



Local Chapters under  
[www.WPAFlys.org](http://www.WPAFlys.org)

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## Calendar of Chapter Events

Jan 5th Board Mtg  
Jan 6th PAE Airport Issues  
Jan 28th ADS-B Seminar

Feb 2nd Board Mtg  
Feb 3rd General Mtg  
Feb 20th WPA State Mtg

Sno Isle Le Bistro  
9001 Airport Road  
Everett, WA 98208

Doors open at 6:30 P.M.  
RSVP required for \$15 Dinner  
by Jan 1st  
RSVP instructions on last  
page

## President's Message *by Rich Jones*

### WPA Paine Chapter Christmas Party at the Future of Flight

Our Paine Field Chapter ended the year on a high note with the best attended Christmas Party we have had in many years. The silent auction succeeded well beyond our hopes with over \$5,700 taken in! With this money and other contributions pledged by our members we should have about \$8,000 in scholarships to award next year. This was made possible by donations from both corporate sponsors and our members. Look for more on this in the pages that follow.

### ADS-B in 2020 and the case for 1090ES Transponders

You may recall that in the November Newsletter I wrote about my own ADS-B decisions in getting to the 2020 mandate for ADS-B out. Yesterday I just ordered our second L-3 Lynx NGT-9000 for Stephanie's Skyhawk. I know that a lot of people are looking for the least expensive ADS-B Out solution which might be 978 Mhz UAT.

In the long run I don't see this as a good solution. I am sure some people are still wondering: Why do I need to keep my old (1090 Mhz) Mode C transponder if I am broadcasting ADS-B out on 978 Mhz UAT? I believe that there are a number of reasons for this:

#### TCAS (Traffic Collision Avoidance System)

All airliners, business jets and most turboprops and heavy twin engine aircraft are equipped with TCAS. The TCAS system actively interrogates the old Mode C transponders (broadcasting on 1090 Mhz) in their area much like the ATC radar does. This provides traffic information without the aid of any external services being available. So a business jet landing at an airport out in Podunk USA can see all of the traffic around the airport that has a Mode C transponder. There is nothing on the horizon that will replace TCAS at this point. This is why you will be stuck keeping your old 1090 Mhz Mode C transponder forever if you chose a 978 Mhz UAT ADS-B Out solution to meet the 2020 mandate. Someday your old 1090 Mhz transponder is going to die and you will need a new one. Good luck looking on eBay as you will not be able to buy a new one. The only new 1090 Mhz transponders that anyone will be manufacturing are the 1090ES ADS-B transponders. Installing one of these will make your 978 Mhz UAT ADS-B out solution irrelevant. At this point you will probably wish that you had just installed a 1090ES ADS-B transponder in the first place.

#### ADS-B System Weakness

Let's remember what ADS-B stands for: **A**utomatic **D**ependent **S**urveillance **B**roadcast. Your aircraft broadcasts your WAAS GPS position automatically. This position report (and other data) is picked up by nearby aircraft and FAA ADS-B towers. Now just think of the chaos a nefarious person could cause if they built and ADS-B out transmitter and drove their car within range of an ADS-B tower in Seattle. Now all they have to do is program some data streams that have airplanes flying all over the Class B airspace near SeaTac airport. The only way ATC will be able to sort out the real ADS-B targets from the fake ones is via interrogation of the 1090 or 1090ES transponders. If you understand how the ATC radar works then you will see that the 1090 or 1090ES transponder replies have to be real. There is not a way to fake them. This is yet another reason why 1090ES transponders are the future.

#### 1090ES ADS-B out is the international standard

The 1090ES (Extended Squinter) ADS-B transponder is the international standard. The US is the only place that a 978 Mhz UAT ADS-B Out solution has been accepted. So if you plan on flying to Canada, Mexico or any of the Caribbean islands in the future you will need a 1090ES ADS-B out solution.

#### Want to know more about ADS-B Equipment Options?

Mark down **Saturday, January 28, 2017** on your calendar. WPA will be putting on a seminar on ADS-B that will focus on the equipment options that are currently available. The options that will make the most sense to you will depend a lot on what you already have in your panel or plan to install and the kind of flying you do. After reviewing the basics of ADS-B we will discuss what is available, how much it costs and what the installations costs are.

This winter we will complete the 2020 ADS-B out mandate on Stephanie's Skyhawk (with an L-3 NGT-9000 1090ES transponder) and I am looking forward to another great year of flying! I hope to see the rest of you out enjoying the skies with us.





### January 6th General Meeting and Program:

Our Airport Director, Arif Ghose will give us an overview of what changes are in store for Paine Field over this coming year. It should be an enlightening presentation considering the ever-changing landscape of Boeing on the field over the years. Look forward to seeing everyone at the meeting at Sno-Isle.

*by John Stieber*

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**Past President Dave Wheeler**  
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### 2017 WPA Membership – Happy Holidays and Happy New Year

#### Want To Save On Avgas?

There are numerous reasons to considering renewing your Washington Pilots Association membership for 2017. We each have our own. One reason to renew some of us have in common is a fuel discount. Castle and Cooke, based on Paine Field, kindly offers WPA Paine Field Chapter members a 15 cent per gallon discount at their self-fueling station on Paine Field (KPAE), as well as the self-fueling station on Arlington Airport (KAWO). Members of record for 2017 as of February 28<sup>th</sup> will be eligible for the Castle and Cooke avgas fuel discount at both locations.

For those members new to this fuel discount program, the procedure to participate is simple. After early March visit the Castle and Cooke FBO office on Paine Field to register the credit card you wish to use for fuel purchases. This is best done during normal business hours Monday through Friday. Every time the registered credit card is used for fuel purchases the discount is automatically applied. If you have previously registered a credit card as a WPA-PAE member, it is not necessary to do so again.



Renewing is easy, simply go to [www.wpaflys.org](http://www.wpaflys.org) where on the right side in red click on “Join or Renew Online Today”. Questions or problems, just let me know.

Frank E. Hummel  
WPA Membership Director  
[Frankh909@gmail.com](mailto:Frankh909@gmail.com)  
(206) 499-9384

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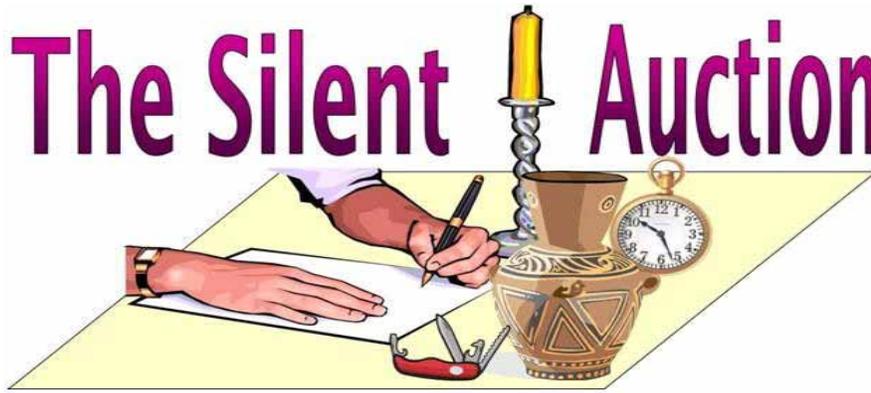
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Membership System Instructions

[Accessing the Membership System](#)

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# The Silent Auction



A big thanks to our corporate sponsors



And a big thanks to our individual contributors!

Alix Frazier TGIB Jewlery Showroom  
Jim Morgan  
Jim Fries  
Mike Pelletteri  
David and Karen Reid

**Annual Chapter Christmas Party on December 2nd, 110 Tickets Sold**

*Photos by Greg Bell*





The Silent Auction, \$5,700 raised for Scholarships

Thanks to Dynon for providing free hats!



2017 PAE Chapter of WPA Board of Directors

President Rich Jones welcomes all to the 2016 Christmas party, thanks last year's Board Members for their service and introduces the 2017 Board Members



Frank Hummel Announces 2016 Awards



Kevin Kelly Pilot of the Year

Snohomish County Airport Sponsor of the Year, accepted by Bruce Fisher, Deputy Director Operations

Richard Jones Sparkplug of the Year



# ADS-B Seminar on Jan 28th, 10 AM

## Location: Airport Lobby Conference Room

ADS-B Seminar – January 28, 2017 – Hosted by Washington Pilots Association (WPA)

An ADS-B seminar/forum, hosted by WPA Paine Chapter, will be held at the Paine Field Airport Office Conference Room at 10:00am on Saturday, January 28.

The seminar will begin with a refresher on how ADS-B IN/OUT works and then an open forum discussion of the various equipment options available for meeting the FAA ADS-B out mandate in January 2020.

This will be a great learning opportunity for those who are currently exploring the ADS-B equipment options. Your best options may depend on what you already have installed in your aircraft. The pros and cons of equipment offerings from major suppliers (e.g. L-3 Lynx, Garmin, Avidyne, Stratus, King, SANDIA and Trig) will be discussed.

Registration instructions will be emailed to WPA Paine Chapter members as soon as the FAA Wings event is listed in January. Seating is limited to 40 people, so those who want to attend need to reserve their seat by registering for this free event on the FAA website.

Other pilots who receive email from FAASafety.gov on upcoming WINGS seminars will also be advised of this seminar, so don't delay to register promptly.

This seminar will be conducted by Richard Jones and George Futas, both having implemented ADS-B solutions in their airplanes.

### Samples of ADS-B Equipment Options

photos not to scale

- L-3 Lynx NGT-9000 (\$4,990)
- Garmin GTX345 w/GPS (\$5,095)
- Garmin GTX335 w/GPS (\$3,375)
- Stratus ESG (\$2,995/\$3,495)
- King KT-74 (\$2,575)
- Trig's TT31 (\$2,475)
- RANGR Lite FDL-978-TXL \$1,995)
- RANGR FDL-978-XVR/G (\$3,849)
- STX 360 Sentinel (\$2,995)





E-mail your reservation to [wpa.painedinner@hotmail.com](mailto:wpa.painedinner@hotmail.com)  
January 6th at Le Bistro

Jan 6th Program: Paine Field Airport Issues

**Feb 3rd Progm:** Dixon Smith. He will talk about the development of the Rolls Merlin engine. Dix is not just a person that talks about the power plant which was made famous in the P-51, but will talk about the powerplants development in Unlimited Hydroplane race boats.

## CLASSIFIED ADS

submissions to [Pink.Bonanza@frontier.com](mailto:Pink.Bonanza@frontier.com)

Advertisements are free to WPA members for aviation related items and/or services

Space limitations will give priority to Chapter members

Paid advertising is available for non-aviation ads in the state WPA WINGS newspaper

### For Sale 1979 Cessna 152II

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