The Gliding Federation of Australia Inc

Occurrence Summaries

01/01/2015 to 31/12/2015

Region(s): All

Club:

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Executive Manager, Operations
The Gliding Federation of Australia Inc.

31-Dec-2015

The Gliding Federation of Australia Inc
SOAR Accident and Incident Occurrences
General Statistics

Date From: 01/01/2015
Date to: 31/12/2015

Damage	**VSA**	**SAGA**	**GQ**	**WAG**	**NSWGA**	**Total**
Nil	26	8	29	12	15	90
Write-off	1		1		1	3
Minor	12	7	12	9	14	54
Substantial	10	5	4	3	13	35
Total	**49**	**20**	**46**	**24**	**43**	**182**

Injury	**VSA**	**SAGA**	**GQ**	**WAG**	**NSWGA**	**Total**
Nil	44	20	44	24	39	171
Fatal	1					1
Minor	4		2		4	10
Total	**49**	**20**	**46**	**24**	**43**	**182**

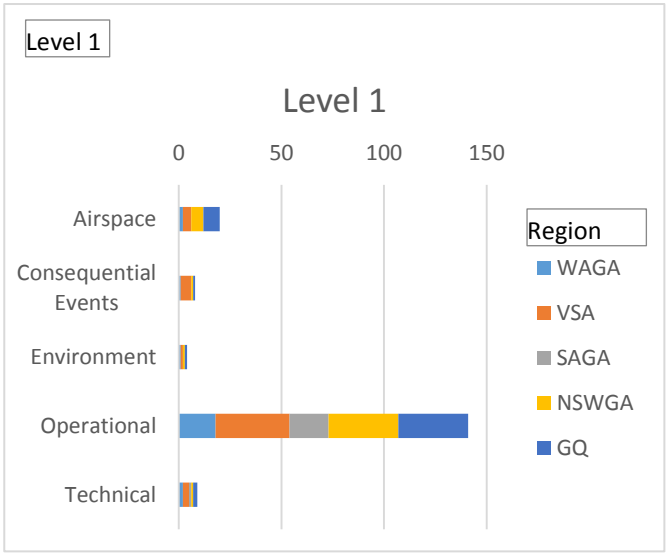
Phases	**VSA**	**SAGA**	**GQ**	**WAG**	**NSWGA**	**Total**
Outlanding	3		2		7	12
Ground Ops	6	4	6	2	4	22
Launch	12	3	12	5	4	36
Landing	19	11	14	15	22	81
In-Flight	9	2	10	2	4	27
Thermalling			2		2	4

Type of Flight	**VSA**	**SAGA**	**GQ**	**WAG**	**NSWGA**	**Total**
Cross-Country	9	1	4	5	7	26
Ground Ops	5	4	5	2	4	20
Local	21	12	20	13	16	82
Training/Coaching	11	2	13	2	9	37
Competition	2		4	1	6	13
AEF	1	1		1	1	4
Total	**49**	**20**	**46**	**24**	**43**	**182**

The Gliding Federation of Australia Inc
SOAR Accident and Incident Occurrences
Classification Level 1

Date From: 01/01/2015
Date to: 31/12/2015

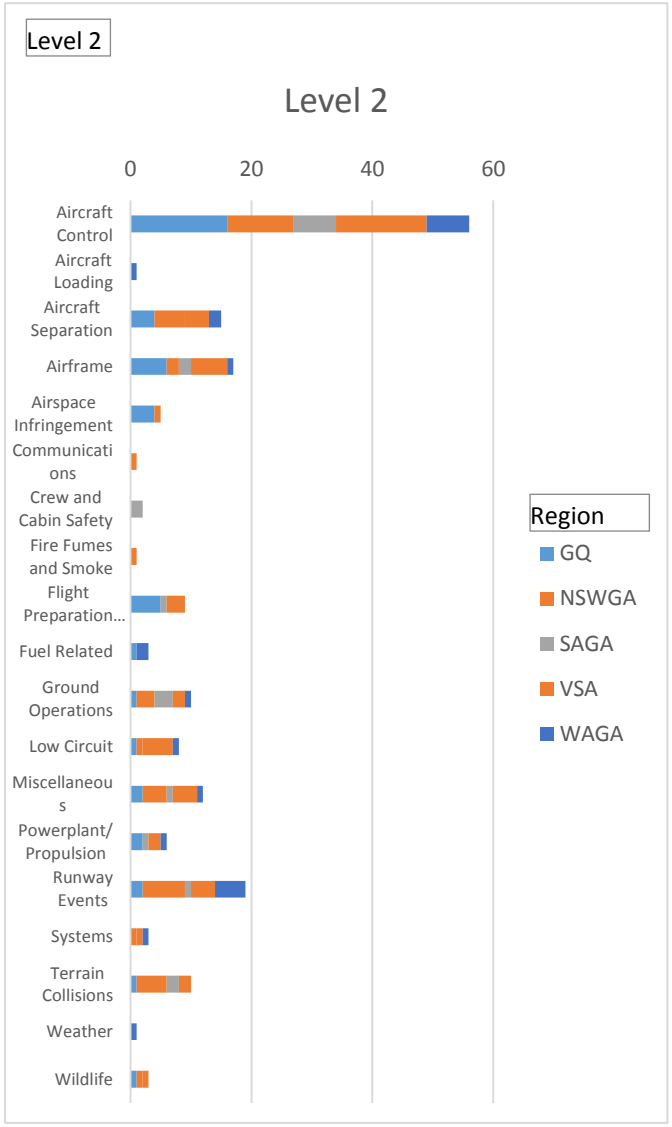
Level 1	VAG	VSA	SAGA	ISWG	GQ	Total
Airspace	2	4		6	8	20
Consequential Events	1	5		1	1	8
Environment	1	1		1	1	4
Operational	18	36	19	34	34	141
Technical	2	3	1	1	2	9
Total	**24**	**49**	**20**	**43**	**46**	**182**



The Gliding Federation of Australia Inc
SOAR Accident and Incident Occurrences
Classification Level 2

Date From: 01/01/2015
Date to: 31/12/2015

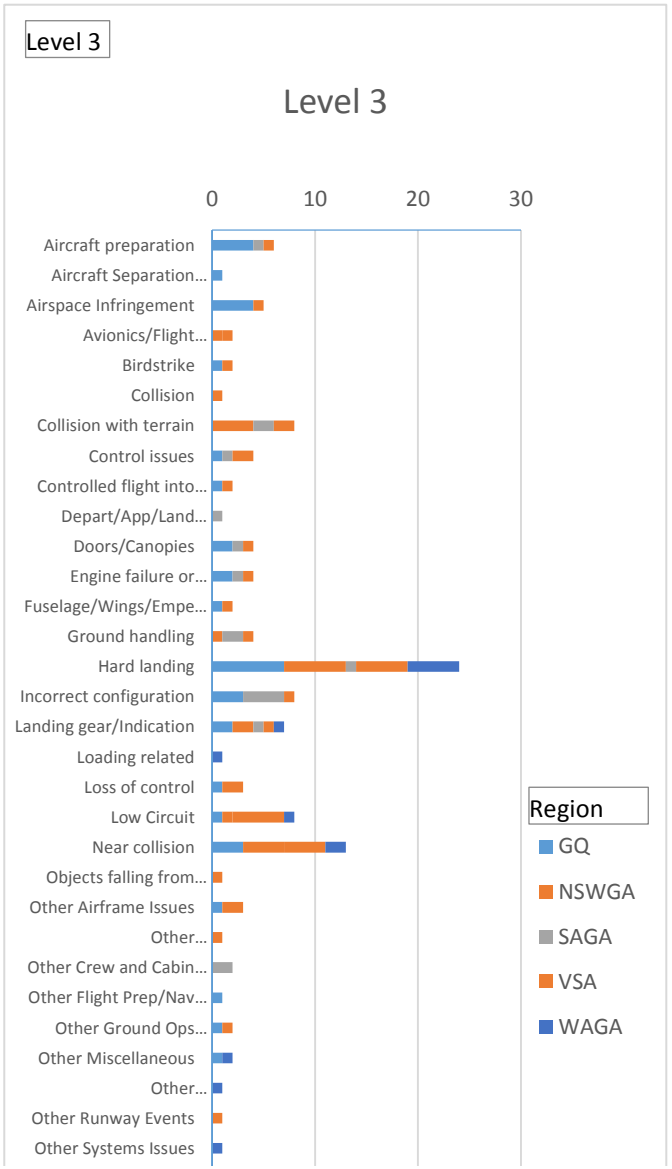
Level 2	GQ	NSWGA	SAGA	VSA	WAGA	Total
Aircraft Control	16	11	7	15	7	56
Aircraft Loading					1	1
Aircraft Separation	4	5		4	2	15
Airframe	6	2	2	6	1	17
Airspace Infringement	4	1				5
Communications		1				1
Crew and Cabin Safety			2			2
Fire Fumes and Smoke		1				1
Flight Preparation/Navigation	5		1	3		9
Fuel Related	1				2	3
Ground Operations	1	3	3	2	1	10
Low Circuit	1	1		5	1	8
Miscellaneous	2	4	1	4	1	12
Powerplant/Propulsion	2		1	2	1	6
Runway Events	2	7	1	4	5	19
Systems		1		1	1	3
Terrain Collisions	1	5	2	2		10
Weather					1	1
Wildlife	1	1		1		3
Total	**46**	**43**	**20**	**49**	**24**	**182**



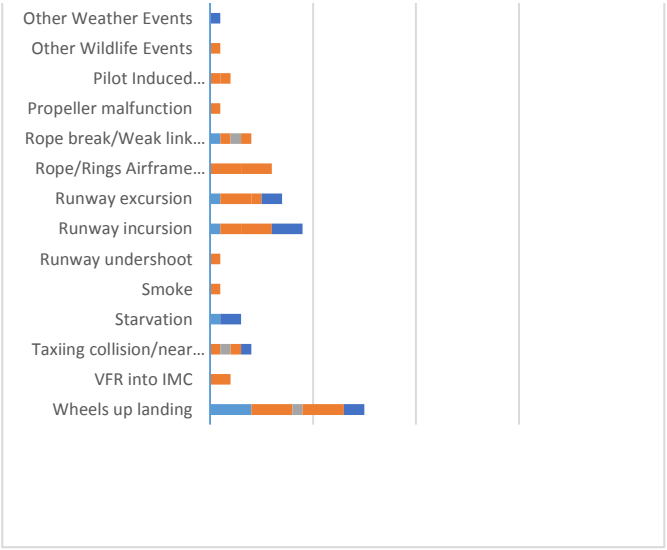
The Gliding Federation of Australia Inc
SOAR Accident and Incident Occurrences
Classification Level 3

Date From: 01/01/2015
Date to: 31/12/2015

Level 3	GQ	NSWGA	SAGA	VSA	WAGA	Total
Aircraft preparation	4		1	1		6
Aircraft Separation Issues	1					1
Airspace Infringement	4	1				5
Avionics/Flight instruments		1		1		2
Birdstrike	1			1		2
Collision		1				1
Collision with terrain		4	2	2		8
Control issues	1		1	2		4
Controlled flight into terrain	1	1				2
Depart/App/Land wrong runway			1			1
Doors/Canopies	2		1	1		4
Engine failure or malfunction	2		1	1		4
Fuselage/Wings/Empennage	1			1		2
Ground handling		1	2	1		4
Hard landing	7	6	1	5	5	24
Incorrect configuration	3		4	1		8
Landing gear/Indication	2	2	1	1	1	7
Loading related					1	1
Loss of control	1			2		3
Low Circuit	1	1		5	1	8
Near collision	3	4		4	2	13
Objects falling from aircraft				1		1
Other Airframe Issues	1			2		3
Other Communications Issues		1				1



Other Crew and Cabin Safety Issues			2			2
Other Flight Prep/Nav Issues	1					1
Other Ground Ops Issues	1	1				2
Other Miscellaneous	1				1	2
Other Powerplant/Propulsion Issues					1	1
Other Runway Events		1				1
Other Systems Issues					1	1
Other Weather Events					1	1
Other Wildlife Events		1				1
Pilot Induced Oscillations		1		1		2
Propeller malfunction				1		1
Rope break/Weak link failure	1	1	1	1		4
Rope/Rings Airframe Strike		3		3		6
Runway excursion	1	3		1	2	7
Runway incursion	1	2		3	3	9
Runway undershoot		1				1
Smoke		1				1
Starvation	1				2	3



Date	2-Jan-2015	Region	VSA	SOAR Report Nbr	S-0468		
Level 1	Operational	Level 2	Aircraft Control	Level 3	Loss of control		
A/C Model 1	Nimbus 2	A/C Model 2					
Injury	Fatal	Damage	Write-off	Phase	Outlanding	PIC Age	71

GFA FIELD INVESTIGATION - FACTUAL INFORMATION:

On 2 January 2015, at 1341 Eastern Daylight Savings Time, and while flying in the vicinity of Chesney Vale Victoria, a Schempp-Hirth Flugzeugbau Nimbus 2 glider departed controlled flight during a low-level right-hand turn and impacted the ground with the right wing and nose. The aircraft came to rest inverted and was substantially damaged. The pilot suffered fatal injuries.

The aircraft crashed in a rural paddock on the edge of a lake that was situated adjacent to a farmer's Airstrip. The Australian Transport Safety Bureau was notified shortly after, but declined to investigate. A Gliding Federation of Australia (GFA) Field Investigation was undertaken the following morning to assist the Police. Follow-up visits were conducted on later dates to gather more detailed information including flight data analysis, with ATSB assistance to extract data from a damaged data logger.

FLIGHT:

The recorded flight data shows the pilot launched at 12:05:51. The recorded pressure altitude of 557ft AMSL is in line with the aerodrome elevation of 570ft AMSL and is considered accurate enough for the purpose of analysis. It is unlikely that the pressure altitude would have changed significantly during the course of this flight. The last point recorded was at 13:41:17 at an altitude of 715ft AMSL. The flight data shows that the pilot took three thermals just north of the home airfield to a height of 5,000ft and then travelled North. The pilot then took several more thermals on range of hills just north of a lake. The last useful thermal was to 5200ft. The hills are a well-known thermal source and if conditions are weak it would be a good strategy to look for thermals in this area. The thermalling was done with consistent tight circles and with calculated Indicated Air Speed (IAS) below 50kt much of the time. The calculated IAS and ground speed figures are derived from the differences between successive GPS fixes and cannot be relied on for momentary

airspeeds. However it would appear that the glider was being flown at airspeeds consistent with good practice. The pilot twice attempted to find thermals north of the hills but turned back to the same area of hilly country where he had found thermals previously. On the last part of the flight he failed to find a thermal and was quite low over the hills. The rate of descent since his last thermal was severe and he found himself in a difficult situation but one which most glider pilots experience from time to time. At 13:20 he was at 5206ft; he turned back towards the home airfield at 13:25 at 3461ft QNH, which would give a very marginal possibility of a return to the airfield in still air. However, the descending air became stronger and by 13:35 he was at 1800ft and still 12km from home. The pilot travelled to the shores of the lake at no more than 500ft AGL, where there is a known private landing strip. He made a few searching turns and then straightened, flying towards this landing strip. At the boundary of the landing strip paddock the pilot made a right hand turn that would have required a 360 degree turn to align with the landing strip. However, this turn was not completed before the accident occurred. There is nothing in the data that suggests a reason for this turn. The indicated airspeed readings show values between 41 to 45 knots at this point of the flight. The altitude in the final part of the recorded flight was around 800ft AMSL, or approximately 250 ft AGL. The Pilot Operating Handbook for the Nimbus 2 states that the straight and level stall speed of the glider is about 34 kts at low wing loading, increasing to between 37 to 39 kts with water ballast carried. Stall speed also increases with increasing bank angle. Gusts and turbulence may cause momentary increases in angle of attack, hence gliding training emphasises a safe speed near the ground of 1.5 times stall speed recommended for pilots operating in the circuit or close to the ground. For the Nimbus 2 this is about 50 to 55 kts.

AIRCRAFT:

Examination of the occurrence site and wreckage indicated that the glider was in a right-hand turn when it struck the ground in a right-wing-low, very steep nose-down attitude. The aircraft came to rest inverted on a westerly heading. The leading edges of both wings left ground scars and the nose left a shallow indentation in the ground. The fuselage forward of the wing leading edge, which includes the cockpit, was mostly destroyed at impact. The wings remained attached to the fuselage and the tail boom was broken just behind the wings and displaced slightly to the South. The rudder remained intact but the drag chute and container had deployed due to impact loads. There was no evidence of any pre-existing airframe or control surface defect. All flight control surfaces were accounted for at the accident site. While there were multiple overload failures of the flight control system in the fuselage and cockpit areas, control continuity was established. There was little damage to the airbrake arms in the wings, which is indicative of them being in

the closed position prior to impact and that they deployed when control circuit integrity was lost. The flaps were in the landing configuration, but as the flap retention mechanism was destroyed it is unclear whether they were set by the pilot or forced into that position by impact. The undercarriage was down and locked prior to impact. The hand grip from the control column had come off and was in the pilot's left hand post-accident. There was no evidence of water ballast being released when the tanks ruptured on impact, which indicates the pilot had drained the water much earlier in the flight. This is consistent with normal practice when the need to optimise climbing performance is evident.

HUMAN FACTORS:

During each flight, a pilot makes many decisions, sometimes under hazardous conditions. To fly safely, the pilot needs to assess the degree of risk and determine the best course of action to mitigate risk. However, assessing risk in single soaring pilot operations is not as simple as it sounds as the pilot acts as his or her own quality controller in making decisions. Most pilots are goal oriented and when undertaking a flight, there is a tendency to stretch their personal limitations to achieve their goal. For example, a pilot on a marginal final glide to his home airfield may push on in the hope that conditions will improve despite the dire consequences if conditions do not improve (commonly referred to as 'get-home-itis'). Pilots may be strongly motivated to work weak lift at low altitudes to attempt to climb to final glide altitude and avoid landing. While the pilot was said to be careful and risk averse, it is clear from the flight log that the pilot was circling at a very low height in an effort to remain airborne. If this was his usual personal minima, it was high risk. Stress also needs managing. Despite what people may think, everyone is stressed to some degree almost all of the time. A certain amount of stress is good, since it keeps a person alert and prevents complacency. However, the effects of stress are cumulative and, if the pilot does not cope with them in an appropriate way, they can eventually add up to an intolerable burden. Performance generally increases with the onset of stress, peaks, and then begins to fall off rapidly as stress levels exceed a person's ability to cope. The ability to make effective decisions and maintain situational awareness during flight can be impaired by stress. In the case of this flight, the cross-country task, flying in weak conditions, and flying close to the ground are all stressors that could have led to impaired decision making. Optimism bias may have been a factor in his decision to attempt thermalling turns at low altitude. Thermalling turns can be safely conducted at high altitudes at high angles of attack, very close to the stall speed, when the thermals are well-formed and smoother. Very close to the ground, thermals are usually more irregular and gusts, more difficult to work, and therefore require a higher stall margin. This is further compounded by reduced control responsiveness when flying very close to the stall. Greater control deflections are required to achieve a desired effect, with slower aerodynamic response. The possibility of dehydration was also evaluated but analysis indicates this was unlikely. The pilot had only been airborne for 1½ hours and the medical examiner noted the pilot had been well hydrated. The pilot also carried at least 3 litres of drinking water on his flight. The flight log indicates the pilot was intending to land on the farm airstrip, as he had done on two prior occasions. However, just as the aircraft came within a few hundred metres of the airstrip boundary fence and at a height of only 300 feet AGL, the pilot commenced a right-hand turn. It is not clear why the pilot made this turn when the aircraft was well-positioned to land. As mentioned earlier, the hand grip from the control column was found in the pilot's left hand, which evidences he was flying with his non-preferred hand. This is unusual, not only because the pilot was right-handed, but also because glider pilots fly with the right hand so they can use their left hand to manipulate the flaps and airbrakes for landing. By convention, the flaps and airbrakes are located on the left-hand side of the cockpit. It is possible the pilot was flying left-handed because he changed hands to lower the undercarriage, the lever for which is on the right-hand side of the cockpit. If this was the case, then the pilot had not properly configured the aircraft earlier when approaching the airstrip for landing, which is indicative of poor workload management. The act of lowering the undercarriage during a turn, whilst operating the control column with his non-preferred hand, could also explain why the aircraft departed from controlled flight and impacted the ground. The ergonomics of this control activation sequence are relevant to possible contribution to low level loss of control leading to a collision with terrain. To lower the undercarriage, the pilot must use his right hand to disengage the undercarriage lever from the 'UP' locking recess and push it forward into the 'DOWN' locking recess. The act of pushing forward with the right hand can lead to the pilot pulling back with the left hand. If the left hand is

holding the control column, such action would result in the aircraft nose rising, causing a loss of airspeed and increased angle of attack. If this occurred while the glider was in a slow, high angle of attack turn, it is likely the glider would stall; the consequences of which would be for the right-wing and nose to drop towards the ground as occurred in this instance. If the undercarriage was lowered during this final turn, it could also explain why the pilot discontinued his approach to land, after a late discovery that the glider was not in a proper landing configuration. Another possible reason why the pilot may have discontinued his approach to land was due to visual illusions of too much height. The private airstrip on which the pilot appeared to have been landing was narrower than the Benalla Aerodrome to which the pilot was accustomed. A narrow runway can create the illusion that the aircraft is at a higher altitude than it actually is, leading the pilot to believe he may overshoot. The pilot who does not recognise this illusion may then be tempted to fly in a manner to lose height (such as completing a 360 degree turn onto final approach).

ACTIVE ERRORS and FAILED DEFENCES:

From an aviation operations and safety management perspective, accidents may be analysed in terms of active errors (unsafe acts) and latent (systems, organisational) conditions. In this case there appears to be a number of active errors and failed defences that have combined in the accident causation chain, with fatal result. These include:

Active errors:

- Failure to break-off the flight and commit to a landing at a safe height;
- Not configuring the aircraft for landing at an appropriate time and safe altitude prior to final approach; and
- Attempting to climb away from too low a height above ground in the prevailing conditions on that day.

Failed Defences:

- Pilot's personal minima were too fine;
- Non-use of pre-landing checklist; and
- Non-adherence to standard operating procedures.

The pilot's proficiency and/or complacency or overconfidence may have led to personal minimums at the riskier end of the spectrum.

CONCLUSIONS:

1. The command pilot was appropriately qualified for the flight.
2. The aircraft had a valid Maintenance Release and had been maintained in accordance with relevant requirements.
3. The aircraft appeared capable of normal operation up to the moment of impact.
4. The pilot had an undiagnosed heart condition but it is not clear this was a contributing factor. He appeared to be fit for flight prior to launching on the accident flight.
5. Weather conditions were generally favourable and are not considered to be a factor, although increased thermal turbulence could have been expected close to the ground.
6. For reasons that could not be definitively determined, a landing was not made even though a safe landing was possible.
7. During a right-hand turn the glider inadvertently stalled and departed controlled flight at a height too low for the pilot to recover before ground impact.
8. The aircraft most likely departed controlled flight when the pilot changed hands on the control column to lower the undercarriage, with the glider being flown very close to the stall whilst in turning flight
9. The reason for the pilot making the final right-hand turn could not be unambiguously determined.

Date	3-Jan-2015	Region	SAGA	SOAR Report Nbr	S-0526
Level 1	Operational	Level 2	Ground Operations	Level 3	Ground handling

A/C Model 1		ASK-21Mi		A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Ground Ops	PIC Age	54
While moving the glider from the hangar, the port side leading edge of the horizontal stabiliser grazed a hanger support beam causing minor scratching to the gelcoat on the port side leading edge. The incident occurred due to inattention to the task. The Club has since fitted foam to all hanger support beams in order to minimise the risk of future damage.							

Date	4-Jan-2015	Region	GQ	SOAR Report Nbr	S-0472
Level 1	Operational	Level 2	Aircraft Control	Level 3	Incorrect configuration
A/C Model 1	TST-10M		A/C Model 2		

Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	62
The pilot experienced difficulty starting the motor of this self-launching sailplane and, believing the engine had 'flooded', decided to vacate the cockpit and allow some time for the excess fuel evaporate. After 15 minutes the pilot again boarded the sailplane and recommenced the engine-start procedures. The motor started normally and the pilot proceeded with the launch. During the ground roll, and again after lift-off, the pilot visually checked the airbrake lever was in the locked position. Shortly after lift-off the pilot experienced difficulty maintaining a normal climb rate. Having previously satisfied himself that the airbrakes were not deployed, and with the engine developing full power, the pilot commenced a series of shallow turns while maintaining a safe speed to position himself back on the airstrip. When safely positioned on a final approach the pilot shut down the engine and conducted a landing with a slight ground loop. Witnesses advised the pilot that his airbrakes had deployed during take-off and remained deployed during the modified circuit. It would appear the pilot did not lock the airbrakes, possibly due to the distraction of starting the engine. The pilot noted that in future he will confirm the airbrakes are closed and locked by 'feel' and also by visually checking along the wings. The pilot further noted that if the engine is giving full power but the aircraft is not climbing, powered sailplane pilots should automatically check that the airbrakes are locked by manipulating the airbrake lever.							

Date	5-Jan-2015	Region	WAGA	SOAR Report Nbr	S-0485
Level 1	Operational	Level 2	Fuel Related	Level 3	Starvation
A/C Model 1	Grob G 109B		A/C Model 2		

Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	67
An experienced Instructor was providing powered sailplane endorsement training to a solo pilot. The Instructor was using his own engine starting sequence. The pilot under training taxied the aircraft and the Instructor completed the pre take-off checks while the aircraft was backtracking. During this time the pilots became distracted by a wasp flying in the cockpit, and the Instructor omitted to turn the fuel on. The Instructor took over control for the take off due to a variable crosswind and because the conditions were hot. During the transition into the climb the engine faltered, so the Instructor lowered nose and landed ahead without further incident. Both pilots immediately identified the engine failure cause. This incident highlights the problems of being distracted during checks and why pilots should adhere to published checklists and not reinvent their own.							

Date	7-Jan-2015	Region	NSWGA	SOAR Report Nbr	S-0484
Level 1	Operational	Level 2	Communications	Level 3	Other Communications Issues
A/C Model 1	Astir CS		A/C Model 2		

Injury	Nil	Damage	Nil	Phase	Outlanding	PIC Age	68
This early cross country pilot was attempting a 5 hour local flight from Cootamundra airfield. During the							

course of the flight the pilot noticed a squall developing under cumulus congestus some 10km east of the airfield. The pilot remained clear of the approaching squall but after about 4 hours the conditions began to deteriorate and the squall had developed into thunderstorms. When the squall reached the airfield the pilot radioed the Duty Instructor to advise his position and that return to the airfield was not possible. The pilot was unable to remain airborne and safely conducted an outlanding in a stubble paddock near a farmhouse some 15 kms from the airfield. After landing the pilot attempted to contact the Club by radio to no avail. As this was a local flight the pilot was not carrying his mobile phone, so he walked to the farm house to get assistance. Unfortunately the farmhouse was unoccupied, although it was evident that people were living there. Attempts to find another farmhouse proved fruitless.

Just before last light the Duty Instructor, concerned that the pilot had not reported in and was overdue, contacted emergency services and SAR action was undertaken. A search was initiated and a Search and Rescue Helicopter from Orange was deployed. The helicopter located the glider at around 8.15pm and shortly after the police found the pilot walking along a road and returned him to the airfield. Advice on Search and Rescue procedures is in the GFA Airways and Radio Procedures for Glider Pilots manual at Section 5. When an aircraft is known to be operating in other than normal circumstances and there is doubt concerning the aircraft's safety, an emergency phase should be declared. If a pilot has difficulty letting their club or nominated person know of their fate and it is getting close to last light, use the VHF radio to make contact with other aircraft in the area on all appropriate frequencies, including the distress frequency: 121.5 MHz. Search aircraft and some high-flying jets monitor this frequency.

Date	7-Jan-2015	Region	NSWGA	SOAR Report Nbr	S-0471		
Level 1	Operational	Level 2	Runway Events	Level 3	Runway incursion		
A/C Model 1	ASW 27 B	A/C Model 2					
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	67

While the glider was on final approach and at a height of about 100 ft, the pilot noticed a motor vehicle drive across the runway aiming point. The pilot closed airbrakes and pulled up to overfly the vehicle resulting in a reduction in airspeed. The glider landed somewhat heavily but was undamaged. When operating airside, vehicle drivers must always maintain a good look out for aircraft before entering or crossing a runway. Drivers should monitor the air band radio, minimise 'heads down' activity while driving, and use vehicle lights to enhance visibility.

Date	8-Jan-2015	Region	NSWGA	SOAR Report Nbr	S-0478
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	ASH 25 M	A/C Model 2			
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	76

Upon return from a 5½ hours solo cross-country flight, this experienced pilot joined circuit and configured the aircraft for landing. Circuit was flown at 60 knots, which was appropriate for the conditions, but the aircraft was allowed to accelerate to 80 knots during final approach. The aircraft touched down at 70 knots resulting in the aircraft ballooning. Misuse of the controls led to the aircraft touching down heavily and resulted in severe damage to the main undercarriage and tail wheel. Potential contributing factors include fatigue and age-related cognitive decline. The pilot has elected to curtail command flying and will fly with a safety pilot in future.

Date	9-Jan-2015	Region	NSWGA	SOAR Report Nbr	S-0475
Level 1	Operational	Level 2	Aircraft Control	Level 3	Pilot Induced Oscillations
A/C Model 1	Grob G 103 Twin II	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	17

The low hours pilot commenced the round-out too late and the aircraft touched-down heavily. The pilot mishandled the controls during recovery from the bounce resulting in the glider rebounding into the air a number of times before coming to rest. The aircraft suffered a deflated nose wheel and damage to the surrounding structure. It is not uncommon for pilots to react to the glider bouncing by pitching the nose forward. In gliders with a nose-wheel, this usually results in the glider striking the nose-wheel resulting in the nose pitching up rapidly and the cycle is repeated until the aircraft comes to rest. PIOs can be avoided by establishing the glider on the approach at the correct airspeed for the conditions using half or more airbrake (the faster and cleaner the aircraft, the greater the pitch sensitivity). Maintain the approach speed to round-out and aim to touch-down with low energy on the main-wheel and tail-wheel simultaneously.

Date	13-Jan-2015	Region	NSWGA	SOAR Report Nbr	S-0483
Level 1	Operational	Level 2	Airframe	Level 3	Landing gear/Indication
A/C Model 1	IMC A-9A Callair	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	23

While taxying off the runway after a normal landing, the tow plane's right undercarriage oleo strut sheared and the aircraft came to rest with a 25 degree list to starboard. The right wing and propeller remained clear of the ground. The pilot had no indication or prior warning of the collapse, which appears to have occurred due to fatigue failure at the strut attachment point.

Date	16-Jan-2015	Region	WAGA	SOAR Report Nbr		S-0486	
Level 1	Operational	Level 2	Aircraft Loading	Level 3		Loading related	
A/C Model 1		DG-1000S		A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	64
Just after touch down the pilot flying applied the wheel brake resulting in the aircraft nosing over and the forward fuselage contacted the ground and suffering minor damage. The pilot could not raise the nose and the aircraft came to rest with the tail in the air. Tail ballast was not fitted to compensate for the heavier pilots as the aircraft was awaiting a replacement door for the trim ballast compartment located in the fin that was lost on an earlier flight. It is important to note that a forward CG location increases the need for greater back elevator pressure, and that too forward a CG could result in the elevator no longer being able to oppose any increase in nose-down pitching. A glider will also stall at a higher speed with a forward CG location because the stalling angle of attack is reached at a higher speed due to increased wing loading. Flying a glider outside its forward CG limit may also make it difficult to flare the glider on the landing and, more seriously, it could also result in the maximum calculated flight loads on the tailplane being exceeded. Pilots must always ensure weight and balance calculations are rigorously completed before each flight.							

Date	16-Jan-2015	Region	NSWGA	SOAR Report Nbr		S-0482	
Level 1	Operational	Level 2	Runway Events	Level 3		Runway undershoot	
A/C Model 1		SZD-51-1 Junior		A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	57
Returning from a 1½ hour local soaring flight, this inexperienced pilot used airbrakes to lose height in the							

circuit. The airbrakes were closed just prior to joining the base leg but the aircraft continued to experience a high rate of descent. During the base leg and at a very low height, the pilot elected to undertake a dangerous low-level manoeuvre to land within the airfield boundary and missed colliding with a hanger and other infrastructure by metres. The starboard wing impacted the ground as the pilot manoeuvred to avoid a fence, and then the main wheel contacted the ground and the aircraft proceeded to ground loop to the right 135 degrees.

The aircraft was undamaged and the pilot uninjured. Review of the flight logger trace shows the pilot could have safely landed straight-ahead into a paddock during the base leg. While the pilot had been trained to handle in-flight emergencies and outlanding, it is likely he was fixated on landing on the airfield and that his situational awareness was degraded through cognitive tunnelling. The pilot's CFI noted that the pilot had learned to fly on a course and may not have had adequate exposure to extreme conditions that he experienced on this flight. This incident highlights the importance ensuring students have the skills, judgement and confidence to handle the more extreme conditions, and that they have been exposed to emergency situations before solo.

Date	16-Jan-2015	Region		GQ		SOAR Report Nbr		S-0480	
Level 1	Operational		Level 2	Aircraft Control		Level 3		Control issues	
A/C Model 1		Discus 2B			A/C Model 2				
Injury	Nil	Damage		Nil	Phase	Landing		PIC Age	73
During an aerotow launch the port wing dropped and fouled on a thatch of grass from the recently mown runway. The pilot successfully countered the swing to port with opposite rudder and became airborne. After climbing in lift post release, the pilot was able to dislodge the thatch by sideslipping the glider. This incident highlights the importance of undertaking runway inspections, especially following maintenance.									

Date	16-Jan-2015	Region		VSA		SOAR Report Nbr		S-0519	
Level 1	Operational		Level 2	Airframe		Level 3		Other Airframe Issues	
A/C Model 1		Nimbus 3T			A/C Model 2				
Injury	Nil	Damage		Nil	Phase	In-Flight		PIC Age	39
The pilot fitted Go Pro cameras to the tailplane and starboard wingtip of the aircraft without formal engineering approval or Technical Standing Order. Under CASR 21.M, a CASA authorised person has to approve the installation against existing airworthiness standards before the aeroplane can be flown. The pilot concerned was counselled by his CFI. NOTE: In June 2012 an ASK21 experienced elevator flutter caused by disturbed airflow coming from a wing-mounted GoPro camera.									

Date	16-Jan-2015	Region	VSA	SOAR Report Nbr	S-0520		
Level 1	Operational	Level 2	Flight Preparation/Navigation	Level 3	VFR into IMC		
A/C Model 1	Nimbus 3T	A/C Model 2					
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	39

During a cross-country soaring flight the pilot flew through cloud and posted video of the flight on Facebook. The pilot concerned was counselled by his CFI. While it is tempting to fly close to cloud when conditions allow, pilots need to comply with the VFR visibility and distance from cloud criteria stipulated in ENR 1.2 Section 2 (i.e. 1500M horizontal and 1000ft vertical when above 3,000ft AMSL or 1,000ft AGL).

Date	17-Jan-2015	Region	VSA	SOAR Report Nbr	S-0477
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	Twin Astir	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	71

The aircraft was established on final approach at about 60 knots, which was an appropriate speed for the conditions. The pilot under check failed to properly round out and flew the aircraft onto the ground at speed. The aircraft bounced back into the air, following which the pilot under check pushed the stick forward and flew the aircraft back onto the ground. The aircraft impacted heavily, compressing the tyre and resulting in the port undercarriage door digging into the ground. The pilot under check continued to hold the stick forward and kept the tail high in the air (and the nose close to the ground) during the landing roll. The instructor was caught by surprise and did not take-over. The most common instructing accident is 'instructor failed to take-over in time'. These accidents usually involve the trainee responding in an unforeseen way or failing to respond at all (e.g. not rounding out). Given that the overall idea is to let the trainee do as much as possible within their level of skill the instructor should never wait until the last moment - which can rapidly become 'too late' - before responding to a situation that is going awry. This is particularly true of any manoeuvres close to the ground. Rounding out too late is usually due to the pilot not looking far enough ahead or becoming 'target fixated' on the Aiming Point.

Date	24-Jan-2015	Region	GQ	SOAR Report Nbr	S-0502
Level 1	Operational	Level 2	Aircraft Control	Level 3	Wheels up landing
A/C Model 1	ASW 20BL	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	58

This experienced pilot advised that he failed to retract the undercarriage during his post-release check. After flying cross-country with the wheel down, the pilot then retracted it during the pre-landing check. A visual inspection to confirm the undercarriage was in the down position was not made. OSB 01/14 'Circuit & Landing Advice' confirms that the pre-landing checklist is a 'check' and not an 'action' list. The undercarriage check should verify the undercarriage lever is matched to the lowered position on the placard.

Date	25-Jan-2015	Region	VSA	SOAR Report Nbr	S-0488
Level 1	Operational	Level 2	Terrain Collisions	Level 3	Collision with terrain
A/C Model 1	Ventus 2ct	A/C Model 2			
Injury	Minor	Damage	Substantial	Phase	Outlanding	PIC Age	61

While flying cross-country over hilly terrain, soaring conditions became more difficult and the experienced pilot flew towards an area with suitable landing options and dumped the water ballast. After a couple of attempts to climb away it became obvious to the pilot that an outlanding was inevitable and the flight was broken off at a safe height. The pilot selected an outlanding paddock from some distance away but did not conduct a precautionary inspection to assess its suitability. With the selected outlanding paddock to his left, the pilot joined downwind almost abeam his aiming point while in a right-hand turn. His ability to monitor angular variations to his aiming point from this point onwards was significantly impaired. The aircraft flew through an area of reduced sink, so the pilot raised the engine to self-retrieve. However, the pilot decided not to attempt to start the engine when the sink rate increased. The pilot then completed a 270 degree right-hand turn followed by a 90 degree left-hand turn to align with the final approach into the North. The final approach was made in a high drag configuration; engine deployed, landing flap set and the undercarriage lowered. The aircraft touched down just inside the boundary fence and the pilot was surprised by the steepness of the slope. The pilot did not apply braking and as the glider crested the slope the pilot noticed it was heading for a fenced area around a shed. Unable to stop, the glider's left wing

impacted a fence post rotating the glider's nose into the wire fence.

The aircraft was substantially damaged and the pilot suffered minor injury (the fencing wire coming very close to his body). This accident highlights the importance of good workload management and for pilots to focus on the right things at the right time. When flying cross-country it is important that pilots plan and think ahead so that they are always in a position to make a safe landing. At lower levels a pilot's priority will change from searching for lift to finding a suitable area in which to land. This requires good flight management and discipline. When landing in a strange paddock the pilot must ensure a proper survey is undertaken of the landing area so as to identify all hazards and ensure a safe landing can be accomplished. Starting the engine in the circuit is fraught with danger and should not be attempted. Furthermore, landing with the motor extended but not operating often results in a steep reduction in performance, which can be comparable to flying with the airbrakes extended. High workload situations during the landing phase often lead to poorly executed landings, sometimes with serious outcomes. Well-developed and fundamentally sound landing procedures and techniques will safeguard against these outcomes.

Date	26-Jan-2015	Region	VSA		SOAR Report Nbr		S-0495		
Level 1	Operational	Level 2	Aircraft Control		Level 3		Loss of control		
A/C Model 1		AS-K 13			A/C Model 2				
Injury	Nil	Damage	Minor	Phase	Outlanding		PIC Age	17	

While undertaking a local flight after completing a check flight, this low experienced solo pilot flew too far downwind. Returning to the airfield the pilot encountered a strong headwind and was unable to reach the circuit. At low altitude the pilot elected to look for a paddock in the vicinity. The pilot, who was not outlanding rated, landed downwind in a paddock just clearing a power line. After the aircraft touched down the pilot allowed a wing to drop and the aircraft ground looped before coming to rest. The aircraft suffered minor damage to the skid skirting and a rock puncture in the outer part of the wing. This incident highlights the importance ensuring students have the skills, judgement and confidence to properly manage their flights and deal with adverse conditions prior to going solo. The pilot's CFI noted that when conducting pre-flight

briefings for early solo pilots, ensure they have clearly defined flight objectives and boundaries, and that major areas of concern are clearly articulated, i.e. flying too far downwind, airspace boundaries etc.

Date	26-Jan-2015	Region	VSA	SOAR Report Nbr	S-0498
Level 1	Consequential Events	Level 2	Low Circuit	Level 3	Low Circuit
A/C Model 1	ASW 28-18	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	48
The pilot conducted a low-level finish without holding a 'low-level finish' endorsement and in contravention of the Low Level Finish Procedures described in MOSP 2, paragraph 10.8.3. The landing glider passed directly over another glider awaiting launch and just cleared its vertical stabiliser. The pilot was counselled by the Club's Operations Panel.					

Date	31-Jan-2015	Region	GQ	SOAR Report Nbr	S-0504
Level 1	Operational	Level 2	Runway Events	Level 3	Runway excursion
A/C Model 1		A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	62
The pilot was flying on a windy day in an aircraft that did not have airbrakes but used flap for glide-path control. While on final approach the pilot extended the flaps 35 degrees and established the glider on the glideslope. The aircraft then flew through heavy sink and began to undershoot the aiming point. The pilot raised the flaps to neutral and lowered the nose to increase the airspeed. Witnesses observed the aircraft pass low over the boundary fence and touchdown at slow speed. The aircraft landed in long grass and as the left wing dropped the glider turned through 90 degrees. No damage or injury resulted. The pilot had undertaken most of his recent flights in gliders with conventional flaps and airbrakes, and may have been out of practice in the accident aircraft. The CFI observed that the pilot may not have flown sufficiently in adverse conditions for some time and was caught out by the meteorological conditions on the day.					

Date	1-Feb-2015	Region	GQ	SOAR Report Nbr	S-0491
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	LS 7	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	67
An experienced and current pilot was undertaking his first flight in a new type. During landing the pilot misjudged the flare and touched-down heavily.					

Date	2-Feb-2015	Region	NSWGA	SOAR Report Nbr	S-0501
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	ASK-21	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	73
Returning from a local training flight the pilots were informed by the Air Traffic Controller that wind speed had picked-up to 20 knots and suggested a crosswind landing be conducted on another runway. A circuit was flown appropriate to the conditions and a crabbed approach was conducted due to the crosswind. Just as the trainee rounded out, the glider flew into a wind shadow area caused by the hangers and dropped to the ground heavily while yawing to the right. Neither occupant was injured but the aircraft suffered minor damage to the left wingtip and the tail wheel tyre rolled off wheel rim. When flying in strong wind conditions pilots should take into account the effect of curlover or wind shadow when setting their aiming point.					

Date	2-Feb-2015	Region	VSA	SOAR Report Nbr	S-0509
Level 1	Consequential Events	Level 2	Low Circuit	Level 3	Low Circuit
A/C Model 1	DG-300 Elan	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	54

The pilot was flying in a local competition. Conditions on the day were weak and the pilot was the first of the competitors to launch. The pilot released in weak lift but failed to centre it and so headed off in search of better air. Despite making a number of attempts to climb in weak lift, the pilot found himself at low height on the dead side of the circuit. The pilot commenced a right-hand circuit but flew too far downwind for the conditions and completed a very low base and final turn onto the runway. The pilot recognised after the event that he could have safely conducted an outlanding or modified his circuit to land on another runway. Potential causal factors include fatigue due to lack of sleep the previous night, poor pre-flight preparation due to interruptions, and task fixation leading to a failure to break-off the flight at a safe height. The pilot later advised that he will develop personal minima for breaking off the flight and focus on planning his circuit to ensure the final turn can always be completed at a safe height.

Date	3-Feb-2015	Region	WAGA	SOAR Report Nbr	S-0494
Level 1	Environment	Level 2	Weather	Level 3	Other Weather Events
A/C Model 1	Grob G 109B	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	67

The pilot was keen to return to his home airstrip and self-launched into a storm front. The glider experienced strong lift to 10,000ft and tried to outrun the storm. The pilot was unable to outrun the fast moving front and was engulfed in a violent sandstorm. The pilot successfully landed at the home airstrip in the rain. Pressing on into adverse weather is one of the major causes of accidents in general aviation. Pilots who fail to plan for the weather conditions, who do not properly assess the weather during flight, or who decide to continue to fly in marginal conditions are exposing themselves to unnecessary risk of an accident.

Date	9-Feb-2015	Region	VSA	SOAR Report Nbr	S-0496
Level 1	Operational	Level 2	Terrain Collisions	Level 3	Collision with terrain
A/C Model 1	ASW 20	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Launch	PIC Age	77

The glider was being launched from the winch release by a low powered RA-Aus tow plane, in cross-wind conditions, and on a grass runway. The pilot had set full negative flap and a small amount of airbrake to assist with aileron control, and trimmed full forward. The initial roll was normal and during acceleration, and at about 20 knots, the airbrake was retracted and the flap was moved to negative 2 at which point the right wing dropped rapidly and the glider became quickly out of station 20 degrees. The pilot released, and at this point the trajectory was towards a wire fence. Maximum braking was applied and the pilot deliberately ground-looped. As the glider decelerated it impacted a shallow drain and stopped parallel to and up against the fence. The aircraft suffered substantial damage, including distortion to undercarriage assembly from side loads, and de-lamination of one lower attachment point. There were also extensive wire scoring and scratches to port wing lower and flap under surfaces, and a wire scratch to left side of canopy. Aerotowing off the belly release is not as directionally stable as when using a nose release. Pilots should keep their hand near the cable release during the launch and must get off if the wing drops. When flying flapped gliders, or when using airbrakes for aileron control at low speed, pilots should keep their hand near the release until positive lateral control is assured before changing flap/airbrake settings. In this accident the pilot had everything going against him: towing from the CG release, a low powered tow plane, grass runway that resulted in a slower acceleration, and a cross wind. Pilots should be aware that when towing off the belly release the glider is more prone to swing than a glider being towed off the nose release and, should it swing, it is more likely to continue into a ground loop.

Date	9-Feb-2015	Region	VSA	SOAR Report Nbr	S-0497
Level 1	Environment	Level 2	Wildlife	Level 3	Birdstrike
A/C Model 1	LS 6	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	In-Flight	PIC Age	56

While thermalling during a cross-country flight and just prior to entering the final turn point sector, a wedge-tailed eagle drifted in front of the glider and struck the canopy causing minor scratches. The pilot noted he had full control and a visual inspection by another pilot flying above confirmed there were no signs of damage. The pilot turned short in the sector and returned to the home airfield without further incident. Note: An adult Wedge-tailed Eagle has a wingspan of up to 2.5 metres and can weigh up to 4kg.

Date	10-Feb-2015	Region	VSA	SOAR Report Nbr	S-0493
Level 1	Operational	Level 2	Runway Events	Level 3	Runway incursion
A/C Model 1	ASW 27-18	A/C Model 2	AERO COMMANDER 680-FL		
Injury	Nil	Damage	Nil	Phase	Ground Ops	PIC Age	66

While towing the glider back to the tie down area after a competition flight, the experienced glider pilot stopped at the holding point of the runway to avoid conflict with landing gliders. The pilot then heard the "Bank Run" aircraft pilot call downwind and took the opportunity to cross the runway. The glider pilot gave a call "entering and backtracking" and then entered the runway. Unfortunately, the glider pilot missed the call that the "Bank Run" aircraft was already established on final approach and committed a runway incursion. The "Bank Run" aircraft executed a missed approach and re-entered the circuit. The glider pilot contacted the "Bank Run" pilot and apologised.

Date	10-Feb-2015	Region	VSA	SOAR Report Nbr	S-0492
Level 1	Consequential Events	Level 2	Low Circuit	Level 3	Low Circuit
A/C Model 1	Duo Discus T	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	52

During a competition flight the glider dropped below final glide by a few hundred feet. The pilot took a thermal some 10 kilometres from the airfield and climbed the aircraft to 1550ft AGL and again set off on final glide for a straight-in landing. The glider again encountered sink and at 1100ft AGL the pilot elected to deploy the sustainer motor. Lift was again encountered and the motor was put away but it did not fully retract leaving the propeller and engine-bay doors in the slipstream. The pilot completed his pre-landing checks and at about 150ft AGL he dived the aircraft to within a couple of feet from the ground (stubble paddock) to use the principle of 'ground effect' to complete the flight. The aircraft touched down twice in the paddock, after which the pilot climbed several metres to cross the paddock fence, a public road, and then the airfield boundary. The aircraft touched down on the airfield runway and pulled up short, contrary to competition requirements to land long. The pilot then taxied the aircraft off the runway in front of another landing glider that had to take avoiding action. Cross-country soaring and competition flying are stressors, where high workload and fatigue can lead to impaired decision making and reduced situational awareness. Human factors including decision biases, goal fixation and cognitive tunnelling in competition may lead to pilots eroding safety margins more than in normal non-competition flying. Being aware of the dangers of continuing into marginal circumstances, setting boundaries, having a sound knowledge of rules and procedures, disciplined adherence to minima and performance requirements, prioritisation of options, and planning to deal with potential situations will act as defences against unsafe conditions. Note: Pilots should not resort to using 'ground effect' to stretch the glide. In order for ground effect to be of significant magnitude, the wing must be quite close to the ground, such as during the lift-off for take-off or just prior to touchdown when landing.

Date	14-Feb-2015	Region	NSWGA	SOAR Report Nbr	S-0499
Level 1	Airspace	Level 2	Aircraft Separation	Level 3	Near collision
A/C Model 1	DG-1000S	A/C Model 2	DG-300 Club Elan		
Injury	Nil	Damage	Nil	Phase	Thermalling	PIC Age	73

The pilot and instructor were undertaking a type conversion check flight in a DG1000. After conducting some spins and other handling manoeuvres, the pilot flying flew towards a gaggle of four gliders thermalling about 2 kms away. The thermal was joined uneventfully but after several turns it became evident that the lift was broken and the glider was not climbing. The pilots left the thermal and headed north in search of better lift. Some weak lift was subsequently encountered and the glider commenced a shallow right-hand turn. After completing one full turn both pilots observed another glider approaching from the right and behind. As the DG 1000 pilots continued the turn they noted that other glider appeared to be on a collision course and the Flarm emitted a collision warning. Almost simultaneously the pilot under check banked the DG 1000 steeply to the left as the pilot of the other aircraft banked steeply to the right, narrowly avoiding a collision. Both gliders returned to the airfield and landed uneventfully. The DG 1000 Instructor confronted the other pilot who confirmed that he had sighted the DG1000 and continued towards the thermal believing the DG1000 pilot would make way for him! When joining a thermal a pilot must not interfere with other gliders. Entry should be judged so you position the glider roughly opposite the established glider. This can be achieved by flying towards the outside of the circle made by the other glider, from a safe distance out. When pulling into a turn, remember that the glider entering the thermal has changed the situation significantly and its pilot must take primary responsibility for remaining clear of other gliders. Gliders already in a thermal should not have to manoeuvre to avoid a glider entering, so gaggles must be approached carefully, and once in the thermal, the pilot should match the other glider's bank angle and speed so that he flies the same size circle as they are flying. For any reason you are not comfortable, GET OUT! Flying in a crowded thermal is an advanced skill. If you are not up to it, GO FIND ANOTHER THERMAL.

Date	15-Feb-2015	Region	SAGA	SOAR Report Nbr	S-0500
Level 1	Operational	Level 2	Terrain Collisions	Level 3	Collision with terrain
A/C Model 1	Twin Astir	A/C Model 2			
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	53

While flying cross-country in central Australia the pilots experienced strong conditions and climbs to over 11,000ft. During the course of the flight the glider got into the lower levels of convection, where thermals were rough and far apart, and an outlanding became inevitable. Outlanding options in the area are limited to known airstrips or public roads. The pilots searched for lift within reach of a public highway but were unsuccessful in climbing away, so a decision was made to land on the road. As the pilots flew a circuit they noticed a single motor car heading towards them in the distance. The pilots moved their aiming point further along the road to avoid the vehicle, resulting in the aircraft landing towards a culvert passing under the road that was bordered by ARMCO railing. Unable to stop in time, the command pilot maintained the wings level to clear the ARMCO railing but as the aircraft slowed the right wing lowered and collided with a traffic sign half-way along the railing causing the aircraft to ground loop. The aircraft suffered substantial damage but neither occupant was injured.

Date	21-Feb-2015	Region	SAGA	SOAR Report Nbr	S-0503		
Level 1	Operational	Level 2	Terrain Collisions	Level 3	Collision with terrain		
A/C Model 1	Duo Discus	A/C Model 2					
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	47

After a normal aerotow launch into a 5 to 10 knot headwind and at about a height of 200 to 300ft AGL, the combination flew through some strong lift causing the glider to climb above the tow plane. The pilot lost sight of the tow plane and released in accordance with proper practice. The pilot lowered the nose to maintain airspeed and flew a turn that to land back on the same runway as the take-off, rather than landing in a suitable paddock. The pilot managed to complete the turn but was too low to make the runway and landed in scrub. After touchdown the left wing dropped to the ground and the aircraft turned through 90 degrees with the nose wheel was on the ground and skidded to a halt in a cloud of dust. The aircraft was substantially damaged but the pilot was unhurt. The pilot, who was experienced but had not flown much in the last five years, was solo subject to daily check flights. The pilot had completed a satisfactory check flight earlier. Investigation by the pilot's CFI revealed that the pilot was sitting low in the seat, which when flying in what would be a normal high tow position may have placed the pilot in a position where she could not see the tow aircraft. The decision turn back was inappropriate for the height and an off-field landing ahead was preferred. The pilot has been made aware of landing options and the actions to take in an emergency. This accident highlights the importance of always being aware of landing options during the early stages of the launch. As demonstrated here, the main risk is trying to get back to the airfield. It is much safer to make a controlled arrival into a field ahead than risk low turns, catching a wing tip, stalling or spinning. Remember, the less you have to turn, the safer you will be.

Date	21-Feb-2015	Region	SAGA	SOAR Report Nbr		S-0507	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Incorrect configuration	
A/C Model 1		HK-36TTC		A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	61

The experienced pilot was engaged in aerotowing operations and had just taken off with a Duo Discus in tow. Early in the climb and at about 300ft AGL the glider pilot lost sight of the towplane and released. The tow pilot continued to climb to join circuit. Upon entering downwind the tow pilot noticed the Duo Discuss had landed to the left of the runway in a cloud of dust and became concerned for the pilot's welfare. Due to this distraction, the pilot forgot to wind-in the tow rope (TOST electric rewind system). The pilot conducted a power-on approach and touched down in the normal glider landing zone. During the flare a jolt was transmitted along the tow rope and the pilot realised that the rope was still extended. The rope and rings had impacted a vehicle parked near the approach.

This incident highlights how distractions can affect human performance by causing us to omit procedural steps, forget to complete tasks, or take shortcuts that may not be for the better. It also provides a reminder to members to ensure people, vehicles and other obstructions are kept clear of the runways at all times.

Date	21-Feb-2015	Region	SAGA	SOAR Report Nbr	S-0529
Level 1	Operational	Level 2	Aircraft Control	Level 3	Incorrect configuration
A/C Model 1	Twin Astir -LP	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	52
Just after touch down following a short solo flight the rear canopy opened resulting in minor damage to the canopy Perspex and hinges. Investigation by the club CFI revealed the pilot was most likely distracted by other members around the glider during the pre-boarding checks and failed to notice the canopy was not properly locked. Fortunately the locking mechanism was sufficiently engaged to prevent the canopy opening during flight but not sufficiently engaged to prevent the canopy from coming open during the landing roll. It is also possible the crosswind contributed to its opening at low forward speed. The Club has initiated a sterile launch area policy and the person hooking on the tow rope will confirm with the pilot that the canopies are locked.							

Date	24-Feb-2015	Region	WAGA	SOAR Report Nbr	S-0506
Level 1	Operational	Level 2	Airframe	Level 3	Landing gear/Indication
A/C Model 1	SZD-48-3 Jantar Standard 3	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	66
Due to excessive sink after launch, the pilot found himself on circuit. The undercarriage was lowered and a pre-landing check was carried out. As the aircraft touched-down the undercarriage collapsed and the glider came to a stop suffering minor abrasions to the fuselage. Although the handle for lowering the undercarriage was activated, the pilot did not confirm that the undercarriage lever button was fully up. Pilots should familiarise themselves with the locked position of the button and visually check it during the pre-landing checks.							

Date	1-Mar-2015	Region	NSWGA	SOAR Report Nbr	S-0513
Level 1	Technical	Level 2	Systems	Level 3	Avionics/Flight instruments
A/C Model 1	Twin Astir	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	53
During the first flight of the day the pilot in command noticed the ASI was under-reading. Following an uneventful landing, the pitot tube was inspected and found to be blocked by mud where wasps had nested. After cleaning the pitot, the aircraft was returned to service. The experienced command pilot acknowledged that he failed to conduct an instrument check as part of the Daily Inspection. This incident highlight the importance of diligently carrying out the DI, which includes undertaking a check of the functioning of instruments. The Club now employs pitot covers for all their aircraft.							

Date	4-Mar-2015	Region	VSA	SOAR Report Nbr	S-0508
Level 1	Operational	Level 2	Aircraft Control	Level 3	Wheels up landing
A/C Model 1	Hornet	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	48
After a short local flight the pilot decided to return to the airfield as he was not connecting with thermals. After making the decision to break-off the flight, the pilot moved the undercarriage lever and joined circuit. The pre-landing checks were made but the pilot did not check the placards to confirm the undercarriage was down and locked as he was distracted by a strong crosswind component. While on final approach and							

focussed on the aiming point, the pilot heard someone call over the radio "GEAR! GEAR! GEAR! By the time the pilot realised his gear was up the aircraft was close to the round-out position. The pilot initially reacted by pulling the nose up but then lowered it to regain airspeed, following which the aircraft landed heavily and suffered minor damage. It appears the pilot did not complete a post-launch check and left the undercarriage down during the flight. This accident highlights the importance of checking the undercarriage lever to the placards. It also serves as a reminder to external observers not to distract the pilot during the critical stage of a landing. Had the pilot not been distracted by the radio call he may have landed normally, albeit with the wheel retracted, with less damage.

Date	6-Mar-2015	Region	GQ	SOAR Report Nbr	S-0510		
Level 1	Airspace	Level 2	Airspace Infringement	Level 3	Airspace Infringement		
A/C Model 1	SZD-48-1 Jantar Standard 2	A/C Model 2					
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	72
The pilot entered controlled airspace without a clearance. While certain areas of the airspace are routinely released for gliding operations, in this instance it was not. The pilot did not confirm the status of the airspace prior to launch and proceeded in the mistaken belief that it was inactive. In an airspace infringement, there is the potential for your aircraft to operate in unsafe proximity to other aircraft. An airspace infringement may also increase air traffic control and pilot workload, and result in delays to other aircraft. Thorough pre-flight preparation is a good defence against an airspace infringement. By solving potential problems on the ground, the likelihood of an airspace infringement is reduced. Make sure that you have current charts to cover your entire operation, and consider Control Area (CTA) steps along and around your planned route.							

Date	6-Mar-2015	Region	GQ	SOAR Report Nbr	S-0511		
Level 1	Airspace	Level 2	Airspace Infringement	Level 3	Airspace Infringement		
A/C Model 1	Duo Discus	A/C Model 2					
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	73
The pilot inadvertently entered controlled airspace while climbing in a thermal close to the airspace boundary. The airfield is sited under restricted airspace, and a local arrangement is documented for the use of a portion of the restricted airspace by the local gliding club. On the day of the incident the airspace had been released but the pilot was observed by ATC to be outside the released area and within the boundary of controlled airspace. ATC contacted the Club and the Club informed the pilot, who promptly vacated the area. This incident highlights the importance of pilots maintaining adequate separation from airspace boundaries, both laterally and vertically.							

Date	12-Mar-2015	Region	SAGA	SOAR Report Nbr	S-0512		
Level 1	Operational	Level 2	Ground Operations	Level 3	Taxiing collision/near collision		
A/C Model 1	HK-36TTC	A/C Model 2	Duo Discus				
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	48
While taxying the Super Dimona motor glider to position for the launch of a Duo Discus, the tow pilot misjudged the distance between the two aircraft and the left wingtip of the tow plane collided with the glider causing significant damage to the canopy. The ground handler did not see the problem develop until it was too late to stop the accident. The tow pilot taxied close to the glider with a view to minimising ground handler activities to pull out the tow rope (this aircraft has a retractable towing system). Tow pilots must ensure they maintain a safe distance to manoeuvre while preparing for the tow, and to ensure that comfort and ease of operation do not compromise safe operations.							

Date	12-Mar-2015	Region	VSA	SOAR Report Nbr	S-0517
Level 1	Operational	Level 2	Flight Preparation/Navigation	Level 3	VFR into IMC
A/C Model 1	ASK-21	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	50

During an extended soaring flight over the Victorian High plains a convergence lift line had formed a bank of cloud between 7000ft to well above 10,000ft. There was good lift on the north side of the convergence and several gliders made use of it to gain height and explore the area. One of the gliders had a camera and filmed the conditions including thermalling with another glider, subsequently posting the footage on the internet. The footage revealed that at least one glider had breached VMC by flying too close to the cloud. The pilots concerned were counselled by their CFI. While it is tempting to fly close to cloud when conditions allow, pilots need to comply with the VFR visibility and distance from cloud criteria stipulated in ENR 1.2 Section 2 (i.e. 1500M horizontal and 1000ft vertical when above 3,000ft AMSL or 1,000ft AGL).

Date	21-Mar-2015	Region	GQ	SOAR Report Nbr	S-0515
Level 1	Operational	Level 2	Miscellaneous	Level 3	Rope break/Weak link failure
A/C Model 1	Nimbus-4DM	A/C Model 2	Piper PA-25-235		
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	73

On launch at about 850ft AGL the tow rope failed at the glider end of the rope. An immediate return to the airfield was initiated, followed by an uneventful landing. Another tow rope was attached to the tug and glider and as the tug was applying take-off power the tow rope again failed at glider end of the tow rope. The Club has been testing the suitability of 10mm 1600kg polypropylene rope. The rope failures occurred towards the end of the trial period and the club has now implemented a replacement/rotation policy based on the demonstrated useful life of the ropes.

Date	21-Mar-2015	Region	NSWGA	SOAR Report Nbr	S-0514
Level 1	Operational	Level 2	Terrain Collisions	Level 3	Collision with terrain
A/C Model 1	PW-5 Smyk	A/C Model 2			
Injury	Minor	Damage	Substantial	Phase	Landing	PIC Age	73

The experienced pilot launched by winch with the intention of soaring along a ridge about 2kms from the airfield. Upon release from the wire the pilot turned downwind and headed towards the ridge where two gliders were already operating. The pilot had become fixated on monitoring the position of the other gliders and, as the aircraft got closer to the ridge the pilot realised he had insufficient height to continue and was at a low height (600ft AGL). The pilot turned back towards the airfield on a marginal final glide in an area of high sink and into the prevailing 15 knot wind. The pilot continued to fly towards the airfield and crossed the airfield boundary fence so low that the tailwheel caught on the top strand. The tailwheel structure and horizontal stabilizer were torn off and the aircraft came to rest heavily just inside the boundary fence. The pilot suffered minor injury. Post accident analysis by the Club's Operations Panel determined that familiarity and complacency were contributing factors, together with task fixation and a lack of situational awareness. The panel suggested that glider pilots need to remain alert to the insidious nature of complacency in low stress situations and the need to avoid, as far as possible, focusing too long on a single prominent objective to the detriment of situational awareness.

Date	25-Mar-2015	Region	VSA	SOAR Report Nbr	S-0533		
Level 1	Operational	Level 2	Airframe	Level 3	Landing gear/Indication		
A/C Model 1	Zephyrus	A/C Model 2					
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	55
The aircraft was being used during an instructor training course. The Instructor candidate landed long and the aircraft rolled through a rough area of the runway resulting in the wooden nose-skid fracturing where it flexed against the steel shoe. The steel shoe has been relocated on the replacement skid to remove the stress point.							

Date	25-Mar-2015	Region	GQ	SOAR Report Nbr	S-0566		
Level 1	Operational	Level 2	Flight Preparation/Navigation	Level 3	Other Flight Prep/Nav Issues		
A/C Model 1	MDM-1P "FOX-P"	A/C Model 2	N/A				
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	58
An experienced aerobatic pilot conducted a low-level solo aerobatic flight in a glider without appropriate CASA approval. The pilot mistakenly believed the low-level aerobatic endorsement to his CASA licence also applied to sailplanes. Pursuant to CAO 95.4 glider operations must only be undertaken in accordance with GFA requirements, and a CASA licence has no authority. Paragraph 6.4 of the GFA operational Regulations requires pilots to have written permission from CASA to conduct aerobatics in a glider below 1,000ft AGL.							

Date	28-Mar-2015	Region	VSA	SOAR Report Nbr	S-0516
Level 1	Operational	Level 2	Aircraft Control	Level 3	Incorrect configuration
A/C Model 1	DG-300 Elan	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	62

The airbrakes deployed during a winch launch. The pilot experienced difficulty closing them due to acceleration forces and was unable to lock them. Nevertheless, the airbrakes remained closed and a normal launch ensued. The pilot advised that he recalled checking the airbrakes were closed but he obviously had not fully locked them. Investigation revealed that his seating position was such that he had to fully extend his arm and marginally lean forward against the harness in order to lock the airbrakes. The pilot's CFI reminded him that the first 'C' in the post-boarding check is: CONTROL ACCESS (Seat adjustments secure and positioned to allow for comfortable access to all flight controls, panel switches/knobs and the tow release. Rudder pedals adjusted for reach if applicable).

Date	28-Mar-2015	Region	WAGA	SOAR Report Nbr	S-0518
Level 1	Operational	Level 2	Runway Events	Level 3	Runway incursion
A/C Model 1	DG-1000S	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	40

A motor vehicle was driven onto the runway by an experienced club member across the path of a glider established on final approach. The glider pilot avoided conflict by closing the airbrakes and overflying the vehicle. The glider landed safely further down the runway. The driver of the vehicle failed to sight the glider and may not have been using radio. The Club CFI has counselled the driver and will reinforce the club's policy to use radios when entering or leaving the runway.

Date	29-Mar-2015	Region	WAGA	SOAR Report Nbr	S-0530
Level 1	Operational	Level 2	Runway Events	Level 3	Runway excursion
A/C Model 1	Piper PA25-235	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	75

The pilot reported that he was landing the tow plane in a left crosswind following a glider launch. The accident occurred during a full-stop landing on the hard-surface runway. The pilot reported that he made an uneventful approach and touchdown on the runway; however, during the landing roll, the airplane suddenly veered to the left. The pilot stated that the tailwheel locked-up against the direction of landing and he was unable to regain directional control despite the application of full right-hand braking. The airplane departed the left side of the runway and the right wingtip contacted the ground resulting in minor damage. Post-accident examinations of the tow plane and tailwheel assembly established that there were no anomalies or mechanical issues to explain why the wheel locked-up. The crosswind would have exacerbated the situation.

Date	3-Apr-2015	Region	WAGA	SOAR Report Nbr	S-0522
Level 1	Operational	Level 2	Runway Events	Level 3	Runway incursion
A/C Model 1	AUSTER AIRCRAFT LTD J5G/A2	A/C Model 2	ASW 17/19 m		
Injury	Nil	Damage	Nil	Phase	Ground Ops	PIC Age	72

With the intention of taxying to the fuel bowser, the tow plane pilot made a radio broadcast of his intentions and entered the operational runway. Shortly after lining up and commencing to take-off the tow pilot noticed the radio master switch was in the off position and turned it on. The tow pilot then heard a radio call from a glider in flight and observed it lining up on final approach to the operational runway. The tow pilot aborted the take-off after briefly becoming airborne and vacated the runway. The glider landed normally and well clear of the tow plane. This incident highlights the importance of completing cockpit checks, even when only taxying around the aerodrome. Since good radio discipline is the key to preventing runway

incursions at uncontrolled airports, it is important to ensure the radio is switched on and operating before starting to taxi.

Date	3-Apr-2015	Region	WAGA	SOAR Report Nbr	S-0551
Level 1	Operational	Level 2	Ground Operations	Level 3	Taxiing collision/near collision
A/C Model 1	AMT-200	A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Ground Ops	PIC Age	60
While manoeuvring at a regional airstrip the pilot misjudged his distance from the signal area and the motor glider's port wingtip struck a windsock resulting in substantial damage. Investigation revealed the pilot was appropriately qualified but was flying without a current Annual Flight Review. The pilot has been counselled and his flying privileges suspended pending a flight review.					

Date	5-Apr-2015	Region	VSA	SOAR Report Nbr	S-0538
Level 1	Technical	Level 2	Systems	Level 3	Avionics/Flight instruments
A/C Model 1	LS 4-a	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	46
During launch the pilot noticed the airspeed indicator to be flickering wildly +/- 20 knots. The pilot remained on tow and released at a safe height. The ASI continued to provide erroneous readings, so the pilot aborted the flight and landed without incident. Post-flight inspection revealed water had entered the pilot system - the aircraft had been parked outside overnight with the pitot and static vents uncovered. An instrument function check during the Daily Inspection did not identify the problem. This incident highlights the benefit of sealing the pitot and static ports against water ingress when the aircraft is parked outside (Note: use tape of a contrasting colour to the fuselage).					

Date	5-Apr-2015	Region	WAGA	SOAR Report Nbr	S-0523
Level 1	Technical	Level 2	Systems	Level 3	Other Systems Issues
A/C Model 1	ASW 27-18	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	62
At 300 ft AGL during an aerotow launch of this fully ballasted glider the towing rings pulled out of the release. The glider pilot completed a 135 degree turn and landed safely onto the reciprocal runway. Initial investigation indicates the rope released because the Tost rings were worn. Tost advises ring pairs that deviate from the standard dimensions must be replaced.					

Date	5-Apr-2015	Region	WAGA	SOAR Report Nbr	S-0531
Level 1	Operational	Level 2	Miscellaneous	Level 3	Other Miscellaneous
A/C Model 1	KR-03A Puchatek	A/C Model 2	Piper PA-25-235		
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	61
Just prior to launch the command pilot in the glider noticed the aerotow rope had been connected to the towplane in reverse fashion; i.e. with the weak link at the glider end. The command pilot stopped the launch and had the tow rope re-attached correctly. The tow plane had just returned to the flight line from refuelling and the ground crew had not paid sufficient attention to the task of re-attaching the rope. A weak link must be fitted to the tug end of the rope so that if it snags on landing it will not subsequently pull the tug into the ground or cause damage to the tail.					

Date	6-Apr-2015	Region	GQ	SOAR Report Nbr	S-0574
Level 1	Operational	Level 2	Flight Preparation/Navigation	Level 3	Aircraft preparation
A/C Model 1	Hornet	A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Ground Ops	PIC Age	60

The aircraft was cleared for flight and then flown with a major defect recorded in the Maintenance Release. The experienced pilot did not notice a Major Defect was recorded in the Maintenance Release during the Daily Inspection. Fortunately the defect was only minor and did not affect the safety of flight. Before starting a Daily Inspection, it is essential to check that the Maintenance Release is valid, and no Major Defects are recorded which prevent flight. Also check the details of any scheduled maintenance as listed.

Date	12-Apr-2015	Region	VSA	SOAR Report Nbr	S-0535
Level 1	Operational	Level 2	Airframe	Level 3	Objects falling from aircraft
A/C Model 1	DG-1000S	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	76

During flight the Trim Ballast cover fell from the fin and was lost. After landing and during the next pre-boarding walk-around inspection, it was noticed that the trim ballast weights were half-way out and unsecured. It was determined that the Perspex cover for the trim ballast box had not been properly locked and fresh tape had not been applied as required by the Aircraft Flight Manual. Investigation revealed that when the two smaller 1.2 KG weights at the top are added it becomes more difficult to lock the cover in place. The cover can be securely attached by ensuring the Perspex cover is properly aligned, that the locking tool is pressed firmly in place to allow the visco-elastic rubber rings around the light sensors to compress, and to then push the locking mechanism upward until it is fully engaged. Fresh tape should always be used to cover the perimeter of the cover and the pilot must confirm correct operation to the indicator lights in the cockpit.

Date	12-Apr-2015	Region	NSWGA	SOAR Report Nbr	S-0524
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	DG-1000S	A/C Model 2			
Injury	Minor	Damage	Substantial	Phase	Landing	PIC Age	78

The flight was a standard training sequence and was the second consecutive sortie with the same aircrew. The command pilot was an experienced instructor who was current and familiar on type. The aircraft was established high on final approach, and the command pilot opted to use side-slip in conjunction with the airbrakes to increase the rate of descent to prevent landing long. The command pilot did not recognise the high rate of descent and left the recovery from the side-slip late and too close to the ground. Just as the pilot levelled the wings the aircraft struck the ground heavily and the undercarriage collapsed. The occupants suffered minor injury and the aircraft was substantially damaged. Both aircrew were admitted to hospital for treatment and observation and later released. Post-accident investigation confirmed that airbrakes were deployed during the landing, and marks on the airfield and witness observations confirmed that yaw and bank were present on impact.

Deliberately sideslipping a glider is a technique sometimes employed by glider pilots to reduce the performance of the glider in order to lose height as a means of controlling the descent rate during the approach phase prior to landing. While sideslipping is required pilot training, it is employed less as a landing approach technique now than it was in the past as most modern gliders have adequate glide path control (i.e. effective airbrakes) removing the need to use other techniques in most circumstances. The Flight manual for the DG 1000 states "The very effective Schempp-Hirth dive brakes make a short landing possible. So a slip is not necessary as a landing technique". Pilots who have been trained for and are experienced with sideslipping should first explore the sideslipping characteristics of gliders they fly in safe circumstances before using it as a landing approach control technique. When sideslipping a heavy glider pilots should commence the recovery at a height sufficient to overcome the effect of inertia before the ground intervenes.

Date	13-Apr-2015	Region	GQ	SOAR Report Nbr	S-0528		
Level 1	Operational	Level 2	Miscellaneous	Level 3	Other Miscellaneous		
A/C Model 1	ASK-21Mi	A/C Model 2					
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	64

During aerotow launch and when at a height of about 700 ft AGL the rings disconnected from the nose release without activation of the release knob. The incident occurred as the rope became taut following a small bow developing. The aircraft had experienced similar disconnections on the ground that were attributed to incorrect insertion into the release. Investigation revealed a bolt attaching the pulley system to the Tost lever was too tight causing binding just prior to the fully closed position. Loosening the nut slightly allowed normal operation. The matter has been referred to the airworthiness department for action.

Date	14-Apr-2015	Region	SAGA	SOAR Report Nbr	S-0525
Level 1	Operational	Level 2	Ground Operations	Level 3	Ground handling
A/C Model 1	ASK-21Mi	A/C Model 2			
Injury	Nil	Damage	Minor	Phase	Ground Ops	PIC Age	54

While towing the glider back to the tie-down area at end of days flying activity, the rudder came into contact with the rear of the towing vehicle during a turn causing minor damage. The vehicle had previously been identified as unsuitable for towing this glider because its tow bar was too short. Driver fatigue was assessed as a contributing factor in deciding to use this vehicle.

Date	15-Apr-2015	Region	NSWGA	SOAR Report Nbr	S-0558
Level 1	Operational	Level 2	Ground Operations	Level 3	Taxiing collision/near collision
A/C Model 1	Discus 2c	A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Ground Ops	PIC Age	38

While being towed back to the hangar the glider's wingtip struck a tree. The pilot became distracted by other obstacles and towed the aircraft too close to the trees. The CFI noted that the club normally uses a quad bike, with good all around visibility, to tow the gliders but in this case the pilot was using his car and visibility was not as good. The club has place high visibility markers near the trees.

Date	18-Apr-2015	Region	VSA	SOAR Report Nbr	S-0527
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	Twin Astir	A/C Model 2			

Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	46
During the landing flare and while at a height of about three feet above the ground the pilot under training pushed the stick hard forward resulting in the aircraft flying into the ground heavily on the nose and main wheel. The aircraft suffered minor damage, limited to broken undercarriage doors, some minor gelcoat cracking near the undercarriage, and scratches to the lower front fuselage. While the Instructor had adopted a defensive posture, the trainee pilot's actions occurred too quickly for the Instructor to react. The pilot under training could offer no explanation for his reactions. He had only recently came back to gliding after a long hiatus and, while his upper air work was good, he was finding it difficult to achieve the level of skill required for the landing. Unfortunately, motor skills that are not practiced regularly will deteriorate as we age and can be difficult to regain in later life. The pilot has indicated he may cease training but will continue to fly with competent pilots.							

Date	25-Apr-2015	Region	GQ	SOAR Report Nbr	S-0573
Level 1	Operational	Level 2	Flight Preparation/Navigation	Level 3	Aircraft preparation
A/C Model 1	Hornet	A/C Model 2	N/A		

Injury	Nil	Damage	Nil	Phase	Ground Ops	PIC Age	36
The aircraft was flown with a major defect recorded in the Maintenance Release. The low hour's pilot on his first flight in the glider mistook a major defect as a minor defect during the Daily Inspection. A contributing factor was that the defect was only a crack in the canopy clear-view. Notwithstanding the defect may have been considered by the pilot/inspector as minor, this should have been confirmed by an Airworthiness Inspector and the major defect cleared. The GFA Daily Inspector Handbook has this to say: *"If there is a MAJOR DEFECT which has not been cleared by a Form 2 Inspector, or a Replacement of Components Inspector (if the matter was within the rectification capacity of such inspector rating), a DI shall not be carried out and the glider must not be flown until the rectification work has been done and the entry cleared. Take the initiative and organise for the defect to be rectified by bringing the matter to the attention of the relevant person."*							

Date	26-Apr-2015	Region	GQ	SOAR Report Nbr	S-0534
Level 1	Consequential Events	Level 2	Low Circuit	Level 3	Low Circuit
A/C Model 1	Arcus M	A/C Model 2			

Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	27
The pilot conducted a 'low-level finish' manoeuvre below the minimum safe height of 50ft. The pilot was counselled by his CFI.							

Date	7-May-2015	Region	SAGA	SOAR Report Nbr	S-0536
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	DG-500 Elan Orion	A/C Model 2			

Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	68
The pilot flying was undertaking a check flight behind a Pawnee tow plane. The launch progressed normally and the glider released from tow at about 2,000ft AGL. Immediately following release the glider's descent rate increased dramatically and the command pilot (Instructor) suggested the handling pilot divert towards cloud where it was expected to find lift or reduced sink. Despite the diversion the sink rate remained high and at a height of about 1500ft AGL and some 2 kilometres from the airfield the decision was made to return and land. The glider continued to experience a high rate of sink and the pilot flying planned for a downwind landing on the operational runway. Due to the high descent rate it became obvious to the command pilot that the glider would not make the airfield. At 500ft AGL the command pilot took control and positioned for							

an outlanding. The command pilot did not recall a post-release check being completed and the undercarriage was still down and locked. The aircraft landed heavily in a paddock resulting is substantial damage to the lower front fuselage. The command pilot asserted the airbrakes were closed and locked and that the sink rate was caused by meteorological events, possibly wave related. Review of the flight log reveals the rate of descent commenced immediately post-release following a normal launch profile and adverse meteorological conditions could not be confirmed. The handling pilot has a history of poor decision making, and an alternate possibility for the high sink rate was that he deployed the airbrakes rather than raising the undercarriage post release, as the airbrake and undercarriage levers are in close proximity. The command pilot may not have noticed this because a post-release check was not undertaken, and he may have been convinced that the sink rate was weather related. Towards the latter stages of the flight the command pilot's concentration and focus was on landing the glider safely, and use of the airbrakes may not have been considered due to the high descent rate.

Date	16-May-2015	Region	GQ	SOAR Report Nbr	S-0539
Level 1	Airspace	Level 2	Aircraft Separation	Level 3	Near collision
A/C Model 1	ASK-21	A/C Model 2	Piper PA-25-235		
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	59

A glider undertaking a training flight with a pre-solo student entered circuit around the same time as a tow plane. The tow plane pilot gave a radio call advising he had the glider sighted and would follow, and then just prior to the base turn the tow pilot informed the glider pilot that he would turn inside and land first. The glider had just entered the base leg of its circuit when the tow pilot gave a further radio call that he was passing beneath the glider and 100ft lower. Simultaneously the command pilot in the glider saw the tow plane for the first time in close proximity beneath him. Both aircraft landed uneventfully. While radio communication was good, there was no need for the tow pilot to position his aircraft directly beneath the glider in the glider pilot's blind spot. The Rules for Prevention of Collision as detailed in CAR 162(3) states that an aircraft that is being overtaken has the right-of-way and the overtaking aircraft, whether climbing, descending, or in horizontal flight, shall keep out of the way of the other aircraft by altering its heading to the right, and no subsequent change in the relative positions of the two aircraft shall absolve the overtaking aircraft from this obligation until it is entirely past and clear. CAR 163 (1) also requires the pilot in command of an aircraft to avoid flying so close to another aircraft as to create a collision hazard. A post incident review of the tow plane's flight log also revealed that the tow pilot descended rapidly during the downwind leg and was established on final, wings level, at 180ft AGL. The GFA Aerotow manual states at paragraph 9.1.15: *"As a general principle, be where other airspace users will expect you to be."* Other airspace users will expect the tow plane to follow the rules in AIP ENR 1.1-77 that are: *"48.5.5 - On downwind the applicable circuit altitude should be maintained until commencement of the base leg turn."* AIP ENR 1.1-77 also states*: "48.5.6 - When on the final leg, confirm the runway is clear for landing. The turn onto final approach should be completed by a distance and height that is common to the operations at the particular aerodrome and commensurate with the speed flown in the circuit for the aircraft type. In any case, the turn onto final should be completed by not less than 500FT above aerodrome elevation. This should allow sufficient time for pilots to ensure the runway is clear for landing. It will also allow for the majority of aircraft to be stabilised for the approach and landing."* This is also restated in the GFA Aerotow manual at paragraph 9.1.16. The tow pilot has been counselled and the Club's tow pilots have been briefed on correct circuit procedures by the Tugmaster.

Date	16-May-2015	Region	SAGA	SOAR Report Nbr	S-0550
Level 1	Operational	Level 2	Airframe	Level 3	Doors/Canopies
A/C Model 1	Mini-Nimbus B	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Ground Ops	PIC Age	64

Following a successful landing, the pilot inadvertently activated the canopy jettison lever while opening the

mini nimbus canopy that resulted in damage to the forward hinge. Investigation identified the pilot experienced a lapse in concentration and used the canopy release technique relevant to the Club's ASK21, which requires the pilot to pull back both levers to open the canopy. In the ASK 21 the canopy opens upwards, whereas the mini nimbus canopy opens to the side. This incident is a good example of recency and primacy bias effects.

Date	17-May-2015	Region	NSWGA	SOAR Report Nbr		S-0537	
Level 1	Environment	Level 2	Wildlife	Level 3		Other Wildlife Events	
A/C Model 1		ASW 20F		A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	64
The pilot identified a kangaroo as an obstacle during late finals. After assessing his options and arresting his rate of descent, the pilot diverted to a cross-strip where he landed safely. Kangaroos have become an increasing hazard at this airfield due to their large numbers in adjacent farmland and scrub. The club has taken measures to clear land and patrol the perimeters to discourage Kangaroos from accessing the airfield.							

Date	23-May-2015	Region	GQ	SOAR Report Nbr		S-0576	
Level 1	Operational	Level 2	Flight Preparation/Navigation	Level 3		Aircraft preparation	
A/C Model 1		Astir CS Jeans		A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Ground Ops	PIC Age	22
The aircraft was cleared for flight and then flown with an expired Maintenance Release. The low hours pilot, who had only recently been trained to conduct daily inspections, omitted to check the Maintenance Release Expiry Date and cleared the aircraft for flight when it was no longer airworthy. The Daily Inspector Handbook notes that the first step in the process is to check that the Maintenance Release is valid, and no Major Defects are recorded which prevent flight. Remember, a good Daily Inspection helps in avoiding incidents and accidents, by finding faults in or issues with the glider before it flies.							

Date	23-May-2015	Region	GQ	SOAR Report Nbr		S-0540	
Level 1	Operational	Level 2	Fuel Related	Level 3		Starvation	
A/C Model 1		CESSNA 150E		A/C Model 2	ASK-21		
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	30
During the initial climb under aerotow and at about 300ft AGL, the tow plane momentarily lost power and the glider pilot, noticing something amiss, released. Both aircraft completed modified circuits with no further incident. The tow pilot, who had only recently obtained his towing endorsement, had conducted the tow plane's Daily Inspection in the morning and noted that the tanks were not full - about 65 litres of fuel was present. The aircraft was not refuelled as the pilot assessed that, due to the poor weather conditions, this fuel quantity would be sufficient for the small operation that had been planned for the day. However, as the morning progressed more gliders lined up on the grid and the pilot may have felt under pressure to continue to launch the gliders until refuelling became inevitable. Immediately prior to the final launch the tow pilot, who had been estimating his fuel burn rate, advised the ground crew that he would need to refuel after this flight. Unfortunately, the tow pilot had miscalculated his fuel burn rate and the aircraft had insufficient fuel on board. During launch the low fuel rate resulted in fuel flow being interrupted causing the engine to lose power until the nose was lowered, at which time fuel flow was restored. The glider pilot noticed something was amiss, released from tow and landed safely off a modified circuit. The tow pilot completed a 180 degree turn under power and landed on the reciprocal runway. The Club's tugmaster has raised awareness among the tow pilots of the need for proper fuel management, including fuel burn rates, and the tow pilot concerned will undergo further training. This is how many fuel related accidents develop.							

Through a combination of circumstances and a few non-optimal decisions, otherwise prudent pilots put themselves in harm's way. Tow pilots must remain acutely aware of the high rate of fuel consumption during aerotowing with the engine operating at full or very high power settings during the climb. A pilot used to a moderate fuel consumption at cruise settings may need some time to become accustomed to this. Pilots should keep track of how many tows they have done and refuel early rather than late. Trying to run the tank down as dry as you can before refuelling is the very opposite of good airmanship. GFA recommends pilots maintain a 30 minute fuel reserve.

Date	23-May-2015	Region		WAGA		SOAR Report Nbr		S-0543	
Level 1	Operational		Level 2	Fuel Related		Level 3		Starvation	
A/C Model 1		Piper PA25-235				A/C Model 2		DG-1000S	
Injury	Nil	Damage	Nil	Phase	Launch			PIC Age	88
During an aerotow launch and at a height of about 1,000ft AGL, the tow plane engine stopped. The glider released and conducted an uneventful landing on the duty runway. The tow pilot attempted an engine restart without success and made a forced landing into a paddock without further incident. Investigation revealed the engine stopped due to fuel starvation when the pilot forgot to change tanks. The elderly pilot had a lapse in judgement and has signalled his intention to retire from power flying.									

Date	23-May-2015	Region		SAGA		SOAR Report Nbr		S-0546	
Level 1	Operational		Level 2	Miscellaneous		Level 3		Rope break/Weak link failure	
A/C Model 1		ASK-21				A/C Model 2		N/A	
Injury	Nil	Damage	Nil	Phase	Launch			PIC Age	73
During a winch launch and at about 800ft AGL the 'weak link' broke. The pilot completed his launch failure checks, and conducted a safe circuit and landing. Inspection of the cable and trace identified a 'weak link' of a lower strength than recommended for the glider was used. The error occurred when an inexperienced member of the launch crew did not fully understand how the 'weak link' system was operated. This incident was dealt with under the club's SMS and improved training practices have been adopted to ensure launch crew are aware and understand how the 'weak links' are fitted.									

Date	23-May-2015	Region		SAGA		SOAR Report Nbr		S-0545	
Level 1	Operational		Level 2	Aircraft Control		Level 3		Incorrect configuration	
A/C Model 1		Astir CS 77				A/C Model 2		N/A	
Injury	Nil	Damage	Nil	Phase	Launch			PIC Age	46
During a winch launch and at approximately 800' AGL, the glider's airbrakes opened. The pilot lowered the aircraft's nose, pulled the release, closed the airbrakes, and conducted a circuit for an uneventful landing. Investigation revealed the pilot's pre take-off check was interrupted by a delay caused by another glider landing long, and while the pilot closed the airbrakes he did not lock them. One further opportunity to remedy the error was missed when the pilot, in responding to a challenge from a member of the launch crew to confirm his airbrakes were locked, merely pushed the airbrake handle forward to confirm 'closed' without realising that the airbrakes were not 'locked'. The pilot was relatively inexperienced and had only 8 flights on type. This incident highlights the importance of conducting uninterrupted pre-flight checks, and that pilots physically determine the airbrakes are locked by cycling the control and ensuring the overcentre lock has engaged.									

Date	24-May-2015	Region	VSA	SOAR Report Nbr	S-0542

Level 1	Operational	Level 2	Aircraft Control		Level 3	Control issues	
A/C Model 1		Twin Astir		A/C Model 2			
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	57
The aircraft was undergoing an evaluation flight following repairs consequent of an earlier heavy landing. During flight a vibration was felt through the control column, which remained constant throughout the speed range. A limited in-flight visual check of the wings and tailplane did not identify any issues. Apart from the vibration, the aircraft handled well and an uneventful landing was made. Post flight inspection determined that the control surfaces and sealing tapes were satisfactory, and control circuit free play was within tolerances. During inspection dried bird droppings were found on the starboard wing, midway along and about 15cms from the aileron. It was determined that the bird droppings created a turbulent airflow over part of the aileron; thereby transmitting the vibration through the aileron circuit to the control column. The wing surface was cleaned and another flight was conducted without incident. This incident highlights how foreign objects on wings, no matter how insignificant they may seem, can negatively affect the flight characteristics of an aircraft.							

Date	24-May-2015	Region	GQ		SOAR Report Nbr	S-0541	
Level 1	Operational	Level 2	Aircraft Control		Level 3	Incorrect configuration	
A/C Model 1		Duo Discus T		A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	60
During the take-off roll the glider's airbrakes deployed. The experienced command pilot locked the airbrakes and the flight continued without further incident. Investigation determined that the command pilot did not check the airbrakes were closed and locked. When conducting the pre-flight checklist it is important that pilots physically determine the airbrakes are locked by cycling the controls and ensuring the over-centre lock has engaged.							

Date	24-May-2015	Region	VSA		SOAR Report Nbr	S-0544	
Level 1	Technical	Level 2	Powerplant/Propulsion		Level 3	Engine failure or malfunction	
A/C Model 1		Piper PA25-260		A/C Model 2	AS-K 13		
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	76
At about 500ft AGL with a glider on tow, the tow plane's engine began to run roughly. The tow pilot waved the glider off and the glider pilot responded promptly. The tow pilot executed a 180 degree left-hand turn and landed on the operational runway on a reciprocal heading. The engine continued to develop power and the pilot was able to taxi clear of the runways. The gliding Instructor took control from the student flying the glider and also turned left to position for a landing on the cross runway, completing a safe landing without infringing the operational runway. The tow pilot advised he had experienced difficulty starting the engine earlier in the day but that the engine had since worked satisfactorily. He found no visible evidence of a problem and started the aircraft without difficulty. He made short test flight and experienced no further problems. A subsequent check by a LAME determined one spark plug had fouled, which probably led to the rough running engine.							

Date	6-Jun-2015	Region	GQ		SOAR Report Nbr	S-0575	
Level 1	Operational	Level 2	Flight Preparation/Navigation		Level 3	Aircraft preparation	
A/C Model 1		Astir CS Jeans		A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	66
The aircraft was cleared for flight and then flown with an expired Maintenance Release. The low hours pilot							

was undertaking the Daily Inspection under supervision as part of his conversion to his first single-seat aircraft. Neither the pilot/inspector nor the supervising instructor noticed the Maintenance Release had expired. Most maintenance mistakes involve human factors, and stress and distraction often contribute to items being missed. The key is to take your time during the inspection, avoid distractions, and use the checklist to make sure you don't miss anything. Supervising instructors should also pay attention and ensure they are not distracted from the task.

Date	6-Jun-2015	Region	GQ	SOAR Report Nbr	S-0547
Level 1	Environment	Level 2	Wildlife	Level 3	Birdstrike
A/C Model 1	SZD-48-1 Jantar Standard 2	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Thermalling	PIC Age	72
While thermalling on a cross-country flight, one of two eagles in the thermal suddenly changed direction in flight and struck the starboard wingtip of the glider. After determining his aircraft was controllable, the pilot elected to continue the flight and later landed at the home airfield without further incident. Inspection of the airframe revealed 3 small impressions underneath the starboard wing tip.					

Date	7-Jun-2015	Region	GQ	SOAR Report Nbr	S-0548
Level 1	Technical	Level 2	Powerplant/Propulsion	Level 3	Engine failure or malfunction
A/C Model 1	Piper PA25	A/C Model 2	ASK-21		
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	62
At about 100ft AGL with a glider on tow, the tow plane's engine stopped. The glider pilot released and both aircraft completed a safe landing straight ahead on the runway available. A post-flight inspection did not reveal any faults with the engine and the aircraft was returned to service without further event. A maintenance engineer subsequently cleaned and tightened critical earth points, replaced the fuel pump circuit breakers, and renewed the crankshaft position sensor. The aircraft was certified safe for flight and no further issues have been reported.					

Date	8-Jun-2015	Region	GQ	SOAR Report Nbr	S-0549
Level 1	Operational	Level 2	Aircraft Control	Level 3	Wheels up landing
A/C Model 1	LS-1D	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	51
The pilot is an experienced power pilot who started gliding 18 months ago. This was the pilot's first flight on type. During the latter part of the flight the pilot advised the duty instructor by radio that he could not lower the undercarriage and was told to conduct a 'wheel-up' landing. The pilot flew a good circuit and landed well down the strip so as not to block the runway. The aircraft suffered only minor scratches to the lower fuselage. Subsequent inspection of the glider revealed the undercarriage had been raised with such force as to sheer off the stop mechanism and lock the wheel inside the fuselage. The pilot's CFI noted this was a case of *"first flight nerves and a heavy hand on unfamiliar controls".*					

Date	20-Jun-2015	Region	NSWGA	SOAR Report Nbr	S-0552
Level 1	Operational	Level 2	Runway Events	Level 3	Runway excursion
A/C Model 1	SZD-55-1	A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	67
The pilot was undertaking his second flight on type. During the initial ground run on aerotow the port wing dropped and the wingtip caught in vegetation on the edge of the bitumen runway. The pilot immediately					

released from tow as the aircraft departed the runway. Contributing factors include a lack of familiarity on type and a light quartering tailwind.

Date	28-Jun-2015	Region	WAGA	SOAR Report Nbr	S-0553
Level 1	Operational	Level 2	Aircraft Control	Level 3	Wheels up landing
A/C Model 1	Astir CS 77	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	16

Low hours pilot undertaking his first single-seat conversion, and his first flight in a glider with a retractable undercarriage. After release from a normal aerotow, the pilot retracted the undercarriage as part of his post-release check. After a while the pilot broke-off the flight and headed for the circuit joining area. The pilot did not configure the aircraft for landing. During the downwind leg the pilot forgot to carry out the pre-landing check and did not identify that the undercarriage was retracted. While an undercarriage warning was fitted, it was not serviceable. The glider landed safely and only suffered scratching to the gelcoat. Potential causal factors include low experience, unfamiliarity with aircraft type, and anxiety resulting in inattention to routine checks. The inoperable undercarriage warning was noted as a minor defect in the Maintenance Release but was not brought to the attention of the Club's airworthiness inspectors. Had this been serviceable the pilot may have been alerted to the undercarriage being retracted. Operational Safety Bulletin 01/14 provides the following advice:

"Since landing mishaps usually occur due to poor workload management, it is important to get some of the tasks out of the way early and prepare for landing by:

- *Making sure the straps are tight and deciding on a suitable approach speed.*
- *In gliders so equipped, dump any water ballast, lower the undercarriage and set the flaps, trimming to an appropriate speed for the downwind leg.*
- *Make sure the radio is on the correct frequency, that volume and squelch are correctly set, and that the microphone is positioned for best performance."*This bulletin also makes the comment:

"Caution: The pre-landing check (refer MOSP 2, Appendix 1) is a check and not an action list. The check should verify the undercarriage lever is matched to the lowered position on the placard, that flaps are set as required, and that approach speed and trim has been set."

Date	29-Jun-2015	Region	NSWGA	SOAR Report Nbr	S-0554
Level 1	Operational	Level 2	Miscellaneous	Level 3	Rope/Rings Airframe Strike
A/C Model 1	DG-1000S	A/C Model 2	Piper PA-25-235		
Injury	Nil	Damage	Substantial	Phase	Launch	PIC Age	18

At about 1200ft AGL while undertaking initial aero-tow training the student pilot flew the glider out of station. The Level 1 Instructor assumed control but during the recovery to the normal low-tow position the TOST weak-link at the tow plane broke. The rope fell across the port wing of the glider and the remains of the weak-link impacted the lower wing surface, punching a 30mm hole. The Instructor released the rope over a rural area and it fell away cleanly. Both the tow plane and gilder returned to the airfield without further incident, and the glider was taken out of service for repair. Investigation by the Club CFI identified the student pilot, who was on his third flight, was introduced to the aerotow too early in his training, and the weak link in use was too light for the glider and tow plane combination. The low time Instructor was also late in identifying and reacting to the out of station situation and is undergoing remedial training. The GFA Instructor's Handbook states: *"A common instructional error is to introduce students to flying the aerotow too early in their training. This often results in frustration and discouragement, which is the opposite of what an instructor should be trying to achieve. As a guide, the student should not be handed control on aerotow until competence in smooth and reasonably accurate co-ordination has been acquired. Additionally, the student should have some idea of ANTICIPATION in the use of the controls, otherwise learning to aerotow will*

be just that little bit harder." Guidance on the selection, application, safety and testing of glider weak-links can be found in Operations Advice Notice (OAN) 01/13.

Date	4-Jul-2015	Region	GQ	SOAR Report Nbr	S-0555		
Level 1	Airspace	Level 2	Aircraft Separation	Level 3	Aircraft Separation Issues		
A/C Model 1	DG-1000S	A/C Model 2	Piper PA-25-235				
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	55

Gliding operations were being conducted on runway 09 (grass right) in light and variable conditions, with a slight tailwind component later in the day. The glider pilot was undergoing a pre-solo check flight and elected to land into wind on runway 27 (grass left), on a reciprocal heading to the operations. While the glider was on base leg the pilots heard a call from the tug pilot advising he was lining up for a glider launch on the operational runway. The command pilot of the glider, while monitoring the progress of the tow

plane, took control and manoeuvred to land on runway 27, grass right to provide separation from the tow plane. The student pilot completed a successful landing. The command pilot estimated separation to be 1000 metres. Incidents of this nature are not uncommon in gliding, where operations will sometimes continue with a slight tailwind component rather than go through the inconvenience of changing runways. While gliders and tow planes can cope with slight tailwind operations, take-off or landing downwind is not recommended as a standard procedure. Pilots should use the runway most closely aligned into wind wherever possible. Pilots must also operate within the limitations prescribed in the Aircraft Flight Manual (AFM). Civil Aviation Regulations state that the pilot must *"take off or land into the wind if, at the time of the take-off or landing it is practicable to take off or land into the wind"* (CAR 166A(2)(h)).

Date	4-Jul-2015	Region	GQ	SOAR Report Nbr	S-0559		
Level 1	Operational	Level 2	Aircraft Control	Level 3	Incorrect configuration		
A/C Model 1	Discus bT	A/C Model 2	N/A				
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	80
Airbrakes were observed to be open while the glider was on tow. The elderly glider pilot did not respond to either a radio alert or to the rudder waggle given by the tow pilot. The tow proceeded and the glider pilot released at the usual launch height. Investigation revealed the glider radio was not functioning properly and that the pilot lacked currency in emergency procedures. A decline in cognitive skills, which is the natural consequence of ageing, may also be germane.							

Date	6-Jul-2015	Region	NSWGA	SOAR Report Nbr	S-0556		
Level 1	Operational	Level 2	Runway Events	Level 3	Runway incursion		
A/C Model 1	Piper PA25-235	A/C Model 2	Piper PA-28R-200				
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	59
Following the successful launch of a glider, the tow pilot joined the circuit for a landing on the main runway of a major regional airport. Simultaneously, a Piper Arrow entered the main runway and commenced to back-track to the take-off point. Both pilots broadcast their intentions on the CTAF. The tow pilot proceeded to land short on the main runway while it was occupied, much to the ire of the back-tracking Piper pilot. While it is not unusual for pilots to maintain their own separation at non-controlled aerodromes using look-out and clear radio communications, in this case the tow pilot had not adequately communicated his intentions to the Piper pilot in order to safely manage separation and maintain situational awareness. CAR 166A(b) requires pilots ensure that their aircraft does not cause a danger to other aircraft that are being operated on the manoeuvring area of, or in the vicinity of, the aerodrome. CAAP 166-1(3) 6.6.6 states: *"When on the final leg, pilots should confirm that the runway is, and remains, clear for landing"*. AIP ENR 1.1 49 states *"An aircraft must not continue its approach to land beyond the threshold of the runway until: (a) a preceding departing aircraft using the same runway is airborne and: (1) has commenced a turn; or (2) is beyond the point on the runway at which the landing aircraft could be expected to complete its landing roll and there is sufficient distance to manoeuvre safely in the event of a missed approach."* The tow pilot was counselled by the Duty Instructor and relieved from towing duties.								

Date	7-Jul-2015	Region	GQ	SOAR Report Nbr	S-0560		
Level 1	Airspace	Level 2	Airspace Infringement	Level 3	Airspace Infringement		
A/C Model 1	SZD-50-3 Puchacz	A/C Model 2	N/A				
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	73
During an instructional flight the aircraft briefly entered controlled airspace. Investigation revealed the experienced instructor did not maintain adequate situational awareness and allowed the student to drift							

into controlled airspace while thermalling. The Instructor has been counselled and will participate in remedial training. Violations of controlled airspace can be avoided by remaining situationally aware, ensuring you have current airspace charts, and by thoroughly familiarising yourself with local airspace and other aeronautical issues. AIP ENR 1.1 (19.12) 'Avoiding Controlled Airspace' has this to say: *"For aircraft operating in close proximity to an airspace boundary where there is a risk of an airspace infringement, the pilot in command should consider obtaining a clearance to enter the airspace or altering track to remain well clear."*

Date	9-Jul-2015	Region	NSWGA		SOAR Report Nbr		S-0557		
Level 1	Operational	Level 2	Runway Events		Level 3		Other Runway Events		
A/C Model 1	Cessna 441 Conquest II				A/C Model 2	N/A			
Injury	Nil	Damage	Nil	Phase	Landing		PIC Age		

A corporate owned Cessna Conquest twin engined aircraft did a low pass of the gliding winch operation and then conducted an unauthorised landing. Radio calls on the appropriate frequencies were not made. In addition, the airfield is not suitable for heavy aircraft and the council prohibits powered aircraft operations. The company's Chief Pilot has advised the pilot will be unavailable for flight duties pending his investigation. The gliding airfield is located in busy airspace and there is a significant potential for conflict between transiting powered aircraft and gliders. The GFA AA&A Officer has worked with the Gliding Club CFI to have the airfield included in ERSA and for AirServices to identify it as a CTAF on the Sydney VTC and Newcastle VNC. The Club is also pursuing a proposal to have the boundaries of a proposed Broadcast Area adjusted to include their airfield.

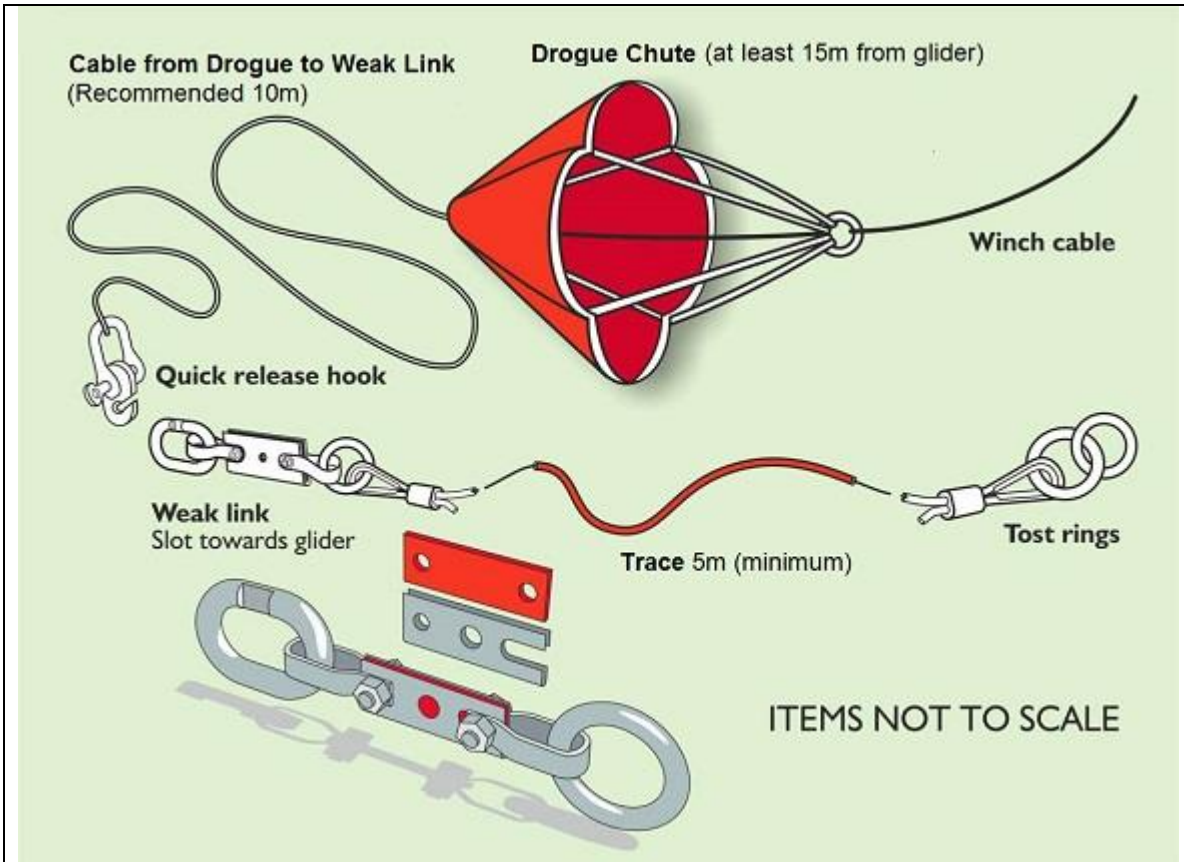
Date	12-Jul-2015	Region	SAGA		SOAR Report Nbr		S-0724		
Level 1	Operational	Level 2	Aircraft Control		Level 3		Control issues		
A/C Model 1	Piper PA-25-235				A/C Model 2	N/A			
Injury	Nil	Damage	Minor	Phase	Landing		PIC Age	76	

On returning to land after completing a glider tow, the tow plane was observed to land approximately 100m further up from the glider launch position. The wind at the time was a cross wind from the left with a cross

wind component estimated at 4 Knots. The tow plane was observed to touch the starboard wing tip on the ground and a small plume of dust was observed from the launch point. The tug returned to the launch point and the wing tip was inspected with no damage apparent externally, however a subsequent inspection revealed some minor damage to a wing rib. Possible causal factors include pilot fatigue and a cross wind gust.

Date	13-Jul-2015	Region	SAGA	SOAR Report Nbr		S-0723	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Incorrect configuration	
A/C Model 1		DG-1000S		A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	72
At the completion of the flight the instructor conducted a debriefing of the student in the aircraft. Following the debriefing the instructor operated the canopy unlock lever (LHS) and the canopy jettison lever (RHS) and the canopy detached from the hinges on the aircraft. The canopy was inspected and no damage was found, was restored to the frame and the jettison lever returned to the flight normal position. The canopy was then inspected for normal operation. The instructor had previously flown in an ASK-21 earlier in the day, which has the normal canopy opening levers on both sides of the cockpit. The occurrence flight occurred later in the day when the instructor transferred to the DG1000. Possible causal factors include fatigue and mis-identification of the canopy handle.							

Date	18-Jul-2015	Region	NSWGA	SOAR Report Nbr		S-0561	
Level 1	Operational	Level 2	Miscellaneous	Level 3		Rope/Rings Airframe Strike	
A/C Model 1		Grob G 103 Twin II		A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	38
The experienced pilot was conducting a private passenger flight. The glider was launched by winch into a light headwind. The pilot noted the ground roll to be longer than usual but speed eventually increased and the glider transitioned into the climb. Just after transition into the full climb and at approximately 400ft AGL the pilot noted a sudden loss of power in the winch, and he immediately lowered the nose and released the cable. Once the pilot had established a safe speed, he opened the airbrakes to land straight ahead on the available runway. In the process of lowering the nose, the glider flew under the deployed drogue chute and the dyneema rope draped across the right wing just outboard of the airbrake. No damage occurred and the glider landed safely without further incident. Investigation determined that the automatic transmission in the winch failed and, that the drogue chute may have been too large for the lightweight dyneema rope thereby slowing its rate of descent. It was also determined that the trace between the drogue chute and the rings was almost two metres shorter than the GFA minimum. The club will ensure the cable is set-up in accordance with the GFA Winch Launch Manual and will use a smaller drogue chute that will allow the rope to fall away much quicker.							



Date	25-Jul-2015	Region	SAGA	SOAR Report Nbr	S-0562
Level 1	Operational	Level 2	Crew and Cabin Safety	Level 3	Other Crew and Cabin Safety Issues
A/C Model 1	SF25D	A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	64

During an Operational Safety Audit it was found that the pilot had not completed an annual flight review within the previous twelve months. The pilot was counselled and informed not to fly in command of a glider until an AFR was satisfactorily completed. The pilot understood the seriousness of the breach of GFA standards and statutory requirements and undertook to ensure it does not happen again. The pilot successfully completed an AFR the following day. GFA Operational Regulations (paragraph 3.3.5) requires all solo pilots to undergo an annual competency check, or Annual Flight Review (AFR). An AFR is valid to the end of the month in which it is done, 12 months later. A flight review can be completed any time in the three months before it is due and the original renewal month remains unchanged. This means a review remains valid, even if completed early. For example, if the AFR is due to expire at the end of August 2015 but is undertaken in June 2015, the next AFR will be due at the end of August 2016. A pilot can defer their review beyond the 12 month period but cannot exercise command privileges until they have completed their AFR. Current guidance on the AFR is in Operations Advice Notice 02/12."

Date	25-Jul-2015	Region	SAGA	SOAR Report Nbr	S-0563
Level 1	Operational	Level 2	Crew and Cabin Safety	Level 3	Other Crew and Cabin Safety Issues

A/C Model 1		SF25D		A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	53
During an Operational Safety Audit it was found that the pilot had not completed an annual flight review within the previous twelve months. The pilot was counselled and informed not to fly in command of a glider until an AFR was satisfactorily completed. The pilot understood the seriousness of the breach of GFA standards and statutory requirements and undertook to ensure it does not happen again. The pilot successfully completed an AFR the following day. GFA Operational Regulations (paragraph 3.3.5) requires all solo pilots to undergo an annual competency check, or Annual Flight Review (AFR). An AFR is valid to the end of the month in which it is done, 12 months later. A flight review can be completed any time in the three months before it is due and the original renewal month remains unchanged. This means a review remains valid, even if completed early. For example, if the AFR is due to expire at the end of August 2015 but is undertaken in June 2015, the next AFR will be due at the end of August 2016. A pilot can defer their review beyond the 12 month period but cannot exercise command privileges until they have completed their AFR. Current guidance on the AFR is in Operations Advice Notice 02/12."							

Date	7-Aug-2015	Region	GQ	SOAR Report Nbr	S-0578
Level 1	Airspace	Level 2	Aircraft Separation	Level 3	Near collision
A/C Model 1	IS-30		A/C Model 2	BEECH AIRCRAFT CORP A45	
Injury	Nil	Damage	Nil	Phase	Thermalling	PIC Age	71
The gliding instructor was conducting a conversion flight with a solo pilot and was on the controls. While thermalling at about 2000ft AGL the instructor noticed two "War Bird" aircraft flying in formation toward the glider. The lead aircraft flew behind the glider but the following aircraft maintained a heading towards the glider. The gliding instructor rapidly reduced altitude to maintain separation and, once the two aircraft were clear of the glider, handed over control to the pilot under instruction. The glider joined circuit and landed without further incident. The pilot of the following aircraft was spoken to and confirmed he had not seen the glider as he was focused on maintaining formation with the lead aircraft. The gliding club and War-Bird Flying Group are collaborating to develop mutually acceptable operating guidelines to prevent recurrence. Formation flying is inherently dangerous and requires proper training and endorsement. To minimise the risk, pilots must exercise discipline and follow the chain of command within the formation and, in the case of a two aircraft formation, the lead and wingman have distinct roles and responsibilities to ensure the safety and success of the flight. Pilots flying in formation who are not properly trained and endorsed pose an unacceptable risk to other airspace users.							

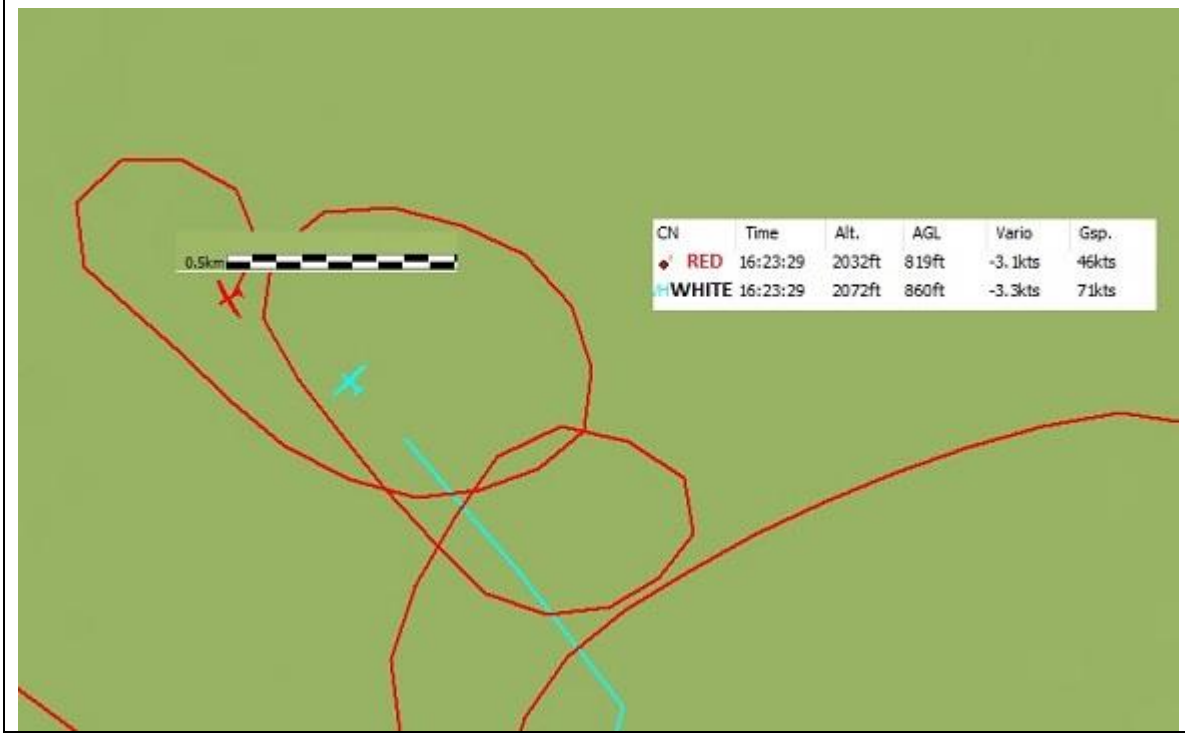
Date	8-Aug-2015	Region	SAGA	SOAR Report Nbr		S-0565	
Level 1	Operational	Level 2	Flight Preparation/Navigation	Level 3		Aircraft preparation	
A/C Model 1		DG-1000S		A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Ground Ops	PIC Age	61

An aircraft was released to service with an expired maintenance release. The inspector undertaking the Daily Inspection misread the expiry date. The inspector advised that it was unusual for gliders to be left in the hangar with an expired maintenance release and this led him to see what he expected to see, and not what was actually written. In psychology and cognitive science this is known as confirmation bias, which is the tendency to interpret information in a way that confirms one's preconceptions.

Date	8-Aug-2015	Region	GQ	SOAR Report Nbr		S-0564	
Level 1	Airspace	Level 2	Aircraft Separation	Level 3		Near collision	
A/C Model 1		Duo Discus		A/C Model 2	ASK-21		
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	78

While an ASK21 was thermalling in the mid-downwind leg of the aerodrome at about 900ft AGL, a Duo Discus gave a radio call and joined circuit upwind at a similar height. The ASK21 pilot did not hear the radio call and the pilot of the Duo Discus did not initially sight the thermalling glider as he was flying into the sun. At the mid-downwind position the ASK21 passed across the nose of the Duo Discus from right to left some 300 metres ahead and at a similar height, startling the pilot of the Duo Discus. The ASK21 pilot then sighted the Duo Discus as it overtook his aircraft during the thermalling turn, passing approximately 300 metres to his right and at a similar height. The ASK21 pilot immediately discontinued the turn and joined downwind behind the Duo Discus. Both aircraft subsequently landed without further incident. Most circuit collisions

occur on downwind or on final approach. There are many distractions during this time, including configuring the aircraft, completing checklists, setting equipment and communicating. Therefore, thermalling on the live side of a common circuit area is fraught with danger and it is essential that situational awareness is maintained through good lookout, scanning techniques and by appropriate use of radio. Be aware of the likely traffic patterns and target your scan to the areas of potential hazard. This was a very close call that should not have occurred, as local club rules prohibit thermalling in the circuit area below 1500ft. For further information, refer to Operational Safety Bulletin (OSB) 02/14 - "See-and-Avoid for Glider Pilots".



Date	15-Aug-2015	Region	GQ	SOAR Report Nbr	S-0571		
Level 1	Operational	Level 2	Airframe	Level 3	Doors/Canopies		
A/C Model 1	SZD-51-1 Junior	A/C Model 2	N/A				
Injury	Minor	Damage	Substantial	Phase	Launch	PIC Age	67

The canopy Perspex detached from its frame at about 500ft AGL during a winch launch and shattered against the tailplane. The pilot released the cable shortly thereafter at a height of 800ft AGL and assessed his options. The pilot commenced a descending turn with the intention to position for a landing on the duty runway but modified the decision due to the glider's high rate of descent and positioned for a downwind landing on the cross-strip. The pilot landed with a higher than normal airspeed and rolled across the duty runway, whereupon the pilot taxied clear. Examination revealed that sections of the Perspex had cleanly separated from the frame, with little to no glue attached to the Perspex. The sailplane was manufactured in 1988 and the canopy was an original factory fit. At the time of the occurrence, the aircraft had logged 3,130 hours and 7,268 landings. Examination of sections of the Perspex showed a clean separation with little to no glue attached - most of the glue was left on the frame. Investigation suggests the glue failure is age-related. The Type Certificate (TC) holder has informed GFA that this is the first reported occurrence of this kind. GFA has issued Airworthiness Alert 2015-3 to all SZD series sailplane owners requesting a detailed inspection of the glue bond between the canopy Perspex and frame and, to repair and report any defects found.

Date	16-Aug-2015	Region	VSA	SOAR Report Nbr	S-0567
Level 1	Operational	Level 2	Miscellaneous	Level 3	Rope/Rings Airframe Strike
A/C Model 1	Standard Libelle 201 B	A/C Model 2	Piper PA-25-260		
Injury	Nil	Damage	Minor	Phase	Launch	PIC Age	30

The glider was being launched by a Pawnee fitted with a TOST retractable tow rope. As the tow plane was rolling forward to lay-out out the rope, the rope became prematurely tight and the glider started to roll forward. The wingtip runner interpreted the tight rope to indicate the rope had reached its full travel and signalled "all out". Unfortunately only half the length of the rope had deployed. As the tow plane accelerated down the runway, the rope continued to lay out. The rope became tight while the glider was almost stationary and broke near the tow plane as it snatched the glider. The parafill rope flew back violently and hit the glider's canopy and wrapped itself around the starboard wing, leaving minor scratches. Both aircraft came to a safe stop. Investigation revealed friction between the rope and the tubing it runs within, coupled with the light weight of the glider being towed, allowed the rope to stop deploying and move the glider forward some 10 metres, giving the impression that the rope was taut. The wingtip runner was inexperienced and did not realise the rope had not fully deployed. Pilots of light gliders using this particular towing arrangement should hold the wheel brake on when taking up slack to lessen the chance of this type of incident occurring.

Date	16-Aug-2015	Region	VSA	SOAR Report Nbr	S-0581
Level 1	Operational	Level 2	Miscellaneous	Level 3	Rope break/Weak link failure
A/C Model 1	DG-500 Elan Orion	A/C Model 2	Piper PA-25-260		
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	68

The command pilot was undertaking his first solo flight for the day after two successful check flights. At about 400ft AGL and just as the towing combination neared the upwind runway boundary the weak link broke. The command pilot immediately recognised the tow line had departed, turned to starboard (into wind) and completed a 270 degree turn for a downwind landing on the cross-strip. When the glider touched down the pilot had difficulty maintaining direction due to the crosswind component and high ground speed but completed the landing without further incident. The rope was still attached to the glider. Investigation revealed the weak link, which was made from 10mm polypropylene rope, had deteriorated due to weathering and was understrength. The pilot mentioned post-flight that he was reviewing his emergency landing options just prior to the rope break and so was well prepared for when it happened. He was also very appreciative of the emergency training he received from his instructors. This was a good outcome and reinforces the importance of having an effective plan to deal with abnormal occurrences during the launch.

Date	16-Aug-2015	Region	VSA	SOAR Report Nbr	S-0582
Level 1	Operational	Level 2	Aircraft Control	Level 3	Pilot Induced Oscillations
A/C Model 1	DG-500 Elan Orion	A/C Model 2			
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	68

The recently solo command pilot was on downwind leg when he received a request from a much lower glider to extend his circuit and allow the lower glider to land ahead of him. The other glider landed grass right so the command pilot elected to land alongside on the main bitumen runway. The command pilot did not round-out properly, bounced the landing and overcorrected the recovery. The aircraft experienced a series of pilot induced oscillations (PIOs) before coming to rest with its undercarriage doors damaged. The pilot will undergo some further training before flying solo. Causal factors include low experience, incorrect landing technique and over controlling glider in pitch during flare and hold off prior to ground impact. To

avoid the PIO, pilots should always aim to touch down with minimum energy, in a two-point attitude whereby the tail wheel and main wheel touch simultaneously. To reduce ballooning during the flare, stabilise the glider at an altitude of 3 or 4 feet, and then begin the flare anew. Do not try to force the nose of the glider down onto the runway.

Date	16-Aug-2015	Region		VSA		SOAR Report Nbr		S-0568	
Level 1	Airspace		Level 2	Aircraft Separation		Level 3		Near collision	
A/C Model 1		SZD-50-3 Puchacz				A/C Model 2		Unknown	
Injury	Nil	Damage		Nil	Phase	In-Flight		PIC Age	21
While the glider was on late downwind, a powered aircraft commenced a practice glide approach to the runway and cut in front of the glider at a 45 degree angle. The glider pilot took avoiding action and tried to contact the power pilot to no avail. Both aircraft landed safely.									

Date	16-Aug-2015	Region		NSWGA		SOAR Report Nbr		S-0570	
Level 1	Operational		Level 2	Miscellaneous		Level 3		Rope break/Weak link failure	
A/C Model 1		SZD-50-3 Puchacz				A/C Model 2		Piper PA-25-235	
Injury	Nil	Damage		Nil	Phase	In-Flight		PIC Age	58
During an Annual Flight Review and at a height of about 1,000ft AGL the pilot under check was asked to box the slipstream - the exercise was pre-briefed with the tow pilot. The pilot completed the manoeuvre but his instructor assessed he was not sufficiently low when in the two bottom comers of the "box". The instructor asked the pilot under check to move to the lower left and then resume the normal tow position. The tow pilot, believing the exercise was finished, commenced a shallow left turn to head under the nearest cloud just as the glider was being manoeuvred back into line astern. A large bow developed, and subsequent manoeuvring caused the rope to tighten and the weak link to break. The pilot turned back towards the airfield and released the rope over the airfield boundary fence. Boxing the slipstream is an exercise in control resulting in the balancing of forces on the glider whilst on tow. The aim is to perform a square box outside the slipstream, pausing at each corner under control, and taking the smallest route outside the slipstream to safely carry out the task. The exercise is to be completed utilising good effective communication between the glider and tug. The exercise must be performed while maintaining tow rope tension and, on completion, the tug pilot should be advised that the exercise is completed. Investigation also identified the Club was using weak links with a relatively low breaking strain for the aircraft being used and have moved to higher breaking-strain weak link. TOST recommends that weak links should be replaced after 200 launches.										

Date	18-Aug-2015	Region		NSWGA		SOAR Report Nbr		S-0572	
Level 1	Operational		Level 2	Fire Fumes and Smoke		Level 3		Smoke	
A/C Model 1		ASK-21				A/C Model 2		N/A	
Injury	Nil	Damage		Minor	Phase	Ground Ops		PIC Age	57
The aircraft was moved outside the hangar to provide better lighting and access to tyre valves during the daily inspection. The aircraft was parked facing north with both canopies open. A member noticed smoke coming from the headrest in the rear cockpit, caused by the canopy focusing the sun's rays. This is a known issue with upwardly hinged canopies and the risk of fire can be mitigated by not leaving the canopy open for any length of time. The Inspector advised he was distracted while undertaking the inspection and left the canopies open for too long. The CFI has sent a reminder of this hazard to all club members stressing the importance of not leaving the canopy open longer than necessary and of using a canopy cover when the glider is unattended.										

Date	22-Aug-2015	Region	VSA	SOAR Report Nbr	S-0579
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	Zephyrus		A/C Model 2	N/A	
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	62

The pilot was practicing for his annual flight review and elected to test his skills by performing a sideslip approach without using airbrakes. The sideslip was discontinued at approximately 30 ft from the ground but the glider continued to descend and landed heavily on the main wheel and came quickly to a stop. An inspection of the glider revealed no damage. The pilot was relatively inexperienced on type, was out of practice in sideslipping, and left recovery to normal flight too late. Pilots who have not sideslipped an aircraft for some time should first explore the sideslipping characteristics of gliders they fly in safe circumstances before using it as a landing approach control technique. When sideslipping a heavy glider pilots should commence the recovery at a height sufficient to overcome the effect of inertia before the ground intervenes.

Date	22-Aug-2015	Region	WAGA	SOAR Report Nbr	S-0569
Level 1	Operational	Level 2	Aircraft Control	Level 3	Wheels up landing
A/C Model 1	Pilatus B4-PC11		A/C Model 2	N/A	
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	24

The low hour's pilot, on his fifth flight on type, lowered the undercarriage in circuit but did not lock it. Upon touchdown, the undercarriage retracted and the glider came to rest on its lower fuselage, causing minor damage. The Pilatus undercarriage relies on an over-centre locking mechanism, and the pilot must

push the undercarriage lever fully forward and rotate the handle so that it is flush with the cockpit wall to ensure the lock is engaged. If the lever is not fully forward, the undercarriage can stick 'dead centre' and will retract when jolted, such as on landing. Contributing factors include doing a pre-landing 'action' list rather than a 'check' list, and the pilot's lack of familiarity with retractable undercarriages (completed most of his training in aircraft with a fixed undercarriage).

Date	29-Aug-2015	Region	GQ	SOAR Report Nbr	S-0577
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	ASK-21	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Launch	PIC Age	62

The student was a very experienced helicopter pilot who was undergoing training in launch emergencies. Following an earlier well-executed low level release and modified circuit, the student was again briefed about launch emergencies and the rapid loss of airspeed following a rope break and the need to regain and maintain airspeed. The instructor informed the student that a launch emergency would occur on this flight, and the student covered emergency options during the pre-take-off check. Just as the combination became airborne, and with the glider about 10 feet above the runway, the instructor pulled the release and announced a tow plane engine failure. The tow pilot, previously briefed about the exercise, accelerated and climbed away. The student was surprised by the low-level release and reacted by lifting the nose of the glider and opening the airbrakes. Before the instructor could intervene the aircraft stalled and landed heavily. Subsequent investigation revealed the student had anticipated a release at a higher altitude and pre-programmed his reactions before launch. He was taken aback when the release occurred at low level and did not have a plan. This led to him reverting to his helicopter training during the simulated emergency. During an engine failure in a helicopter, the pilot will usually pull back on the stick to load the rotors to maintain RPM and use the collective during the flare. Helicopter pilots focus mainly on the rotor RPM during an emergency like an engine failure while maintaining a safe speed for landing. The "law of primacy" in flight instruction states that things learned first create a strong impression in the mind that is difficult to erase. Consequently, instructors need to remain mindful of this when teaching persons with previous exposure to rotary (or flex-wing) flight to ensure students react correctly to emergency situations. Instructors also need to guard themselves against unexpected reactions during the critical stages of flight by adopting a defensive posture; i.e. having their hands and feet ready to take control. The CFI noted that the student had not yet mastered landings and had been expected to react to emergencies too early in his training. During training it is important that instructors do not introduce students to 'judgement' exercises before they have developed the required handling skills. Rope break training is no exception, and should be actively taught in the early stages of training **before** being used as exercises to check a pilot's reactions to them. As the Instructor's handbook mentions, start high and work down to low-level simulations.

Date	7-Sep-2015	Region	SAGA	SOAR Report Nbr	S-0583
Level 1	Technical	Level 2	Powerplant/Propulsion	Level 3	Engine failure or malfunction
A/C Model 1	Arcus M	A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Launch	PIC Age	66

The engine of the self-launching sailplane was started and the pilot completed his engine management checks as the engine warmed. The aircraft was lined-up on the runway and take-off commenced with the flaps set appropriately. The aircraft accelerated down the runway and separated at the normal speed and rate of climb. At about 600ft AGL the command pilot noticed the engine surge followed by the noise of a drive belt flailing against the propeller. The second pilot called "engine failure" just as the command pilot switched off the engine and commenced a turn to enter the downwind leg of the circuit. The propeller stopped in a horizontal position, preventing the engine retracting. The aircraft descended rapidly with the engine deployed as the pilot maintained 'safe speed near the ground'. The pilot consciously left the flaps set

as for take-off and did not use airbrakes. A decision was also made not to land on the cross-strip as the crosswind would have added to the already high workload. The command pilot flew a steep turn onto final but the long-winged aircraft was slow to recover to wings level flight and drifted over a pea crop. While banking to realign with the runway into wind, the left wing caught in the crop causing the aircraft to ground loop to the left and land heavily. The aircraft was substantially damaged. Engine damage was discovered on an earlier occasion and involved a failed bearing and injectors. The engine was sent away for repairs and it is possible the drive belts were either improperly tensioned prior to flight or defective.

Date	17-Sep-2015	Region	VSA		SOAR Report Nbr		S-0584		
Level 1	Operational		Level 2	Runway Events		Level 3	Runway excursion		
A/C Model 1		DG-400			A/C Model 2	N/A			
Injury	Nil	Damage	Minor	Phase	Launch		PIC Age	49	

This experienced pilot intended to conduct an area familiarisation flight late in the day as he had not previously flown from the site. During the take-off roll in a strong 90 degree crosswind from the left, the powered sailplane weather-cocked to port. The pilot overcorrected causing the aircraft to ground-loop to starboard under power. While the ground loop was severe, damage was limited to removing the wingtip wheel. Investigation revealed the wind speed exceeded the sailplane's maximum crosswind component, compounded by the pilot not heeding the flight manual guidance for take-off in a crosswind. The aircraft Flight Manual records the maximum crosswind component as 8 knots. It further advises use of full back stick and a flap setting of -10° in a crosswind so as to keep the tailwheel on the ground until the airspeed is high

enough for the rudder to be fully effective. The pilot advised that he attempted to launch with +6° of flap and that he may have applied power too quickly, which caused the tail to rise despite him holding full back stick. It was noted that launching for the day had ceased due to the adverse conditions some time before the pilot attempted to take-off. Although the Duty Instructor commented to the pilot about the crosswind conditions before launch, the pilot considered the surface condition of the other runway to be less favourable. It was noted that the pilot had driven 3 hours to the airfield and had assisted in the rigging of two aircraft in the heat. While the pilot did not feel physically tired, his cognitive and decision making processes may have been affected. There are a number of lessons that can be learned from this accident:

1. Operations in crosswind conditions require strict adherence to applicable crosswind limitations or maximum recommended crosswind values, operational recommendations and handling techniques. This information will be found in the aircraft Flight Manual, so familiarity with the manual is essential.
2. To calculate the crosswind component, the “rule of sixths” is a useful method that does not require a calculator, and gives a fairly accurate approximation for most relative wind angles. The “rule” makes use of the happy coincidence that the sine of 10 degrees is very close to 1/6th, sine 20 degrees is very close to 2/6ths and so on. To use this “rule” you first determine the relative wind angle, and then multiply the reported wind strength by the appropriate fraction. So if the reported wind is 280/12 and you are using runway 32, the wind angle is 40 degrees, or 4/6ths, so the crosswind component is therefore 4/6ths of 12kt, say 8 knots. [Note: at 60 degrees, or 6/6ths, the margin for error is somewhat higher and many pilots multiply by 0.9. Use actual wind speed beyond 60 degrees].
3. Fatigue and tiredness are a threat to flight safety because it can lead to impaired performance. One of the most insidious aspects of fatigue is an individual’s inability to recognise when their own performance is deteriorating and to take action accordingly. Fatigue may lead to potentially unsafe conditions and deterioration in decision making and situational awareness.

Date	19-Sep-2015	Region	SAGA	SOAR Report Nbr		S-0586	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Wheels up landing	
A/C Model 1		LS 7-WL		A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	62

The pilot flew a straight-in approach and did not configure the aircraft for landing. The aircraft touched down with the wheel retracted and suffered damage to the lower fuselage and gear doors. The pilot became focussed on the final glide and forgot to complete the pre-landing checks. Landing mishaps usually occur due to poor workload management, so it is important to get some of the tasks out of the way early and prepare for landing by lowering the undercarriage once the decision to land has been made. Had the pilot configured the aircraft for landing earlier rather than rely on doing it during the pre-landing check, this accident may not have occurred. Remember, the pre-landing check is not an action list; it is intended to verify the pilot has completed the check-list items. For further information, refer to Operational Safety Bulletin 01/14 - Circuit and Landing advice.

Date	19-Sep-2015	Region	GQ	SOAR Report Nbr		S-0587	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Hard landing	
A/C Model 1		PW-6U		A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	

Damage to the main undercarriage and nose wheel assembly was detected during the annual maintenance inspection. It was determined that the damage had been caused by a heavy landing that went unreported. When an aircraft has experienced a hard landing, it must be immediately reported and the aircraft thoroughly inspected for damage before its next flight. Given the level of damage found, the severity of the

landing would have been evident to the PIC but for reasons that are not known, the PIC did not report it. Reporting incidents helps create a culture that seeks to identify and control hazards, and in turn requires a club culture that encourages open disclosure. This will reduce risks and the potential for harm. Documenting incidents acts as a valuable tool for club operations panels to get an understanding of the areas which need improvement. Every aviator, from pilots, to engineers, to ground crew, must report their accidents and incidents to the GFA and work towards finding out what happened and why, as often even a seemingly small event can highlight a potentially serious problem.

Date	19-Sep-2015	Region	VSA	SOAR Report Nbr	S-0592		
Level 1	Airspace	Level 2	Aircraft Separation	Level 3	Near collision		
A/C Model 1	Piper PA-25-235	A/C Model 2	Cessna 152				
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	45
The tow plane landed on an occupied runway, necessitating the other aircraft that was backtracking to take avoiding action by taxying off to the side. The tow pilot did not sight the other aircraft until just prior to touchdown, and decided it was safer to land and stop short than risk going around and releasing the tow rope. The tow pilot advised that he heard the powered aircraft give a taxying call on the cross runway but did not hear a caall when entering and backtracking the oprational runway. The tow pilot mentioned his attention was diverted by gliders that had landed on grass left and he was also concentrating on his aiming point, which was wll before the runway threshold. Landing with an aircraft on the runway occurs too often because it's so easy to do. Final approach is a high workload time and once we have turned final we focus on completing the landing safely. Aircraft moving on the runway can be difficult for pilots to discern when they are focusing on the primary task. When operating at a non-controlled aerodrome, the the principles of 'alerted' see-and-avoid are critical to safety. Pilots must monitor the aerodrome frequency and broadcast their intentions to maintain situational awareness for all pilots. Pilots should also make any additional broadcasts as necessary to minimise the risk of collision.							

Date	19-Sep-2015	Region	GQ	SOAR Report Nbr	S-0599		
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing		
A/C Model 1	Standard Cirrus	A/C Model 2	N/A				
Injury	Nil	Damage	Minor	Phase	Outlanding	PIC Age	68
Returning from a cross country flight, the pilot set final glide 20 kms from the airfield at a height of 4500ft into an 11 knot headwind. At about 2,000ft and 10kms out the pilot was unable to sight the airfield and, as he believed the area ahead had few landing options, he decided to conduct an outlanding in a ploughed paddock in hilly terrain beneath him. During final approach into the selected paddock the pilot noticed an irrigation pipe running down its middle and chose to land past the pipe. Upon touch down a wingtip contacted the ground causing the aircraft to swing violently. The pilot was surprised by the amount of slope in the paddock. Investigation revealed the pilot has macular degeneration, which affects central vision when looking directly at something. His CFI believes this is the reason why he could not see the airfield and the irrigation pipe in the paddock. While the pilot had been cleared to fly by his doctor, he has now made the decision to cease flying.							

Date	20-Sep-2015	Region	VSA	SOAR Report Nbr	S-0589		
Level 1	Operational	Level 2	Airframe	Level 3	Fuselage/Wings/Empennage		
A/C Model 1	SZD-48-1 Jantar Standard 2	A/C Model 2	N/A				
Injury	Nil	Damage	Nil	Phase	Ground Ops	PIC Age	75
While de-rigging the aircraft following an outlanding, the tailplane locking bolt was found to be disengaged							

from its locking mechanism and had started to withdraw. The tailplane bolt is inserted through a hole in the fin leading edge and is locked by rotating it 90° until the red line on the bolt aligns with the red line on the fin. The glider had been rigged for a week prior to the incident, so it is unclear whether the bolt was left unlocked during the rigging or was subsequently tampered with. If the bolt was not locked during rigging, then there was a breakdown in the dual inspection regime. Notwithstanding, the subsequent Daily Inspection and pilot pre-boarding checks also failed to identify the bolt was unlocked. A good Daily Inspection helps in avoiding incidents and accidents, by finding faults in or issues with the glider before it flies. A person holding Daily Inspector authorisation therefore plays a front line role in incident and accident prevention, and in continuing to keep the glider airworthy. It is important when inspecting a glider for the first time, that the inspector reads the manufacturer's flight and/or technical manuals. These manuals will contain specific checks that must be complied with. All daily inspections must comply with the requirements of the manufacturer's manuals, which are authoritative sources of information on the daily inspection and technical aspects of the particular glider. Each pilot is also responsible for completing a thorough pre-boarding check of the aircraft, as this check provides the final opportunity to identify problems before flight. However, it is all too common to see pilots walking round 'going through the motions' but seeing nothing. Inadequate pre-boarding checks result from either insufficient training or complacency. Like the Daily Inspection, the key to a good pre-boarding check is understanding what you are checking and why you are checking it. You must know what is normal and abnormal, what is airworthy and what is not. Adhere to the guidelines in the aircraft's pilot operating handbook or approved flight manual. For further information, please read the GFA Daily Inspector Handbook.

Date	20-Sep-2015	Region	VSA	SOAR Report Nbr	S-0585		
Level 1	Operational	Level 2	Airframe	Level 3	Doors/Canopies		
A/C Model 1	Twin Astir	A/C Model 2	N/A				
Injury	Minor	Damage	Substantial	Phase	Launch	PIC Age	58
The command pilot (PIC) was taking an ultralight student pilot on an Air Experience flight. The initial launch and separation was normal but just as the glider and tow plane neared the upwind boundary fence of the airfield the rear canopy flew open. The PIC did not immediately release as safe landing options were limited and he was not experiencing any difficulty controlling the aircraft. Initial attempts by the PIC to close the canopy were unsuccessful due to the force of the slipstream. Unbeknown to the PIC, the passenger broadcast a mayday call on the CTAF that was heard by the tow pilot. The combination towed out to a height of approximately 200ft AGL, whereupon the tow pilot made a left-hand turn and saw that the glider's rear canopy was open. Meanwhile, by use of the rudder to induce sideslip to starboard, the PIC was able to reduce the effect of the slipstream and lock the canopy. The tow pilot gave a wave-off signal when the glider was in a good position to land and the PIC released at about 500ft AGL abeam the aiming point. The subsequent circuit and landing was uneventful. The command pilot does not recall whether the canopy was locked or if the locking mechanism was only partially engaged. He also does not recall being distracted and thought he had completed his checks diligently. The major function of the checklist is to ensure that the pilot in command will properly configure the aircraft for flight, and maintain this level of quality throughout the flight, and in every flight. However, when pilots become experienced with the task, even when they see a checklist item in the improper status they can perceive it as being in the correct status and respond accordingly. When this phenomenon is coupled with unfavourable psychological and physical conditions such as time pressure, high workload, fatigue, noise, etc., the result is a human failure.							

Date	20-Sep-2015	Region	GQ	SOAR Report Nbr	S-0596		
Level 1	Operational	Level 2	Runway Events	Level 3	Runway incursion		
A/C Model 1	LS 1-f	A/C Model 2	PW-6U				
Injury	Nil	Damage	Nil	Phase	Ground Ops	PIC Age	55
While towing a glider to the launch point, the driver (an experienced pilot) entered the runway as another							

glider was on a base leg for landing. The driver entered the operational runway from the main apron, using the taxiway situated about midway along the runway. The driver stopped at the holding point, confirmed there was no aircraft on approach and then made an entering and backtracking call on the CTAF. Unknown to the driver, a glider that had got low upwind of the airfield was conducting a modified circuit onto the reciprocal runway from behind and was unsighted. The driver did not hear any circuit calls and, as he was taxying to the launch point on the main runway, the glider landed behind him, pulling off the runway to one side as it went past the vehicle. Investigation later revealed that the driver's radio was unserviceable due to a flat battery. The pilot of the landing glider unnecessarily overtook the vehicle and landed alongside, when a safer option was to land much shorter and further away. This incident highlights the importance of clearing the airspace in all directions of potential conflict when entering a runway to achieve the required situational awareness. As the primary tool of alerted see-and-avoid is the radio, it is also important that the radio is on the correct frequency and functioning. Pilots should also make a straight approach and landing run parallel to the runway and must not taxi off the runway unless operationally required and only if no other aircraft can land alongside in the direction of taxi.

Date	22-Sep-2015	Region	NSWGA		SOAR Report Nbr		S-0588		
Level 1	Operational		Level 2	Runway Events		Level 3	Runway excursion		
A/C Model 1		Discus 2c			A/C Model 2		N/A		
Injury	Nil	Damage	Minor	Phase	Landing		PIC Age	44	

While landing in strong and gusty wind conditions and during the latter stages of the ground roll, the pilot was distracted by movement of a glider on another runway to his right. When the pilot again looked forward he noted the glider was veering to the right in the direction he had been looking. Despite the application of left rudder to regain runway heading, the right wingtip contacted the ground and the aircraft proceeded to ground loop to the right at low speed. The wingtip skid was removed during the runway excursion. The pilot was an experienced hang glider pilot but had only moderate exposure to sailplanes and was on his third flight on type. The local club CFI noted that a moment's inattention in the windy conditions would have been sufficient to lose control of the glider towards the end of ground roll. To avoid a ground loop, the pilot must respond to any directional change immediately while sufficient control authority exists to counteract the unwanted movement. Pilots must also anticipate the need for corrective control input in order to respond quickly.

Date	23-Sep-2015	Region	NSWGA	SOAR Report Nbr	S-0590
Level 1	Operational	Level 2	Terrain Collisions	Level 3	Collision with terrain
A/C Model 1	Discus 2c	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Outlanding	PIC Age	44

While flying back to the home airfield after a short cross-country flight, conditions became soft and the pilot elected to conduct an outlanding. The pilot surveyed a large grass paddock and deemed it suitable for landing. During the hold-off following a normal flare, the pilot noticed two star pickets ahead. Concerned they may have formed part of a wire fence, the pilot eased back on the stick to gain clearance and landed further ahead. During the subsequent de-rig of the glider, the crew noticed a 15mm deep cut in the leading edge of the right wing, about 10cms from the fuselage. Upon further investigation it was determined that the wing had come into contact with a star picket that formed part of an old fence line that was mostly hidden by long grass. The selected paddock was used for grazing and had not been cultivated. While cultivated paddocks are usually obstacle clear, grazing paddocks can sometimes have many small obstacles hidden in grass that can cause damage. For this reason, cultivated and stubble fields usually provide better outlanding options.

Date	26-Sep-2015	Region	WAGA	SOAR Report Nbr	S-0591
Level 1	Technical	Level 2	Powerplant/Propulsion	Level 3	Other Powerplant/Propulsion Issues
A/C Model 1	Stemme S10	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	In-Flight	PIC Age	57

The powered sailplane was being used on a trip from Perth WA to Burketown Qld flying via Alice Springs. While readying the aircraft for an early morning flight at Burketown, the command pilot was unable to start the engine. Upon examination, it was found that the plastic distributor gear teeth on the magneto were stripped. No apparent reason for failure could be determined but it is likely related to the high shock loads from the impulse unit while starting that morning (the aircraft flew in and taxied under power the day prior). The Limbach engine is a single magneto arrangement that is common to many powered sailplanes, and this incident highlights just how easy it is for a terminal failure to occur without warning. Unlike a powered aircraft that is started while on the ground, the engine of a powered sailplane is usually turned off in flight and only restarted if needed. For this reason, a failure to start poses a greater risk to a powered sailplane than with a powered aircraft, and this incident supports GFA guidance that pilots should not fly powered sailplanes where they wouldn't go with a normal glider.

Date	27-Sep-2015	Region	VSA	SOAR Report Nbr	S-0597		
Level 1	Operational	Level 2	Ground Operations	Level 3	Ground handling		
A/C Model 1	Standard Libelle 201 B	A/C Model 2	N/A				
Injury	Nil	Damage	Substantial	Phase	Ground Ops	PIC Age	62

The glider was being towed back to the hangar using a rigid bar and wing dolly at the end of the day's flying. The driver was towing at excessive speed, which caused the tail dolly wheel to oscillate. A number of members witnessed the event and called/motioned to the driver to stop. The driver braked heavily in response and the inertia of the glider resulted in it colliding with the car. The tailplane and elevator were substantially damaged. Investigation revealed that the towing bar in use was not approved for the aircraft. The CFI also noted that the driver was inattentive to the task and that his situational awareness may have been degraded by fatigue. Drivers using a rigid bar must never tow at faster than walking pace, and should always use the tow-out equipment designed for use with the glider. When towing gliders, never brake heavily and always allow a greater distance to slow or stop than the distance you would allow with only the car.

Date	27-Sep-2015	Region	VSA	SOAR Report Nbr	S-0607
Level 1	Operational	Level 2	Runway Events	Level 3	Runway incursion
A/C Model 1	Standard Libelle 201 B	A/C Model 2	Cessna 172S		
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	62
A powered aircraft from a Moorabbin based flying school backtracked and held on the operational runway while a glider was established on final approach. The power pilot did not respond to several requests to vacate the runway and eventually asked the glider pilot to 'go around'. The glider pilot overflew the powered aircraft, landed long and taxied clear. The Club CFI has raised awareness of the gliding operation with local flying schools and the Chief Pilot of the company concerned.					

Date	28-Sep-2015	Region	GQ	SOAR Report Nbr	S-0595
Level 1	Airspace	Level 2	Airspace Infringement	Level 3	Airspace Infringement
A/C Model 1	DG-1000S	A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	17
During an mutual flight the aircraft entered controlled airspace on five occasions. Investigation revealed the pilots did not maintain adequate situational awareness and drifted into controlled airspace while thermalling. The pilots have been counselled and will participate in remedial training. Violations of controlled airspace can be avoided by remaining situationally aware, ensuring you have current airspace charts, and by thoroughly familiarising yourself with local airspace and other aeronautical issues. AIP ENR 1.1 (19.12) 'Avoiding Controlled Airspace' has this to say: "For aircraft operating in close proximity to an airspace boundary where there is a risk of an airspace infringement, the pilot in command should consider obtaining a clearance to enter the airspace or altering track to remain well clear.					

Date	30-Sep-2015	Region	GQ	SOAR Report Nbr	S-0600
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	ASK-21	A/C Model 2	N/A		

Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	68
The flight was an annual flight review with a Level 2 instructor in the back seat. As part of the assessment, the pilot under check was to land outside the runway gable markers to simulate an outlanding. The pilot turned final and set his aiming point just beyond a drainage ditch running across the landing path. The pilot flew a low approach to avoid overshooting but allowed the speed to reduce while keeping the aiming point in view. As the aircraft got closer to the ground the pilot then realised he was undershooting and closed the airbrakes but the glider touched down heavily on the nose wheel and rolled through the ditch resulting in the nose wheel being pushed up into the fuselage. It is much more difficult to detect a shift in the aiming point in the undershoot case than it is in the overshoot case. A glider overshooting only has to go a little way above the approach path in order to detect that it will in fact overshoot. A glider undershooting has to go a long way below the approach path before it becomes obvious that the aiming point has shifted and that the glider is in an undershoot situation. The undershoot situation is potentially dangerous, because, once it has been detected it may not be possible for the glider to regain the previous approach path. A new, flatter approach is therefore inevitable, and if obstacle clearance was previously limited it may now become impossible to achieve. In theory, the ideal descent path is with half airbrake. In practice, aim for approximately two thirds airbrake as this allows a greater margin for recovering from an undershoot.							

Date	1-Oct-2015	Region	GQ	SOAR Report Nbr	S-0603
Level 1	Operational	Level 2	Airframe	Level 3	Fuselage/Wings/Empennage
A/C Model 1	ASK-21Mi	A/C Model 2	N/A		

Injury	Nil	Damage	Substantial	Phase	In-Flight	PIC Age	45
During a local flight the experienced PIC noticed the rudder become stiff to operate. After landing it was revealed that the rudder was stuck, would only move with a lot of force and would not reach full travel even when pushed directly. Upon disconnecting the rudder cables and the lower attachment bolt it was discovered that the top hinge pin had become jammed in its bushing by the ingress of swarf from manufacture. The hinge was repaired and the glider re-entered service.							

Date	4-Oct-2015	Region	GQ	SOAR Report Nbr	S-0879
Level 1	Operational	Level 2	Ground Operations	Level 3	Other Ground Ops Issues
A/C Model 1	HPH Glasflugel 304 C	A/C Model 2	N/A		

Injury	Nil	Damage	Nil	Phase	Ground Ops	PIC Age	54
Day 1 of the 2015 Queensland state gliding competition being held at Kingaroy, Qld, The pilot had conducted a safe outlanding in a sorghum stubble field on the Darling Downs to the west of the Kingaroy valley. A fellow competitor on a lay day volunteered for the retrieve and hitched the pilot's trailer to his car, a two-year-old Nissan X-Trail petrol-engine 4WD, and set off. The trip was uneventful and the pilot was picked-up up at the entrance to the paddock. As the vehicle was driven across the paddock towards the waiting glider, the driver noticed a trail of small spot fires behind them. The driver stopped the car and the two occupants extinguished the fires by stamping on them. On continuing their slow progress across the field the smell of burning appeared to be increasing and spot fires were again noticed behind them and smoke was slowly drifting up from around their feet. The car was stopped again and the spot fires were extinguished. As the last one or two smoldering stubble patches were extinguished, the crew person turned toward the car and noticed it was visibly on fire, with acrid smoke pouring from the engine compartment and flames rising a metre high. The pilot and crewman ran back to the vehicle, unhitched the empty trailer and man-handled it out of the way. The plume of acrid, black smoke had alerted the young farmer, who turned up in his truck with wife and kids in tow. A little later, the farmer's brother turned up with a water truck and put out the last of the flames. The pilot originally thought that a sorghum stalk had ruptured a fuel line, which would							

account for the spot fires. However, it was most likely caused by radiated heat from the car's catalytic converter igniting the flammable sorghum. As the accumulated flammable material burns, small amounts of burning material falls to the ground periodically causing spot fires. It is quite common in rural Australia for the ignition of flammable vegetation to occur when it is caught in a vehicle´s hot metal exhaust pipe, muffler or catalytic converter and shield when driving through dry grass or crop paddocks. Under normal running conditions any motor vehicle exhaust can become hot enough to start a fire in dry grass. The amount of heat radiated from a hot exhaust may also be sufficient to ignite flammable vegetation if it is located too close. Where possible avoid driving a vehicle across paddocks of long dry grass or crop stubble and parking in vegetation on roadsides and paddocks.

Date	4-Oct-2015	Region	VSA		SOAR Report Nbr		S-0610		
Level 1	Operational	Level 2	Miscellaneous		Level 3		Rope/Rings Airframe Strike		
A/C Model 1		SZD-50-3 Puchacz			A/C Model 2				
Injury	Nil	Damage	Substantial	Phase	Launch		PIC Age	49	

During a winch launch the rope between the drogue parachute and the weak link broke, catapulting the weak link into the lower fuselage between the winch release and the undercarriage resulting in substantial damage. Investigation revealed the trace had elastic properties and was covered by hose pipe of only half its length. The ropes used between the drogue chute and the rings should be of a non-elastic type to prevent springing back when tension is released (e.g. wire or sisal). Where hose pipe is used, it should enclose the entire trace. The Club has replaced its rope traces with braided cable fully covered by hose pipe.

Date	5-Oct-2015	Region	WAGA	SOAR Report Nbr		S-0593	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Hard landing	
A/C Model 1		ASK-21		A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	67

The pilot was conducting a private passenger flight in blustery conditions. Following a routine circuit and while established on the base leg, the pilot identified potential for conflict with a tow plane conducting a long final approach. The pilot radioed the tow pilot to alert him of the potential conflict but the tow pilot did not respond and continued the approach. The glider pilot turned final ahead of the tow plane and commenced his final approach into a 15 to 25 knot gusting crosswind with half airbrakes and 65 knots airspeed. During touchdown the glider flew through curl over from nearby trees and the aircraft bounced. The glider then experienced three sustained oscillations resulting from efforts of the pilot to control the aircraft. During the glider's landing, the tow plane flew overhead with the tow rope coming in close proximity to the glider. Pilot induced oscillations occur when the pilot over pitches the nose down in response to a bounced landing. When landing at higher speeds, pitch sensitivity is greater so any misuse of the controls is amplified. To correct from a bounced landing, select and hold a steady level attitude and retract the airbrakes. A second attempt at the landing can then be made without further problems. The Club's tow pilots have been briefed to go around during possible conflict situations rather than landing long.

Date	5-Oct-2015	Region	NSWGA	SOAR Report Nbr	S-0594
Level 1	Airspace	Level 2	Aircraft Separation	Level 3	Near collision

A/C Model 1		Astir CS		A/C Model 2		Beechcraft C23 Sundowner	
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	66
An unidentied powered light aircraft made a number of low circuits at winch site whilst gliding operations were in progress and without communicating on the allocated frequencies. The Club CFI is working with GFA's AA&A Officer to have AirServices expand the local broadcast area to include the gliding site and therefore limit the chance of frequency ambiguity.							

Date	6-Oct-2015	Region	GQ	SOAR Report Nbr	S-0601
Level 1	Operational	Level 2	Airframe	Level 3	Landing gear/Indication
A/C Model 1		Ventus-2cT		A/C Model 2	N/A
Injury	Nil	Damage	Minor	Phase	Launch	PIC Age	59
During the aerotow launch across rough ground the undercarriage lever moved out of the locked detent. Just after the pilot adjusted the flaps from setting -2 to +2, and at around 30 kts IAS, the undercarriage retracted and the glider collapsed onto the ground. The pilot noted that he took 1 or 2 seconds to release as he experienced difficulty placing his hand on the release due to the roughness of the runway surface. The CFI reported that recent dry conditions and erosion had formed solid clumps of grass that made the operational runway quite rough.							

Date	7-Oct-2015	Region	GQ	SOAR Report Nbr	S-0598
Level 1	Operational	Level 2	Aircraft Control	Level 3	Wheels up landing
A/C Model 1		LS 7		A/C Model 2	N/A
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	42
This low experience pilot configured the aircraft for landing but did not properly engage the undercarriage lever in the locking detent. As a consequence, the undercarriage mechanism did not go over centre and the wheel retracted upon landing. Unfamiliarity with type is most likely to cause serious problems during high workload situations, most commonly during the landing phase. Pilots being converted to a new glider type must make sure that they know and fully understand the function and location of all the controls and systems.							

Date	10-Oct-2015	Region	GQ	SOAR Report Nbr	S-0602
Level 1	Operational	Level 2	Aircraft Control	Level 3	Wheels up landing
A/C Model 1		Discus bT		A/C Model 2	N/A
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	44
Following a normal aerotow launch to 2,000ft AGL, the pilot deployed the sustainer engine to test it. The engine failed to start and the pilot elected to return to the aerodrome. The aircraft was well-positioned and join circuit but due to the increased workload associated with engine management the pilot forgot to lower the undercarriage and complete his pre-landing checks. The aircraft landed with the undercarriage retracted and suffered minor damage to the lower fuselage and undercarriage doors. It is not uncommon for motors to fail to start, and when this happens below 2,000ft and a landing is inevitable, the workload becomes very high. Pilots can reduce the workload by configuring the aircraft for landing before attempting to start the engine. For further guidance, refer Operational Safety Bulletin (OSB) 01/14 - Circuit and Landing Advice. The engine problem was subsequently traced to a loose nipple feeding fuel into the diaphragm on the aft carburettor, which appears to have rotated loose under engine vibration thereby resulting in insufficient fuel supply.							

Date	15-Oct-2015	Region	WAGA	SOAR Report Nbr	S-0604
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	LS 8-18	A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	67

The experienced pilot had just returned to the home airfield after a four hour cross-country flight of 318 kms. A straight-in approach was conducted and the final approach was flown at a speed appropriate for the conditions. The aircraft touched down at flying speed and became airborne. The pilot was slow to react due to a momentary distraction and the glider stalled from about four feet, landing heavily and damaging the undercarriage. The pilot felt he may have been fatigued following the long flight. Fatigue has been identified as a factor in numerous aviation accidents over the years and is a continuing problem facing pilots flying gliders on long cross-country flights, or instructors and tow pilots with long duty cycles. Among the many symptoms of fatigue are increased reaction time, a decreased ability to concentrate on multiple tasks, fixation, short-term memory loss, impaired judgment, impaired decision-making ability, distractibility, and reduced visual perception. Fatigue cannot be eliminated, but the risks associated with it can be managed by being rested before flight, maintaining proper nutrition and hydration levels, using oxygen and taking regular breaks during rostered periods.

Date	15-Oct-2015	Region	SAGA	SOAR Report Nbr	S-0613
Level 1	Operational	Level 2	Airframe	Level 3	Landing gear/Indication
A/C Model 1	Discus b	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	74

During the take-off roll the undercarriage collapsed. It is not clear whether the undercarriage handle was improperly located in the locking detent, or if the lever moved out of locking detent due to wear. The detent will be restored to ensure positive locking before the aircraft returns to service.

Date	16-Oct-2015	Region	NSWGA	SOAR Report Nbr	S-0606
Level 1	Operational	Level 2	Terrain Collisions	Level 3	Collision with terrain
A/C Model 1	ASK-21	A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	60

Pilot on first solo lost directional control while landing downwind and uphill. The glider turned left through 90 degrees and collided with a picket and chain fence causing substantial damage to the port wing. The pilot, who commenced gliding in late 2014, was participating in an ab-inito gliding course. The aerodrome runways are on a slope and it is usual for the club to launch downhill into wind and land uphill, providing the tailwind component is not excessive. The pilot was familiar with this procedure, having flown 19 flights during the course. The pilot was sent solo on her 20th flight on the course by the same instructor who had flown with her on her nine previous instructional flights. The take off, aero-tow, free flight, circuit joining, downwind, base, and approach phases of flight were all observed by the instructor to be well executed. The pilot was landing with a 5 knot tailwind and mentioned the crosswind component was stronger than earlier. The pilot approached at a shallower angle than previously and did not use much airbrake. With the aiming point moving up the canopy, the pilot eased away more airbrakes. The pilot subsequently over controlled the flare causing the glider to balloon slightly and immediately closed the airbrakes and flew parallel to the ground for a short period. The glider initially touched down at flying speed and a small bounce occurred. The pilot overcorrected the nose down attitude and the glider bounced a number of times from nose to tail. The pilot was unable to maintain directional control during the bounces and the glider turned left through 90 degrees with the wings level. The pilot did not deploy the airbrakes and wheel brake until late in the ground roll when the glider was heading towards the boundary fence. The port wing struck a picket and chain fence at low energy resulting in substantial damage but no injury to the pilot. These incidents usually occur when the

pilot does not maintain a stable approach, allows the glider to touch down at flying speed, and mishandles the subsequent bounced landing. Bounced landings and subsequent 'pilot induced oscillation' can be reduced by flying a stable approach at the correct airspeed and using about half airbrake, rounding out at the correct height without adjusting the airbrakes unnecessarily, holding off a few feet above the ground and then allowing the glider to gradually settle as the speed decays. Potential causal factors include low experience, upward sloping runway and tailwind component.

Date	19-Oct-2015	Region	VSA		SOAR Report Nbr		S-0605		
Level 1	Operational		Level 2	Aircraft Control		Level 3	Hard landing		
A/C Model 1		Grob G 103 Twin II			A/C Model 2		N/A		
Injury	Nil	Damage	Substantial	Phase	Landing		PIC Age	48	

The pilot, who was on her third solo flight, mishandled the round out, ballooned and landed heavily. The pilot had earlier spent a week at another club on an ab-inito course and was close to solo standard. The pilot then travelled to the Women In Gliding Week event at a new site, whereupon she was assessed as solo standard by an instructor after two further flights. The pilot completed two successful solo flights, although her approach on the second flight was shallower than her instructor preferred and he asked that she approach slightly higher on her next flight. On her third solo flight the pilot established herself on a high close final but found herself diving at the aiming point despite the application of full airbrake to maintain the aiming point. The pilot over-flared resulting in the aircraft ballooning. The pilot immediately closed the airbrakes but did not regain flying attitude and the aircraft landed heavily and was substantially damaged. Causal factors include flying a non-stable approach, sloping runway, and misuse of controls.

Advice to instructors: To establish that a pilot has satisfactory performance and skills in flight critical areas for their first solo, the instructor will usually rely on either a training card, a detailed syllabus sheet, word of mouth and/or log-book entries. If you haven't personally assessed the trainee's progress over a reasonably long period of time, then it is a good idea to talk with the instructor who last flew with the pilot. It will also take you at least four launches to check through the essential exercises.

Date	19-Oct-2015	Region	NSWGA		SOAR Report Nbr		S-0612
Level 1	Operational		Level 2	Airframe		Level 3	Landing

					gear/Indication
A/C Model 1	Discus-2c	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	65
The pilot was unable to lock the undercarriage in the extended position and landed with the wheel retracted. Investigation revealed the undercarriage shaft was insufficiently lubricated which prevented easy cycling of the lever. The mechansim was cleaned and greased to reduce friction and allow smooth movement.					

Date	25-Oct-2015	Region	NSWGA	SOAR Report Nbr	S-0609
Level 1	Operational	Level 2	Aircraft Control	Level 3	Wheels up landing
A/C Model 1	JS1 B	A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	61
The pilot had prepared his glider for a cross-country flight and was flying fully ballasted. Following a normal aerotow launch and at about 250 feet the pilot called for more speed. The tow pilot lowered the nose of the tow plane to achieve this and as the glider pilot transitioned to the low-tow position a slight bow in the rope occurred. On becoming taught the rope broke at the glider near the rings. The glider pilot turned 180° and landed on the operational runway on a reciprocal heading, still carrying full ballast. The pilot conducted a smooth landing but the undercarriage was not locked down and the aircraft came to rest on its fuselage. The undercarriage lever, which is located on the right-hand side of the cockpit, was found to be neither locked up nor down. The pilot advised that he was not in the habit of retracting the undercarriage during tow and it is likely the undercarriage lever moved out of its locking detent due to wear. Inspection of the tow rope revealed the weak link to be intact and the break occurred in the rope itself. The club is reviewing the type of rope it is using.					

Date	25-Oct-2015	Region	NSWGA	SOAR Report Nbr	S-0608
Level 1	Airspace	Level 2	Aircraft Separation	Level 3	Collision
A/C Model 1	ASK-21	A/C Model 2	HK 36 R		
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	79
A glider landed short and heavily, and during the course of the ground roll its starboard wing struck the starboard wing of a motor glider holding outside the runway markers. The glider suffered damage to its wing leading edge and the motor glider lost part of its winglet. The motor glider landed shortly before and had taxied back to the take-off point outside the runway markers and was holding adjacent to the runway overrun area well outside the boundary markers awaiting the landing of a glider on final approach. As the taxiway between the runway markers and the airfield boundary fence was only 15 metres wide, the starboard wing of the motor glider was about two metres inside an extended line through the runway markers. The landing glider was on final approach in a left crosswind with half to full airbrakes, the nose attitude just slightly lower than a two point landing attitude, and with a moderately high rate of descent. When still in the undershoot area, about 15 metres short of the glider strip and with no further change of attitude, the glider touched down heavily. Moments later and a few metres short of the glider strip the leading edge of the K21's right wing, about 30cm from the tip, came into collision with the right winglet extension of the motor glider. The accident was witnessed by a number of people and the landing and collision was captured on video. The pilot of the landing glider had no recollection of the presence of the motor glider prior to the collision, nor that a collision had occurred, stating that he was concentrating on landing the glider. While the reason for his not sighting the glider is still being investigated, the inability to perceive the motor glider may be attributable to a failure to attend to it while engaged in the difficult task of landing the glider. This is known as inattentional or perceptual blindness and can occur in any individual, independent of cognitive deficits. Mental workload interferes with processing of other stimuli, so when a person focuses attention on one stimulus, they focus less attention on other stimuli. Pilots need to be aware					

of this phenomenon and pay particular attention to the landing area and either side when on final approach.

Date	29-Oct-2015	Region	WAGA	SOAR Report Nbr	S-0616		
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing		
A/C Model 1	Stemme S10	A/C Model 2	N/A				
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	57

The experienced pilot had completed a competition flight and arrived back at the airfield at high speed and about 300ft AGL. The pilot conducted a steep pull-up to regain height and turned through 270 degrees to align with the operational runway with the intention of landing long. Unfortunately the pilot turned too early and close and found himself on a high final approach. The pilot completed his pre-landing check, lowered the undercarriage and employed full airbrakes. Shortly thereafter the pilot realised he was overshooting and made the decision to use sideslip to reduce height rather than land in a paddock at the end of the airfield. The aircraft touched down diagonally across the runway, slightly fast but with full wheel braking applied and the pilot was able to bring the aircraft to a stop within 20 metres of the boundary fence. The pilot provided a good analysis of his actions and identified the following human factor issues:

1. **Fatigue**. The pilot was not only competing but was also engaged in management of the competition. Prior to boarding his own aircraft and flying the task, he had been running the ropes and assisting with launches.
2. **Dehydration**. The pilot noted that he was dehydrated before the flight and his assisting with the launching only exacerbated the issue.
3. **Decision-making**. Despite the race finishing 3 kilometres from the airport, the pilot elected to conduct a low-level finish manoeuvre for no other reason than personal satisfaction.
4. **Workload**. The pilot elected to conduct a low-level finish manoeuvre with the undercarriage retracted and in such a manner as to require a 270 degree turn to be made to align with the runway. This resulted in the pre-flight checks being left until the aircraft was established on final approach and the pilot being unaware that he was landing with a tailwind. On a positive note, the pilot consciously chose not to attempt to rescue the situation by starting the motor.

Date	31-Oct-2015	Region	VSA	SOAR Report Nbr	S-0618

Level 1	Operational	Level 2	Miscellaneous	Level 3	Rope/Rings Airframe Strike		
A/C Model 1	Janus C			A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Launch	PIC Age	25
During a winch launch the weak link broke. The broken weak link was catapulted into the aircraft and embedded in the starboard wing. The club had experienced a number of weak link breaks resulting in the cable trace being lost. New traces were manufactured from rope that was elastic, did not have a hose pipe covering, and were longer than the 5 metres recommended by GFA. As a consequence, when the weak link failed the trace and broken weak link rebounded and embedded in the starboard wing. The 6.5 metre long trace then flailed in the airflow and punched two small holes in the tailplane. The club has replaced their traces with braided cable and set-up the cable in accordance with the GFA Winch Launch Manual.							

Date	2-Nov-2015	Region	VSA	SOAR Report Nbr	S-0644		
Level 1	Operational	Level 2	Flight Preparation/Navigation	Level 3	Aircraft preparation		
A/C Model 1	SZD-50-3 "Puchacz"			A/C Model 2	N/A		
Injury	Minor	Damage	Substantial	Phase	Ground Ops	PIC Age	54
While the pilots were preparing for launch the unrestrained canopy was blown shut by the wind and struck the launch assistant on the forearm. The canopy perspex was cracked and the glider was withdrawn from service pending an expensive repair. This incident highlights the importance of ensuring canopies are properly restrained at all times.							

Date	4-Nov-2015	Region	VSA	SOAR Report Nbr	S-0611		
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing		
A/C Model 1	Astir CS 77			A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	74
The low hours pilot flared too high and did not recognise the high rate of descent. The aircraft touched down very heavily in a two point attitude and the undercarriage collapsed. The undercarriage assembly was substantially damaged. Prior to launch the pilot found his seating position to be low and he could not see directly ahead as the compass mounted atop the instrument panel blocked his view. He did not use any additional cushions and experienced difficulty adjusting the rudder pedals. Adding to his problems, he was carrying a hand-held radio as the aircraft radio was unserviceable. During flight the pilot misjudged his height, got low and entered a right-hand circuit on base leg. The pilot's CFI attributed the accident to inexperience and an unusually low seating position. This accident highlights the importance of proper cockpit ergonomics. Pilots need to be seated in a way that not only ensures comfort but also allows them to operate the aircraft controls and provide the best visual perspective outside the cockpit. Where necessary pilots should use cushions made from energy-absorbing foam to adjust their seating position.							

Date	7-Nov-2015	Region	GQ	SOAR Report Nbr	S-0615		
Level 1	Operational	Level 2	Airframe	Level 3	Other Airframe Issues		
A/C Model 1	Nimbus 2			A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	48
During an aerotow launch over rough ground the pilot noticed the handbrake lever on the control column moved freely with the vibration, and upon landing the wheel brake did not work. Post-flight investigation revealed the inner wire of the Bowden Control Cable had broken at the wheel. This had caused the actuating lever to rub against the tyre resulting in damage to the tyre wall. The pilot noted that the wheel brake appeared serviceable during the daily inspection but that the cable was old. Probable cause was age related							

wire fatigue.

Date	8-Nov-2015	Region	GQ		SOAR Report Nbr		S-0614		
Level 1	Operational	Level 2	Terrain Collisions		Level 3		Controlled flight into terrain		
A/C Model 1		K 7			A/C Model 2		N/A		
Injury	Minor	Damage	Write-off	Phase	Landing		PIC Age	76	

The low hours pilot flew too far downwind, undershot the runway and collided with a wire fence and tree. The aircraft was substantially damaged and the pilot suffered minor injuries. The Club had only operated on eight occasions in the previous 12 months as the CFI had moved residence to another State. As a consequence its members lacked both currency and proficiency. To maintain a minimum level of competency in a specific task, it is important to perform the task on a regular basis. The new CFI noted that contributing factors included low currency, misjudged circuit angles, strong sink on final approach and unsuitable terrain for landing short of the airfield boundary.

Date	8-Nov-2015	Region	WAGA	SOAR Report Nbr	S-0622
Level 1	Airspace	Level 2	Aircraft Separation	Level 3	Near collision
A/C Model 1	KR-03A Puchatek	A/C Model 2	PA-25-235/A6		
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	61

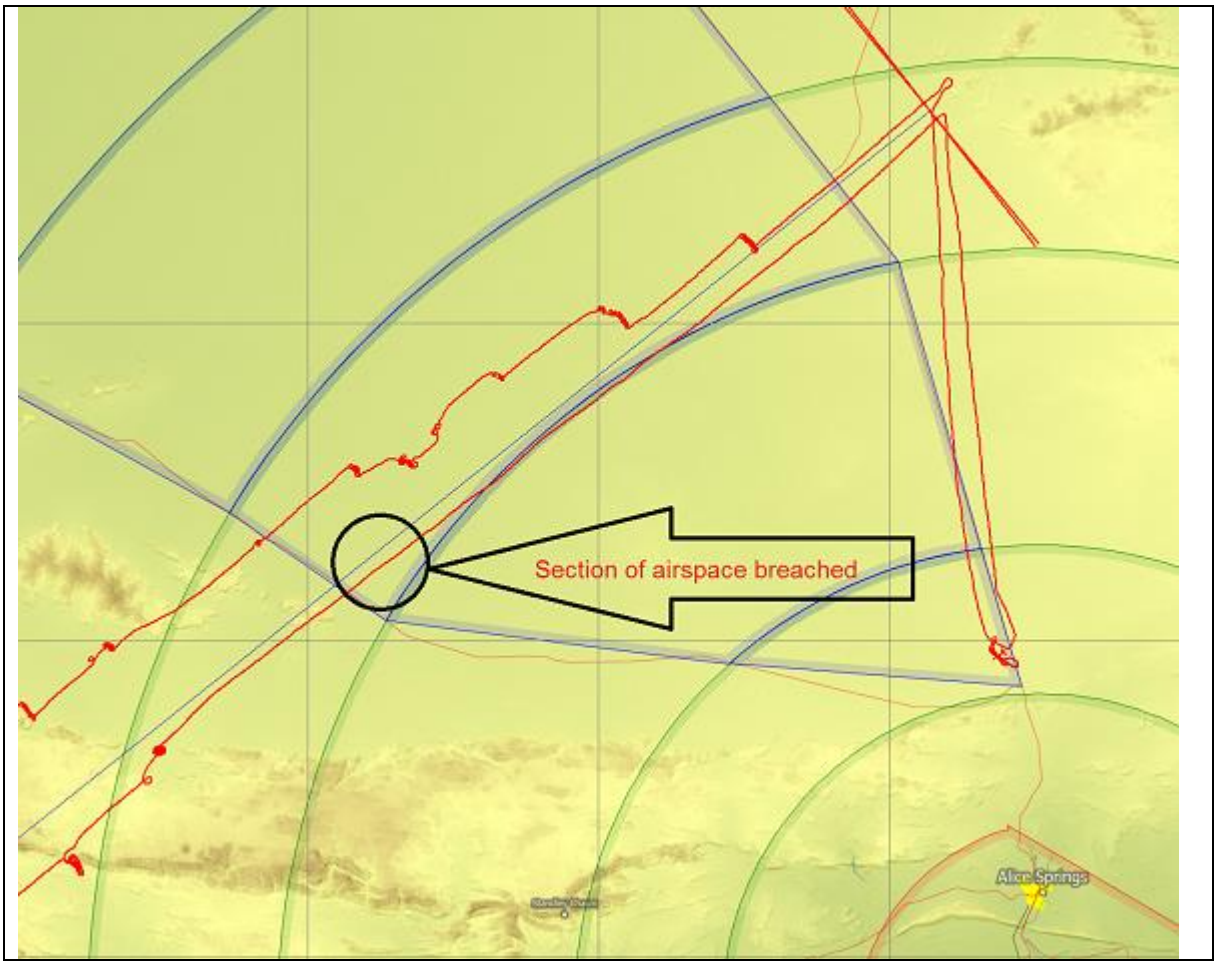
The glider pilot had to take avoiding action on final approach when a tow plane landed across his path. The club was conducting air experience flights for the AAFC and had been operating on runway 18 which intersects with runway 28 in an "L" configuration. The command pilot was asked to conduct one final air experience flight and land on the non-duty runway 28 as the aircraft would no longer be needed and could be easily put away. After a short flight the command pilot joined circuit and radioed his intention to conduct a landing on runway 28. During his downwind leg the glider pilot heard the tow plane call downwind for runway 18. The glider pilot sighted the tow plane established on a late downwind to his right and lower. The glider pilot called turning final onto runway 28 and shortly thereafter noticed the tow plane turn onto final for runway 18. The glider pilot gave a further call that he was on late final for runway 28 and the tow pilot responded that he would taxi through. The glider pilot closed his airbrakes and landed long to provide clearance from the tow plane crossing in front of him. The tow pilot subsequently advised that his headset was not functioning correctly and that he thought he heard the glider pilot was also landing on runway 18. The headset is an active noise reduction type and it is thought the pilot may not have turned it on or the battery may have run flat, making it less effective at suppressing noise; especially if it does not fit tightly against the head.

Date	8-Nov-2015	Region	VSA	SOAR Report Nbr	S-0631
Level 1	Consequential Events	Level 2	Low Circuit	Level 3	Low Circuit
A/C Model 1	DG-500 Elan Orion	A/C Model 2	N/A		

Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	18
The solo pilot misjudged the break-off point, entered the circuit low and flew a very low base and final approach. The pilot had progressed to solo quickly and at the time of the incident had a total of 39 glider flights. After releasing from tow at 2,300ft AGL, the pilot focussed on finding lift as he was keen for a good flight. Conditions were not ideal and the pilot eventually decided to discontinue his search for lift and return to the airfield. The pilot encountered stronger 'sink' than he anticipated and considered flying a modified 'right-hand' circuit but was focussed on maintaining the correct circuit direction due to other traffic and decided to join a midfield crosswind before turning a close downwind. Witnesses noted the glider to be extremely low on downwind and during the base and final turns. The pilot turned onto base leg abeam the airfield boundary and completed an uneventful landing alongside the launch point. Potential causal factors include inexperience, high workload, decision biases, optimism bias and goal fixation. The pilot's CFI noted that the pilot had recently commenced power flying and this may have influenced his decision to fly a standard circuit when a modified circuit was the safer option. The pilot will undergo a period of consolidation with an instructor.							

Date	11-Nov-2015	Region	NSWGA	SOAR Report Nbr	S-0638
Level 1	Airspace	Level 2	Airspace Infringement	Level 3	Airspace Infringement
A/C Model 1	DG-1000M	A/C Model 2	N/A		

Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	51
The pilot was undertaking an 860km two-seater record attempt from Bond Springs to Ularu and the Olgas. The pilot flew west of Alice Springs to remain outside controlled airspace. After 7 hours flying and with approximately 100kms to his destination, the pilot established final glide. The airspace at Alice Springs is controlled above 11,500 ft when the Tower is active, and reverts to FL180 when the Tower closes. While the Tower closed at 0830z, the pilot mistakenly believed it closed a half hour earlier. As a consequence, the aircraft entered controlled airspace for a short period. The pilot explained that his focus on the task, an overdeveloping sky and fatigue may have contributed to his oversight. He also noted that as he was monitoring the Area frequency above 8,500ft and not the Tower frequency, radio traffic did not prompt him to question the tower hours.							



Date	14-Nov-2015	Region	VSA	SOAR Report Nbr	S-0617		
Level 1	Operational	Level 2	Aircraft Control	Level 3	Control issues		
A/C Model 1	LS8-18	A/C Model 2	Piper PA-25-235				
Injury	Minor	Damage	Nil	Phase	Launch	PIC Age	46
A tow plane towing a heavily ballasted glider became airborne and climbed out at too low a speed for the ballasted glider. The glider pilot could not match the tug's climb and released just after separation. The glider landed heavily and the pilot suffered lower back injury. All gliders have a minimum speed for towing. This is usually governed by the wing-loading and not the weight or size of the glider. Gliders with a heavy wing-loading will need to be towed much faster than lightly loaded gliders and tow pilots need to get used to the range of minimum speeds of the gliders they tow, and above all to ask if they don't know. Tow pilots should always fly the speed requested by the glider pilot.							

Date	14-Nov-2015	Region	NSWGA	SOAR Report Nbr	S-0628		
Level 1	Operational	Level 2	Terrain Collisions	Level 3	Collision with terrain		
A/C Model 1	ASW 24E	A/C Model 2	N/A				
Injury	Nil	Damage	Substantial	Phase	Outlanding	PIC Age	56
This experienced pilot got low toward the end of a competition flight and elected to outland and then self-retrieve. The pilot configured the aircraft for a landing and, after surveying the selected paddock, joined							

circuit. When on late final approach and about 50ft AGL the pilot noticed small rocks (100-150mm in diameter) hidden in the short grass with some larger rocks interspersed. The pilot believed he had successfully avoided the larger rocks during his landing roll but later found the disc brake rotor on the main undercarriage had struck a rock. This caused the rotor to distort and loaded one of the rear-facing support arms sufficient to bend a small locating bracket where it attaches to the rear wall of the undercarriage box. The glider was recovered by trailer. The pilot stated that although the grass was quite short, the colour of the rocks and lighting conditions at the time made them hard to see from above.

Date	15-Nov-2015	Region		VSA		SOAR Report Nbr		S-0619	
Level 1	Airspace		Level 2	Aircraft Separation		Level 3		Near collision	
A/C Model 1		Twin Astir				A/C Model 2		Piper PA-25-235	
Injury	Nil	Damage	Nil	Phase	Launch		PIC Age		
At approximately 16:30 the tow plane took off from runway 08L with a glider in tow). The combination flew through strong lift so the tow pilot extended the upwind leg before turning onto a northerly heading. When the combination was at a height of about 1000ft AGL the tow pilot spotted at glider flying in a south easterly direction on a converging course approximately 150 – 200 meters away. The tow pilot immediately levelled out and turned left, and once clear of the converging glider turned to the right again. The tow pilot was about to release the glider on tow when its pilot, having seen the potential conflict, released and broke sharply to the right. The conflicting glider pilot, who was relatively inexperienced, saw the combination at the last minute and turned left to provide clearance. All three aircraft completed their flights without further incident. The tow pilot stated that he was well rested and not suffering from either fatigue or dehydration. He believes the position of the sun may have contributed to him not sighting the conflicting glider earlier. He also mentioned that he was too slow to release the glider on tow and believed he should have done so in conjunction with taking avoiding action. While all the aircraft carried working Flarm units, the conflicting glider did not register on the tow pilot's Flarm. This incident highlights the importance of maintaining a good lookout scan and reinforces that technology problems can compromise alerted see-and-avoid.									

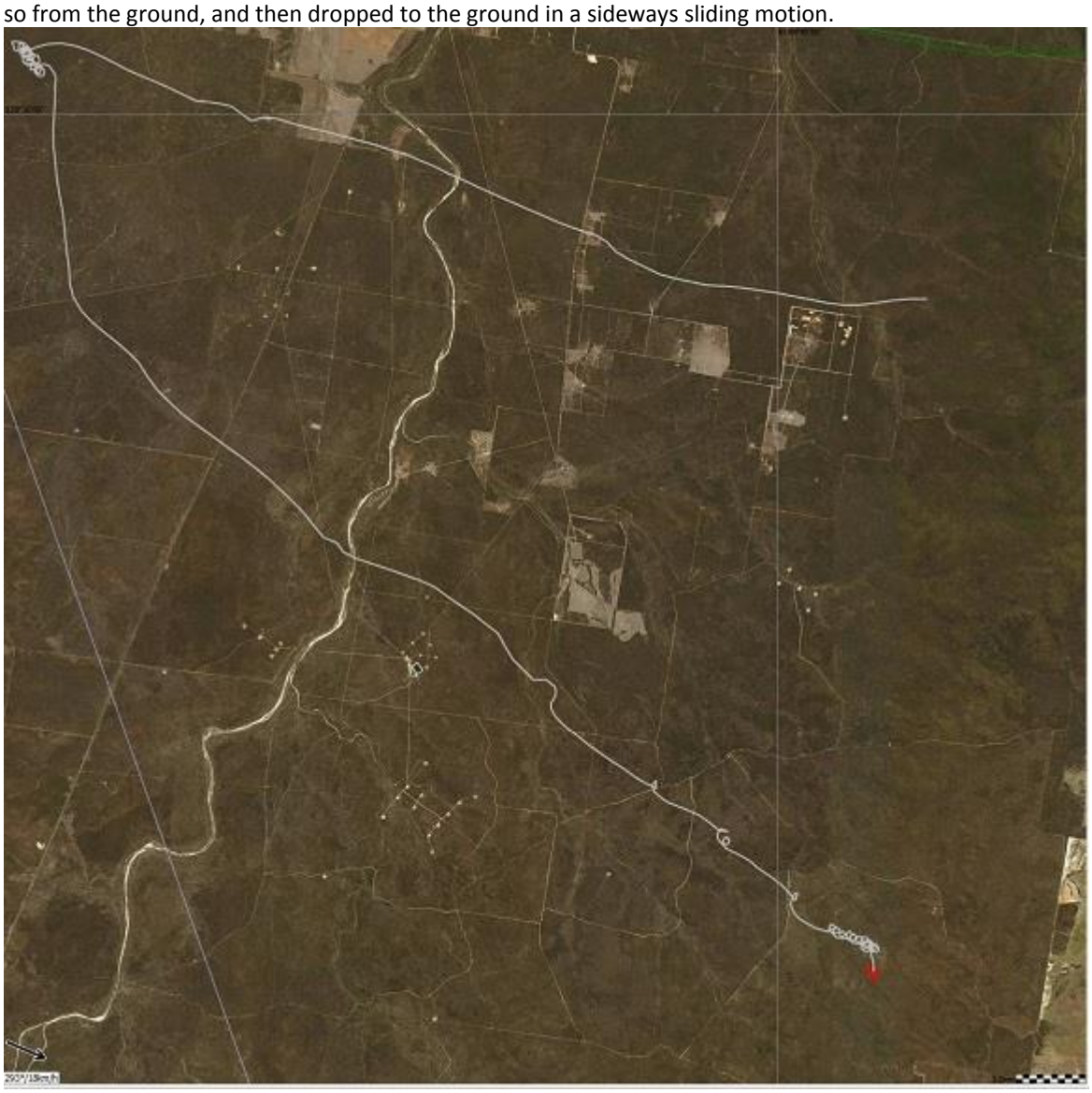
Date	15-Nov-2015	Region		GQ		SOAR Report Nbr		S-0621	
Level 1	Operational		Level 2	Airframe		Level 3		Landing gear/Indication	
A/C Model 1		Discus-2c				A/C Model 2		N/A	
Injury	Nil	Damage	Minor	Phase	Outlanding		PIC Age	45	
During a cross country flight the aircraft flew towards the turn point through stable air behind a storm front and an outlanding became inevitable. The pilot selected what he thought to be a good paddock and completed his pre-landing checks but on landing the paddock surface was rough. Braking was used to minimise the landing roll and in the last part of the landing roll the undercarriage collapsed and the fuselage slid for a couple of metres. Investigation revealed the undercarriage mechanism was incorrectly adjusted, and that there was little or no over centre lock on one side. The aircraft was repaired and returned to service.									

Date	17-Nov-2015	Region		NSWGA		SOAR Report Nbr		S-0620	
Level 1	Operational		Level 2	Terrain Collisions		Level 3		Controlled flight into terrain	
A/C Model 1		Pik 20				A/C Model 2		N/A	
Injury	Minor	Damage	Write-off	Phase	Outlanding		PIC Age	73	
At about 15:35 Eastern Daylight Time on 17 November 2015, while on the third leg of a cross-country task,									

the pilot got low over the Pillaga Forest and was unable to glide clear. The pilot conducted a controlled crash into the tree canopy and suffered only minor injury. He was able to communicate with a passing aircraft, whose pilot relayed back to the gliding base and the emergency services were contacted. The aircraft descended to the forest floor and the pilot was able to extricate himself from the wreckage. The Newcastle-based Westpac Rescue Helicopter was deployed to the scene to rescue the pilot because the terrain was inaccessible for emergency crews on the ground. The pilot did not require hospitalisation and was flown back to the airfield from which he had departed earlier that day.

The command pilot was in current flying practice and had completed a GFA Annual Flight Review on 3 November 2015. As an experienced competitor, the pilot was competing in the 35th Australian Club and Sports Class National Gliding Championships being held at Lake Keepit aerodrome. The accident occurred on the 8th competition day and the pilot had flown about 25 hours during the preceding seven competition days and one practice day. The day's task was an Assigned Area Task with 2.75 hours task time, comprising three cylinders – the first turnpoint had a 30km radius, the second turnpoint had a 60 km radius and the final turnpoint had a 50 km radius. Task length varied between 158Km and 611km, subject to where the pilot flew within the assigned areas. The pilot reported good cumulus cover, which he found difficult to work due to broken lift and good climbs were hard to find. The pilot advised that immediately after starting he accidentally turned off his flight navigation program on his PDA. While he was able to restart the program, the software had lost track of his start time and so he had to manually assess his progress to optimise the flight. Unfortunately the pilot made a one-hour error in his mental arithmetic when he set up the tactical navigation, and the shortened task the computer had calculated initially surprised and confused the pilot, which led him to manually reassess his track to make the best of his poor tactical situation. The pilot found a good climb near the second turnpoint and at the north western edge of the Pillaga Forest and climbed to 5,800 ft before heading towards the third turnpoint. The pilot noticed a series of four 'active looking'

cumulus on track and assessed he could glide to the far side of the forest at best LD if he did not encounter any lift. The pilot flew over the forest but was unable to connect with any lift and found himself in a position where he was unable to glide clear. Buoyed by the presence of working cumulus in the distance, the pilot pushed on and applied himself to working lift and assessing his landing options. Between 2,000ft and 600ft AGL the pilot encountered weak lift but found himself pushing on. At a height above ground of about 300ft the pilot encountered a weak thermal. After trying to climb in it for five minutes, the pilot made the decision that continuing was futile. The pilot broke off the flight, lowered the undercarriage and flaps, and executed a controlled crash between the trunks of two trees at low energy. The glider came to a jarring halt, 20 feet or so from the ground, and then dropped to the ground in a sideways sliding motion.



The pilot advised post-flight that he experienced consternation to his contest situation that led to a sense of needing to "catch up". He believes he made no conscious decision to proceed on track over the scrub, rather that it was a continuum of a difficult situation in which he did not consider there to be an undue danger but merely a challenge. His assessment that he could glide to the far side of the forest at best LD if he did not encounter any lift was within his risk tolerance, and his flight path and thermal search patterns indicate a gradually worsening risk situation. He felt that his judgement and skill level were adequate at that time. He further did not believe that fatigue was an issue as he practices a fatigue recovery routine each evening,

which included rehydration, avoiding alcohol and adequate sleep. The pilot noted that, while flying in a contest requires the pilot to test the limits, he had allowed himself to become unduly distracted by an early mistake that led him to push on into a deteriorating situation that he was subsequently unable to handle adequately. Competitive pilots are always aware of the need to keep pushing on. This can lead to a series of poor or sub-optimal decisions based on goal achievement and impatience, which then leads to increasing frustration when things don't go as well as they would like. Pilots must be self-aware and recognise when they are becoming frustrated. Be careful, be methodical, and double-check all your decisions. Competition pilots should also mentally separate 'tactical risk' from safety risk. Having defined risk thresholds or risk tolerance, go-nogo / divert / outland criteria and sticking to those limits is important in planning. It might be smart to ignore a weak thermal and push on to a better looking thermal - albeit getting a bit lower – as long as there are good paddocks around. However, NEVER defer the decision to safely land out in the hope that another thermal will appear because it generally won't. The pilot's decision to break off low-level thermalling and execute a controlled low energy landing, with the glider correctly configured and controlled all the way into the tree canopy, was very sound in that it reduced the consequences of this risk exposure. Post-accident actions and communications were appropriate to this remote and inaccessible environment.

Date	17-Nov-2015	Region	WAGA	SOAR Report Nbr		S-0726	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Hard landing	
A/C Model 1		DG-1000S		A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	67
Pilot under instruction landed heavily resulting in a cracked tailwheel and deflated tyre, and damage to the nose wheel fairing. Investigation suggested that the student pilot approached with a high rate of descent and misjudged the round out; pulling back sharply on the control column leading to the tail striking the ground with considerable force. The glider then pitched forward when the mainwheel contacted the ground resulting in the nose wheel striking the ground hard. The instructor had little time to react and was unable to intervene in time. This incident highlights the importance of instructors maintaining a defensive posture during the critical stages of flight, which in this case would include having one's right hand close to stick, feet towards rudder and the left hand in very close reach to airbrakes in order to react quickly to a deteriorating situation.							

Date	18-Nov-2015	Region	NSWGA	SOAR Report Nbr		S-0625	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Wheels up landing	
A/C Model 1		Discus b		A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	59
During a long cross country competition flight, an outlanding became inevitable and the experienced pilot successfully landed in a paddock some 21 kms from the home aerodrome. The pilot arranged for an aerotow retrieve which was conducted safely. Upon return to the home airfield the pilot entered circuit but did not go through his pre-landing checks and landed with the undercarriage retracted. The pilot stated he had been flying for over 6½ hours and fatigue may have affected his judgement. He also stated that he was focussed on landing with a 5 to 8 knot tailwind to be close to his tie-down area.							

Date	21-Nov-2015	Region	WAGA	SOAR Report Nbr		S-0629	
Level 1	Operational	Level 2	Runway Events	Level 3		Runway incursion	
A/C Model 1		SZD-50-3 "Puchacz"		A/C Model 2	Jabiru		
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	75
A RA-Aus registerd Jabiru entered and backtracked the operational runway while a glider was on final							

approach. The Jabiru pilot did not respond to requests by the glider pilot to vacate the runway until the glider was on late final. The incident was referred to RA-Aus but the Jabiru pilot did not respond to subsequent communications and is believed to be no longer operating at the site.

Date	21-Nov-2015	Region	WAGA	SOAR Report Nbr	S-0630		
Level 1	Airspace	Level 2	Aircraft Separation	Level 3	Near collision		
A/C Model 1	Jabiru			A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	
A RA-Aus registered Jabiru continued final approach to an occupied runway passing over aircraft and people at a very low height and low airspeed before conducting a 'go-around' procedure. The incident was referred to RA-Aus who counselled the pilot and requested the pilot undertake a flight review. The pilot later informed RA-Aus that they had sold their aircraft and ceased flying.							

Date	22-Nov-2015	Region	VSA	SOAR Report Nbr	S-0623		
Level 1	Airspace	Level 2	Aircraft Separation	Level 3	Near collision		
A/C Model 1	DG-500 Elan Orion			A/C Model 2	SZD-50-3 "Puchacz"		
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	63
A glider (Puchacz) turned final above and directly in front of another glider (DG-1000) established on final approach to land on runway 'grass right'. The command pilot of the DG-1000 assumed control and manoeuvred to land on the centre runway. The two gliders touched down almost simultaneously. The command pilot of the Puchacz advised that his aircraft had flown through strong sink and his student elected to turn onto base leg early. He advised that he did not see the DG1000 until he was established on the base leg, and had not heard any radio calls from its pilot. He also misjudged the approach path of the DG-1000 and thought was aligned with the centre runway. The radio volume setting in the Puchacz was found to be low and may have been a contributing factor. At busy training airfields where aircraft of varying performance are being flown, it is not uncommon for a glider pilot to make a modified approach to land. While this does not give pilots the right to infringe the airspace of other aircraft, occasional errors will be made and pilots must remain vigilant at all times.							

Date	23-Nov-2015	Region	VSA	SOAR Report Nbr	S-0624		
Level 1	Consequential Events	Level 2	Low Circuit	Level 3	Low Circuit		
A/C Model 1	Hornet			A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	46
The glider pilot flew a 'low level' finish manoeuver below 50 feet over a number of people, putting both himself and other people at risk. The manoeuver was flown in direct contravention of GFA Operational Regulations and the pilot has been counselled by his CFI.							

Date	24-Nov-2015	Region	WAGA	SOAR Report Nbr	S-0626		
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing		
A/C Model 1	Piper PA-25-235			A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	68
During the WA State Championships the tow plane landed heavily and was substantially damaged. The tow plane was one of three Piper PA25 Pawnees launching gliders and was being flown by a low hour's pilot who was relatively new to towing. Just as the pilot flared for landing and about three feet off the ground a strong crosswind gust lifted the left wing and the aircraft touched down on the right undercarriage while going sideways. The shock absorber end fittings collapsed resulting in the undercarriage leg folding up and the							

aircraft slid off the runway. During the later stages of the ground slide the aircraft nosed over, suffering a prop strike. The pilot reported strong thermal conditions, with gusting winds and a crosswind component varying up to 90 degrees.

Date	28-Nov-2015	Region	NSWGA	SOAR Report Nbr		S-0627	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Hard landing	
A/C Model 1		Astir CS		A/C Model 2	N/A		
Injury	Minor	Damage	Substantial	Phase	Landing	PIC Age	65

The glider launched in relatively benign weather conditions for a short local flight that was well within the capabilities of its pilot. After about one hour, the pilot decided to break off and land on the operational runway. On late downwind the pilot was advised by the Duty Pilot that his aircraft was not required for further flights, so he made a broadcast that he would land on the cross strip to be close to the hangar. The pilot executed a 180degree turn and rolled out on a short base for the cross strip. Upon turning final the pilot saw a glider being towed onto the right-hand side of the runway in the area he planned to finish his landing roll. He assessed that his best option was to land shorter as there was a risk of ground looping in long grass if he landed off the runway. With his focus on the glider and vehicle on the ground ahead the pilot did not adequately monitor his airspeed, Flight recorder data indicates the aircraft slowed to between 40 to 45kts soon after the final turn when the airbrake was deployed and remained in this speed range for most of the final approach. When the pilot commenced his round-out, the aircraft stalled and rapidly descended several metres to the ground. The pilot did not close the airbrakes in response to the high descent rate and the aircraft landed heavily. The aircraft was substantially damaged and the pilot suffered minor injury. Causal factors include: high workload; inadequate airspeed monitoring; distraction in the circuit from non-operational radio calls; the pilot's decision to change runways for convenience at a late stage in the circuit; potential low level wind shear; and landing on an occupied runway.

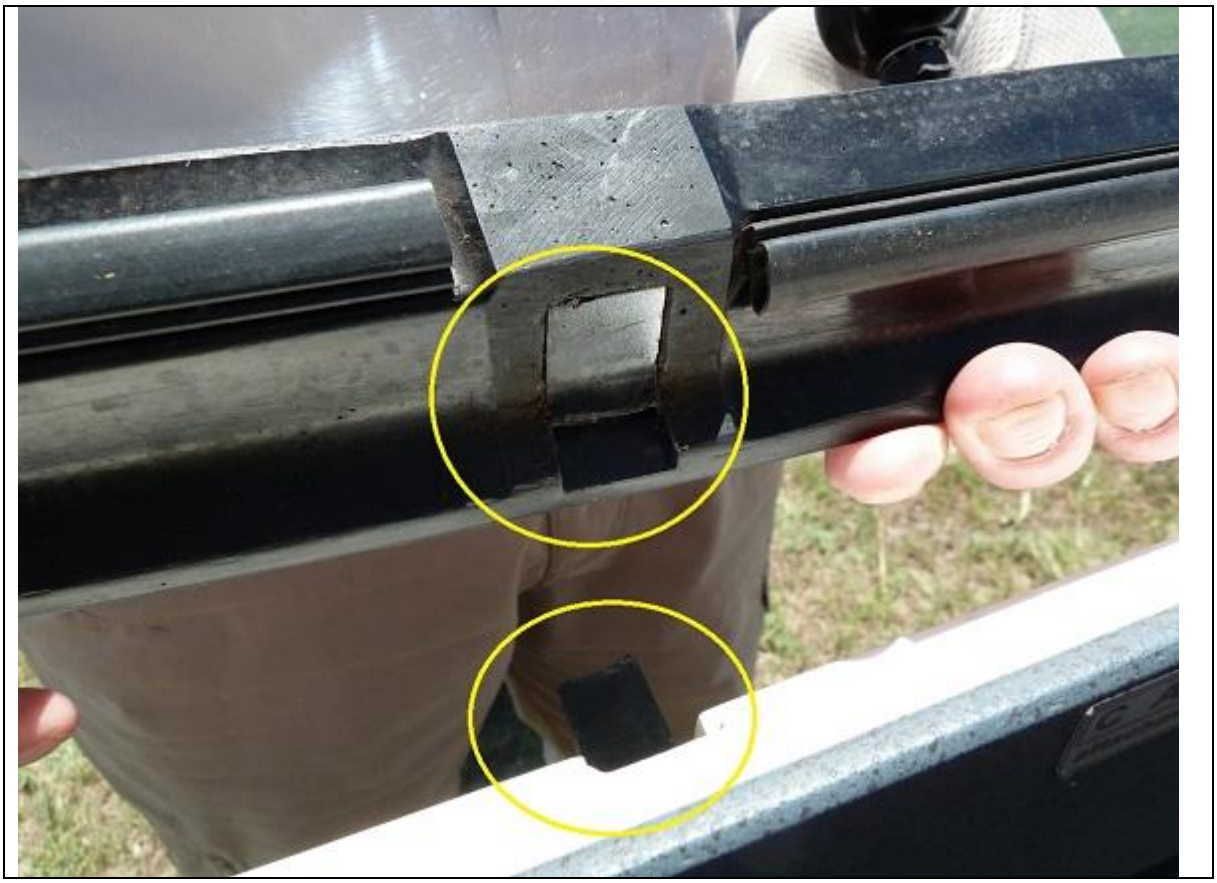
Date	30-Nov-2015	Region	VSA	SOAR Report Nbr		S-0641	
Level 1	Technical	Level 2	Powerplant/Propulsion	Level 3		Propeller malfunction	
A/C Model 1		Arcus M		A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	In-Flight	PIC Age	67

After shutting down the engine it was noted that the propeller did not stop as usual and the pilot was unable to 'park' the propeller in the vertical position manually. After an uneventful landing with the engine fully extended, it was found that the propeller brake drum had disintegrated. A forensic examination of the failed drum is currently being undertaken by a Forensic Engineering Team at Defence Science and Technology Group, Aerospace Division. The preliminary investigation indicates fatigue occurred near the hub and progressed either side towards the rim, with final rupture starting relatively close to the rim. Minor corrosion was found on the fatigue fracture surfaces, indicating more than a short time from crack initiation to final failure. The Type Certificate holder has been advised and is in receipt of the preliminary report. While no other failures of this kind have been reported through the GFA reporting system, Airworthiness Alert 2015-4 has been issued alerting operators of Arcus aircraft to examine the brake system after each engine cycle for signs of failure.

Date	1-Dec-2015	Region	NSWGA	SOAR Report Nbr	S-0660
Level 1	Operational	Level 2	Ground Operations	Level 3	Other Ground Ops Issues
A/C Model 1	ASW 28	A/C Model 2	LS8-18		
Injury	Nil	Damage	Minor	Phase	Ground Ops	PIC Age	24
It was the first competition day of the Junior World Gliding Championships. After launching several gliders it became obvious to the Organisers that the 'slow moving front' was in fact moving in more quickly than predicted and the day was cancelled. Mid-afternoon wind gusts up to 50 knots were experienced at the airfield. In the tie down area a glider that was not securely tied down was blown backwards into another glider causing minor damage to both aircraft. Gliders parked in the open should be securely tied down at the nose, wings and tail, and control surfaces secured (use chocks and/or harness) to prevent wind damage. Quality rope should be used and sturdy tie-down anchors should be driven well into the ground at a 45 degree angle with the head pointing away from the direction of pull. The strongest configuration is where the rope is also at a 45 degree angle.							

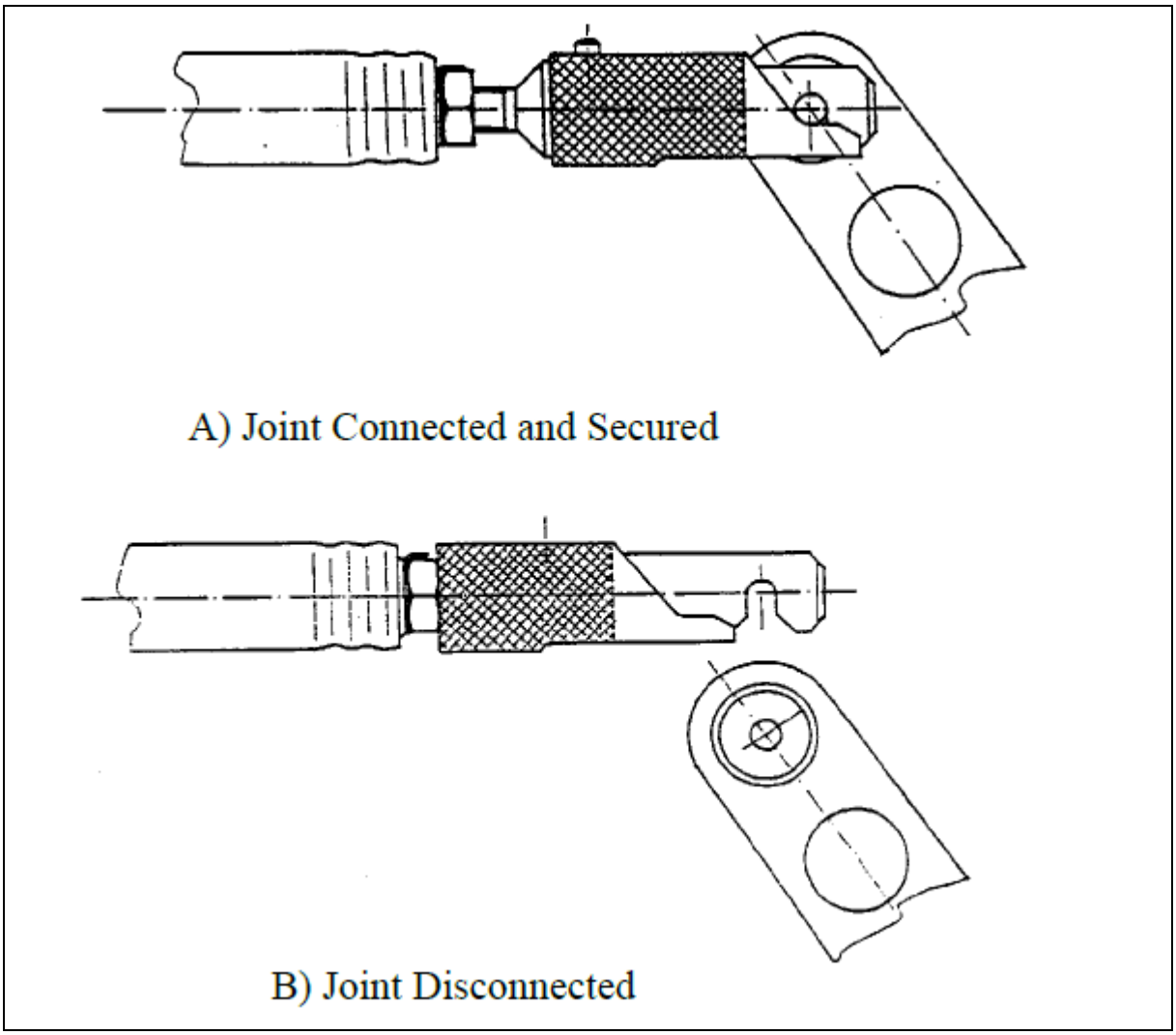
Date	2-Dec-2015	Region	NSWGA	SOAR Report Nbr	S-0657
Level 1	Operational	Level 2	Ground Operations	Level 3	Ground handling
A/C Model 1	LS8-18	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Ground Ops	PIC Age	
A strong gust of wind rotated the glider while it was being towed to the launch point and the tow-out bar detached from the tail dolly. The glider continued to rotate until the trailing edge of the port wing caught the rear of the tow-out vehicle. The port aileron was split along trailing and suffered delamination.							

Date	5-Dec-2015	Region	GQ	SOAR Report Nbr	S-0632
Level 1	Operational	Level 2	Airframe	Level 3	Doors/Canopies
A/C Model 1	Duo Discus	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Ground Ops	PIC Age	79
While the crew were strapping in, the front seat pilot temporarily closed the canopy to check clearance overhead. When he opened the canopy again the forward (carbon-fibre) hinge arm failed. The canopy fell outboard, but was caught be one of the ground crew assisting. No further damage resulted. The two hinge arms are intended to fail as part of the canopy jettison system and are a designed weak spot. The club proposes to replace the hinges at more regular intervals.							



Date	5-Dec-2015	Region	VSA	SOAR Report Nbr	S-0633		
Level 1	Operational	Level 2	Airframe	Level 3	Other Airframe Issues		
A/C Model 1	PW-5 "Smyk"		A/C Model 2	N/A			
Injury	Nil	Damage	Nil	Phase	Ground Ops	PIC Age	55

During the Daily Inspection the left aileron control linkage was found to be unlocked. This aircraft uses a sliding sleeve with a locking pin to connect the control linkages of the ailerons and air brakes. The Inspector identified the locking pin may not have been properly engaged upon its return to service from an Annual Inspection the previous weekend, although he could not discount that someone subsequently unlocked it during the intervening week. Both inspectors involved in signing out the aircraft believe that they checked the connection and were satisfied it was secure. While they are both experienced in airworthiness matters and are conversant with the particular control hook up system, neither could rule out an oversight, although the inspector who undertook the dual control check recalls actually looking at the connection using a torch and cannot understand how it could have been missed. Maintenance is a major cause of system failures and this incident highlights the importance of conducting a thorough Dual Inspection before releasing the aircraft to service. It also confirms the vital role a thorough Daily Inspection plays in our risk management system. For further reading, refer to ATSB publication "An Overview of Human Factors in Aviation Maintenance".



Date	6-Dec-2015	Region	VSA	SOAR Report Nbr	S-0639		
Level 1	Operational	Level 2	Runway Events	Level 3	Runway incursion		
A/C Model 1	DG-500 Elan Orion	A/C Model 2	SZD-50-3 "Puchacz"				
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	76

The gliders were operating at a busy site on a day where conditions were not soarable. Visibility was diminished due to smoke haze and high level cloud. As the DG505 was on downwind, a Puchacz landed on the 'grass right' runway and another glider landed on the centre runway. The 'grass left' runway was occupied by several gliders awaiting launch. The pilot of the DG505 was monitoring the situation and noticed the Puchacz being pushed off to the side, thereby allowing sufficient room to land 'grass right'. As the DG505 turned final, a golf cart pulled out in front of the Puchacz and commenced to tow it back to the launch point. With the runway now occupied, the pilot of the DG505 closed the airbrakes and over flew the Puchacz to land safely further down the runway. The pilot in command of the Puchacz advised he had not seen the DG505 although the golf cart driver said he had had seen it but did not mention it to anyone and proceeded to expedite the retrieve of the Puchacz to clear the runway. This incident highlights the importance of clearing the airspace before moving a glider across a runway, and for all members of the crew to ensure there is adequate separation before crossing the approach path of an aircraft.

Date	6-Dec-2015	Region	GQ	SOAR Report Nbr	S-0634
Level 1	Technical	Level 2	Powerplant/Propulsion	Level 3	Engine failure or malfunction
A/C Model 1	ASK-21Mi	A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	56

The self-launching sailplane departed the runway normally for a training flight and the student pilot commenced a left hand turn at about 300ft to fly parallel to the cross strip. Shortly afterwards the instructor noticed the engine surging followed by an uncommanded reduction in engine revs. The instructor took control and conducted a modified circuit onto the cross strip. The engine stopped during the final approach. The aircraft landed safely with the engine deployed. The pilots noted that prior to flight the battery voltage was checked at 12.7 to 12.8V and the battery voltage at the start of roll for the incident flight was 12.8V with battery light extinguished. The battery voltage after landing was 7.6V and it was determined that the aircraft generator was not providing charge to the batteries. The engine shut down due to the battery's voltage reducing to a level where the fuel pumps stopped operating. The investigation revealed that the battery light had illuminated intermittently on a number of previous flights. Electrical power is supplied from a Lithium Iron Phosphate (LiFePO4) battery. On the incident flight, the battery light only illuminated on the student pilot's display and the instructor had no battery light indication. The battery light did not illuminate at the start of take-off and the student pilot did not notice any light during the flight, possibly due to a high workload. The battery light trigger was set to 12.8V, which is the steady state voltage of a 4 cell LiFePO4 battery. This caused the intermittent activation of the light. LiFePO4 batteries feature a high discharging current, have a long cycle life and their voltage remains almost unchanged down to about an 80% discharged state. However, when the battery starts running out it drops rapidly. The characteristic of rapid voltage drop off was not known to the pilot. Pilots flying aircraft with these types of batteries need to be aware that a satisfactory voltage check does not guarantee there will be sufficient charge available during flight, and that if the battery warning light illuminates while the engine is running to assume that a loss of engine power is imminent. Causal Factors include: a history of intermittent battery light; battery light only illuminated on student pilot's display; the battery light trigger set to 12.8V, the pilots' insufficient knowledge of LiFePO4 battery characteristics; and battery voltage dropped rapidly.

Date	7-Dec-2015	Region	NSWGA	SOAR Report Nbr	S-0661
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	Lak-19	A/C Model 2	N/A		
Injury	Nil	Damage	Substantial	Phase	Outlanding	PIC Age	22

The pilot was competing in the Junior World Gliding Championships and was on final glide following a 4.5 hour AAT flight of over 500 kms. When about 30kms out and at a height of about 3,200ft AGL the pilot took a weak thermal but failed to climb. The pilot pushed on into a 14 knot headwind on a marginal final glide. Despite getting below circuit height the pilot continued to fly towards the finish circle with the aim to land in a paddock straight ahead. At about 100ft AGL as he approached the boundary of the paddock the pilot noticed power lines and decided to land in a cotton field he had just overflown. The pilot completed a 180 degree turn downwind and landed heavily. The aircraft was substantially damaged. The pilot noted that "*damage could have been avoided by making an earlier decision to outland without crossing the finish ring*". A common reason for outlanding accidents is the pilot not accepting soon enough that an outlanding is likely, and not prioritising the available height to allow them to fly to a good safe area. Pressing on with the flight in the hope that that all will be well is fraught with danger. Unlike landing at the home airfield where the runway layout, ground features and hazards are usually well known, when landing in a strange paddock the pilot is faced with the unknown. Such a situation demands the pilot take additional precautions to ensure a proper survey is undertaken of the landing area so as to identify all hazards and ensure a safe landing can be accomplished. In power flying this is called a 'precautionary search' and is commenced from

no lower than 500ft AGL, although in gliding one must obviously start a lot higher. Guidance on conducting precautionary searches for outlanding can be found on page 78 of the GFA Basic Gliding Knowledge book. When flying cross-country it is important that pilots plan and think ahead so that they are always in a position to make a safe landing. At low levels a pilot's priority will change from searching for lift to finding a suitable area in which to land. This requires good flight management and discipline because flying at low level is unsafe:

- there are more obstacles to avoid, many of which are hard to see until it is too late (e.g. power lines and birds);
- pilots have a higher workload because there are more hazards to negotiate in the environment;
- there may be turbulence and wind shear that pilots do not encounter at higher levels; and
- there is very little time to recover control of the aircraft if something goes wrong (e.g. consider a low level spin).For competition pilots the race to the finish is a high workload and dynamic situation. In such circumstances, being near the ground at a height where it is not possible to assess and check an available landing paddock is a high risk situation that must be avoided. Human factors including decision biases, goal fixation and cognitive tunnelling in competition may lead to pilots eroding safety margins more than in normal non-competition flying. Being aware of the dangers of continuing into marginal circumstances, setting boundaries, having a sound knowledge of rules and procedures, disciplined adherence to minima and performance requirements, prioritisation of options, and planning to deal with potential situations will act as defences against unsafe conditions.

Date	7-Dec-2015	Region	NSWGA	SOAR Report Nbr		S-0658	
Level 1	Airspace	Level 2	Aircraft Separation	Level 3		Near collision	
A/C Model 1		Piper PA-25		A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	In-Flight	PIC Age	62
Late in the day and during a competition, the tow pilot was requested to conduct the retrieve of an outlanded glider. After waiting for several 'finishing' gliders to land, the tow pilot broadcast his intentions on the CTAF and departed at low level to the west before turning south. Two sailplanes enroute to the airfield passed off to his left side well clear but a third flew head-on and passed 200ft over the top of the tow plane. The tow pilot was aware that other gliders may have been finishing from the south and noted that he should have tracked further west before turning south so as to avoid oncoming traffic.							

Date	7-Dec-2015	Region	NSWGA	SOAR Report Nbr		S-0659	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Wheels up landing	
A/C Model 1		Discus 2A		A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	24
The pilot was competing in the Junior World Gliding Championships and had just completed a 540km task after being in the air for 7 hours. Just after crossing the finish line at a height of 1,000ft some 3kms from the airfield, the pilot configured the aircraft for landing by lowering the undercarriage and dumping water ballast. Nearing the runway the pilot made an orbit to provide separation with a glider on short final and then made his approach to land. Upon touchdown the undercarriage collapsed and the aircraft suffered minor damage. The pilot noted that he did not properly lock the undercarriage in the down position.							

Date	9-Dec-2015	Region	VSA	SOAR Report Nbr		S-0635	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Wheels up landing	
A/C Model 1		LS8-t		A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	52

The pilot lowered the undercarriage for landing but did not move the lever fully into the locking detent. Upon touchdown the undercarriage collapsed resulting in minor damage.

Date	10-Dec-2015	Region	VSA	SOAR Report Nbr	S-0636		
Level 1	Operational	Level 2	Ground Operations	Level 3	Taxiing collision/near collision		
A/C Model 1	DG-500 M	A/C Model 2	N/A				
Injury	Nil	Damage	Substantial	Phase	Ground Ops	PIC Age	71

While the aircraft was being towed to the launch point, the tail dolly split apart on rough ground and the aircraft rudder hit the tow car. The tail dolly main shaft nut had come loose and the ball bearings fell out. The dolly was subsequently repaired but a new main shaft nut could not be sourced so the damaged nut was welded in place. While towing the glider to the launch point the weld holding the nut broke and the dolly came apart, resulting in the glider running into the car and suffering substantial damage to the rudder. The pilot's CFI noted that missing a couple of days flying to source a new castoring dolly wheel would have been less costly.

Date	13-Dec-2015	Region	NSWGA	SOAR Report Nbr		S-0637	
Level 1	Airspace	Level 2	Aircraft Separation	Level 3		Near collision	
A/C Model 1		DG-1000S		A/C Model 2		ASH - 25 M Jet	
Injury	Nil	Damage	Nil	Phase	Thermalling	PIC Age	67

During a training flight and while thermalling at 8,000ft near the home aerodrome the DG-1000 instructor noticed an ASH-25 approaching head-on at high speed. The instructor momentarily levelled out and widened the turn to avoid conflict and the other glider passed close by to the left. The pilot of ASH-25 had seen the thermalling glider and flew to join it. He entered the thermal at much the same height as the DG-1000 but on the opposite side of the circle. As the thermal was weak the pilot of the ASH-25 straightened-up and flew on only to encounter a strong core nearby in which he commenced a turn. The Instructor in the DG-1000 discontinued thermalling to avoid overlapping his circle with the ASH-25. A circling glider attracts other

gliders like a light attracts moths, so it is important to keep a good lookout at all times. Pilots should always join a thermal so as not to interfere with other gliders, and when at similar heights the joining glider should fly towards the outside of the circle made by the other glider. Remember, gliders already in a thermal should not have to manoeuvre to avoid you as you enter the thermal.

Date	14-Dec-2015	Region	NSWGA	SOAR Report Nbr	S-0648
Level 1	Operational	Level 2	Miscellaneous	Level 3	Rope/Rings Airframe Strike
A/C Model 1	Grob G 103 Twin II	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Launch	PIC Age	54
Following a weak link break on aerotow, the rope wrapped around the tailplane and the weak link shackle damaged the top surface. The glider landed safely.					

Date	17-Dec-2015	Region	GQ	SOAR Report Nbr	S-0643
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	KR-03A Puchatek	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	67
The student was conducting an outlanding under instruction but mishandled the landing and touched down heavily. The wingtip got caught in grass and the glider ground looped. The student had displayed exceptional flying skills and the instructor was quite relaxed. As a consequence, the instructor was not prepared when the student failed to adequately round-out. This is not an uncommon occurrence and even experienced instructors can be lulled into a false sense of security. Notwithstanding the experience level of the pilot under check, Instructors must always guard themselves against unexpected reactions during the critical stages of flight by adopting a defensive posture; i.e. having their hands and feet ready to take control.					

Date	18-Dec-2015	Region	WAGA	SOAR Report Nbr	S-0640
Level 1	Operational	Level 2	Runway Events	Level 3	Runway excursion
A/C Model 1	Ventus-2Cx	A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Launch	PIC Age	65
On tow out to the launch point the ballasted glider's 'wing walker' broke causing the wing to drop. The pilot placed a 'wing stand' under the wing to keep it level while he repaired the 'wing walker'. Upon his return to the glider the pilot found the wing resting on the ground and that some water ballast had drained from the wing. When the pilot placed the wing back on the 'wing stand' he did not notice any remarkable difference in wing balance, and after completing the repair the glider was towed to the launch point. The pilot completed his pre-flight checks and boarded the aircraft for launch. After connecting the tow rope to the glider, the wing runner advised the pilot that the left wing appeared to be heavier than the right but the pilot decided to continue with the launch as the tow plane was in the process of taking up the slack in the rope. Just after the 'all out' command had been given and the wing runner let go, the left wing fell to the ground and the pilot immediately released. The glider veered off the runway to the left and suffered minor damage. Pilots need to be aware that asymmetric wing loading is hazardous and usually results in loss of control. If you believe the wings are out of balance before launch, either empty and refill them, or fill them up completely and release sufficient to meet weight & balance requirements.					

Date	19-Dec-2015	Region	GQ	SOAR Report Nbr	S-0642
Level 1	Operational	Level 2	Aircraft Control	Level 3	Loss of control
A/C Model 1	Piper PA-25-235	A/C Model 2	SZD-50-3 "Puchacz"		

Injury	Nil	Damage	Nil	Phase	Launch	PIC Age	66

This was a training flight where the student was to conduct a 'release failure' exercise and then ascend into high tow and await the 'wave off' signal from the tow pilot. Following the successful 'release failure' exercise the student established in the high tow position at about 1500ft AGL. Shortly afterwards the student allowed the glider to climb too high. The instructor had allowed the student time to get back into station but the student's reactions were too slow and the tow plane ran out of elevator control and its nose pitched forward. Upon seeing this, the instructor immediately released to rope and the tow pilot recovered flying attitude. A glider pilots' aerotow training emphasises that correct position behind the tug is essential and that he must release if he is losing control. However, tug pilots must be vigilant during the early stages of the launch for any tendency of the tug to be pitched nosed down. Below 600 feet, monitor the tug's attitude and if a gentle back pressure is insufficient to prevent any nose down pitch - release immediately. Above 600 feet, the glider pilot may be given the opportunity of correcting the situation. Be aware that tug upsets can happen rapidly with little warning. Glider pilots should release immediately if the glider is going high and the tendency cannot be controlled, or they lose sight of the tug.

Date	19-Dec-2015	Region	GQ	SOAR Report Nbr	S-0645
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	ASK-21Mi	A/C Model 2	N/A		

Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	56

The glider bounced on landing and pitched forward onto the nose wheel incurring minor damage to nosewheel steering fork and mount. The CFI noted that this type of aircraft has minimal clearance between the ground and nose/tail wheel, which enhances the tendency for the aircraft to oscillate if the recovery from a bounced landing is misjudged. Another contributing factor was rough ground. The pilot was briefed on the issues.

File image - for illustration purposes only,

Date	26-Dec-2015	Region	NSWGA	SOAR Report Nbr	S-0646
Level 1	Operational	Level 2	Aircraft Control	Level 3	Hard landing
A/C Model 1	H 36 Dimona	A/C Model 2	N/A		

Injury	Nil	Damage	Substantial	Phase	Landing	PIC Age	79

The experienced pilot had prepared the aircraft in the hangar and had not noticed that the weather was deteriorating. After taxying from the hangar the pilot completed his pre take-off checks, during which time light rain began to fall. The pilot decided to conduct a circuit and then put the glider away. Shortly after becoming airborne the rain and wind increased in intensity. Unable to land ahead due to insufficient

available runway, the pilot climbed to a safe height and conducted a 180 degree turn to land back on the runway. The pilot misjudged the round-out and landed heavily. The glider bounced and touched down again while travelling sideways and the undercarriage collapsed. Causal factors include poor aeronautical decision-making, adverse weather conditions, stress and a high workload.

Date	27-Dec-2015	Region	WAGA	SOAR Report Nbr		S-0651	
Level 1	Consequential Events	Level 2	Low Circuit	Level 3		Low Circuit	
A/C Model 1		SZD-50-3 "Puchacz"		A/C Model 2	N/A		
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	65

The low experience pilot broke off the flight at too low a height to conduct a normal circuit. Despite opportunities to land on an alternative runway, the pilot continued the circuit onto the duty runway and completed a low final turn. Fortunately the pilot maintained safe speed near the ground and landed safely. The pilot reflected on the flight and noted that, despite his training, he became fixated on landing at the take-off point. Goal fixation often manifests in times of stress, which coupled with inexperience results in a failure to analyse information appropriately and loss of situational awareness. Remember, situational awareness must precede decision-making because the pilot has to perceive a situation in order to have an outcome. Situational awareness also allows us to stay ahead of the aircraft. To prevent the loss of situational awareness, implement proven best practices (circuit joining, radio procedures, lookout, etc.) and know the Rules and Regulations.

Date	28-Dec-2015	Region	NSWGA	SOAR Report Nbr		S-0663	
Level 1	Operational	Level 2	Aircraft Control	Level 3		Wheels up landing	
A/C Model 1		LS 3-a		A/C Model 2	N/A		
Injury	Nil	Damage	Minor	Phase	Outlanding	PIC Age	56

The pilot of the LS3 was undertaking a 200km cross-country flight with two remote turnpoints in company with another pilot flying a Janus. The pilot had only two prior flights in the preceding 90 days, one of which was a check flight with his CFI the previous day. The LS3's flight log shows a climb to 6,500ft near the home aerodrome and then frequent, and often ineffective, small climbs working a height band between 5,000ft and 6,500ft. The average climb rate was 3 knots and inter-thermal speeds averaged 55-65 knots. This made progress slow and the pilot had difficulty centring thermals for most of the flight. The Janus pilot outlanded on a small airstrip just past the first turnpoint and was retrieved by aerotow. The LS3 pilot struggled on and, just after rounding the second turnpoint and when 52 kms from the home airfield, achieved the highest climb for the flight to 7,100ft (6,100 ft above aerodrome elevation). Flying home into a 10 knot headwind, the pilot tracked relatively straight towards the destination in sinking air, crossing the lift streets at a very shallow angle that resulted in a much poorer glide angle than should have been expected. The pilot's lack of currency added to his stress levels and he was slow to respond to external stimuli to centre thermals effectively or to diverge from the street of sink to achieve a better performance. Rather than flying faster to penetrate and escape from sink, he flew slower than the optimal speeds in an effort to conserve height. With about 30kms to run, the glider was down to 3500ft, whereupon the pilot began a series of attempts to regain height and eventually gaining 650ft over 4 minutes. However, this was followed by again tracking straight for the home airfield and after a further 8 kms the glider had descended 1500ft and was down to 3,000ft (2,000 ft above the aerodrome elevation). At this point the pilot turned back towards the lift street and managed a slow (1.5kt average) climb back from 2,500ft to 5,100ft but drifted back 2kms in the process. The pilot continued to track towards the home airfield but encountered heavy sink and descended to below 2,500ft with 10kms to run. Although by this stage the pilot doubted the glider would get home without finding lift, he did not turn more into wind when the glider flew through some weak lift at 2,200ft (1,300 ft AGL) and commenced weaving to inspect suitable paddocks for an outlanding. At about 900ft AGL the pilot had three suitable paddocks close together in mind and lowered the undercarriage. However, on encountering some further weak lift, optimism bias took over and the pilot raised the wheel and

commenced circling. Over the next 3 minutes the pilot flew 6 full circles (3 in each direction) while losing 400ft, keeping one hand on the undercarriage lever as a reminder to lower it when he finally decided to give up the attempt to thermal away. During this time the pilot was flying effectively along a base leg for the paddock he finally landed in, but chose to land in canola stubble having failed to recognise it as being different from the wheat stubble in the other possible landing paddocks. At that point he again lowered the undercarriage but did not, in the stress of the moment, confirm that it was in fact selected down. Also during this process the pilot turned his back on the chosen paddocks several times and his last turn onto the base leg was made downwind – which may have influenced the final choice of landing paddock. At the last moment on final approach and during the landing flare, the pilot became uncertain of the undercarriage position and moved the handle. The glider touched down with the wheel retracted and slewed 90 degrees to the left during the ground run. The 45kms flown from the top of the highest climb to landing had taken over an hour, and the total flight was 3.5 hours. The pilot's CFI noted that the weather was cool for that time of year (27 degrees) but the air was dry and there was no cloud to mark the thermals or provide shade. The pilot carried plenty of drinking water and used it, and the in-flight relief system, regularly so dehydration was not a considered a factor. However, the pilot had not flown much the previous 3 months and had not flown that aircraft since May due to extended maintenance. In addition, the pilot had travelled overseas and concentrated on reactivating his PPL so had not flown gliders for some time in the previous 12 months. The pilot was also unfamiliar with interpreting logger traces as a coaching tool, and tended to fly slower than ideal between thermals. The stress of flying cross-country on a difficult day, unfamiliarity with the aircraft and, in the end, not dealing well with streeting in the blue conditions to choose a suitable track for his final glide meant that he fell short of the home airfield by less than 10 kms. At that stage he did not commit to landing at an appropriate stage, and further stressed himself by attempting to prolong the flight and failing to recognise the danger of the situation he found himself in, trying to use weak lift at a very low level. In subsequent discussion, and when shown the logger trace, the pilot now fully realises the need to be extra vigilant to guard against 'get-home-itis' (goal fixation) and optimism bias (that there is really lift there somewhere when there is not). All this led to the pilot not committing to land at the appropriate stage of the flight, not flying a full circuit of the landing paddock, and at the last minute moving of the undercarriage lever because he could not remember putting the wheel down 20 or 30 seconds previously.

Date	29-Dec-2015	Region	NSWGA		SOAR Report Nbr		S-0746		
Level 1	Consequential Events	Level 2	Low Circuit		Level 3		Low Circuit		
A/C Model 1		DG-300 Elan Acro			A/C Model 2		N/A		
Injury	Nil	Damage	Minor	Phase	Landing		PIC Age	30	
The pilot flew at another gliding site without seeking a briefing on local requirements, and performed a high-speed, low-level manoeuvre close to the runway upon return to the aerodrome in a direction contrary to the established circuit direction for the runway. The pilot asserted he had decided to perform a “precision landing” as a practice outlanding but that his judgement was affected due to illness. The Club's operations panel, following its review of the flight log and witness statements, was unconvinced and suspended the pilot's flying privileges subject to remedial training.									

Date	29-Dec-2015	Region	NSWGA		SOAR Report Nbr		S-0662		
Level 1	Operational	Level 2	Runway Events		Level 3		Runway excursion		
A/C Model 1		LAK-19			A/C Model 2		N/A		
Injury	Nil	Damage	Substantial	Phase	Outlanding		PIC Age	68	
The pilot was flying cross-country on a weak day and decided to return to the home airfield using the electric sustainer motor. The pilot subsequently flew through lift and decided to continue on task. On return from the turn point the pilot found himself getting low again, so he restarted the electric motor and headed towards some hills in search of lift. Unfortunately the battery power was low and the motor warning lamp illuminated. The pilot turned off the motor and was immediately faced with an outlanding. While the aircraft									

was now over hilly terrain with limited landing options, the pilot located a paddock of suitable dimensions with some minor slope. The glider landed at speed and it is suspected that the wheel and starboard wingtip touched the surface simultaneously, resulting in the wing catching in long Lucerne and causing the glider to ground loop. The aircraft was substantially damaged - suffering a bent undercarriage and separation of the starboard wing extension. Pilots of gliders capable of self-retrieving need to fully understand the limitations of their type of motor and must make decisions at sufficient height and with safe landing options available.

Date	30-Dec-2015	Region	VSA	SOAR Report Nbr	S-0650		
Level 1	Operational	Level 2	Aircraft Control	Level 3	Wheels up landing		
A/C Model 1	DG-400	A/C Model 2	N/A				
Injury	Nil	Damage	Minor	Phase	Launch	PIC Age	76
At 200ft AGL during self-launch the pilot retracted the undercarriage. At 400ft AGL the engine stopped. The pilot completed a 180 degree turn and landed with the motor extended and undercarriage retracted. Investigation revealed the cylinder head temperature probe had worked loose and ejected from the engine, resulting in a loss of compression and power. While the CHT probe was lock-wired in place, it was not sufficient to prevent vibration eroding the thread to the extent that it failed. Pilots should check security of the probe during the Daily Inspection. Due to the high workload when landing motor gliders, pilots should also be in the habit of having the undercarriage down while the motor is deployed during take-off or landing.							

Date	31-Dec-2015	Region	SAGA	SOAR Report Nbr	S-0689		
Level 1	Operational	Level 2	Runway Events	Level 3	Depart/App/Land wrong runway		
A/C Model 1	Discus b	A/C Model 2	N/A				
Injury	Nil	Damage	Nil	Phase	Landing	PIC Age	65
Following an uneventful launch to 2,000ft AGL, the low hours pilot searched for lift but was unsuccessful. The pilot eventually entered circuit on the reciprocal of the operational runway. A safe landing ensued, albeit with an extended ground roll due to the light tailwind. The pilot noted that he became frustrated and distracted by his inability to locate lift for the second day in succession and inadvertently set himself up on circuit for the previous day's operational runway.							

Date	31-Dec-2015	Region	VSA	SOAR Report Nbr	S-0656		
Level 1	Operational	Level 2	Aircraft Control	Level 3	Wheels up landing		
A/C Model 1	Nimbus 2	A/C Model 2	N/A				
Injury	Nil	Damage	Minor	Phase	Landing	PIC Age	45
The pilot did not complete a post-launch checklist and left the undercarriage down during the cross-country flight. Upon return to the airfield and on the downwind leg the pilot retracted the undercarriage as part of his pre-landing checks and proceeded to land with the undercarriage retracted. This accident highlights the importance of visually checking the undercarriage lever is in the 'down and locked' position against the placards.							

Level 1	Level 2	Level 3	Definition
Airspace	Aircraft Separation	Collision	An aircraft collides with another aircraft either airborne or on the runway strip, or a vehicle or person on the runway strip.
Airspace	Aircraft Separation	Issues	Airspace - Aircraft separation occurrences not specifically covered elsewhere.
Airspace	Aircraft Separation	Near collision	An aircraft comes into such close proximity with another aircraft either airborne or on the runway strip, or a vehicle or person on the runway strip, where immediate evasive action was required or should have been taken. (a) En-route (b) Thermalling (c) Circuit
Airspace	Airspace Infringement	Airspace Infringement	Where there is an unauthorised entry of an aircraft into airspace for which a clearance is required.
Airspace	Other	Other Airspace Events	Airspace occurrences not specifically covered elsewhere.
Consequential Events	Ditching	Ditching	When an aircraft is forced to land on water.
Consequential Events	Diversion / Return	Diversion / Return	When an aircraft does not continue to its intended destination, but either returns to the departure aerodrome or lands at an alternative aerodrome.
Consequential Events	Emergency / Precautionary descent	Emergency / Precautionary descent	**Emergency descent** - Circumstances that require the flight crew to initiate an immediate high rate descent to ensure the continued safety of the aircraft and its occupants.
Consequential Events	Emergency evacuation	Emergency evacuation	When crew and/or passengers vacate an aircraft in situations other than normal and usually under the direction of the operational crew.
Consequential Events	Forced / Precautionary landing	Forced / Precautionary landing	**Forced landing** – Circumstances under which an aircraft can no longer sustain normal flight and must land regardless of the terrain. **Precautionary landing** - A landing made as a precaution when, in the judgement of flight crew, a hazard exists with continued flight.
Consequential Events	Low Circuit	Low Circuit	Any occasion where a pilot flies a Low Circuit that was potentially hazardous.
Consequential Events	Other	Other Consequential Events	Consequential events not specifically covered elsewhere.
Environment	Weather	Icing	Any icing issue that affects the performance of an aircraft.
Environment	Weather	Lightning strike	The aircraft is struck by lightning.
Environment	Weather	Other Weather Events	Weather occurrences not specifically covered elsewhere.
Environment	Weather	Turbulence/Windshear/Microburst	Aircraft performance and/or characteristics are affected by turbulence, windshear or a microburst.
Environment	Weather	Unforecast weather	Operations affected by weather conditions that were not forecast or not considered by the flight crew.
Environment	Wildlife	Animal strike	A collision between an aircraft and an animal.
Environment	Wildlife	Birdstrike	A collision between an aircraft and a bird.
Environment	Wildlife	Other Wildlife Events	Wildlife related occurrences not specifically covered elsewhere.
Operational	Aircraft Control	Airframe overspeed	The airspeed limit has been exceeded for the current aircraft configuration as published in the aircraft manual.
Operational	Aircraft Control	Control issues	The flight crew encounter minor aircraft control difficulties while airborne or on the ground.
Operational	Aircraft Control	Hard landing	Damage occurs during the landing.
Operational	Aircraft Control	Incorrect configuration	An aircraft system is incorrectly set for the current and/or intended phase of flight.
Operational	Aircraft Control	In-flight break-up	The aircraft sustained an airborne structural failure or damage to the airframe, to the extent that continued flight is no longer possible.
Operational	Aircraft Control	Loss of control	When control of the aircraft is lost or there are significant difficulties controlling the aircraft either airborne or on the ground.
Operational	Aircraft Control	Other Control Issues	Aircraft control occurrences not specifically covered elsewhere.
Operational	Aircraft Control	Pilot Induced Oscillations	Any PIO occurrence occassioning damage.
Operational	Aircraft Control	Stall warnings	Any cockpit warning or alert that indicates the aircraft is approaching an aerodynamic stall.
Operational	Aircraft Control	Wheels up landing	An aircraft contacts the intended landing area with the landing gear retracted.

Operational	Aircraft Loading	Loading related	The incorrect loading of an aircraft that has the potential to adversely affect any of the following: a) the aircraft's weight; b) the aircraft's balance; c) the aircraft's structural integrity; d) the aircraft's performance; e) the aircraft's flight characteristics.
Operational	Aircraft Loading	Other Loading Issues	Aircraft loading occurrences not specifically covered elsewhere.
Operational	Airframe	Doors/Canopies	When a door or canopy, or its component parts, has failed or exhibited damage.
Operational	Airframe	Furnishings & fittings	An internal aircraft furnishing or fitting, including its component parts, has failed or exhibited damage.
Operational	Airframe	Fuselage/Wings/Empennage	Damage to the fuselage, wings, or empennage not caused through collision or ground contact.
Operational	Airframe	Landing gear/Indication	When the landing gear or its component parts (including indications), has failed or exhibited damage.
Operational	Airframe	Objects falling from aircraft	Objects inadvertently falling from or detaching from an aircraft.
Operational	Airframe	Other Airframe Issues	Technical - Airframe occurrences not specifically covered elsewhere.
Operational	Airframe	Windows	A window or a component part has failed or exhibited damage.
Operational	Communications	Other Communications Issues	Communications occurrences not specifically covered elsewhere.
Operational	Communications	Transponder related	The incorrect setting of a code and/or usage of transponder equipment.
Operational	Crew and Cabin Safety	Cabin injuries	A cabin crew member or passenger has suffered an illness or injury.
Operational	Crew and Cabin Safety	Flight crew incapacitation	A Flight Crew member is restricted to nil or limited duties as a result of illness or injury.
Operational	Crew and Cabin Safety	Inter-crew communications	Relates specifically to a loss, or breakdown, of communication between flight crew or associated ground staff.
Operational	Crew and Cabin Safety	Other Crew and Cabin Safety Issues	Cabin safety occurrences not specifically covered elsewhere.
Operational	Crew and Cabin Safety	Passenger related	Where the actions of a passenger adversely or potentially affects the safety of the aircraft.
Operational	Crew and Cabin Safety	Unrestrained objects	When objects are not appropriately restrained for the aircraft operation or phase of flight.
Operational	Fire Fumes and Smoke	Fire	Any fire that has been detected and confirmed in relation to an aircraft operation.
Operational	Fire Fumes and Smoke	Fumes	When abnormal fumes or smells are reported on board the aircraft.
Operational	Fire Fumes and Smoke	Smoke	When smoke is reported to be emanating from: a) inside the aircraft; or b) an external component of the aircraft.
Operational	Flight Preparation/Navigation	Aircraft preparation	Errors or omissions during the planning and/or pre-flight phase that affect or may affect aircraft safety in relation to: a) the aircraft's weight; b) the aircraft's balance; c) the aircraft's structural integrity; d) the aircraft's performance; e) the aircraft's flight characteristics.
Operational	Flight Preparation/Navigation	Lost / Unsure of position	When flight crew are uncertain of the aircraft's position and/or request assistance from an external source.
Operational	Flight Preparation/Navigation	Other Flight Preparation/Navigation Issues	Navigation - Flight planning occurrences not specifically covered elsewhere.
Operational	Flight Preparation/Navigation	VFR into IMC	An aircraft operating under the Visual Flight Rules enters Instrument Meteorological Conditions.
Operational	Fuel Related	Contamination	When the presence of a foreign substance is found in fuel.
Operational	Fuel Related	Exhaustion	When the aircraft has become completely devoid of useable fuel.
Operational	Fuel Related	Leaking or Venting	Relates specifically to the unplanned loss of fuel from a fuel tank or fuel system.
Operational	Fuel Related	Low fuel	The aircraft's supply of fuel becoming so low (whether or not the result of a technical issue) that the safety of the aircraft is compromised.
Operational	Fuel Related	Other Fuel Related Issues	Fuel related occurrences not specifically covered elsewhere.

Operational	Fuel Related	Starvation	When the fuel supply to the engine(s) is interrupted, but there is still usable fuel on board the aircraft.
Operational	Ground Operations	Foreign Object Damage/Debris	Any loose objects on an aerodrome have caused, or have the potential to cause, damage to an aircraft.
Operational	Ground Operations	Ground handling	Any ground handling and aircraft servicing that caused, or has the potential to cause injury or damage to a stationary aircraft.
Operational	Ground Operations	Jet blast/Prop/Rotor wash	Any air disturbance from a ground-running aircraft propeller, rotor or jet engine that has caused, or has the potential to cause, injury or damage to property.
Operational	Ground Operations	Other Ground Ops Issues	Ground operation occurrences not specifically covered elsewhere.
Operational	Ground Operations	Taxiing collision/near collision	An aircraft collides, or has a near collision, with another aircraft, terrain, person or object on the ground or on water during taxi.
Operational	Miscellaneous	Missing aircraft	The aircraft is reported as missing.
Operational	Miscellaneous	Other Miscellaneous	Miscellaneous occurrences not specifically covered elsewhere in this manual.
Operational	Miscellaneous	Rope break/Weak link failure	Towplane separation incident necessitating a modified circuit.
Operational	Miscellaneous	Rope/Rings airframe strike	Airframe struck by launch cable or rings. Includes entanglemt with rope.
Operational	Miscellaneous	Warning devices	Situations in which an aural or visual aircraft warning device activates to alert the flight crew to a situation requiring immediate or prompt corrective action.
Operational	Miscellaneous	Winch Performance Issue	Any incident caused by poor winch performance, such as power failure, or mechanical reasosn.
Operational	Runway Events	Depart/App/Land wrong runway	An aircraft that: a) takes off b) lands, c) attempts to land from final approach d) operates in the circuit at, to or from an area other than that authorised or intended for landing or departure
Operational	Runway Events	Other Runway Events	Runway event occurrences not specifically covered elsewhere.
Operational	Runway Events	Runway excursion	An aircraft that veers off the side of the runway or overruns the runway threshold.
Operational	Runway Events	Runway incursion	The incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.
Operational	Runway Events	Runway undershoot	Any aircraft attempting a landing and touches down prior to the threshold.
Operational	Terrain Collisions	Collision with terrain	Any collision between an airborne aircraft and the ground, water or an object, where the flight crew were aware of the terrain prior to the collision.
Operational	Terrain Collisions	Controlled flight into terrain (CFIT)	When a serviceable aircraft, under flight crew control, is inadvertently flown into terrain, obstacles or water without either sufficient or timely awareness by the flight crew to prevent the collision.
Operational	Terrain Collisions	Ground strike	When part of the aircraft drags on, or strikes, the ground or water.
Operational	Terrain Collisions	Wirestrike	When an aircraft strikes a wire, such as a powerline, telephone wire, or guy wire, during normal operations.
Technical	Powerplant/Propulsion	Abnormal Engine Indications	A visual or cockpit warning that indicates an engine is malfunctioning or operating outside normal parameters.
Technical	Powerplant/Propulsion	Engine failure or malfunction	An engine malfunction that results in a total engine failure, a loss of engine power or is rough running.
Technical	Powerplant/Propulsion	Other Powerplant/Propulsion Issues	Powerplant / Propulsion occurrences not specifically covered elsewhere.
Technical	Powerplant/Propulsion	Propeller malfunction	The failure or malfunction of an aircraft propeller or its associated components.
Technical	Powerplant/Propulsion	Transmission & Gearboxes	The failure or malfunction of an aircraft transmission/gearbox and/or its associated components.

Technical	Systems	Avionics/Flight instruments	The partial or complete loss of normal functioning of the avionics system or its components.
Technical	Systems	Electrical	The partial or complete loss of normal functioning of the aircraft electrical system.
Technical	Systems	Flight controls	The partial or complete loss of normal functioning of a primary or secondary flight control system.
Technical	Systems	Fuel	The partial or complete loss of normal functioning of the fuel system.
Technical	Systems	Hydraulic	The partial or complete loss of the hydraulic system.
Technical	Systems	Other Systems Issues	Technical - Systems occurrences not specifically covered elsewhere.