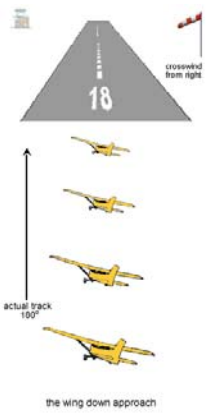
Redstone Arsenal Flying Activity Monthly Newsletter

Redstone Arsenal Flying Activity

ISSUE 2-2006
February 2006

Crosswind Landings and Risk Assessment

The pilot awoke on a cold and blustery February morning anticipating his upcoming flight in an airplane in which he had just been checked out. Only a few months earlier he had earned his private pilot certificate in a Piper Warrior. Until this point, all of his flying had been done in that make and model of aircraft. He decided it would be fun to fly something else, so when a Cessna 172 became available at the flight school he jumped at the chance to get checked out in it.



the wing down approach

This flight would be his second hop in the Cessna, so he was still getting familiar with the layout of the cockpit and the handling characteristics of the airplane. He made a quick phone call to the airport before leaving the house and found that the winds were blowing at a brisk 17 knots. With only 70 hours in his logbook, this should have been a red flag to him, since his crosswind landing skills at this point were only marginal. However, he had been looking forward to this flight for a couple of weeks, so he discounted the winds and headed for the airport.

When he arrived at the airport he was a little surprised to see how much snow there was near the edges of the runway and taxiway. As he stepped out of his car and walked toward the FBO he heard a little voice in his head trying to convince him that this was a day he should leave to more experienced pilots. However, he was determined to fly, so he pressed on with his plans.

Inside the FBO, he contacted flight service for a standard briefing. Everything sounded great except for the gusty winds and possible moderate turbulence. Again, that little voice kept saying to him that this was not the best day for him to be flying and that he should probably wait and go another day. Perhaps, he thought, he should check to see if an instructor was available for some crosswind landing practice. He walked to the front desk to inquire about the availability of an instructor. All of the flight school's pilots were busy. Just at that moment, the owner of the flight school walked by and he casually mentioned to him my concern about the winds. He, being a much more experienced pilot than him, said they were not bad and he should have no problem with them. Well, not bad to an experienced pilot and not bad to him were two different things. He should have realized that, but he was determined to launch and his encouragement was all it took.

Trying to ignore that persistent little voice in his head, he walked out the back of the FBO toward the Cessna for the preflight. The winds were definitely brisk, and throughout the preflight he had a sinking feeling he should call off the flight. Why didn't he just stop and head back to the FBO? He thought part of the reason was that he didn't want to look like a wimp. After all, he was a certificated private pilot. Surely, he could handle it. Taxiing from the ramp to the runway he took a good look at how close the snow banks were to the edge of the runway and concluded that today was not a day when one could let the plane drift much off the centerline during landing.

The wings of the 172 dipped left and right as I went through the checklist during the run-up. After completing the run up, he took one last look around the cockpit to try to familiarize myself again with the layout.

Everything was fine until the airplane leapt into the air. The second the wheels left terra firma he knew he should have stayed home that day. The air was so turbulent he nearly smacked his head on the ceiling, even though he had his lap belt and shoulder harness fastened. Once he was at a safe altitude, he tried to gather his wits and come up with a plan of action. He decided to climb to a higher altitude in search of calmer air so he could think through the situation and become a little more familiar with the airplane.

Unfortunately for him, He couldn't find smoother air. No matter where he flew, the turbulent air bumped and jostled the little 172 over and over again. In a mild panic, he turned the airplane toward the airport and tried to remember all the correct speeds.

He turned downwind and tried to fly as close to the pattern altitude as he could. Everything seemed to be happening so fast. When he was abeam the numbers he reached between the seats to lower the flaps. Then he remembered the flap switch was somewhere on the panel. He reached for the switch and just as he (continued on Page 4)

NEW AIRCRAFT FOR REDSTONE FLYING ACTIVITY

N5697E: On Friday, our Chief Instructor Bob Scheppler, CFI Ted Stokes and Maintenance Manager Derek Romine went to Madison MS to look at a aircraft for the Flying Activity. It is a 1978 Cessna 172 (TTA: 2580) with a 160 HP Lycoming engine (390 SMOH). It has 24 gal tanks and a useful load of 787 lbs. This aircraft at the present time has Cessna radios which will be upgraded to a full Garmin package should this purchase be completed. We will keep you updated.

Business Manager's Corner

Tim Thompson

Business Manager

- Effective 1 February, the FAA Flight Tests here at the Flying Activity will cost $90.00. This is not a increase on our part, but that of the Laser Grade Testing Facility.

- **Checking your flight currency and Billing Information:** Just a reminder, you can go on line and check your billing and flight currency information by logging in to the aircraft scheduler and clicking on Display Charges or Check Currency.

IFR Kits

- IFR kits will no longer be available. The costs for maintaining them has become prohibitive, however, we will be stocking a full array of Sectionals and Low Altitude Enroute Charts, Terminal Area Charts and Instrument approach procedures for the surrounding areas and as always they will be sold tax free. **See Article on Page 5.**

- **Redstone Flying Activity Advisory Council**

The Flying Activity will soon stand-up an Advisory Council for the purpose of providing senior aviation advice and recommendations to management. Duties of the Council will include assessing needs for Activity improvements, providing guidance in areas such as aircraft maintenance, flight operations, and safety, and addressing member concerns and suggestions. Recommendations will be submitted to the Activity, MWR, and Garrison management for review, as appropriate.

Council members will be representative of the membership and consist of the following positions: President, Safety Officer, Maintenance Officer, Chief CFI, Assistant Chief CFIs, Secretary, Active Duty Representative, Retired Military Representative, DoD Civilian Representative, NASA Representative, Member at large

The position of President will be appointed by the Garrison Commander. The positions of Safety Officer, Maintenance Officer, Chief CFI, and Assistant Chief CFIs will be appointed by Redstone Flying Management. We are, however, soliciting nominations for the remaining six positions.

If you are interested in serving on the council or if you desire to nominate a member (with their concurrence), please drop the name into the suggestion box (located by the Instructor office). Provide the position nominated for along with current or pre-retirement job title if the position is a Representative. The deadline for nominations will be by close of business, 15 February 2006. The compiled list, with nominees in each of the six categories, will be disseminated via email back to all Activity members for a final vote. Following a 24 February final vote date, the complete Council membership will be announced in our March newsletter.

As our successful activity continues to grow and as we strive for future improvements, we feel strongly about the need for such an advisory group. Thanks for your participation and we look forward to your nominations.

Maintenance Manager's Corner

Derek Romine

A&P Mechanic

Maintenance Updates:

Piper Arrow N4884T: See the article under items of interest.

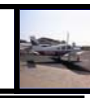
Aircraft Squawks: When aircraft squawks are repaired, the documented repair will be available to all in the flyaway books.

A few reminders concerning our aircraft:

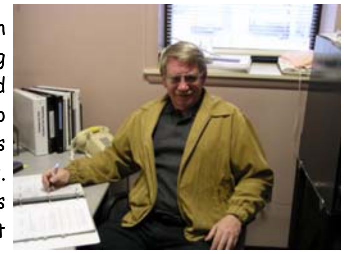
- **N35553** Someone exerted to much force on the Communications Swap Button on the GX 60, causing damge to the controller card inside the unit. Please be careful when pushing all Communications buttons because repairs are costly.

- **Nicks in Aircraft:** Nicks, dents, and cracks in all aircraft need to be reported right away. These things need to be patched and repaired before they become larger problems. If you have any questions concerning this please let me know.

- Please ensure that you use a tow bar for moving of aircraft and that the tow bars are properly stored in the aircraft or on the flight line by the fuel station. We have had an increasing number left on the flight line, or still attached to aircraft.



Chief Instructor's Corner



Bob Scheppler

Chief Flight Instructor

As you all know, flying airplanes is a group dependency effort. We rely on FSS and the NWS to brief us on weather expected both en-route and at our destination. We rely on ATC for traffic separation while flying en-route and at busier destinations. At less active airports we rely on ourselves to report our location and intentions through the use of CTAF. We rely on our A&Ps to keep the aircraft in airworthy condition, and up to date with any required inspections. Prior to engine start-up we have reviewed the current and previous squawk lists (now in the flyaway books), and of course we do a thorough preflight examination of the aircraft. But there's still one element missing in this equation. After securing the aircraft at the end of a flight it is our duty to report any discrepancies, malfunctions, or new damage to the aircraft we were flying. In the last month we have suffered unreported damage to N35553's prop spinner and set knob on the DG, and N29RM's right wing tip from apparent contact with a fixed object on the ground. Reporting incidents of this nature is not only a required obligation; it's the final step of the group dependency effort we all rely on every time we fly. So when you return an airplane please give it good looking over before you check it in and make note of any problems.

CFI's Corner: Runway Incursions

Dan Malcolm

CFI, CFII

Congratulations. You have proven your mettle and a Designated Pilot Examiner (remember Clyde or Joey or Judd?) gave you your temporary private pilot certificate and told you it was 'license to learn'. They were correct of course. That PPL is a license to learn, and most us have learned a lot since the ink dried. Perhaps we've earned an Instrument ticket or just enjoyed various $100 hamburgers. So by now you have a couple hundred hours in the logbook and 70 or 80 of those are cross-country. You are beginning to relax and enjoy flying. After all you are becoming an experienced pilot, and you know that experience has given you the ability to fly safely, right? Well hold onto your socks. You are approaching some of the most dangerous flying you will ever do! What's that you say? Dangerous? Me? I attend safety meetings, and fly refresher with my instructor and think safety. So why am I dangerous? We if you do those things chances are very high you will survive this dangerous time. This is the time discussed in the book "The Killing Zone" by Paul A. Craig. It seems the most dangerous time to a general aviation pilot is those hours between 50 and 350 hours. Hey you're most of the way through. Congratulations. Why 50 hours? Most pilots get their certificate between 50 and 70 hours. Before that they were students. Statistically that's one of the safest periods to fly. For sure there are accidents and fatalities during primary training, but chances are better that you'll be struck by a falling meteor. Why 350? Statistically that's the experience level where accident rates drop off and then gradually decline. What causes the high accident rate during the 'Killing Zone' period? Probably the first reason is inexperience. It is axiomatic in that inexperience kills. What other reasons can there be? There is no simple answer. Many factors go into it, and I won't cover them all here. But there are a couple that I will cover, because I consider them at least as dangerous as inexperience and perhaps more so. Bad attitude (I don't need no stinking' checklist) and complacency (I remember the checklist well enough).

How do I recognize a bad attitude you ask? Good question. The bad attitude I'm talking about, has also been called a macho attitude. This is the one where you begin to think you've got a firm hand on the situation and don't really need to pay attention. If you catch yourself thinking that the preflight check is for newbie's, or that you can handle that level 5 thunderstorm on your way to Pell City for lunch, then maybe you need an altitude check. In order to fly effectively we all need to feel confident. But that can lead to feeling macho about it (yes, you too ladies). We have to guard against allowing confidence to grow into overconfidence.

How about complacency? That may be even more dangerous. You run the preflight checklist, but do it from memory without at least double checking your memory. It's my plane (those of us lucky enough to have them) and I know I filled it up last flight or maybe the one before that, and I'm just going to Birmingham. I've got plenty fuel, and the weather looks good here. Those rumblings to south are just false thunder. Why I've done this a couple dozen times without a problem, so why should I have one now? That last sentence needs consideration because it causes complacency to seem justified. Just because you've gotten away with an unsafe act doesn't mean you'll continue to get away with it.

We must guard against those two killers. We are all tempted at times to take short cuts. Don't do it. We are all susceptible to being overconfident. Keep in mind that most of the rules in the FAR's written in blood and so were most of the checklist items. Some of that blood may have belonged to friends or family members. Wouldn't it be a shame if their sacrifice didn't make it better for us? Of course we could just give up flying (yeah, right). Most worthwhile endeavors in life contain elements of danger. But with some skill and insight, arrived at through training and experience, we can reduce the danger to an acceptable level.

Those of you who fly regularly, take refresher flights with your favorite instructor, attend the safety lectures and are pro-active with safety are exceedingly likely to survive the killing zone and be that part of the stats that push the accident/fatality numbers down. If you don't do those things, perhaps you should consider them. Think of your family and friends.

Flight Accomplishments Corner

Stephen Poniatoski– 1st Solo

27 Jan 06– CFI Scott McManus

Susan Lenhard 1st Sol0

15 Sep 05– CFI Lionel Barthelemy (Bart)

Jason Willis—Instrument Rating

15 Jan 06– CFI Ed Myszka

I. UNITED STATES OF AMERICA XI.
Department of Transportation — Federal Aviation Administration
THIS CERTIFIES THAT IV. ANN MILLER
482944837 V. 1219 S GRANT ST
KANSAS CITY, KS 66109

DATE OF BIRTH	HEIGHT	WEIGHT	HAIR	EYES	SEX	NATIONALITY VI.
19 AUG 1974	67	120	BROWN	BROWN	F	USA

IX. HAS BEEN FOUND TO BE PROPERLY QUALIFIED TO EXERCISE THE PRIVILEGES OF
II. PRIVATE PILOT III. CERT. NO.
RATINGS AND LIMITATIONS
XII.
XIII.
VII. SIGNATURE OF HOLDER X.
X. DATE OF ISSUE 03-26-92 VIII. ADMINISTRATOR

January Question of the Month Winner

January Question: On his flight to a new airport Capt. Joe, as he likes to call himself, over-flies the field and is confused with the four white stripes or hash marks he sees painted on the runway threshold. Had he been on top of things other than his ego, he would have known this indicates that the width of this runway is 60 ft wide. AIM, Para 2-3-3, Table 2-3-2.

The winner for the Question of the Month for January is:

JAMES RICE !!!!

grabbed it the plane lurched up and the flaps went to 40 degrees. The nose shot up and he struggled to keep the plane under control. He immediately retracted them to 10 degrees; however, the turbulence made the task difficult. He had a roaring tailwind on base and if he had been planning ahead a little better he would have anticipated the turn to final a lot sooner than he did. By the time he rolled out, he was lined up perfectly for the grocery store parking lot instead of his intended landing spot, Runway 23. He should have immediately decided to go around and try the approach again.

He wanted to get back on the ground so bad that he didn't do what he had been trained to do. So, instead, he struggled to get the airplane back on the extended centerline. By the time he had done that he was over the threshold, very fast and very high. Of course during all of the excitement, he had neglected to lower the flaps beyond 10 degrees. As he bounced in the air over the runway, he dumped the flaps and pushed the nose over. His crosswind correction was, well, not very correct, and the airplane drifted perilously close to the snowdrifts on the edge of the runway. He forced it on the ground well above the normal touchdown speed. Skipping and bumping, the airplane slowed until a gust of wind lifted the wings and he was back in the air once more. Again, the airplane drifted closer to the edge of the runway. Running through his head was a picture of the airplane striking the snow bank and flipping over.

He was able to gain control of the airplane after the second touchdown. He was really grateful all of this happened at the end of the runway that was blocked by hangars — He didn't think anyone saw what happened. This experience early in his flying career taught him a valuable lesson about listening to your inner voice. If you are not comfortable with something before a flight, examine the reasons why. Most of the time there is justification for the uneasiness. Know your abilities and know when to say no.

The most commonly taught crosswind landing technique is the cross-control, or wing-low landing. The pilot slips the airplane to the runway with just enough cross control to keep the aircraft aligned with the centerline. Remember that the ailerons control the airplane's lateral movement. Use them to counteract the downwind drift caused by the crosswind and put the airplane on the runway centerline. Use the rudder to align the airplane's longitudinal axis with the runway centerline - keep the nose pointed straight down the runway.

Remember that all control forces will change during the transition from final approach to the end of the roll out. Wind direction and speed often change with altitude, and the control deflections required to maneuver the aircraft will increase as the aircraft's speed decreases. In general, you'll need to increase the aileron and rudder deflection as the aircraft speed decreases. Don't release your control inputs once the wheels are on the runway. The wind still affects the airplane, and you need to use the appropriate control inputs all the way to the tie down.

A good way to practice crosswind landings is by making a series of low approaches to a long runway. For the first few, over fly the runway at approach speed, with perhaps the first notch of flaps. Using the ailerons, practice moving the aircraft from one side of the runway, to the centerline, to the other side of the runway (not too far!), and back to centerline. After a few passes, you should get the aileron control part down. On the next series of low passes, use the rudder to keep the nose parallel to the centerline as you maneuver the aircraft. Once you've got these basics down, you're ready to practice a full crosswind landing.

Downdrafts, Shears, and Gusts

Wind gusts, downdrafts, and wind shear often are part of a crosswind landing. These factors require a pilot to adjust his approach path, speed, configuration, and technique. For gusty conditions or wind shear, increase the approach speed by one half the gust factor, or one half the reported airspeed loss due to wind shear. If the wind is 8 gusting 20 knots, the gust factor is 12 knots, and you should add half the gust factor - 6 knots - to your normal approach speed. If other pilots report a 10-knot loss of airspeed on final due to wind shear, add half that loss - 5 knots - to your approach speed.

If you're landing in turbulent conditions, flying a steeper approach path may be a good idea. Terrain surrounding the runway causes turbulence sometimes, and a steeper approach will help you avoid this mechanical turbulence. Besides, having some extra altitude as you approach the runway can be a life saver if you encounter a downdraft or wind shear.

Finally, consider using less than full flaps when landing in a gusty crosswind. Remember, the headwind component reduces the airplane's ground speed accordingly, so you may not need full flaps to achieve a slow touchdown speed. Also, full flaps can make some aircraft more prone to weathervane (turning into the wind) or lifting a wing because of a wind gust.

Limits for Landing

One factor to consider when making a crosswind landing is the airplane's demonstrated crosswind capability, which is published in the pilots operating handbook (POH). Not a true "limitation" in the vein of VNE, for example, an airplane's demonstrated crosswind capability is the limit to which the manufacturer's test pilot flew the aircraft during the certification process. It is, however, a good, practical limit. To calculate a crosswind component, you must know the wind direction, speed, and runway heading. Using a crosswind component chart (Figure 1), follow the radial line that represents the angle between the wind direction and runway heading. Intersect the circular ring representing the wind speed, then follow a vertical line down to get the crosswind component. You should keep a crosswind component chart in the airplane or your flight bag, but if the chart isn't handy, here are some rough gauges. If the wind is 30 degrees off the nose, the crosswind component is half the total wind speed. If the wind is 50 degrees off, the crosswind component is roughly 75 percent of the wind speed. For 70 degrees, the crosswind component is about 90 percent of the wind speed.

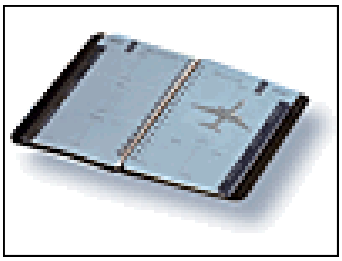
In a Pinch

When the crosswind exceeds your personal limits or the aircraft limits, your best option is to divert to an airport where the wind is more favorable. If this isn't an option and you have to land in a strong crosswind, remember that you don't have to land on the runway centerline. By slightly angling the aircraft across the runway, you can effectively reduce the crosswind component. However, this is not a technique for the new pilot. Unfortunately, crosswinds are a fact of life. By understanding the principles of crosswind landings and practicing the techniques, we can improve our odds of successfully accomplishing this sometimes ticklish task.

Upcoming events Corner

Flying Activity Cookouts: Just a reminder that each Saturday between 11:00 AM and 1:00 PM the Redstone Flying Activity cooks hamburgers and hotdogs for anyone wishing to partake.

Sales and Purchases: Reminder that there is a volunteer in the office between 9:00 AM and 2:00 PM on Saturdays. If you have a need to purchase equipment, charts, supplies, and t-shirts, they are available for sale.



Sun & Fun in Lakeland, Florida, Numerous events to include Safety Seminars, Aviation Express Lecture Series, Florida Air Museum etc. Event is from 4-10 April. You can sign up now. This is a very busy event and requires a bit of prior planning if you are going to fly in. So pull out the suntan lotion and enjoy a great event. For more information go to

http://www.sun-n-fun.org/content/.

Do The Right Thing—Decision Making for Pilots

Seminar: Lockheed Martin Auditorium - 17 April 2006 7:00-9:00 PM

4800 Bradford Drive Huntsville

Go to the following web address for more information:

http://www.aopa.org/asf/seminars/seminar.cfm#112

This is an invaluable seminar that is brought to you free from AOPA. It is the latest in the series of Safety Seminars provided by AOPA. I highly recommend that you attend if you can. Rob Lindstrom

IFR Charts and Approach Plates To Be Sold At The Flying Activity

Starting in February we'll be offering a full compliment of aviation charts for sale at the Flying Activity. They will include VFR Sectionals and Terminal Area Charts, as well as IFR Enroute Low Altitude and US Terminal Procedures (Approach Plates). These charts should cover a range of about 500 miles from Redstone. We will adjust the charts we stock as requests dictate. These charts will be sold at competitive prices and as always tax free.

The VFR wall planner is in the process of being updated and we'll also be adding an IFR planning chart very soon.

Would you be interested in a chart subscription service? Drop us an email or note in the suggestion box.

QUESTION OF THE MONTH

Well, Capt. Joe safely landed on the 60' wide runway and taxied onto the ramp hoping to figure out where he was. He couldn't locate the name of the airfield posted anywhere, but he did learn the airport identifier to be (D73). Since he never questions his own skills he felt the reason he became lost must rest with his VOR receiver being inaccurate. So after fueling up he looked up the listing of the closest VOR checkpoint from his present location and headed out to self check his equipment. Where should he have flown to and how should he have performed the VOR check when he arrived? (Hint: He's within the Atlanta sectional) Place your answer in the Suggestion Box for a chance to win $50.00 off any flight. Answer must be in no later than 26 February.

Redstone Arsenal Flying Activity

MISSION STATEMENT

To provide our members with affordable, high quality flight instruction, and a diverse fleet of rental aircraft which meet their local and cross-country flying needs, maintained to the highest safety standards in the industry.

GOAL

Our goal is to be the premier flight training facility in northern Alabama, and through professionalism, safety and customer satisfaction remain a model for military flying clubs throughout the world.

Redstone Arsenal Flying Activity

The Redstone Flying Activity Newsletter is published by the Redstone Flying Activity, an MWR Activity. Opinions expressed by writers herein are their own and are not considered an expression by the Department of the Army. The appearance of advertisements in this publication, to include inserts and supplements do not constitute an endorsement by the Department of the Army or the products or services advertised within this publication. The Redstone Flying activity Newsletter is distributed free of cost to all members of the Redstone Flying Activity and

Items of Interest Corner

For Sale:

Piper Cub: The Piper Cub goes on Sale **13-20 February** on **EBAY**. If you are interested in bidding here is a picture for you.

Update on N4884T

As all of you have been aware N4884T has been down for a number of months. Over the past month and a half, one of

our CFI's/A&P, Ted Stokes, has been working on this aircraft virtually every weekend. At this point the wings are in final stages of repair, and the landing gear has been sent out for inspection and returned in serviceable condition. Repairs should be completed, and final inspections accomplished by mid march, so that the aircraft can be returned to service for the enjoyment of all of our members.

NOTAM Awareness:

Make sure that you check NOTAMS at https://www.notams.jcs.mil/. This service is provided to ensure that you can read all published NOTAMS that are available for your flight. REMINDER!! You still need to get

current NOTAM information from your flight briefing prior to your flight. This site provides NOTAM information that would not normally be given in the briefing. **You need to specifically check the following: KHUA, R2104A, and R2104C**

RAFA MEMBERS DISCUSSION FORUM

Thanks to all who have registered on the RAFA Members' Discussion Forum. Some useful discussion has been going on, more members are needed.

Instructors, please encourage your students to sign up. When you sign up, please use a user name that is your real name or a recognizable abbreviation of it. I have to verify your RAFA membership status. The forum is private, limited to RAFA members and not accessible by the general public.

I will be gone for an extended period and will appoint an alternate forum administrator to act in my absence. See the Announcements section of the forum, where I will post the information when I have it.

Stan Prevost

Forum Administrator

http:/aviation.sprevost.net/phpBB2/index.php

Please use the "Register" function at the top of the screen

Items for Sale: If you have any aviation items that you wish to sell in this newsletter please let us know.

The **Quarterly Safety Meeting** has been tentatively scheduled for 16 March: We are attempting to schedule the controllers from the Redstone Tower to come and talk to us about how we are doing, what they can do for us and what we can do for them. Next months newsletter will have all of this information firmed up.

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MWR's Premier Flying Activity