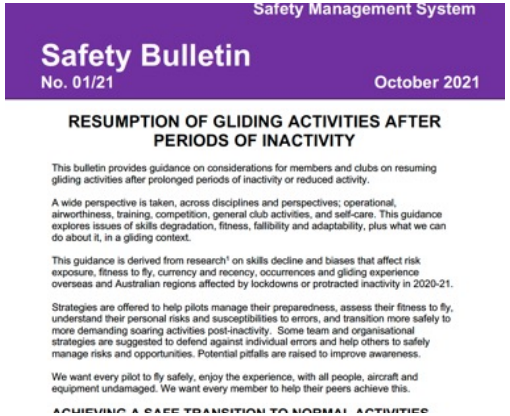
GFA CFI CONFERENCE 25 NOV 21

SAFETY CONSIDERATIONS & LESSONS,

DOING SAFETY BETTER

DREW McKINNIE
GFA SAFETY MANAGER



Safety Management System

Safety Bulletin
No. 01/21 October 2021

RESUMPTION OF GLIDING ACTIVITIES AFTER PERIODS OF INACTIVITY

This bulletin provides guidance on considerations for members and clubs on resuming gliding activities after prolonged periods of inactivity or reduced activity.

A wide perspective is taken, across disciplines and perspectives; operational, airworthiness, training, competition, general club activities, and self-care. This guidance explores issues of skills degradation, fitness, fallibility and adaptability, plus what we can do about it, in a gliding context.

This guidance is derived from research[1] on skills decline and biases that affect risk exposure, fitness to fly, currency and recency, occurrences and gliding experience overseas and Australian regions affected by lockdowns or protracted inactivity in 2020-21.

Strategies are offered to help pilots manage their preparedness, assess their fitness to fly, understand their personal risks and susceptibilities to errors, and transition more safely to more demanding soaring activities post-inactivity. Some team and organisational strategies are suggested to defend against individual errors and help others to safely manage risks and opportunities. Potential pitfalls are raised to improve awareness.

We want every pilot to fly safely, enjoy the experience, with all people, aircraft and equipment undamaged. We want every member to help their peers achieve this.

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The Gliding Federation of Australia Inc.

Trading as Gliding Australia

Safety Management System

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ACHIEVING A SAFE TRANSITION TO NORMAL ACTIVITIES

Achieving a safe transition to normal activities, post reduced activity, begins with clinical assessments of what new risks or degradations may have occurred, in multiple contexts:

Pilots: How long since last flight? Three flights in 90 days? How many hours and launches in last year? Where are you on the Currency Barometer (see Appendix 1)? How current were you before inactivity? What sort of flying profile? How demanding was that activity.

SAFETY CONSIDERATIONS, LESSONS, DOING SAFETY BETTER

SKILLS DECAY & CURRENCY –

VARIABLES & PROFICIENCY -

ATTENTION & DISTRACTION & VIGILANCE –

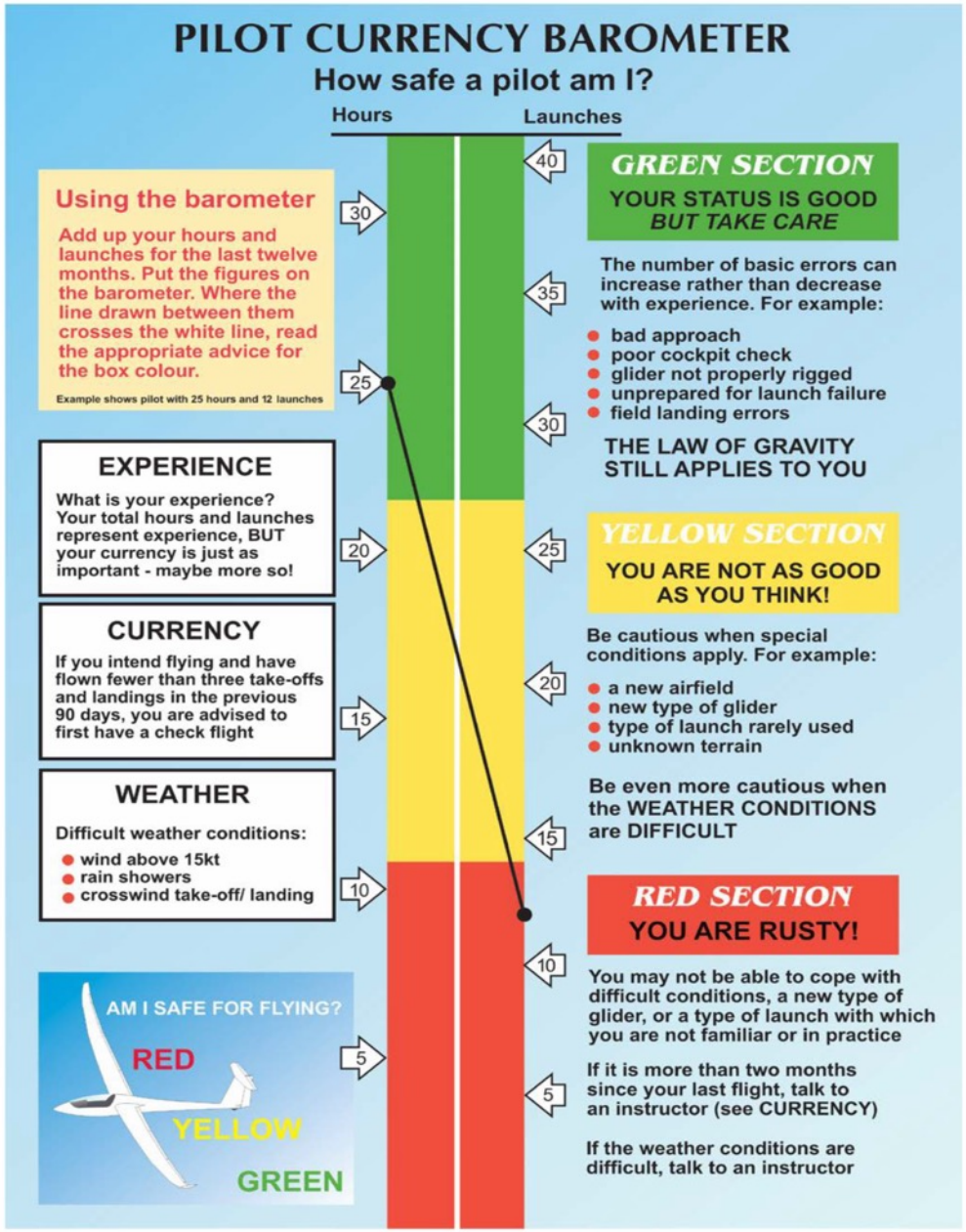
RISK APPETITE V OPPORTUNITY -

TEM & FEEDBACK-

DOING SAFETY BETTER

APPENDIX C - CURRENCY BAROMETER

(Courtesy of the British Gliding Association)



Gliding Federation of Australia OAN 01/20

SAFETY CONSIDERATIONS & LESSONS

CURRENCY

33 HR
42 L

WHO IS STILL PRONE TO MAKE ERRORS?

25 HR
12 L

IS ONE FLIGHT IN BENIGN HOME CONDITIONS ENOUGH?

12 HR
8 L

COMPLACENCY?
OPTIMISM BIAS?
TOO MUCH TOO SOON?

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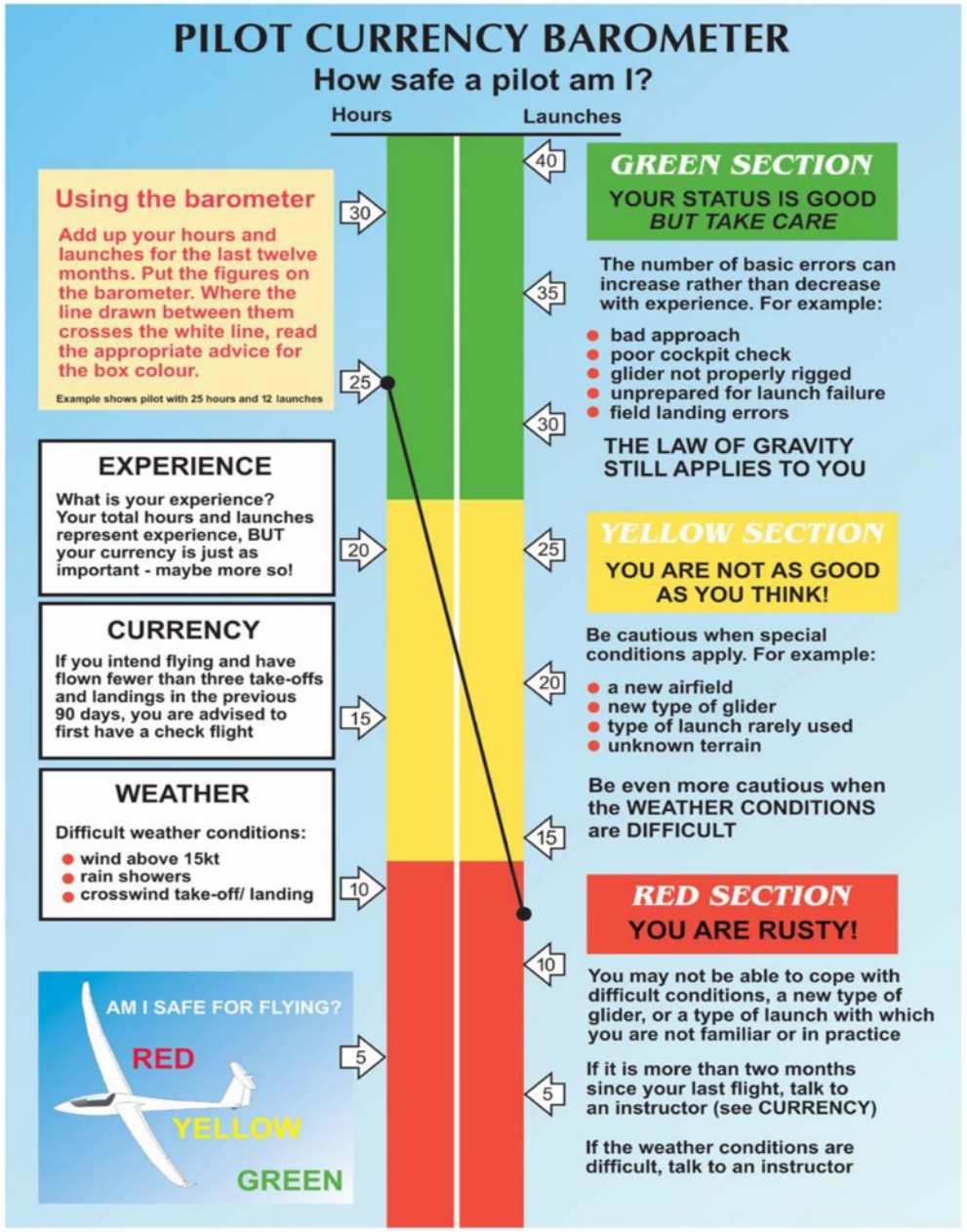
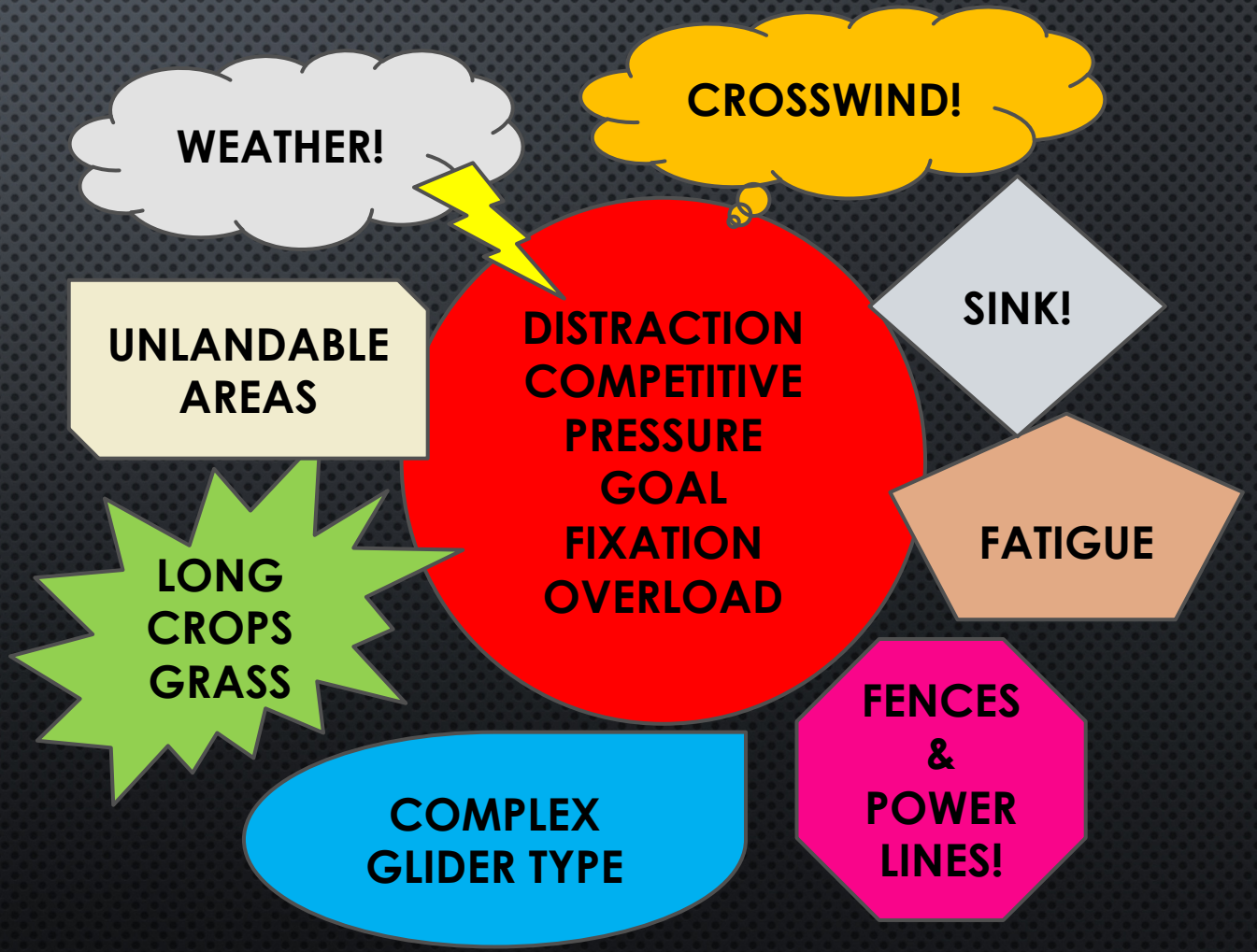


Gliding Federation of Australia OAN 01/20

SAFETY CONSIDERATIONS & LESSONS

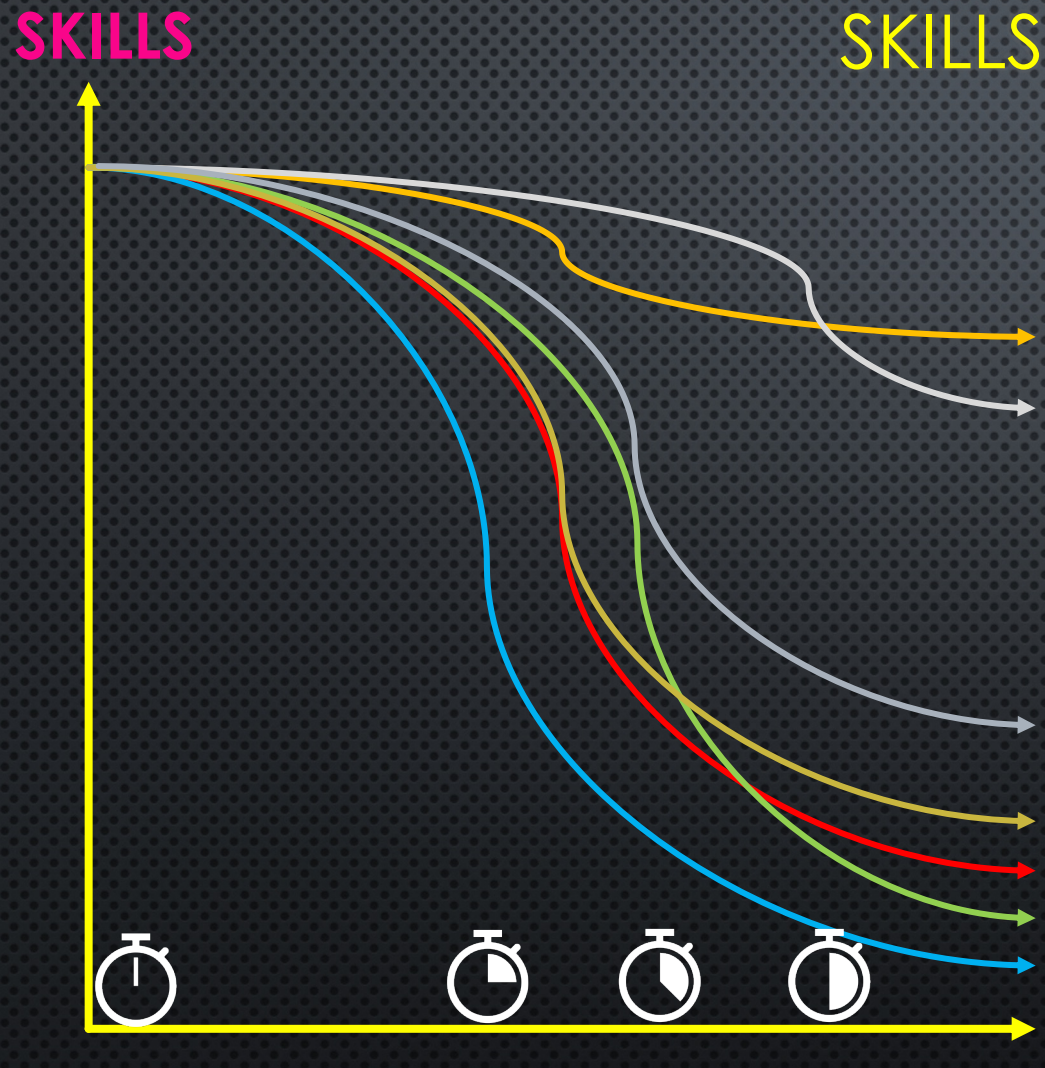
CURRENCY

PROFICIENCY – NO OF VARIABLES!



SAFETY CONSIDERATIONS & LESSONS

SKILLS DECLINE



PROCEDURAL – CONDITIONED INSTINCTIVE RESPONSES

PROCEDURAL MEMORY – LEARNED REACTIONS

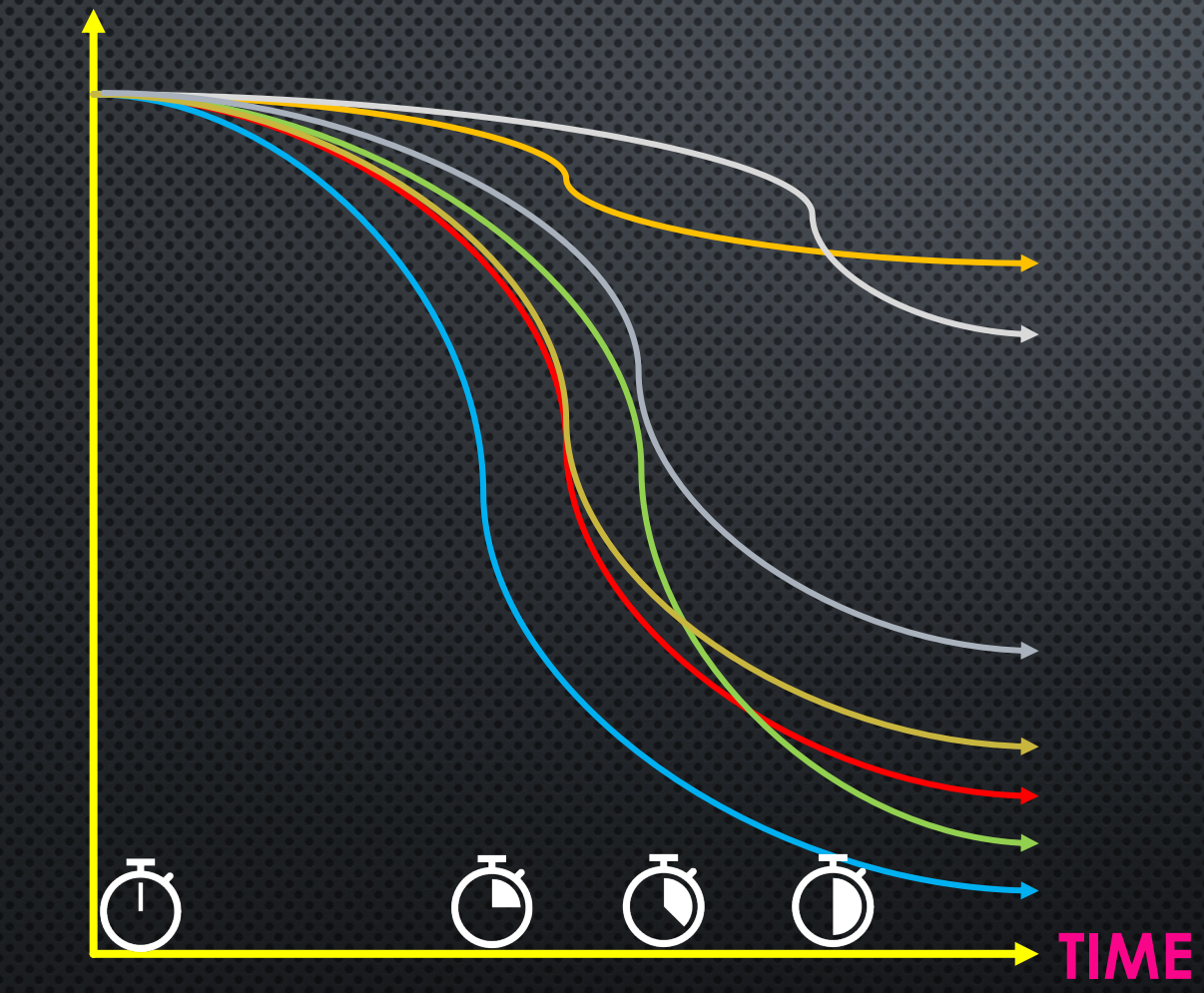
MORE COMPLEX – ACTIVE THOUGHT DEPENDENT

ANTICIPATIVE MULTIFACTOR SKILLS

HIGH PERFORMANCE SKILLS

SAFETY CONSIDERATIONS & LESSONS

SKILLS DECLINE – COMPOUNDING FACTORS



STRESS

SLEEP DISRUPTION

LIFESTYLE DISRUPTION

ECONOMIC PRESSURE

LOWER FITNESS

INATTENTION

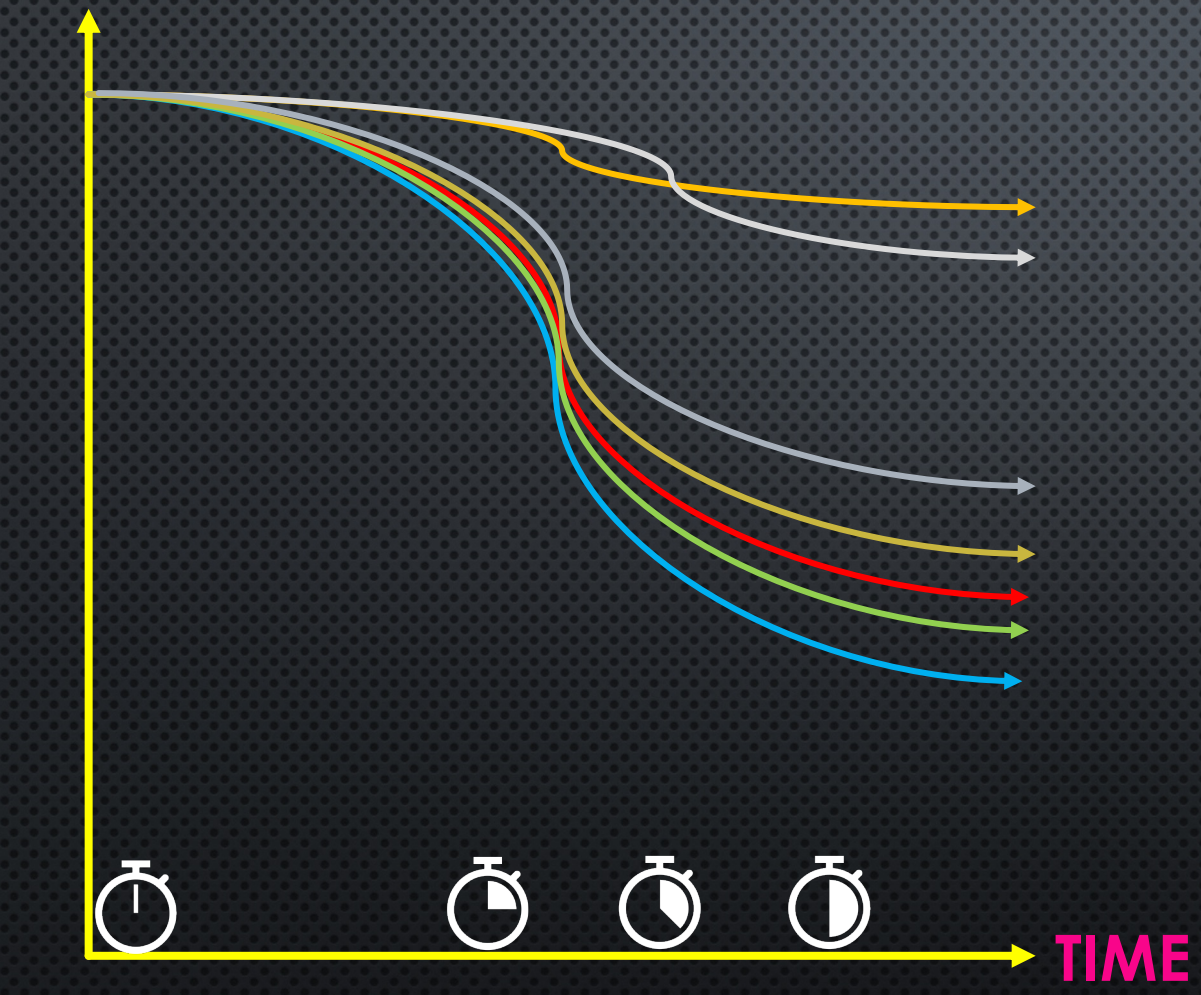
OPTIMISM BIAS

OVERCONFIDENCE

COMPLACENCY

SAFETY CONSIDERATIONS & LESSONS

SKILLS DECLINE – REDUCING ITS IMPACT



REFLECTION

MENTAL REHEARSAL

PROCEDURAL REHEARSAL

PRACTICE SIMILAR SKILLS

STAY ACTIVE

SIMULATOR TIME

DOUBLE CHECKS DUAL WORK

THREAT & ERROR MGT

FOCUS & VIGILANCE

SLOW & STEADY

SAFETY CONSIDERATIONS & LESSONS

PATTERNS & TRENDS

INSURANCE CLAIMS UP >50%

LESS FLYING MORE ACCIDENTS

EXPERIENCED PILOTS MORE RISK

TOO MUCH TOO SOON

TOO MANY VARIABLES

OPTIMISM BIAS

COMPLACENCY – LOW VIGILANCE

COVID CURRENCY

The BGA safety team highlights the concerns of pilot currency, particularly due to events in the past 10 months

■ Clubs can obtain printed copies of Safety Briefings from the BGA Office.

DEPENDING upon the winter weather and Covid constraints, your next flight could come a long time after your last. Pilot 'currency' is always a concern, of course, but the past 10 months or so have produced some particular problems.

STRAIGHTEN UP & FLY RIGHT

Loss of currency

Psychologists have shown that our *procedural* memory, which holds our learned skills, routines and reactions, deteriorates less quickly than that which supports more deliberate thought processes. This means that, like the ability to ride a bicycle, our handling skills can survive quite long periods without use. Experienced pilots may be able to fly manoeuvres competently despite being rusty, and convince themselves and others that they are still in good form.

More complex tasks and active thought processes in flying suffer more [1]. A study for the FAA [2] found that, while mid-hours power pilots could perform go-arounds and crosswind take-offs quite reliably after a significant lay-off, short field landings, flight at minimum airspeed and instrument-related tasks were more seriously affected, and pilots were less able to 'stay ahead of the aircraft'. Each task takes more thought and workload, reducing our remaining capacity and affecting both our situational awareness and our ability to prioritise and make decisions. Cues – particular circumstances that prompt actions such as lowering the undercarriage – are especially eroded.

These are important factors when we

SAFETY CONSIDERATIONS & LESSONS

PATTERNS & TRENDS

ACCIDENTS - LOW CURRENCY

MISSED CUES

POOR PRIORITISATION

RIGGING ERRORS

DI ERRORS

GROUND HANDLING

LAUNCH

COVID CURRENCY

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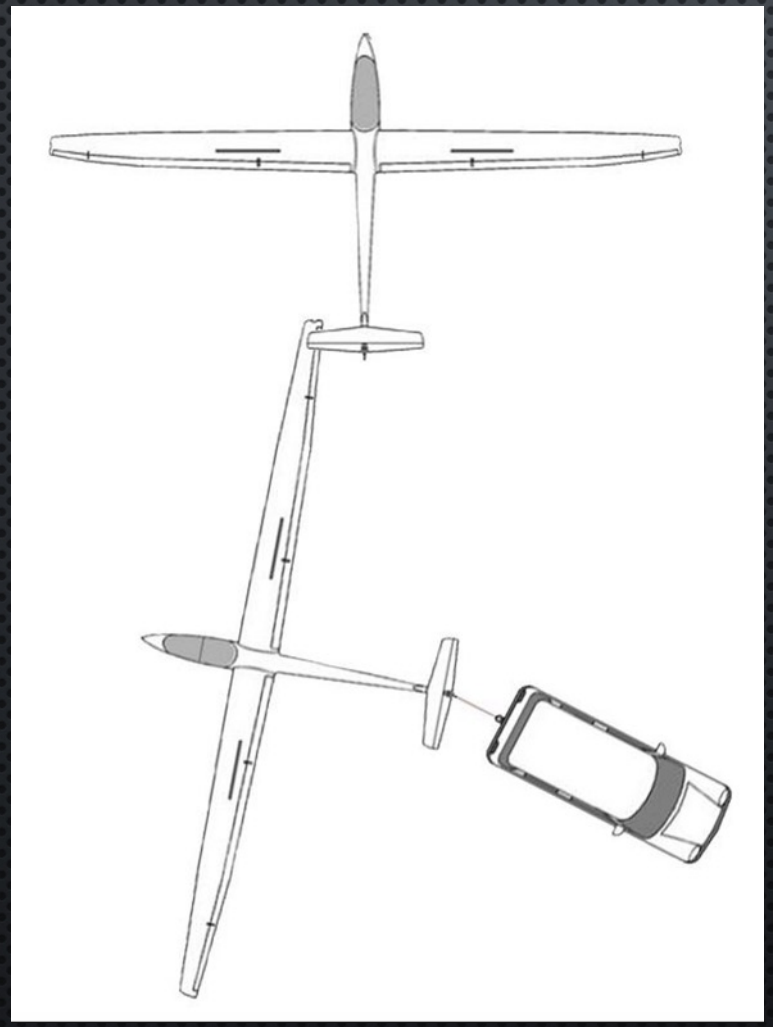
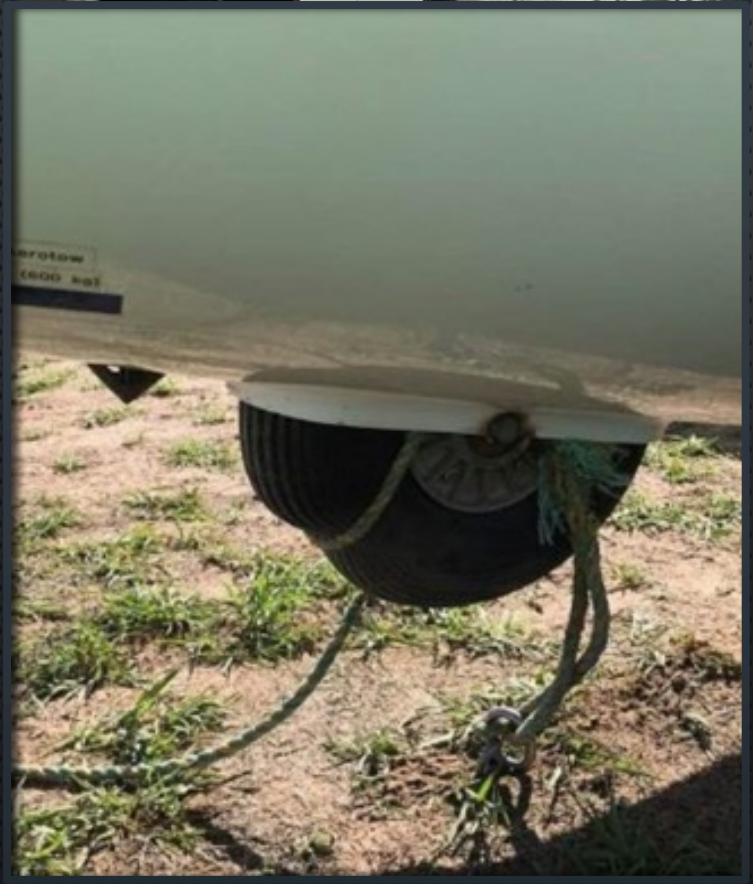
SAFETY CONSIDERATIONS & LESSONS

AUSTRALIAN EXAMPLES



GROUND HANDLING

- TOWING INTO OBSTACLES
- TOWING INTO SMALL GAPS
- INJURIES TO PEOPLE
- BROKEN TOWING EQUIPMENT
- IMPACTS WITH VEHICLE REAR
- HANGAR RASH DAMAGE
- TRACTOR UNFAMILIARITY



SAFETY CONSIDERATIONS & LESSONS

AUSTRALIAN EXAMPLES

LAUNCH ACCIDENTS & LOW CURRENCY

- DAMAGE OUTLANDING NEXT TO AD AFTER BOW IN ROPE
- XW WING DOWN LAUNCH LOSS OF CONTROL
- AEROTOW WITH AIRBRAKES OPEN
- LAUNCHES – ROPES FOULED IN NOSEWHEEL

SAFETY CONSIDERATIONS & LESSONS

AUSTRALIAN EXAMPLES

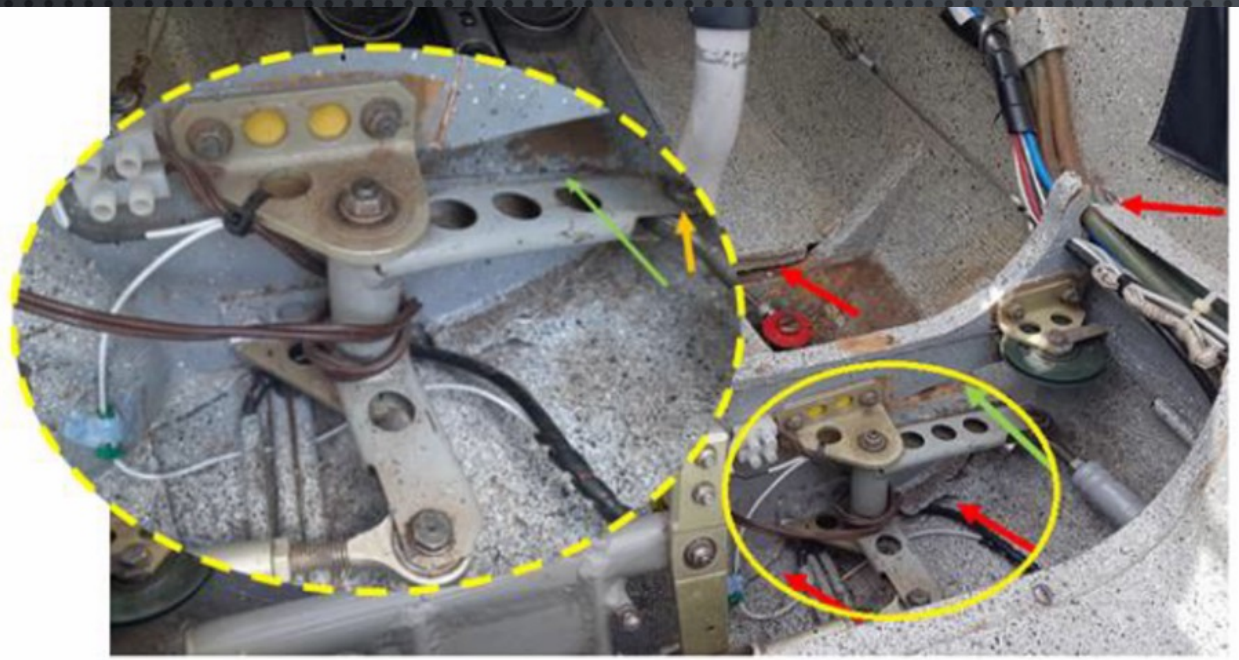


Photo 4 - The nut on the bolt (orange arrow) contacted with the bulkhead preventing movement of the bell crack through the cavity (green arrow).

OCCURRENCES - LOW CURRENCY / LOW VIGILANCE / HUMAN FACTORS

ALTIMETER SETTING ERROR 1000' LOW – AIRSPACE INCURSION

TAKE UP SLACK, ROPE OVER WING, RINGS JAMMED IN AILERON

HEAVY LANDING W LATE INTERVENTION - NEXT FLIGHT NO LEFT AILERON

SAFETY CONSIDERATIONS & LESSONS

AUSTRALIAN EXAMPLES

LOW CURRENCY & CASCADE OF HUMAN FACTORS

EXPERIENCED PILOT
– LAYOFF
– LOW CURRENCY
– OLDER
– POSSIBLE DEHYDRATION
– PRESSURED INTO LAST FLIGHT
– UNDERSHOOT
– LOW VISIBILITY
– ANGLED APPROACH
– ELECTRIC FENCE

SAFETY CONSIDERATIONS & LESSONS
AUSTRALIAN EXAMPLES

RIGGING & DI ERRORS

SAFETY CONSIDERATIONS & LESSONS

DOING SAFETY RIGHT

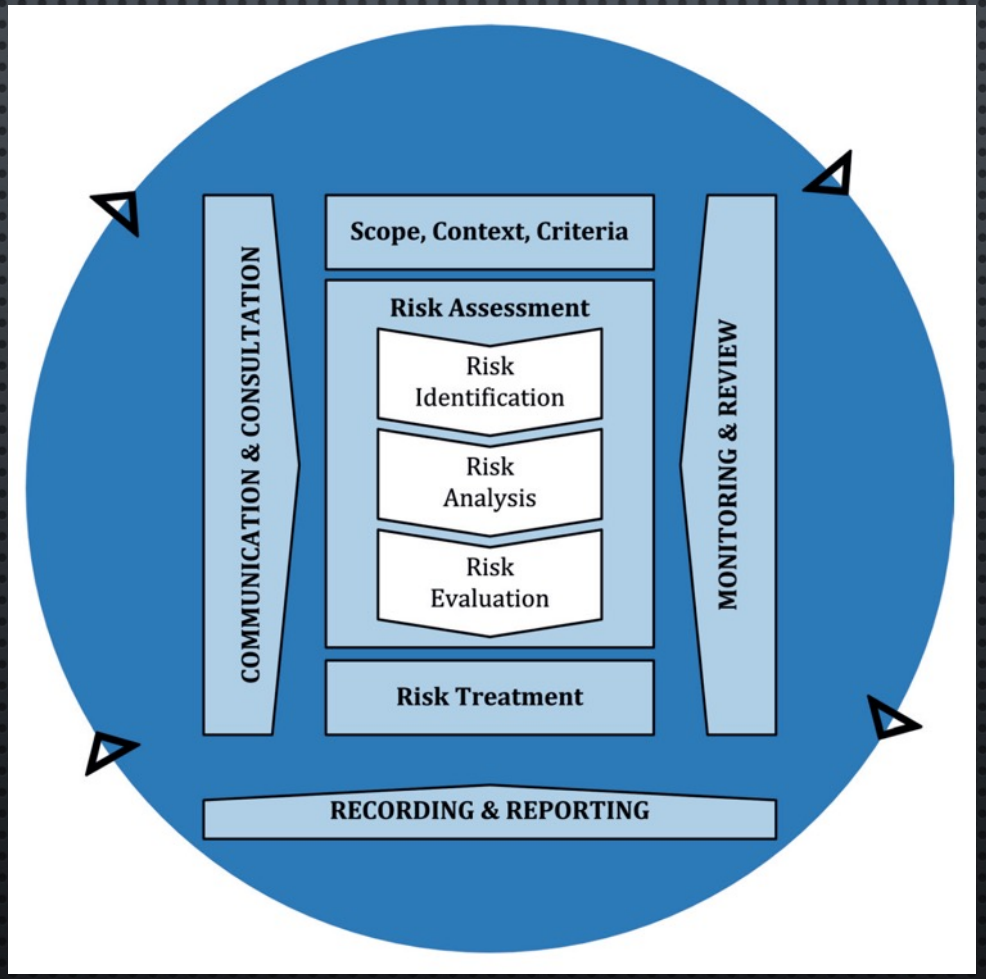
- BUILDING POSITIVE CAPACITY
- DIVERSITY OF OPINION, OK TO VOICE DISSENT
- ABILITY TO SAY STOP! PAUSE! WARNING SIGNS!
- RISK DISCUSSIONS KEPT ALIVE
- DEFER TO EXPERTISE, THE PERSON WHO ACTUALLY KNOWS (MIGHT NOT BE THE ONE IN CHARGE!)
- TALKING - BREAKING HIERARCHIES
- CREATING IMPROVEMENTS
- PRIDE OF WORKMANSHIP / PROFESSIONALISM
- DECLUTTERING

SAFETY CONSIDERATIONS & LESSONS

RISK & OPPORTUNITY MANAGEMENT

WHAT IS YOUR RISK APPETITE?

WHAT IS YOUR CLUB'S RISK APPETITE?



WHAT IS THE RISK TO REWARD RATIO?

WHAT CAN YOU GAIN FROM GRADUAL PROGRESSION?

AS/NZS 31000:2018 – Risk Management Guidelines – Risk Management Process

SAFETY CONSIDERATIONS & LESSONS

THREAT & ERROR MANAGEMENT

GLIDING AUSTRALIA

Gliding Australia Training Manual
Trainer Guide

Unit 25 - Threat & Error Management

KEY MESSAGES

- Threats come at you, while errors come from you.
- Our aim is for Pristine Flights - any variation to a straightforward pristine flight is a threat.
- Mismanaged threats can lead to errors.
- Errors can lead to Undesired Aircraft States (UAS).
- A UAS can lead to an aircraft incident or accident.
- Pilots must use TEM strategies to mitigate against Threats and Errors.

SAFETY CONSIDERATIONS & LESSONS

THREAT & ERROR MANAGEMENT

THIS WEEK AT NARROMINE?

THUNDERSTORMS	RAIN	HAIL
WIND SHIFTS	BUGS	SOFT GROUND
LONG CROPS	LONG GRASS	WIRES
HIDDEN FENCES	GA AIRCRAFT	LOW SUN
OTHER GLIDERS	FUEL CONTAMINATION	
FLAT BATTERY	TYRE PUNCTURE	

OVERCONFIDENCE	PRESS-ON-ITIS
MISCALCULATION	LOOKOUT BREAKDOWN
DROP WING GROUNDLOOP	NAVIGATION ERROR
MISHANDLE CONTROLS	OBSTRUCT CONTROLS
WATER BALLAST VENT TAPED UP	DI ERROR
RIGGING ERROR	

SAFETY CONSIDERATIONS & LESSONS

SYSTEMIC VIGILANCE

CURRENCY
PROFICIENCY
POOR CHECKS
JUDGEMENT
SA LACKING
OVERCONFIDENT
ERRORS

CROSS CHECKS
TEAMING
HASTEN SLOWLY
BUILD SKILLS &
PROFICIENCY
CULTURE
VIGILANCE

UNDESIRED
AIRCRAFT
STATE

WHY? X 6
SYSTEMIC CAUSES
TEM & VIGILANCE
CULTURE & HF
BEHAVIOUR
DOING SAFETY
SYSTEMS RIGHT

EARLY
INTERVENTIONS
CLARITY OF
RESPONSE
+VE CULTURE
VIGILANCE

INCORRECT
RESPONSES
POOR ERP SMS
BLAME CULTURE
ADVERSE
CONSEQUENCES

UPSTREAM – PREVENTION PROBABILITY MGT

DOWNSTREAM – CONSEQUENCE MGT

SAFETY CONSIDERATIONS & LESSONS

DOING SAFETY RIGHT

- EXTEND IMSAFE TO ARE WE SAFE?
- HASTEN SLOWLY !!!
- STERILE ENVIRONMENTS – COCKPIT, LAUNCH POINT, HANGAR, VEHICLES
- FATIGUE MANAGEMENT
- LIMITATIONS / ELEGIBILITY FOR COMPETITIONS
- RISK APPETITE – RISK V OPPORTUNITY
- THREAT & ERROR MANAGEMENT

LOOK AFTER YOUR MATES,
LET THEM LOOK AFTER YOU