Microlight Accident and Incident Summary 01/2010

This accident report summary is collated by the BMAA from information gathered. The information sources used are the Air Accident Investigation Branch of the Department for Transport (AAIB), the Civil Aviation Authority Mandatory Occurrence Reports (CAA MOR) and reports made directly to the BMAA by members and operators.

The individual reports within the accident summary are taken from the information available to the BMAA and where the BMAA has made comment this is clearly shown.

The BMAA does not investigate accidents and incidents, this role being the responsibility of the AAIB and the CAA who have the expertise, experience and funding for investigation.

All pilots reading the reports should try to make their own assessment of underlying causes and use the experience of others to enhance their own knowledge to help them become safer pilots.

BMAA Flight Event Report

Event type:	Accident

Report Source:	AAIB	**Report reference:**	EW/G2010/02/11			**Event date:**	20-02-10
Aircraft type:	Flexwing	**Aircraft model:**	Quantum 912	**Flight phase:**	Landing	**Flight purpose:**	Pleasure

Pilot's licence:	PPL SEP	**PIC Total**:	3781	**PIC on type:**	8

Pilot injuries:	None	**Passenger injuries**:	None	**Aircraft damage:**	Severe

Narrative report from:	AAIB Report as published

The aircraft is a flex-wing microlight. Having completed a local flight, the aircraft returned to Redlands Airfield, where it was established on final approach for grass Runway 24R. The approach was uneventful until shortly before landing when the pilot realised that the aircraft was positioned to one side of the runway centreline and slightly low. The pilot stated that as he tried to correct for the low approach, rather than push the control bar away from him, he had pulled the control bar towards him, resulting in a sudden pitch down. The aircraft landed heavily on the runway before coming to a stop. The aircraft trike was severely damaged. Neither the pilot nor his passenger sustained injury; both were wearing protective helmets and were restrained by a lap and diagonal belt and full harness respectively.

The pilot had flown 3,772 hours on fixed-wing aircraft and nine hours on flex-wing microlights. The pilot considered that when under pressure to correct the aircraft's flight path near to the ground, he had inadvertently reverted to the pitch control characteristics of a fixed-wing aircraft.

BMAA Comment:

The value of adequate conversion training with a qualified instructor when changing from one aircraft type to another cannot be overstated. In this instance it appears that the pilot reverted to a familiar control input when under stress. At altitude this would not have mattered but close to the ground resulted in an accident. It is not known how much conversion training had been undertaken before this flight but experienced instructors will always recommend that pilots have more than the bare minimum so that they learn to safely cope with difficult situations by instinct. It may be that a very experienced pilot on one type of control system will actually need more time converting and experiencing simulated stressful situations than a less experienced pilot with perhaps less ingrained actions. A few extra hours conversion training usually costs a lot less than an accident.

BMAA Flight Event Report

Event type:	Incident

Report Source:	CAA	**Report reference:**	MOR 201001237	**Event date:**	13-02-10

Aircraft type:	Fixed wing	**Aircraft model:**	Thruster T600N	**Flight phase:**	Cruise	**Flight purpose:**	Tuition

Pilot's licence:	Microlight Instructor	**PIC Total**:	Unknown	**PIC on type:**	Unknown

Pilot injuries:	None	**Passenger injuries**:	N/A	**Aircraft damage:**	None

Narrative report from:	Report to BMAA by pilot as received

Aircraft declared a MAYDAY due to engine failure. Landed safely in a field, which was confirmed by another aircraft.

BMAA Comment:

The engine in question had done 1022 hours.

The root cause of the engine failure was a broken stem valve. The head of the valve broke off causing extensive damage to the Jabiru engine. This failure is consistent with that described in AAIB Bulletin 5/2010 EW/C2007/09/12 (G-JAAB, G-CBIP, G-CEED, G-CEFY). Below is an extract from the report summary:

'Discussion

Examination of the two failed exhaust valves showed in both cases that failure was a result of fatigue crack propagation initiating at multiple origins at the base of the exhaust valve stems. Examination of the valve stem surfaces in the regions of failure identified pitting and general surface corrosion, with secondary cracking. The fatigue cracking probably initiated from corrosion pits on the surface of the stems, which would act as stress concentrators. Examination of the intact valves also showed evidence of corrosion and cracking.

In summary, the evidence from these valve failures indicates that overheating of the valves was at least a contributory factor and this was consistent with the timing of Jabiru JSL 002-1, which introduced 'lean burn' jets into the carburettor to improve fuel consumption at cruise power. However, Jabiru JSB 018-1, issued in October 2007, introduced richer running jets into the carburettor to replace those introduced by Service Letter JSL 002-1.

Safety action

*Following the failures of a number of Jabiru 2200 engines in the UK (including G-CEED (10/07), G-CEFY (2/08) and G-JAAB (9/07)) the AAIB informed the engine manufacturer. A number of overheat-related failures occurred in France at about the same time. The engine manufacturer has a continuing programme of product quality improvement and the number of such events reported to the AAIB and the LAA (Light Aircraft Association) has decreased since that period.'**

This report demonstrates the importance of having the most upto date guidance material as service experience has a great influence upon such practices.

* Extract from AAIB Bulletin EW/C2007/09/12 pages 31 & 32

BMAA Flight Event Report

Event type:	Accident

Report Source:	BMAA	**Report reference:**		**Event date:**	16-04-10

Aircraft type:	Fixed wing	**Aircraft model:**	SkyRanger 912	**Flight phase:**	Landing	**Flight purpose:**	Pleasure

Pilot's licence:	NPPL M	**PIC Total**:	111	**PIC on type:**	15

Pilot injuries:	None	**Passenger injuries**:	N/A	**Aircraft damage:**	Moderate

Narrative report from:	Report to BMAA by pilot as received

It was a nice clear day with good visibility and light winds, so I decided to go on a local pleasure flight from my home airfield. The preparation, take off and flight went without incident although there were more thermals around and I had been used to.

After almost an hour of flying I returned to the airfield, joined on base leg for runway 34, completed my turn onto final approach and everything was fine, I was all set up with flaps and trim, good angle and speed. As I came over the last few trees I entered a thermal, which made the plane pitch up and drop the left wing, after quickly gaining control from these attitudes seconds later the same occurrence happened again, presumably exiting the other side of the thermal. Although now higher than normal, having negotiated this I set the plane down on the grass runway.

Realising I had now landed long and it was too late to go around I applied the brakes. At this point I was still travelling too fast with the wire fence approaching, the brakes were locked on solid and I slid into the fence.

Having turned off the mags, ignition and fuel tap I got out to see the damage. As the front wheel had collapsed the prop was stuck into the ground. This accident happened at approx 15.10 on the day mentioned above.

BMAA Comment:

This is another case where the recognition of a worsening situation and a decision to go around may have saved the day. Flying is not simply a "mechanical" activity. Decision-making and the recognition of developing situations are essential pilot skills – they need to be taught at an early stage and continually maintained. Pre-landing checks should have covered the issues of instruments reading normally and sufficient fuel remaining for a go-around if required, so it should be actively considered on the approach. Several accidents occur each year, which may have been avoided simply by going around and having another go at it. There is no "shame" in going around – in fact it displays good airmanship and sound decision making. If in doubt – there is NO doubt – go around!

BMAA Flight Event Report

Event type:	Accident

Report Source:	BMAA	**Report reference:**		**Event date:**	31-05-10

Aircraft type:	Fixed wing	**Aircraft model:**	Savannah	**Flight phase:**	Landing	**Flight purpose:**	Pleasure

Pilot's licence:	NPPL M	**PIC Total**:	101	**PIC on type:**	29

Pilot injuries:	None	**Passenger injuries**:	None	**Aircraft damage:**	Moderate

Narrative report from:	Report to BMAA by pilot as received

Too slow on finals, pulled up to avoid fence then stalled as passing over it resulting in a nose first touch down causing it to collapse.

BMAA Comment:

Sadly, the Principles of Flight have made their point here - low and slow will break your aircraft. Speed control in all aircraft but particularly in low inertia microlight aircraft, is essential. Too fast and you may float on and run out of runway - too slow and a stall is only a moment away. It's not clear from the report whether the pilot realised that he was too slow prior to pulling up but if he did, once again, a go around decision would have resolved the issue. So remember to "get your ACT together" – that's Airspeed, Centreline and Threshold – monitor them all closely on the approach and if they are not just right, there's no shame in going around.

BMAA Flight Event Report

Event type:	Accident

Report Source:	AAIB	**Report reference:**	EW/G2010/03/02	**Event date:**	01-03-10

Aircraft type:	Fixed wing	**Aircraft model:**	SkyRanger Swift 912S(1)	**Flight phase:**	Landing	**Flight purpose:**	Pleasure

Pilot's licence:	NPPL M	**PIC Total**:	144	**PIC on type:**	6

Pilot injuries:	None	**Passenger injuries**:	None	**Aircraft damage:**	Moderate

Narrative report from:	AAIB Report as published

The aircraft was returning to Northrepps Airfield after a local flight in fine weather. The wind was light from the west and the aircraft touched down after an uneventful approach to Runway 22. After touchdown, the aircraft began veering to the left and continued to do so despite attempts by the pilot to correct it. It departed the left edge of the runway and entered a soft, muddy ploughed field at low speed at which point the nosewheel dug in and the aircraft gently tipped over, ending up inverted.

Both pilot and passenger were wearing full harnesses and escaped injury. Subsequent inspection of the landing gear revealed a damaged and deflated left mainwheel tyre. Inspection of the grass runway showed a single gouge created by the left wheel and wheel spat, tracking from the runway centreline to where the aircraft left the runway.

The pilot considered that the left mainwheel tyre had deflated at some point prior to touchdown and this had caused the aircraft to depart the left side of the runway.

BMAA Comment:

Assuming that the aircraft was inspected and found to be airworthy before flight there is very little the pilot can do in this situation. A puncture could have occurred on take off and would not have been apparent until touchdown. As a precaution a pilot should always avoid taxiing over rough or stony ground and keep away from freshly cut field hedges where sharp objects may be lying on the ground. Tyres are often overlooked however they play a very important role in aircraft suspension/undercarriage design. It is therefore critical to regularly inspect condition and ensure that the tyre pressure is set as per the Aircraft Manual.

For more information on this subject please refer to a past article in Microlight Flying entitled 'Tyreology' by Rob Hill.

BMAA Flight Event Report

Event type:	Accident

Report Source:	AAIB	**Report reference:**	EW/G2010/02/02			**Event date:**	06-02-10
Aircraft type:	Fixed wing	**Aircraft model:**	CTSW	**Flight phase:**	Landing	**Flight purpose:**	Pleasure

Pilot's licence:	NPPL M	**PIC Total**:	78	**PIC on type:**	33

Pilot injuries:	None	**Passenger injuries**:	N/A	**Aircraft damage:**	Moderate

Narrative report from:	AAIB Report as published

The aircraft had just returned from a local flight and approached the airfield in light winds. As the aircraft touched down, it bounced on its main wheels, followed by a second heavy impact, which caused significant damage, including the collapse of the nose landing gear. It then rolled onto the left and the right wing before coming to rest. The pilot, who had been wearing a full harness, was uninjured.

The pilot considered that the bounce at touchdown was caused by flaring the aircraft too late. After becoming airborne again he attempted to lessen a second impact by pitching the nose up. He considered that this then lead to a stall and the subsequent heavy landing. In a frank statement he indicated that, in hindsight, he should have applied full power and gone around after the first bounce.

BMAA Comment:

The pilot's frank statement says it all in this case – he should have applied power and gone around. Flying is not simply a "mechanical" activity. Decision-making and the recognition of developing situations are essential pilot skills – they need to be taught at an early stage and continually maintained. Pre-landing checks should have covered the issues of instruments reading normally and sufficient fuel remaining for a go-around if required, so it should be actively considered on the approach. Several accidents occur each year, which may have been avoided simply by going around and having another go at it. There is no "shame" in going around – in fact it displays good airmanship and sound decision making. If in doubt – there is NO doubt – go around!

BMAA Flight Event Report

Event type:	Accident

Report Source:	AAIB	**Report reference:**	EW/G2010/03/03			**Event date:**	03-03-10
Aircraft type:	Flexwing	**Aircraft model:**	Quantum 15	**Flight phase:**	Landing	**Flight purpose:**	Tuition

Pilot's licence:	Microlight Instructor	**PIC Total**:	2680	**PIC on type:**	2000

Pilot injuries:	Minor	**Passenger injuries**:	Minor	**Aircraft damage:**	Moderate

Narrative report from:	AAIB Report as published

Following a standard join and circuit for Runway 19, a glide approach was set up. The instructor reported that his student pilot under instruction initiated the flare, but there was no consequent reduction in the aircraft's rate of descent. Despite pitching up further, and applying full power, the aircraft continued to descend and made heavy contact with the ground, damaging the nose section of the trike unit.

The wind at the time was reported as east-southeast at 5 to 7 kt, which placed the touchdown point on the runway downwind of adjacent farm buildings and a small copse. The instructor attributed the heavy landing to severe turbulence at low level.

BMAA Comment:

Obstructions up-wind of the landing area can have a significant effect on the speed and direction of the wind at the point where the aircraft is slowed for the landing phase. A good look from the overhead on arrival at the wind indications given by the windsock and then the terrain up-wind of the landing area can help predict where turbulence might lie. If there is a chance that turbulence might be present in the area where you plan to lose speed in the round-out and hold off consider a higher approach speed, later round out, powered approach or combination of all three. In all events be prepared to use the power to help maintain airspeed, right up until the aircraft has all the wheels on the ground and never be too proud to go-around and set up another approach. If you are visiting a new airfield a call asking for a briefing on local hazards can also help.

BMAA Flight Event Report

Event type:	Accident

Report Source:	BMAA	**Report reference:**		**Event date:**	Unknown

Aircraft type:	Fixed wing	**Aircraft model:**	X'Air 133(1)	**Flight phase:**	Cruise	**Flight purpose:**	Tuition

Pilot's licence:	Microlight Instructor	**PIC Total**:	3400	**PIC on type:**	70

Pilot injuries:	None	**Passenger injuries**:	None	**Aircraft damage:**	None

Narrative report from:	Report to BMAA by pilot as received

Holding on dead side East of runway 33 at 1000ft agl the engine stopped. The runway was occupied but reachable. A restart was attempted but unsuccessful, the student requested to do shut down checks, which was granted. However in doing so and switching off the master we lost the digital ASI and other instruments!?

A successful landing was made on the cleared runway.

Cause of the engine failure was determined to be a broken Magneto.

BMAA Comment:

In this case the pilot was fortunate to have been able to land the aircraft from the position where the engine failed without damage. However it may have been even easier if he had realised that switching off the master power supply would disable his ASI and left it on. It is important to be totally familiar with the aircraft that you are flying in every way, not just which way to move the basic controls.

The usual reason for turning off the master switch is to isolate the electric supply and reduce the possibility of post flight fire in the event of an accident. Although a checklist for a forced landing may include "Master off" the pilot must adjust the point at which that action is taken to allow for the aircraft requirements for power. For example making a radio call, operating electrically powered flaps or as in this case powering the flight instruments.