

GA1361

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Category: [General Aviation](#)

Report Title EFATO and heavy landing

Initial Report

I would like to pass on my learning following an EFATO at a low height but too far along the runway to land back on. After a cross-country, I returned to the home airfield and made several touch-and-goes on runway [1] which terminates close to a [dual carriageway] with a heavy wood of trees beyond. To the right is runway [2] which I had been taught could be used if experiencing an EFATO.

The engine cut at perhaps 75-100 feet. As it was a touch-and-go in a taildragger with no flaps and not inspiring climb performance, my climb had started later along the runway than normal and towards the end of the runway. I had made around 100-150 feet and was climbing fine. The engine cut and the propeller stopped. At this point I was unable to land back on the runway. Ahead was the [dual carriageway] full of traffic, and beyond a dense wood. You are taught to consider your options and take time. There was no time. From the engine cutting to being on the ground was at most 10secs.

I dropped the nose to maintain flying speed (as taught when I was gliding and practising a cable break) and only had the time to repeat a swear word about 3 times before I pulled back to round-out. The aircraft did not act as it normally does, the nose raised to horizontal and not beyond to the landing attitude, the aircraft struck the ground and the bungee landing gear collapsed. I had not reached runway [2] but instead a patch of uncut rough. I was physically OK, although the aircraft had taken a knock. Thoughts:

1. It was very important that when the engine failed at 75-100 feet I had some idea of where to go because straight ahead would have been a serious accident.
2. Remember that in an aircraft without flaps there is a different likelihood of being able to bring her down on your take-off runway, you cannot deploy flaps and land, and your landing point will be determined by your glide performance. I personally would not try to side-slip at such a low speed. I would now consider more carefully if attempting a touch-and-go to ensure I have more runway to climb and if need be land back. On this particular runway I now set myself the task of being at least 250 feet before the end of the runway.
3. Remember that in an aircraft without flaps and without power, you will quickly be at the stall speed at take-off climb and this will be more pronounced if it is a vintage or draggy aircraft.
4. I do not recollect the airspeed and I think I was looking at the ground coming up and not the

airspeed indicator. It is essential when gliding the aircraft to maintain flying speed under all circumstances. With the ground coming up it is unnatural to keep the stick forward but without flying speed there is no control. The turn I made to the right was gentle enough, a bigger angle of turn could have caused an out-of-balance stall with a wing drop.

5. Without the slipstream of the propeller and at low/near stall speed the flying controls are not anywhere near as effective as normal, I believe that I pulled back to flare too late because the elevator was not effective enough.
6. There was a general air of criticism following the event and a focus on operational matters. Nobody showed any support for me personally, and I was left at an empty airfield that had gotten dark, terribly shaken up, compounded by my motorcycle not starting and me having to repair it. I was surprised that at [Airfield], which prides itself on being friendly, I wasn't even given a drink when I was obviously in shock. In fact one member of the team who helped to move the aircraft away from the runways said I was not worth listening to as I was obviously in shock.
7. During my touch-and-go I was changing from the Aux wing tank to the fuselage main tank with every circuit. At the current time the working hypothesis is that the engine cut due to lack of fuel, fuel mismanagement so to speak. After the incident an instructor told me that I should always use the main tank during take-off and landing (in fact below 1,000 feet) . A key learning point is to use the main tank at critical phases of flight.

Main lessons learned:

1. I was unaware that you should use the main tank during critical phases of flight if there is also an Aux tank.
2. It is easy to become complacent that there is a landing area if an EFATO occurs, no power and no height brings unpredictability.

Comment

The reporter highlights a number of valid lessons learned but this incident also usefully highlights the potential pitfalls that pilots should consider when conducting touch-and-goes. As with any take-off, pilots should always have in mind a Plan B for if the engine fails, and touch-and-goes are no exception. Touch-and-goes should only be conducted if there is the capability to land ahead or remain on the runway if engine problems are encountered as the throttle is advanced. If the runway length is potentially limiting then consider carefully the merits of conducting touch-and-goes versus go-arounds or a full-stop and taxi back to the runway threshold for a full-length take-off. Also, if touch-and-goes (or go-arounds) are conducted, then it is good practice not to climb at minimum speed (i.e. maximum climb angle) but to climb nearer to best glide speed (i.e. a shallower angle and higher speed) so that there is energy in hand to adjust the aircraft's attitude and glide if engine problems are experienced. Furthermore, if touch-and-goes (or go-arounds) are to be

conducted, then it is good practice to run through a 'departures brief' eventualities TEM process when downwind to consider what options might be available if the engine were to fail.

As the reporter comments, glide performance is much reduced with a stopped engine compared to one that is idling (which is what is normally practiced), and so setting a familiar nose-down 'glide' attitude that has been practiced before might not be enough to maintain speed during the real thing; pilots should factor that into their considerations for engine-failure options. We also strongly agree with the comment that changing fuel tank selections during circuits is almost certainly not advisable (subject of course to any aircraft-specific POH statements) because it leaves open the possibility of leaving the fuel selector in the wrong position by mistake – the main tank is normally the one to use in the visual circuit.

Finally, it is disappointing to read that people at the airfield had reportedly not better assisted the mishap pilot after their experience. Aviation is a collective endeavour and we all owe it to others to be supportive in such circumstances irrespective of how we might perceive the situation had unfolded.

Key Issues

The following 'Dirty Dozen' Human Factors elements were a key part of the CHIRP discussions about this report and are intended to provide food for thought when considering aspects that might be pertinent in similar circumstances.

- **Stress** – limited time to react following the engine failure after take-off.
- **Awareness** – airspeed not checked during the glide.
- **Knowledge** – understanding of reduced aircraft performance with the engine stopped; fuel management in the circuit.
- **Complacency** – did not consider the implications of conducting a touch-and-go as opposed to a go-around on a relatively short runway.

stressStress

loss_of_awarenessAwareness

lack_of_knowledgeKnowledge

complacencyComplacency



