



# HANGAR TALK



Newsletter of The North Puget Sound Chapter of The Washington Pilot's Association. October 2007

## FROM THE PRESIDENT'S HANGAR

Paul Zosel and I had a nice flight to Felts Field on Saturday September 22 for the WPA Board Meeting. It was a beautiful day, and almost cloudless once we were over the Cascades. Felts Field is in

a wonderful location along the river and with a lot of general aviation activity.

John Dobson called the meeting to order at

11:00 and we covered a number of topics. This short note will hit some of the critical aspects in regards to the North Sound Chapter. First, WPA chapters and the State WPA have had a steep decline in membership over the last three years. Overall membership loss has been greater than 35 percent, sharply reducing income. To buck this trend there will be a number of recruitment efforts, including mailings and efforts to contact past members. The mission statement "To advance the interests of General Aviation in Washington State through Advocacy, Outreach, Education and Social Activities" will be a major theme of this effort.

A major accomplishment of the State WPA has been the establishment of a membership services web page. This webpage will allow Chapter Treasurers to track dues payments, addresses and other information. Members of WPA will also be able to update there membership information in the near future. The features of the new page will certainly expedite dues payment and dramatically

reduce the time that the Treasurer spends on membership activities.

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### ***"Member services web page"***

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I was certainly impressed with the goals of the

Statewide Officers and the improvements in the communication tools of the association. October and November are the months for renewal of chapter memberships. In November we will be holding a special chapter meeting to encourage new members and renewals, stay tuned.

Fly safe

Wayne Landis



Take a deep breath while standing outside and you will no doubt sense the cold cutting air of October. Yes, it's the magical

time of year again where two jackets, a good pair of mittens, and a cup of coffee or hot chocolate is a must. As the crisp air begins to chill our bodies it would appear that general aviation is

cooling towards the deep freeze of the winter as well. As the fair weather weekend flyers disappear so does the FBO's supply of coffee as the couch cushions seem to be the only thing that remains consistently warm. There is no stopping the winter from arriving on time, but we can all hope unlike last year Bellingham International does not get as badly abused by the winds, rain and snow.

Despite the inevitable onset of slower business as winter arrives, nobody will be hibernating at Bellingham Fuel Service. The slower season always seems to be a great opportunity to update and regroup on all of the things that get overlooked in the hustle and bustle of summer. With the help

of a graphic designer, we will be updating, remodeling and improving the look of our website, making it more informative and accessible.

We recently had a bit of a turnover in our line service personnel, as many are now off to exciting new adventures. Chris White headed off to Costa Rica to a study abroad program through Western Washington University. Devin Pashke is now in Germany with an engineering internship. Cale McCulloch headed back to Western Washington University as a full-time student and track participant. We do have a new employee, Chris Van Wick. His face may seem a bit familiar if you've ever made the long trip to Bremerton International, as he comes to us with line experience from Avian Flight Center. He is a great member of our team, and hopes to continue his flying lessons on toward commercial while he is here.

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***"improving  
the look of  
our  
website"***

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At Bellingham Aero Flight School the return of Cessna N10077 is a celebrated occasion. Its month long vacation in Sequim proved to be some well deserved time off. The red and white Cessna 150 has returned with an improved tail section, two new cylinders, and soon to be

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**Bellingham Aero**



## FBO News

### Bellingham Aviation Services

Bellingham Aviation Services (BAS). Well it seems like September just flew by at BAS. The fog has started to roll in along with the rainy cold days. It seems that fall is here and winter is not too far behind.

Some good information here at BAS is that the mid-day markdown remains popular with our friends burning 100LL. If you're not familiar with this it is an ongoing daily promotion between 10am and 2pm where you get a 15-cent discount off the price of 100LL from the truck.

Our Cessna 172 continues to fly often and we're excited to see the progress made by our flight students. Our ground school classes started this month and are very popular. This weather also allows a lot of IFR training time. If getting an instrument rating has been something that you always wanted to get, stop by the office and we can set you up with one of our instrument instructors for some training. Or, if you would like to rent a great little 172 with a fresh factory remanufactured engine and a Garmin 430, stop by or give us a call. While the plane remains busy, we are usually able to find a space that will work for you.

If you have been putting off some aircraft maintenance because of the good weather, this is the time

to start thinking of getting the maintenance done. Bellingham Aviation Services has a maintenance and avionics shop that would love to give you a quote on winterizing your aircraft, 100hr, avionics upgrades, and oil changes. Just about anything you would need just stop by our hangar and chat with Scott, Marty, or Mike to see what we can do for you.

With the upcoming windy, rainy, cold days, remember BAS is here to help make sure your aircraft is safe. If you would like us to check the tie down ropes or just give you a status of the weather on the field don't be afraid to call. We are here for our customers.

That's all for now. I hope this finds you all well. Thanks for your friendship and patronage. Keep flying; and keep flying safely.

Jeff Eriksen

Bellingham Aviation Services



## TURNING ON THE GROUND

By Tim Holwinski

The factors involved in making an airplane, or anything else, turn on the ground are quite numerous:

**Wind:** Given a standard symmetrically designed airplane, wind will usually have the greatest effect on a taxiing aircraft.

**Asymmetrical Thrust:** This can have quite a pronounced effect on turning tendency. We usually taxi multiengine aircraft with more power from upwind engine. Sometimes the first engine that we start (when single-engine taxiing) is determined by the direction that we will be making our initial turn; this makes turning easier and requires less power and therefore makes it safer for those on the ramp area.

**Surface:** A tilted surface will cause a turn. The coarseness of the surface will also affect a turn; picture one tire on pavement while the other is on grass.

**Tire Wear and Pressure**

**Wheel Alignment**

**Asymmetrical Loading:** Is there more weight on one side of the aircraft?

**Brakes and Bearings:** If one side is causing more drag, then a turning tendency will be produced.

The factors listed above are by far the most important ones that you will deal with and will probably ever notice.

I believe that you are asking about a situation where all these factors are voided; that a mythical existence of a perfectly flat and even surface exists without any wind and you have a 100% symmetrical and perfect aircraft. The question then becomes: 'Does torque, slipstream, P-factor, and gyroscopic precession have any effect on a taxiing aircraft?' If that's your question, then I don't really have an answer, but what I can do is speculate. The simple answer is yes, if a force exists, then it has some corresponding effect. So, if any one of those forces exists, then it does have some effect. The magnitude of its effect is really the important part.

**Torque:** This is probably the most important one. I've heard anecdotal evidence of the fact that B-29 aircraft would have a tendency to track towards the left if all throttles were simultaneously advanced. That a common technique had been to start the takeoff with the airplane pointed somewhat towards the right side of the runway. This allowed an earlier throttle application as you took advantage of the left turning tendency. In spite of full right

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## TURNING ON THE GROUND

*Continued from previous page*

rudder from the beginning they were past 100 MPH before they were able to use full throttles on the right side. I'm sure pilots of P-51s and other very high-powered piston aircraft are aware of this fact. I know a few pilots and will ask about it as I don't really know since I've never flown, or taxied anything like that.

Seaplanes might also be more prone to this since there's little surface friction to counteract the force. I looked it up and I found very little mentioned on the subject because most of the top mentioned forces, and then some, are more relevant. I have driven air boats and I can't really remember if they displayed any type of turning tendencies. I've also had model air boats and I don't remember if they went one way or the other. Another option would be to inquire a pilot of Russian-built aircraft since their engines spin the other way. However, the overriding factor here is that you're talking about taxiing. That means low power settings and therefore, I believe, negligible torque.

Slipstream: Again, we're talking about low power and low speed, so I think this force has very little impact, if any.

P-factor: Unless you're going very fast and have some sort of pitch  $\neq$  0 degrees, then this force again is very small.

Gyroscopic Precession: Taxiing an aircraft is not going to cause any significant precession force to the left or right unless you're going up or down hill. As the airplane turns left or right, the precession force will be either up or down. This may cause more or less pressure on a nose-wheel depending on the direction of the turn. I can only imagine how insignificant of an effect this will have; you'd have to be on wet ice to maybe even possibly notice any difference.

If you had an electric model airplane on the space-shuttle and let it go, then these four forces will have a profound effect. But back here on Earth, I doubt you will ever notice them or be able to test them on a taxiing aircraft. Obviously pilots don't have any major difficulty in taxiing an aircraft due to torque, otherwise you would already know about it. The surface friction of tires and gravity are way too strong for torque to become a problem while taxiing. So, YES, the forces may or may not present, but the magnitude of them is insignificant. The (four) turning tendencies come into play during and after the take-off roll.

If you discover otherwise, I'd be glad to hear about it.  
Tim





## Bellingham Aero

*Continued from page 2*

reupholstered seating. N10077 is the flight schools best looking aircraft, so it's nice to have her back home.

Feel free to stop in at either of our offices, as they are always a great launching pad for all of your travels. If you do find that the weather has got you down, there will be endless supplies of coffee, cookies and plenty of airport bums for us to make it through just one more winter.

By: Matthew Monson and April Phillips



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# Washington Pilots Association North Sound Chapter



## **October Meeting Speaker**

**Allen Kam**  
**Aviation Focal Point/Liaison From**  
**"The National Weather Service"**

Presents:

### **"Interpreting Weather from the Cockpit"**

Learning to interpret the weather while in-flight and possibly determine how it might be changing.

Weather Theory, essentially how air changes (temperature, moisture, and stability) as it moves around in the atmosphere. Lots and lots of cloud images to learn how clouds can indicate what the atmosphere is doing. Also, how important it is to get good background weather information before flying, and how to apply this inflight analysis to the pre-flight weather briefing. The seminar concludes with with six hypothetical cases where the audience is invited to apply their new knowledge.

**When: Thursday Oct. 11th. Doors open at 6:30pm**

**Time: 7:00pm**

**Where: Whatcom Educational Credit Union**

**511 East Holly St. Bellingham, WA**

**Plenty of Parking**

**Everyone and Anyone are welcome to attend.**



## North Sound Chapter WPA Control Tower

Hangar Talk Newsletter is the official publication of the North Sound Chapter of the W.P.A.

### PRESIDENT

Wayne Landis  
landiswg@comcast.net  
360-647-8206

### VICE PRESIDENT

Chip LaPlante  
kidkomet@comcast.net  
360-671-4359

### SECRETARY

Don Lunt  
drlunt@juno.com

### TREASURER

Paul Zosel  
360-671-1819  
paulzosel@nas.com

### DIRECTORS

Doug Fenton

Maureen Griggs  
360-734-9013  
mgriggs9617@comcast.net

Martyn Harris  
mharris@bli-jet.com

### PROGRAM CHAIRPERSON

Maureen Griggs &  
Martine Hammonds  
360-734-9013  
mgriggs9617y@comcast.net

### NEWSLETTER EDITOR

Chip LaPlante  
360-671-4359  
kidkomet@comcast.net

### CONTRIBUTING EDITORS

Wayne Landis, Jeff Erikson  
Apri Phillips Mat Munson Tim Holwinski  
and just about anyone willing to help!

*Deadline for the next issue is  
Wednesday, October 31st.*

### WEBSITE

STATE <http://www.wpaflys.org>

LOCAL [http://www.wpaflys.org/Chapters/  
North\\_Sound.htm](http://www.wpaflys.org/Chapters/North_Sound.htm)

Articles for submission can be either e-mailed to:  
kidkomet@comcast.net  
Or sent c/o:  
HANGAR TALK  
3128 Alderwood Ave.  
Bellingham, WA 98225

## JOIN NOW

Join your fellow pilots and aviation enthusiasts. Become a member of the North Sound Chapter of the Washington Pilots' Association. The North Sound Chapter represents members from Whatcom, Skagit, and San Juan Counties. To be a member, you need not be a pilot but only have an interest in and promote general aviation.

name (last, first, middle initial)

spouse if applicable (last, first, middle initial)

address (street, apartment number)

city

state

zip

phone number

email address

The \$31 Chapter dues are comprised of \$19 State and \$12 Local dues. Active CFIs are charged \$1 for State dues. Soloed student pilots receive first year State dues at no charge. Also offered, on a voluntary basis, is a year subscription to the GA News for \$25.

### STATE DUES

\_\_\_\_\_ \$19 STANDARD

\_\_\_\_\_ \$1 ACTIVE CFI

\_\_\_\_\_ n/a SOLOED STUDENT

### LOCAL DUES

\_\_\_\_\_ \$12 ALL

### GA NEWS

\_\_\_\_\_ \$25 VOLUNTARY

### TOTAL ENCLOSED

\_\_\_\_\_

Please mail completed form and check (payable to North Sound WPA) to Paul Zosel, North Sound Chapter WPA Treasurer, 2719 Willow Lane, Bellingham, WA, 98226.





## **SPONSORS**

The Hangar Talk Newsletter Mails out 100 Plus copies each month. Most of these copies, of course, go to members of the North Sound Chapter of the Washington Pilots Association. However there are numerous copies mailed to interested persons and companies outside the membership. Some copies go to the State entities such as the State WPA President and editor of the Wings publication. We believe the Hangar Talk reaches a surprising number of people.

We wish to offer to all interested persons and businesses to advertise their services in Hangar Talk. A sum of \$50 will purchase a year (10 issues) of business card advertising. Please send a check payable to North Sound WPA and a business card to Paul Zosel, North Sound Chapter WPA Treasurer, 2719 Willow Lane, Bellingham, WA, 98226.

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