



# RUNWAY EXCURSIONS: A CASE FOR SERIAL FLYING

BY DICK ROCHFORT, ATP, CFII MASTER INSTRUCTOR

NTSB Identification: WPR12LA261  
 14 CFR Part 91: General Aviation  
 Accident occurred Monday, June 04, 2012, in  
 Cameron Park, Calif.  
 Aircraft: PIPER AIRCRAFT INC PA46R-350T,  
 registration: N488EA  
 Injuries: 1 uninjured.

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On June 4, about 1830 Pacific daylight time, a Piper PA-46R-350T, N488EA, experienced a collapse of the nose landing gear at Cameron Airpark, Cameron Park, Calif.

The private pilot, who was the sole occupant, was not injured, but the airplane, which was owned and operated by the pilot, sustained substantial damage. The 14 Code

of Federal Regulations Part 91 personal transportation flight, which departed Palo Alto Airport, Palo Alto, Calif., about 45 minutes prior to the accident, was being operated in visual meteorological conditions. No flight plan had been filed.

According to the pilot, he made a normal, uneventful landing but, during the landing roll, the airplane's nose landing gear collapsed. After the collapse of the nose gear, the airplane departed the runway and encountered soft terrain. According to the Federal Aviation Inspector who responded to the scene, a part of the gear actuation and support system had separated

from the engine mount, whereupon it came in contact with the firewall, resulting in substantial damage. The airplane has been recovered to an on-field maintenance shop where it will undergo further examination.

As of this writing, it has been over a year since the last fatal PA-46 accident. However, serious accidents of the non-fatal kind have continued unabated. I am aware of this because each quarter there is at least one new accident for discussion in this article.

I have had the opportunity to review in detail several PA-46 accidents like this one on behalf of the courts in several states and I would like to share some observations. First, none of these accidents seem to have one cause, but each one seems to have a precipitating event. Second, an accident free landing is more likely when the pilot has conducted a proper preflight inspection including verification of tire pressure and the condition of the nose landing gear tire, wheel, strut assembly. There is a fairly easy and effective way to accomplish this: Put your foot on top of the nose tire and push as if you were trying to roll the tire aft. There should not be any fore/aft play in the strut, also when you taxi check for free play in the rudder pedals. There should be no looseness or tendency for the pedals to move independently with no corresponding turning of the tire and movement of the nose. Chapter 8 of your POH lends an additional bit of advice which can help you discover an abnormal condition. It says that when the nose wheel/tire is straight the rudder pedals should be even with one another and the rudder surface should be deflected 2 degrees to the right. I don't bring a protractor to the preflight but I routinely make this observation because any large deviation could mean that there is tow damage to the rudder-steering mechanism in the nose wheel bay. Any looseness or other discrepancies in this area is a setup for a loss of control accident. Third, even weight distribution from front to rear during the landing rollout is very important on the PA-46 for lateral control, particularly in a crosswind. Since the rudder and elevator lose effectiveness rapidly



during the roll-out it is important to lower the nose promptly/gently and use back pressure with the brakes (and beta if you have it) in order to get to taxi speed as quickly as practicable.

Some pilots have complained about lack of stability in the yaw axis after touchdown. The PA-46 wing is long and it is a wet wing design. When fuel sloshes in the wing, it is possible for the unsuspecting pilot to over control the aircraft, inadvertently creating an increasing oscillation with alternating rudder inputs. This can lead to a ground loop, especially if the aircraft weight distribution is too far forward and/or there are unresolved maintenance discrepancies on the nose wheel/tire/strut assembly. Crosswinds, rudder over-control and excess airspeed contribute to this tendency and an under inflated nose tire will definitely make matters worse by increasing the tire's coefficient of friction.

Brakes are not effective when the nose wheel is held off or when the aircraft weight distribution is too far forward. If you feel a need to favor the nose gear during landing by holding it off with back pressure, it could be that you are not confident that your aircraft is mechanically sound. If this is the case, consider getting it inspected and repaired by an experienced type-specific mechanic before you fly. Practice take-offs and landings (full stop only) under the supervision of an experienced type-specific flight instructor so that you can gain the appropriate level of confidence quickly.

It would be a great relief to us all if we could infer that there was only one causal factor for each accident; preferably one which did not implicate pilot error. This never seems to be the case. We all know good, experienced pilots who have been involved in an accident yet some fly tens of thousands of hours without so much as a close call. I wonder if some pilots are just lucky, or even immune. I doubt it. Improper technique and/or deferred maintenance are the most likely causes of this type of accident.

Pilots, like all human beings, can only do one thing at a time, so why not choose the one best way. I recommend that you always use a procedural approach any time you fly; Land at the proper speed, use trim in the flare to reduce the tendency to over-control in the pitch, lower the nose wheel promptly/gently and use back pressure on the yoke with brakes after the nose wheel is down so as to get to taxi speed as quickly as practicable. If an oscillation occurs, first press hard on both rudder pedals (not the brakes) to dampen the oscillation, then make the gentle correction. Do it the same way each and every time to build your muscle memory. Vary the aggressiveness depending on the conditions.

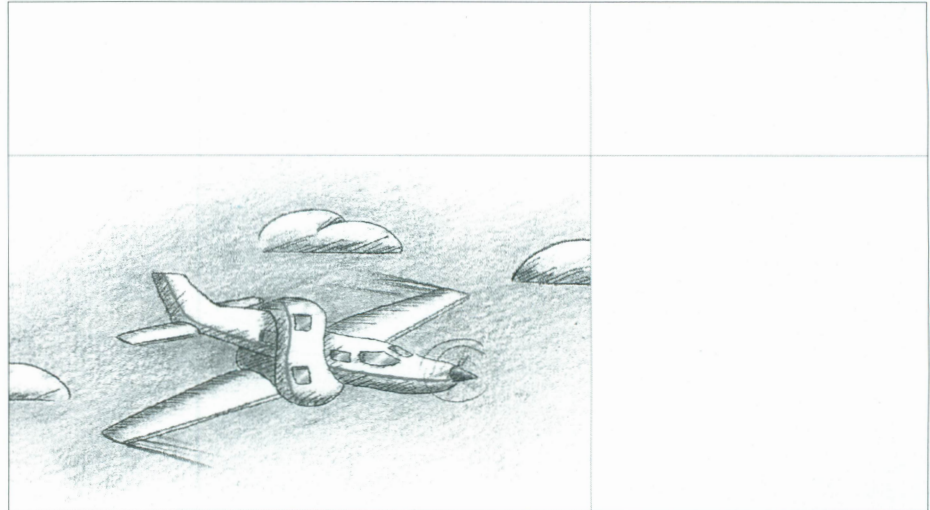
I believe we should endeavor to reduce the number and severity of PA-46 accidents one flight at a time on each and every flight. According to FAA Program Manager Fred Kaiser, we need to find and focus on the most professional way to accomplish each task during the flight and do it the same way each and every time.

When I consider other organizations that have been successful at safety management I see a common thread. All have a high degree of procedural discipline and all operate serially; one thing at a time, same way each and every time. Training is a two way street. Your pilot trainer should provide a framework of type-specific checklists, flows, memory items and Standard Operating Procedures. In return, you should develop the procedural discipline to use this framework consistently. Excellent training doesn't cost any more or take any longer.

Here are links to some demonstration videos you may find helpful:  
[RWRPilotTraining.com/skills-techniques.html](http://RWRPilotTraining.com/skills-techniques.html)  
[RWRPilotTraining.com/safety-training.html](http://RWRPilotTraining.com/safety-training.html)



**Dick Rochfort is a full-time Master Certified Flight Instructor providing type-specific, insurance-approved initial, recurrent and instructor standardization training, buyer consulting, relocation and expert witness services exclusively to Piper PA-46 owners, pilots and instructors worldwide.**



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Mark Vaughan [mvaughan@airsure.com](mailto:mvaughan@airsure.com) 720.746.3279 direct  
 Jay Kennedy [jkennedy@airsure.com](mailto:jkennedy@airsure.com) 720.746.3276 direct  
 Dallas. 972.980.0800 Denver. 303.526.5300 [w.airsure.com](http://w.airsure.com)