



Flightlines

Oregon Department
of Aviation

Fall 2006

From the Director

Robert W. Hidley, A.A.E.

Before we said that ADS-B is coming to Oregon; well, now it's almost here! FAA contractors have been busy wiring and placing antennas in Salem, Eugene and Medford. The first three ground stations should be operational in a few weeks. We're working with Sensis Corporation, who received a *ConnectOregon* grant for six additional stations to be located near North Bend, Redmond, Burns, Ontario, Pendleton and John Day. Each station provides, depending upon terrain, and aircraft altitude approximately 110 NM radius coverage. These nine stations will give very good coverage throughout Oregon. By the middle of 2008 the FAA will locate additional ground stations in California which will augment our coverage. Later, more stations will be located in Washington, Idaho and Nevada completing Oregon coverage.

Nationwide deployment of ADS-B is scheduled to be complete by 2012 with mandatory installation of required aircraft avionics by 2014 for commercial aircraft and 2020 for all aircraft utilizing the national airspace system.

We are part of the FAA's Legacy Program which means that unlike other states yet to receive their ADS-B ground stations the FAA will assume ownership and maintenance of our stations in approximately three years. Not only will this save money but it will insure that the FAA will provide dual station coverage in case the primary ADS-B ground station fails. In return for being accepted into the Legacy Program we will report monthly, to the FAA regarding ADS-B usage and will encourage pilots to install ADS-B avionics in their aircraft. We will soon announce a program to provide assistance in purchasing avionics in return for pilots offering demo flights and reporting ADS-B capabilities in Oregon.

Following is an article that explains the operation of ADS-B. We will provide additional information soon and will have an avionics mock-up so you can actually view ADS-B in action real-time!



Inside this Issue

1. Introduction & SB 680
2. ADS-B
3. ADS-B Info & FAA Requirement
4. Nehalem Bay & Spot Light Article
5. Hall of Fame—Inductions
6. AWOS
7. AWOS Stations

Senate Bill 680

During Oregon's last legislative session Senate Bill 680 was adopted to establish a pilot program to foster economic development adjacent to rural airports by encouraging through the fence operations. We have completed rules and are currently developing a Through the Fence Operating Plan. We are mailing applications to all public Oregon airports to solicit interest in becoming part of the pilot program. The Aurora State airport was named in the bill and the State Aviation Board will select up to two additional airports. If you desire to have your airport participate in this program please talk to your local airport sponsor or call us for additional information. Contact the ODA office for an application.

Special Points of Interest:

ADS-B Coming to Oregon

SB 680 Application sent to Airports

FAA Requirement for GA Airports

ADS-B Creates a New Standard of Aviation Safety:

What is ADS-B?

ADS-B is the acronym for Automatic Dependent Surveillance - Broadcast—a new technology that allows pilots in the cockpit and air traffic controllers on the ground to "see" aircraft traffic with much more precision than has been possible before. ADS-B can make flying safer and can allow more efficient use of our airspace.



ADS-B-equipped aircraft broadcast their precise position, speed, and altitude via a digital datalink. ADS-B receivers that are integrated into the air traffic control system or installed aboard other aircraft provide users with an accurate depiction of real-time aviation traffic, both in the air and on the ground.

Unlike conventional radar, ADS-B works at low altitudes and on the ground so that it can be used to monitor traffic on the taxiways and runways of an airport. It's also effective in remote areas or in mountainous terrain where there is no radar coverage, or where radar coverage is limited.

One of the greatest benefits of ADS-B is its ability to provide the same real-time information to both pilots in aircraft cockpits and ground controllers, so that for the first time, they can both "see" the same data.

How does it work?

ADS-B relies on the satellite-based GPS system to determine an aircraft's precise location. The position data is combined with other information such as the type of aircraft, speed, altitude, and flight number. The information is converted into a digital message and broadcast via a radio transmitter.

Other aircraft and ground stations within about 150 miles receive the radio broadcasts and display the information in user-friendly format on a computer screen. Pilots in the cockpit see the traffic on a Cockpit Display of Traffic Information (CDTI). Controllers on the ground can see the ADS-B targets on their regular traffic display screen, along with other radar targets.



ADS-B ADVANTAGES

ADS-B technology is the cornerstone of future air traffic control systems. It will improve aviation safety by giving pilots in the cockpit and controllers on the ground reliable, accurate, real-time information about aviation traffic.

By using existing, proven, digital communications technology, ADS-B can be implemented rapidly for a relatively low cost.

ADS-B provides traffic information to pilots that is currently unavailable to them. Because the system has an effective range of more than 100 miles, ADS-B provides a much greater margin in which to implement conflict detection and resolution than is available with any other system.

Pilots and controllers using ADS-B data will be able to determine not only the position of conflicting traffic, but will clearly see the traffic's direction, speed, and relative altitude. As the conflicting traffic turns, accelerates, climbs, or descends, ADS-B will indicate the changes clearly and immediately.

ADS-B systems can further enhance aviation safety through features such as automatic traffic call-outs or warnings of imminent runway incursion.

ADS-B technology can be used in both aircraft and in ground vehicles. This will provide affordable, effective surveillance of all air and ground traffic, even on airport taxiways and runways, and in airspace where radar is ineffective or unavailable.

ADS-B can improve airport capacity, by allowing more efficient operations at airports that do not have radar service.

General aviation aircraft can use ADS-B to receive flight information services such as graphical weather depiction and textual flight advisories. In the past, these services have been unavailable or too expensive for widespread use in general aviation.

NEW FAA REQUIREMENT

Currently, General Aviation airports eligible for federal funding receive \$150,000 annual from the FAA regardless of size, number of operation, etc. The FAA is considering adopting a new procedure to fund airports utilizing the number of based aircraft. In anticipation of this change they are requiring airport sponsors to provide a list of all based aircraft including "N" number, aircraft make, model, type, owner name and address. It is important that every airplane is included so our airports can receive the maximum amount of federal dollars. Please cooperate with your airport sponsor when they ask for the required information.

FLYING IS
THE
SECOND
GREATEST
THRILL
KNOWN
TO MEN...
LANDING
IS THE
FIRST

Author unknown

Nehalem Bay State Airport Master Plan

The Nehalem Bay State airport (3S7) was constructed by the Department of Aeronautics in 1958 on land leased from the Oregon State Parks and Recreation Department (OPRD) and is within the Nehalem Bay State Park. In addition to its recreation value this airport plays a significant role in the state aviation system for emergency use and access to the northern Oregon coast.

OPRD is beginning a master plan study for the Nehalem Bay and Cougar Valley State parks that will include the airport. This plan will determine the future of the airport and competing uses for park land. A series of meetings will be held during February to determine the planning scope and other meetings will be held during early summer to review the draft plan. The Department of Aviation will have a member on the advisory committee.

If you are interested in the future of the airport please contact Ron Campbell at 503 986-0743 or ron.campbell@state.or.us and ask to be placed on the contact list for the Nehalem Bay/Cougar Valley Master Plan study.

SPOT LIGHT ARTICLE-Balloon Flying in Oregon

Like it is from other aircraft, Oregon is beautiful when viewed from the open gondola of a Hot Air Balloon. Ballooning is the oldest form of aviation known to man. The first balloon flight took place in France on November 21, 1783. This first flight was witnessed by Ben Franklin. Hot air balloons were all the rage initially until lighter than air gases (Helium & hydrogen) were discovered. Gas ballooning took over until the early 1960's when modern heating systems and modern fabrics allowed for practical hot air balloons to again take to the skies.

In Oregon balloons can be found flying early in the mornings just south of Portland in the Tigard, Canby and Newberg areas. Further South balloons may be seen in Salem and Jefferson as well as Grants Pass and Medford. There are a few balloons known to fly east of the Cascades in Bend and Pendleton. Throughout the summer months balloonists gather at organized rallies held in several Oregon cities.

Balloons will generally be found below three thousand feet MSL but are able to go to higher altitudes although flights requiring oxygen are rare. Balloons are registered aircraft and fly under the same rules and regulations as any other aircraft. Balloon pilots have taken the same written tests as other pilots and are licensed by the FAA. Balloons have the right of way to most other aircraft but balloon pilots rarely push for this privilege.

Many pilots are rated in other aircraft as well as balloons. The ballooning ranks in Oregon include pilots holding ATP ratings and other ratings for fixed and rotary wing aircraft. A number of retired airline pilots have found ballooning to be an interesting and fun way to fly without a schedule.

Article submitted by Mike Layman

OREGON AVIATION HALL OF FAME INDUCTIONS

Cottage Grove, Oregon

Three native Oregonians were honored as the 2006 inductees into the Oregon Aviation Hall of Fame, sponsored by the Oregon Aviation Historical Society of Cottage Grove, Oregon. Leslie Long, George Bogardus and Richard VanGrunsven were recognized during "The Year of the Oregon Homebuilder" event held October 8th, at the Columbia Aviation Association clubhouse on the airport at Aurora, Oregon.

Leslie Long, born near Cornelius, Oregon, has been called "the father of aircraft homebuilding". He was the founder of the Amateur Aircraft League, successful aviation writer and a prolific airplane designer. Les designed nine different airplanes between 1925 and 1935 and sold the "build it yourself" plans through advertisements in aviation magazines. He died in 1945. The award was given to his son Stanton and daughter Christine.

George Bogardus, born near Cascade Locks, Oregon. George wanted to secure federal approval to legally fly aircraft constructed by pilots themselves. Prior to 1947, Oregon was the only place in the country where that was possible as the State provided its own licensing program for flying within its boundaries. But George wanted to expand that nationwide, so in 1946 he drove to Washington, D.C., presenting his request to the Civil Aeronautics Board who surprisingly agreed with him. He also paved the way for the formation of the Experimental Aircraft Association in 1953. George died in 1997 at the age of 82. His home built Little GeeBee has been restored and is headed for display at the Smithsonian Air & Space Museum. Dean Sigler accepted the Oregon Aviation Hall of Fame award in George's behalf.

Richard VanGrunsven was born near Forest Grove, Oregon. He learned to fly in a Piper J-3 Cub at the family airstrip just two miles from Les Long's home. He earned his private pilots license in a Taylorcraft and flew it to visit with homebuilders in the area and attend Experimental Aircraft Chapter 31 meetings in Eugene. He began his first business making wheel fairings and selling them across the country. Dick later purchased a Stitts Playboy and began to modify it for increased performance. With new cantilever wings, wheel fairings and tail surfaces, not much original remained, so it was re-licensed as an RV-1. That airplane was sold and Dick began building a completely new all metal single place RV-3 that first flew in 1971. He continued to meet the market demands, and according to the Experimental Aircraft Association, his Van's RV series of aircraft represent approximately 20% of the single engine general aviation fleet registered in the United States. There have been over 4,700 of his kits completed and flying throughout the world.

Automated Weather Observation

Automated weather observation and reporting systems are increasingly being installed at Oregon airports. Since 1999, 10 airports have added this vital on-site weather observation capability and more installations will come. In this issue of *Flightlines*, the purpose is to provide the latest station reference guide to these systems.

The two types of systems deployed across Oregon are the Automated Surface Observing System (ASOS) and the Automated Weather Observation System (AWOS). These systems consist of various electronics and sensors connected to a computer to collect, measure, process and create a surface weather observation. Since weather can change rather quickly, they provide reliable 1-minute, 5-minute, hourly and special weather observation 24 hours a day. This information is broadcasted over either a VHF radio frequency, a voice portion of a local navigational aid, telephone lines and/or on the internet; one example is www.faa.gov/asos/map/or.cfm

On-site weather observation capabilities at an airport are required for aircraft operating under FAR part 121 or 135, which include scheduled airlines, cargo/express carriers, medevac, and air taxi or charter operations. Furthermore, instrument approach procedures without on-site weather are not authorized for use by pilots in IFR conditions. In other words, an airport with an AWOS or ASOS is open to all private and commercial flight operations all the time. As such, the 2000 Oregon Aviation Plan identified twenty-four-hour automated weather observation as a minimum standard for all airports recognized as Category 1 (Commercial service), Category 2 (High Activity or General Aviation), Category 3 (Regional General Activity) and Category 4 (only Community General Aviation Airports with established commercial activity). Currently, ODA is updating this 2000 system plan. Consultant to ODA, Mead and Hunt, Inc, will identify additional weather facility needs throughout our system of Oregon airports. Looking ahead to 2007, expect to see two installations at Joseph State Airport (4S3) and Gold Beach Municipal Airport (4S1).

The State Aviation Board consists of seven members appointed by the Governor and confirmed by the Oregon Senate. The Board provides policy direction to the Director and the Department.

Members of the State Aviation Board:

Mike Burrill, Sr., Chair; Chris Corich, Vice-Chair

Board Members: Carrie Novick, Steve Beckham,

Jack Loacker, Joe Smith, Vacant



Automated Weather Stations in Oregon

City	Site ID	Freq	Telephone	Type	
Astoria	HIWAS 114.0 AST	KAST	135.375	503-861-1371	ASOS
Aurora	HIWAS 117.4 UBG	KUAO	118.525	503-678-3011	ASOS
Baker		KBKE	134.275	541-523-5412	ASOS
Bend	HIWAS 117.6 DSD	KBDN	134.425	541-382-1477	AWOS III
Brookings		KBOK	132.025	541-412-8682	ASOS
Burns		KBNO	135.575	541-573-1382	ASOS
Corvallis		KCVO	135.775	541-754-0081	AWOS III
Eugene	HIWAS 112.9 EUG	KEUG	n/a	541-461-3114	ASOS
Eugene		KEUG	125.225	541-607-4699	ATIS
Florence	HIWAS 112.1 OTH	6S2	118.225	541-997-8664	AWOS III
Grant County Regional (John Day)		5J0	118.375	541-575-1122	AWOS III
Hermiston	HIWAS 114.7 PDT	KHRI	135.225	541-567-8580	ASOS
Hood River	HIWAS 112.3 LTJ	4S2	134.375	541-386-2386	AWOS III
Klamath Falls	HIWAS 115.9 LMT	KLMT	N/A	541-883-8127	ASOS
Klamath Falls		KLMT	126.5	n/a	ATIS
La Grande		KLGD	135.075	541-963-6824	AWOS III
Lakeview	HIWAS 112.0 LKV	KLKV	135.525	541-947-5069	AWOS III
Lexington	HIWAS 114.7 PDT	9S9	134.475	541-989-8557	AWOS III
McMinnville	HIWAS 117.4 UBG	KMMV	135.675	503-434-9153	ASOS
Meacham	Stand alone site			541-983-2712	ASOS
Medford	HIWAS 113.6 OED	KMFR	n/a	541-776-1238	ASOS
Medford		KMFR	127.25	n/a	ATIS
Newport Muni		KONP	133.9	541-867-4175	AWOS III
North Bend	HIWAS 112.1 OTH	KOTH	135.075	541-756-0135	AWOS III
Ontario		KONO	135.275	541-889-7388	ASOS
Pendleton	HIWAS 114.7 PDT	KPDT	118.325	541-278-2329	ASOS
Portland International		KPDX	n/a	503-284-6771	ASOS
Portland International	Arrival info	KPDX	128.35	503-493-7557	ATIS
Portland International	Departure info	KPDX	120.625	503-493-7558	ATIS
Portland/Hillsboro		KHIO	n/a	503-640-2984	ASOS
Portland/Hillsboro		KHIO	127.65	n/a	ATIS
Portland/Troutdale		KTTD	135.625	503-492-2887	ASOS
Redmond	HIWAS 117.6 DSD	KRDM	119.025	541-504-8743	ASOS
Rome	Stand alone site			541-586-5002	ASOS
Roseburg		KRBG	135.475	541-673-1483	ASOS
Salem		KSLE	n/a	503-371-1062	ASOS
Salem		KSLE	124.55	n/a	ATIS
Scappoose		KSPB	135.875	503-543-6401	ASOS
Sexton Summit (5.5nm N.of Grants Pass-3S8)		SXT	118.375	541-471-1460	ASOS
Tillamook	HIWAS 117.4 UBG	KTMK	120.00	503-842-8792	AWOS III
The Dalles	HIWAS 112.3 LTJ	KDLS	135.175	509-767-1726	ASOS

Oregon Department of Aviation

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Attention: Oregon Pilots & Aircraft Owners

Pilot registration fees directly fund Oregon's Air Search and Rescue program. That means your dollars are used for air search and rescue volunteers locating lost airplanes and people – who can argue for a better deal?

Aircraft registration fees help fund airport improvements and maintenance, aviation system planning and other activities.

Think of your registration as an investment in Oregon's aviation future!

Registration forms are available on our website at www.aviation.state.or.us or contact Robin Ricard at (800) 874-0102 for assistance.

IF YOU WOULD LIKE TO BE FEATURED IN OUR "SPOTLIGHT ARTICLE"

SEND YOUR INFORMATION TO

Jody.Brewer@state.or.us, or call (503) 378-2197

SPONSORING AN EVENT AT YOUR AIRPORT/TOWN?

SHARE YOUR STORY IN FLIGHTLINES "SPOTLIGHT"