VIEW FROM THE PISCATAQUA

The Newsletter of the Portsmouth Pilot/Controller Liaison Program

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"VIEW FROM THE PISCATAQUA" is an unofficial publication and does not constitute Air National Guard policy. It is published to disseminate the results of discussions and feedback forms, and to provide information to the Pease Aviation community. Articles are encouraged and may be sent to the following E-mail addresses:

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IN THIS ISSUE…

Time to think about all the additional hazards involved with winter flying

"Be Aware and Be Safe"

Mid-Air Collision Avoidance (MACA) Program

By Mike McKinnon

The following article contains some excerpts from the MACA flyer which is available in its entirety by contacting your Liaison on the front page of this flyer. The MACA flyer is prepared jointly by the Flight Safety Office and Pease ANGB air traffic controllers and provides vital information to both military and civilian aviators to promote an environment of shared expectations and understanding. The Mid-air Collision Avoidance Program primary goal is to *make the skies in the vicinity of Portsmouth International Tradeport at Pease safer*. Communication with air traffic control agencies, aggressive clearing by aviators and knowledge of Pease ANGB's airspace will help us safely operate together. Recent traffic studies have highlighted the expanding use of General Aviation aircraft and the significant increase in air traffic. As our airspace becomes more congested, the possibility of a mid-air collision increases respectively. Therefore, operation in our crowded airspace requires extra vigilance and increased awareness to effectively manage the increased risk associated with air traffic density. For more information on Pease Air National Guard Base and its flying environment, please go to ***www.seeandavoid.org*** and select PSM in NH. This site is the "go to" site for information on Civil Airports, Military Airports, and associated Military Operations Area, Special Use, Low Level Training routes. It even gives locations with a high potential for near mid Air collisions and airports that encountered mid air collisions.

Arrivals and Departures

The Pease Two Departure SID is the primary departure path out of the Portsmouth International Tradeport at Pease. RWY 34 the departure is RWY HEADING to 3000 feet MSL. From RWY16, a right turn to heading 220 at 1.5 DME is required. This turn occurs right over the I-95 highway. Pilots have the option of flying runway heading if they cannot make the initial turn. VFR aircraft flying along the path of I-95 should use caution in the area because the pilots on the departure procedure are paying to their instruments. Standard procedure military aircraft and for 157ARW and Tanker Task Force KC-135 aircraft is Tanker One Departure SID which climbs runway heading to 3000 MSL.

There are a number of instrument arrival procedures to Pease, but from a traffic standpoint, they follow two basic scenarios. The Precision Approach Radar and ILS approaches have a final approach course which runs straight to the runway, while the VOR, TACAN, and GPS approaches have a final approach course which is offset a little to the East. These procedures require intense instrument work, and VFR pilots should use extreme caution when traversing these final approach courses. The final approach fix where aircraft start descending out of 1700 feet on RWY 34 is right over Rye Harbor! This is a very heavily traveled area along the coast, especially during the summer time.

The radar traffic pattern where aircraft are radar vectored to these final approach courses should also be avoided. This rectangular radar pattern is roughly 12 miles out on final approach for both RWY 16 and 34 and about 6 miles west of Pease. The altitude for this pattern is **3000 feet and** over flies Hampton Airfield. Please exercise extreme caution when climbing and descending into Hampton Airfield, Skyhaven Airport, Sanderson Field and Littlebrook Airpark. You can get a better "heads up" on traffic by contacting the Pease **G**round **C**ontrolled **A**pproach on 127.05 or Boston Approach on 125.05 or even Pease Tower on 128.4.

Airframe Icing, Tales and Truths

"Ice accumulates on the leading edge of wings, tailplanes, and vertical stabilizers as an aircraft flies through a cloud containing super-cooled water droplets. Super-cooled water is water that is below freezing, but still a liquid. Normally, this water would turn to ice at 32 F, but there are no "contaminants" (droplet nuclei) on which the drops can freeze. When the airplane flies through the super-cooled water droplets, the plane becomes the droplet nucleus, allowing the water to freeze on the surface. This process is known as accretion. Droplets of super cooled water often exist in stratiform and cumulus clouds

A popular misconception is that aircraft icing events result from the *weight* of accreted ice on the airframe. This is not the case. Rather, airframe icing causes problems by modifying the airflow over flight surfaces upon which the ice accretes. When ice accretes on aerodynamic lift surfaces, such as the wing and tailplane, the modification of airflow changes the aerodynamics of the surfaces by modifying both their shape and their surface roughness, typically increasing their drag and decreasing their lift. The particular effect of icing on the aerodynamics of a lift surface is a complicated function of the ice shape and location as well as of the amount of ice. These characteristics in turn depend in a complicated fashion on atmospheric conditions such as the amount, temperature, and droplet size of water in the air. The composite effect of this aerodynamic deterioration over all lift surfaces is a degradation of aircraft flight dynamics. In severe atmospheric conditions, dangerous levels of icing can be obtained in as little as 5 minutes. Small to moderate amounts of icing generally cause a reduction in aircraft performance in terms of climb rates, range, endurance, and maximum speed and acceleration. Icing effects of this type are known as *performance events*. As icing increases, separation of air flow from the flight surfaces can cause loss of pilot control and even wildly unstable behavior. These more severe icing events, known as *handling events*, are often precipitated by a change in the aircraft configuration or an aircraft maneuver affected by a pilot unaware of the flight-dynamics degradation. This was the case with American Eagle Flight 4184 where the aircraft experienced an uncontrolled roll of 120 degrees in five seconds after the pilot initiated a flap retraction. Handling events generally can be classified into either *tailplane stall*, where the aircraft pitches forward, or asymmetric wing effects causing a *roll upset* (or *roll snatch*) as in the American Eagle Flight 4184 accident.”.

Effects of Airframe Ice

- The increased weight is usually a lesser problem than the change in weight distribution. Also, accretion is often not symmetrical, which adds to increasing uncontrollability.
- Forward visibility may be lost as ice forms on the windshield.
- Icing of the propeller blades reduces thrust and may cause dangerous imbalance.
- Ice may jam or restrict control and trim surface movement; or may unbalance the control surface and possibly lead to the development of flutter.
- Communication antennae may be rendered ineffective or even snapped off.
- Extension of flaps may result in rudder ineffectiveness or even increase the stalling speed.
- Aircraft operating from high-altitude airfields in freezing conditions may be affected by picking up runway snow or slush, which subsequently forms ice and possibly causes problems such as engine induction icing or frozen brakes

PIREPS for ICING

Include the following when providing a PIREP on icing conditions. Aircraft type, location, time, type icing and intensity, altitude, and outside air temperature (OAT).

Types of Icing:

Rime ice. Rough, milky, opaque ice formed by the instantaneous freezing of small super cooled water droplets.
Clear ice. A glossy, clear, or translucent ice formed by the relatively slow freezing of large super cooled water droplets.
Mixed icing. A mixture of clear and rime.

Intensity of Icing:

Trace. Ice becomes perceptible. Rate of accumulation slightly greater than sublimation. Deicing/anti-icing equipment is not utilized unless encountered for an extended period of time (over 1 hour).
Light. The rate of accumulation may create a problem if flight is prolonged in this environment (over 1 hour). Occasional use of deicing/anti-icing equipment removes/prevents accumulation. It does not present a problem if the deicing/anti-icing equipment is used.
Moderate. The rate of accumulation is such that even short encounters become potentially hazardous and use of deicing/anti-icing equipment or flight diversion is necessary.
Severe. The rate of accumulation is such that deicing/anti-icing equipment fails to reduce or control the hazard. Immediate flight diversion is necessary.

Humor Corner!

Believe it or not, you can read it!

I cdnuolt blveiee that I cluod aulaclty uesdnatnrd what I was rdanieg. The phaonmneal pweor of the hmuan mnid Aoccdrnig to rscheearch at Cmabrigde Uinervtisy, it deosn't mttaer in what oredr the ltteers in a word are, the olny iprmoatnt tihng is that the first and last ltteer be in the rghit pclae. The rset can be a taotl mses and you can sitll raed it

Radar Precision Approaches available at Portsmouth International Airport

By Mike McKinnon

***P**recision **A**pproach **R**adar* is available to all aircraft under a VFR or IFR flight plan. It is one of the few left still in operation. If you haven't already encountered the precision of this radar approach, come fly one with the Portsmouth Ground Controlled Approach (GCA). It is only aligned to runway 34. (You may request a PAR if runway 16is in use but is subject to traffic.) There are a couple of ways to request a radar approach. If you are working with Boston Approach, request a PAR with them or call the GCA directly on freq 127.05. If working Portsmouth Tower/Ground Control, just let the Tower know and they will set you up with the GCA. If you're wondering, here's what you might expect.
The PAR radar display is from two different radar scans, one left to right and the other up and down. The radar target display is split in half, one being the profile of the glidepath and lower safety cursor and the other being the course line, like an overview. The PAR scope displays the same target in both displays and displays range marks from touchdown. Our radar shows a max of 15 miles and can move in to 6 miles. Upon request of a radar approach the Arrival controller will state "This will be a PAR approach to runway 34". The controller will change your frequency to a dedicated freq the Final Controller will talk to you on and will provide headings/altitudes to a "dogleg" which is usually about 30 degrees from final. Typical radar approach transmissions are about every 5 seconds and may sound something like this:

Controller: "November 12345, Portsmouth Final Controller, how do you hear me?"
N12345: "loud and clear."
Controller: "N12345, loud and clear also, do not acknowledge further transmissions. Well left of course and correctly, heading 360. 8 miles from touchdown"……..
Controller: "Turn left heading 350, slightly left of course and correcting slowly, 7 miles from touchdown"….
Controller: "Turn left heading 345, on course, 6 miles from touchdown, approaching glidepath, wheels should be down:…(Approaching glidepath call is made 10-30 seconds prior to reaching it.)
Controller: "Begin descent, drifting right of course, turn left heading 342, 5 miles from touchdown" (glidepath angle is 3 degrees and about 200 FPM descent)
Controller: "On glidepath, slightly right of course and correcting, turn right heading 344,"….
Controller: "4 miles from touchdown, wind 310 at 8, cleared to land."
Controller: "On course, going slightly below glidepath…. 3 miles from touchdown"…..
Controller: "Going well below glidepath, 2 miles from touchdown."….
Controller: "Coming up to glidepath slowly, 1 mile from touchdown"….
Controller: "Slightly below glidepath and correcting slowly,…. at Decision Height"….(At this point your 200 feet above terrain and must have the runway environment in sight to continue.*) If you advise the controller you have the runway in sight or you have a "visual," expect the controller to continue the approach to touchdown. You must specifically state you want to proceed visually to the runway if you want to terminate the approach..*
Controller: "Over approach lights……over landing threshold….slightly left of course"…
This approach ended in a safe recovery and hopefully you won't hear:
"Too low for safe approach" or "too far left/right for safe approach", if runway or approach lights not in sight, climb and maintain 3000, fly runway heading." This approach is so accurate, the controller can tell if your right or left of the painted runway centerline when you land!

Airport Surveillance Approaches are also available to runway 16 and 34. These are non-precision approaches using ASR and are less accurate. They require the same radio check in but transmissions are every 15 seconds. They will provide you with the published MDA and even provide recommended altitudes each mile on final to the MDA if you asked.
A radar approach may be given to any aircraft upon request and may be offered to aircraft in distress regardless of weather conditions.

So, if it's not too far out of your way, come fly a radar approach with the GCA today. GCA services are available for all your training needs. Hours of operation are 8:00 to 4:00, Monday through Friday. Talk to you later!

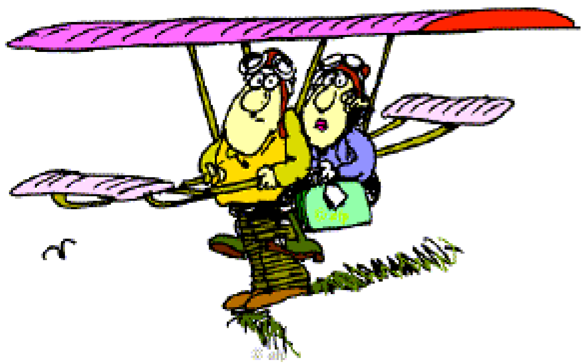
More Humrrrr..

An F-117 was flying escort with a B-52 and generally making a nuisance of himself by flying rolls around the lumbering old bomber. The message for the B-52 crew was, "Anything you can do, I can do better."

Not to be outdone, the bomber pilot announced that he would rise to the challenge. The B-52 continued its flight, straight and level, however…..

Perplexed, the fighter pilot asked, "So? What did you do?"

"***W**e just shut down two engines*."



PIREPS

Air traffic controllers are required by our FAA rules and procedures to request pilot reports (PIREPs) on flight conditions during certain weather conditions. With the rapid approach of winter, you will probably be queried more and more by controllers to provide information we can pass along to other pilots, our weather station and adjacent facilities to broadcast that information to the flying community. In the US, Air Traffic Controllers are required to solicit PIREPs upon request of other facilities or pilots, or when any of the following conditions exists or is forecast in their area:

- Ceilings at or below 5,000 feet
- Visibility at or less than 5 miles
- Thunderstorms and related phenomena
- Turbulence of moderate degree or greater
- Icing of light degree or greater
- Wind shear
- Volcanic ash clouds
- Braking action reports (fair or less)

One of the most requested PIREPs in the terminal environment is for cloud/bases, tops and other related phenomena (icing, turbulence, etc.). When the above condition exists, or are forecasted, controllers will request PIREPs once each hour. The more traffic we have, the more up to date this information will be as we will generally ask a large sampling of aircraft for reports. Usually we'll also ask arrivals for the visibility on final approach once they get below the bases so other pilots will have an idea where they can expect to see the ground/runway environment. Incidentally a great web site for gathering weather information is "www.aviationweather.gov'. The site includes advisories such as SIGMETs, AIRMETs; forecast for turbulence, icing, and winds; observations such as PIREPs and METARs.

FAR 91.527 Operating in icing conditions.

(a) No pilot may take off an airplane that has frost, ice, or snow adhering to any propeller, windshield, stabilizing or control surface; to a powerplant installation; or to an airspeed, altimeter, rate of climb, or flight attitude instrument system or wing, except that takeoffs may be made with frost under the wing in the area of the fuel tanks if authorized by the FAA.

(b) No pilot may fly under IFR into known or forecast light or moderate icing conditions, or under VFR into known light or moderate icing conditions, unless—

(1) The aircraft has functioning deicing or anti-icing equipment protecting each rotor blade, propeller, windshield, wing, stabilizing or control surface, and each airspeed, altimeter, rate of climb, or flight attitude instrument system;

(2) The airplane has ice protection provisions that meet section 34 of Special Federal Aviation Regulation No. 23; or

(3) The airplane meets transport category airplane type certification provisions, including the requirements for certification for flight in icing conditions.

(c) Except for an airplane that has ice protection provisions that meet the requirements in section 34 of Special Federal Aviation Regulation No. 23, or those for transport category airplane type certification, no pilot may fly an airplane into known or forecast severe icing conditions.

(d) If current weather reports and briefing information relied upon by the pilot in command indicate that the forecast icing conditions that would otherwise prohibit the flight will not be encountered during the flight because of changed weather conditions since the forecast, the restrictions in paragraphs (b) and (c) of this section based on forecast conditions do not apply.

Tower Radar Display

By Greg Lyon

Most towers throughout the country are equipped with some sort of radar display. Here at Portsmouth we have the luxury of having a “State of the Art” radar system that consist of a radar presentation derived from Boston Approach Control’s (A90) radar system. Incidentally, the actual radar site is located in Chester, New Hampshire, not in Merrimack where A90 is located. The system in the Portsmouth tower is known as “Standard Terminal Automation Replacement System (STARS) Tower Display Workstation (TDW). The STARS is a joint Federal Aviation Administration and Department of Defense program that replaces Automated Radar Terminal Systems and other capacity constrained, older technology radar systems. The STARS is a digital radar/flight data processing and display system used by both radar and tower controllers. The color displays were specifically designed for air traffic controllers and capable of displaying six distinct levels of weather data, allowing controllers to assist pilots in avoiding bad weather areas. Weather areas displayed by the different levels:

Level 1….LIGHT precipitation
Level 2….MODERATE precipitation
Level 3 and 4…..HEAVY precipitation
Level 5 and 6 ….EXTREME precipitation.
Tower controllers can utilize the radar (TDW) to enhance the effectiveness and efficiency of services provided to pilots. The TDW system is not intended to provide radar services or benefits to pilots except as they may accrue through a more efficient tower operation. Note: The following information was extracted from the Aeronautical Information Manual.

The four basic uses are:

1. To determine an aircraft’s exact location. This is accomplished by radar identifying the VFR aircraft through any of the techniques available to a radar position, such as having the aircraft *squawk ident*. Once identified, the aircraft’s position and spatial relationship to other aircraft can be quickly determined and standard instructions regarding VFR operation in Class B, Class C, and Class D surface areas will be issued. Once initial radar identification of a VFR aircraft has been established and the appropriate instructions have been issued, radar monitoring may be discontinued; the reason being that the local controller’s primary means of surveillance in VFR conditions is visually scanning the airport and local area.

2. To provide radar traffic advisories. Radar traffic advisories may be provided to the extent that the local controller is able to monitor the radar display. Local control has primary control responsibilities to the aircraft operating on the runways, which will normally supersede radar monitoring duties.

3. To provide a direction or suggested heading. The local controller may provide pilots flying VFR with suggested headings as a method for radar identification or as an advisory aid to navigation. e.g., “PROCEED SOUTHWESTBOUND, ENTER A RIGHT DOWNWIND, etc

4. **To provide information and instructions** to aircraft operating within the surface area for which the tower has responsibility. e.g, TURN BASE NOW.

Did You Know?...

The new ATIS telephone number is 603-334-6070.

The Air Force Aerial demonstration team Thunderbirds will be featured at the Portsmouth-Boston Airshow Aug13-14 2011

To convert your GS in knots to MPH, multiply it by 1.15.

Taxiing aircraft, which is approaching a runway, is clear of the runway when all parts of the aircraft are held short of the applicable runway holding position marking.

A pilot or controller may consider an aircraft, which is exiting or crossing a runway, to be clear of the runway when all parts of the aircraft are beyond the runway edge and there are no restrictions to its continued movement beyond the applicable runway holding position marking.

It takes but $^1/_2$ inch of ice to reduce the lifting power of some aircraft by 50 percent and increases the frictional drag by an equal percentage.

Estimating intensity of snow or drizzle is based on visibility.

a. Light……….. Visibility more than 1/2 statute mile.

b. Moderate…… Visibility from more than 1/4 statute mile to1/2

c. Heavy……… Visibility 1/4 statute mile or less.

An excellent source for Sigmets, PIREPs, METARs, etc, is NOAA's National Weather Service Aviation Weather Center; ,www.aviationweather.gov.

Braking Action Advisories

By Mike McKinnon

With the onset of winter, runway surface conditions can be detrimentally affected with the arrival of snow, sleet, hail and other nasty weather phenomena. Landing and departing aircraft are particularly interested in how these things affect breaking action. One indication that a pilot has that his destination airport might have less than favorable landing conditions are the ATIS (Automatic Terminal Information Service). Certain criteria prompt an air traffic controller to record "Braking Action Advisories are in effect." In the past, reports of "poor" or "nil" would mandate that braking action advisories be put on the ATIS. However, the line between "fair" and "poor" is indeed a fine one and when it comes to safety, the FAA's official stance is better safe than sorry. Therefore, the rules have changed to encompass reports of "fair", "poor", and "nil" as values that will prompt "Breaking Action Advisories are in Effect" to be put on the ATIS. " During the time Braking Action Advisories are in effect, ATC will issue the latest braking action report for the runway in use to each arriving and departing aircraft. Pilots should be prepared for deteriorating braking conditions and should also be prepared to provide a descriptive runway condition report to controllers after landing. Please keep in mind that braking action reports must be phrased in terms of "good", "fair", "poor", or "nil". And while "slicker than snot", "like an ice-rink", or "greasy" might be very good imagery, an air traffic controller will ask you to restate your assessment using the terms "good", "fair", "poor", or "nil".

Prior Permission Required – PPR

It's that time of year again with snow removal equipment on ramps, taxiways and the runway keeping the airport in superb condition for safe aircraft operations. Whenever you see the NOTAM, "Snow removal in Progress", a 15 minute notice or PPR is required. This means pilots must call the Tower 15 minutes prior to arrival or departure on Ground or Tower freq. ATC passes this time is to "Snow Control", a single point of contact who controls all the vehicles on the runway. Snow Control uses this time to insure the runway will be available for your operation in a timely manner and to make sure there is no windrow down the runway and your path is clear to it. The snow removal team does an outstanding job accommodating aircraft; just don't forget the "heads-up" 15 minute notice for their planning. And while taxiing, be extremely careful who's behind that snow bank and maintain appropriate speeds to avoid an unfortunate incident.

Safety Corner ….

By Mike McKinnon

This is preliminary NTSB report and subject to change.

On February 1, 2008, about 1748 Eastern Standard Time, a Cessna Citation 525, N102PT, crashed in a wooded area in West Gardiner, Maine. The private/instrument-rated pilot and one passenger received fatal injuries; the airplane was destroyed. The flight was operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Instrument meteorological conditions prevailed and an instrument flight rules flight plan was filed for a flight from Augusta, Maine to Lincoln, Nebraska. The flight had originated from the Augusta State Airport about 1745.

Representatives of the fixed base operator (FBO) at Augusta State Airport stated that the airplane was fueled and moved from the ramp into the FBO's hangar earlier that morning at the pilot's request. However, the hanger is utilized by a part 121 operator that provides service for that area. The operator canceled its 1630 flight due to the weather conditions and needed the hangar to house its airplane. The Citation was taken out of the hangar and moved back to the ramp area about that time. The pilot was informed of this possibility at time of the request and she stated that she understood that the other customer had priority over the hangar space.

A person identifying herself as the pilot of N102PT called a flight service station at 1701 to file an instrument flight plan from Augusta, Maine to Lincoln, Nebraska, The pilot received a standard weather briefing for the flight at that time. Witnesses stated that the pilot arrived at the airport about 1715, at which time she and the passenger loaded their personnel effects into the airplane, returned a rental car, and paid for the fuel. She and the passenger then boarded the airplane. Shortly after, about 1730, the airplane's engines were started and the airplane was observed taxing. The FBO representative heard the pilot's announcements over the radio in the FBO. He also noticed the airplane was not on the taxiway, but on the grass area on the south side of the asphalt taxiway. At that time the ground was covered with snow and ice.

For the past hour and a half, the weather condition had turned from light snow to freezing rain, and ice was observed covering the cars in the parking lot. The FBO representative noted the pilot did not activate the airport's taxi and runways lights via the common airport frequency radio channel. It was observed that the airplane taxied through a ditch, which was covered with ice and snow. The airplane's engines were heard at a high rate of power about this time. It was later discovered that the airplane's left main tire broke through the ice and became stuck in the ditch. The airplane continued on the grass area after the high engine power was heard. The FBO representative heard the pilot announce the wrong runway (runway 35) that she was planning to depart from. The FBO representative turned on the runway and taxi lights after hearing the incorrect runway announcement. The pilot later announced a change of departure from runway 35 to runway 17, while the airplane was observed back taxing on runway

26 onto taxiway "C" Charlie. About 1745 the announcement for departure from runway 17 was heard; the FBO representative observed the departure at that time.

After takeoff, the pilot contacted the Air Traffic Controller (ATC) and reported that she was at 1,000 feet, climbing to 10,000 feet. ATC requested the pilot to squawk ident on the transponder. Radar contact was made with the airplane when it was about 2 miles southwest of the Augusta State Airport. About one minute later, the pilot declared an emergency and stated, "We've got an attitude indicator failure". About seven seconds later, the pilot announced over the frequency they were not certain which way they were turning. Radar contact was lost shortly after that. About 1749, local authorities received several 911 calls from residents reporting a possible airplane crash. A short time later, the airplane wreckage was located about 6 miles south-southwest of the Augusta State Airport. One witness stated to local law enforcement authorities that he saw an airplane fly overhead at a low altitude and moments later observed a large explosion off in the distance.

A simple event in this accident chain, , by itself, is insignificant. It's the chain that can become deadly. Every accident occurs as a result of a chain of errors or events, and if one of the *links* making up that chain can be broken, the accident may have been prevented. See you next time!

Winter Operations

"Not only is it important to make sure your aircraft is prepared to operate in winter flight conditions, but a recent National Transportation Safety Board Report noted pilots flying in mountainous terrain before official sundown may experience night conditions in the valleys because of terrain masking of the sun. This condition highlights the importance of being night current when flying near sundown in mountainous areas. Although sun masking is not a problem in the flatlands of the Midwest, pilots in those areas need to be just as night current because of the limited amount of daylight hours during the winter months.

Nighttime can be a very enjoyable time to fly for those who are prepared. Current charts, airport data including airport operating hours, knowledge of minimum altitudes, and a spare flashlight are a few of the important tools to have on board for a winter night flight.

Instrument pilots who are current and proficient have an inherent safety advantage when flying at night if they are operating on an IFR flight plan. Their charts provide them safe operating altitudes and guidance as long as they follow the published procedures."

(Courtesy of FAA Aviation News)

More Humarrrr!

German Aero Glossary

AIRCRAFT—Der Fliegenwagen

HEAVY JET---Der Muchen Overgrossen Biggenmother Das Ist Fliegen Highenfaster Mit all Der Mach Und Flightenlevels (Built by Boeing)

PROPELLER---Der Airfloggen Pushenthruster

ENGINE---Der Noisemaken Pistonpushing Das Turnnens Der Airfloggenfan pushenthruster

JET ENGINE----Der Schreemen Scullschplitten Firespitten Smokenmaken Airpushenbacken Thrustermaker Mit Compressorssqueezen Und Turbinespinnen (made by Phratt&Whitney)

CONTROL COLUMN---Der Pushenpullen Bankenyanken Schtick

RUDDER PEDALS---Der Tailschwinger Yawmaken Werks

PILOT---Der Pushenpullen Bankenyanken Tailschwingen Werker

Star Caster Digital ATIS

By Ed Fish

I'm sure by now I'm sure most of you have heard the new "controller" at Portsmouth Tower. Yes, I'm talking about the voice you are hearing 24 hours a day, 7 days a week when you set your radio dial or pick up your telephone to call into the Tower ATIS. Sounds the same every time you call, doesn't he? Doesn't get flustered, talk too fast, or garble his transmissions. Sounds pretty calm, right? Well, "he" is the recently installed Star Caster Digital ATIS installed on our Tower automated information system. The ATIS is a state of the art system with text to speech capability which takes textual input from our airport automated weather system (AN/FMQ-19), translates that textual input into digital speech, and broadcasts the ATIS automatically. As the weather changes and updates occur, once the requirements for rebroadcast of a METAR or SPECI are met, the digital ATIS system automatically reads the new weather, changes the ATIS code, and sends out the information. An air traffic controller does monitor the recording prior to broadcast to ensure it is correct and understandable and can make corrections if needed. Airport advisory information, NOTAMs, and other non-weather related information can and is typed into the system as changes occur and the system reads the information and appends it to the weather sequence for broadcast.

The digital ATIS system goes a long way towards automating one routine task that tends to divert the ground controller's attention away from movement on the airport surfaces. Especially in times of rapidly changing weather (think winter) where the controller may have to manually redo lengthy ATIS's 3 or 4 times per hour, the digital ATIS truly helps the controller maintain complete situational awareness of their environment at all times. There have been a few "hiccups" with the system with a few words or phrases not being recognized by the system and the controller having to substitute a word or phrase, but overall, the controllers are very satisfied with the new ATIS. Oh, and as a reminder, if you wish to dial in, the ATIS phone number is (603) 334-6070.

The Boeing B17 Flying Fortress was the main bomber used by the American Air Force in Europe during the bombing campaign against Nazi Germany. The B17 crews flew thousands of missions over Germany and paid a high price for doing so.

After the carnage of World War One, many nations looked to a new form of military hardware that would ensure the horrors of trench warfare were never relived. By the 1930's there was a general belief that the bomber would always get through and the devastation of Guernica by the German Condor Legion seemed to emphasise the sheer power bombers could have.

On August 8th, 1934, the American Army Air Corps put out a tender called 'Proposal 32-26' for a 250 mph bomber with a range of 2000 miles and an operating ceiling of 10,000 feet. An ailing Boeing Company, headed by Edward C Wells, took up the challenge. Wells used near enough all the spare capital Boeing had – and the manpower – to complete the task. The name of the project was Model 2-99.

In July 1935, Boeing Model 2-99 was rolled out. It was an all-metal four-engine bomber, weighing in at 15 tons. Its specifications were well above those laid down by the US Army Air Corps. The plane first flew in Seattle and one watching journalist is said to have commented that the plane, when in the air, was a flying fortress due to the number of machine guns it carried. The nickname stuck.

However, the Boeing 2-99 had competition for the contract. Martin's B12 and the Douglas DB1 were rivals. On October 30th 1935, during evaluation exercises for the US Army Air Corps, the 2-99 crashed shortly after take-off killing its experienced two-man crew. The US Army Air Corps then disqualified the 2-99 and the twin-engine Douglas DB1 won. However, a small number of 2-99's were ordered "for further evaluation" by the Air Force.

As the situation in Europe became more tense, the Douglas DB1 proved to be under-powered. By now Boeing had upgraded the 2-99 to the YB17 model. This had super-charged engines and had a flying ceiling of 30,000 feet – in excess of what the Douglas could do. As war approached in Europe, the American Army Air Corps only had 30 B17's.

In 1941, as part of the Lend-Lease deal signed between F D Roosevelt and Winston Churchill, B17's were sent to Britain to help out Bomber Command. In total, 20 were sent to Britain. It had an inauspicious debut. The first one to fly to Britain crashed. On July 8th 1941, two B17's went on a mission with the RAF to attack the naval base at Wilhelmshaven. During the flight, its guns froze and its bombs were dropped off target. The RAF responded to this by putting more armour on the plane, more weapons and keeping its flight path at a lower altitude.

When the Japanese attacked Pearl Harbour in December 1941, B17's had already been sent there. Based at the Hickham Air Base, they were attacked while on the ground and 12 bombers were lost. However, the attack on Pearl Harbour pushed America into its full military production capability and Boeing was told to produce as many B17's as was possible.

The US 8th Air Force was based in Britain. It was to be the main US input to the bombing of Nazi-occupied Europe. The RAF decided to attack Germany at night. This, they believed, would give their bombers greater protection against German fighter planes. The US 8th Air Force decided on daylight raids as they believed that this allowed for precision raids and precision bombing. Therefore, they reckoned, fewer raids would be needed in the long term for bombing to succeed.

The first full B17 mission against Germany took place in August 1942. The B17's flew in a wedge formation that should have given them massive fire power against any attackers. However, German fighter pilots quickly learned that a frontal attack effectively neutralised the huge armaments of the B17's that were primarily carried on the sides of the bombers.

In January 1943, the Casablanca war conference took place. At this meeting the 'Casablanca Directive' was issued by Roosevelt and Churchill. It was a decision to launch a bombing attack on Germany that would destroy Germany's industrial base.

On August 17th 1943, B17's attacked the ball-bearing factory at Schweinfurt. This was a very important target as 52% of all of Germany's ball-bearings were produced there. It was also a massively defended factory. 211 B17's took part in the raid – 60 planes were lost, a loss rate of just under 30%. In 1943, it was estimated that 1/3rd of all B17 crews would not survive the war and the huge losses sustained in daylight raids nearly caused an end to such raids. However, a study done by the 8th Air Force in 1943, also showed that over 50% of plane losses were as a result of B17's leaving the protection of their formation. In 1944, a revised pattern of flying was introduced. B17's had traditionally flown in wedges of 18. Now they were to fly in a pack of 36. There would be three flights of 12 B17's tightly packed together, one on top of the other. This gave the flight of 36 huge firepower especially as the new Model G had been given more fire power including more machine guns at the front of the plane to fight off frontal assaults. The Model G now carried thirteen .50 calibre machine guns giving each plane a massively increased firing capacity. However, flying so tightly also led to collisions.

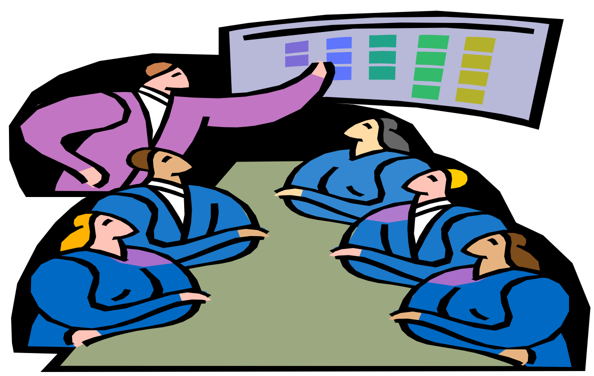
By 1944, the B17's also had fighter protection in the shape of the awesome Mustang fighter. The Mustangs carried extra fuel tanks and could accompany the B17's deep into Germany. With their increased fire power and their new bodyguards, the B17 could now concentrate on two primary targets – what was left of the Luftwaffe's factories and Berlin itself.

In February 1944, the B17's went all out to destroy the factories that kept the Luftwaffe flying. In February 'Big Week' took place. In all, 3,500 B17s were involved in bombing raids on factories in Germany. 244 planes were lost (about 7% of the planes taking part) in just a week but the back of the factories producing for the Luftwaffe had been fatally broken. While the Lutwaffe had planes, many were forced to stay on the ground as they had no parts to keep them airborne.

Berlin was the next target. This was probably the most defended city in the world at this time. The Luftwaffe had kept what reserves it had for planes to defend the city. On March 6th, 1944, in a massive raid on Berlin, 69 B17's were lost – but the Luftwaffe lost 160 planes. Whereas the 8th Air Force could recover from these losses, the Luftwaffe could not. By the end of the war, The 8th Air Force and the RAF had destroyed 70% of Berlin.

After Berlin, the 8th Air Force turned its attention to Germany's synthetic oil factories. Attacks on these factories started on May 12th. In just one month, the USAAF dropped 5000 tons of bombs on these factories. In August 1944, 26,000 tons were dropped and in November 1944, the attacks peaked at 35,000 tons. The attacks decimated the Germany military's ability to move. The Battle of the Bulge, Hitler's attempt to push back the advancing Allies in Europe, ended because of the lack of fuel to keep his tanks moving. Albert Speer, in his book "Inside the Third Reich" commented after the war that there were 300 King Tiger tanks at Munich rail station waiting to be moved to the front – but the Germans had neither the railways nor the fuel needed to move these tanks around; both targets of Allied bombing. However, the raids on the oil factories took their toll – 922 B17's were lost in total with the loss of nearly 10,000 men killed, wounded or captured.

The bombing raids on Germany by the 8th Air Force and the RAF's Bomber Command, took the heart out of Germany's industrial production. By September 1944, Germany had lost 75% of its fuel production. Out of the 1.5 million tons of bombs dropped on Germany, the B17 dropped 500,000 tons. The 8th Air Force had fired 99 million rounds of ammunition during these flights and it is thought that 20,000 German planes were destroyed. In total, over 12,000 B17's were built in the war and nearly 250,000 Americans experienced flying in them. 46,500 were either killed or wounded. However, the part played by the B17 in the European theatre of war was of great importance.



Airport User Meeting

The next user meeting is scheduled for March 2011, at 1830L, location unknown at this time. The meeting is open to anyone that would like to attend and usually addresses Airfield Activities, Airport Operations, Air Traffic Control, Noise Abatement Procedures, Security and ending with an open discussion. We look forward to seeing you there.

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We still need your feedback

Pilot feedback forms are part of this publication and are available at FBO's and in pilot lounges throughout the area. They are very important to us. With your feedback we can gauge where we are doing well, and where we need to improve.

Please take a few moments to fill out a feedback form and send it in after your next flight.

If you don't have a form available, email me at:

Gregory.Lyon@ang.af.mil or call 603-430-3189 and we will send one out to you.

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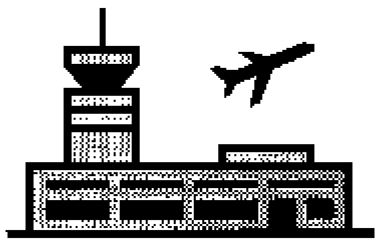

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ATC Services Quality Control

The New Hampshire ANG 260th Air Traffic Control Squadron would appreciate comments, questions, ideas, and suggestions concerning ATC services provided at Pease. This input will be utilized in assisting in the quality control monitoring of ATC operations.

This form is for quality control purposes only and does not replace standard FAA/USAF hazardous air traffic or facility deviation reports.

In order to assist in the review, please provide specific times, locations, and comments.

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NAVAIDS

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2. ILS [RWY 16]	SAT / UNSAT
3. VOR	SAT / UNSAT
4. DME	SAT / UNSAT

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Contact: **Greg Lyon,** *e-mail:* **gregory.lyon@ang.af.mil FAX: 603-430-3258; PHONE: 603-430-3226 U.S.Mail : Pilot Liaison Program, 260thATCS/ATC, 302 Newmarket Street, Pease ANGB,NH 03803-0157**

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