Safer Skies:
Tips and best practices for safer flying at the Bend airport and beyond

Traffic has become very dense in Central Oregon and the Bend airport has such high density at times that the risk of a mid-air collision or runway incursion is now significantly higher than before. The airport estimates more than 160,000 operations a year, this is THREE times as much traffic as there was 10 years ago and this traffic includes all types of traffic from helicopters and gliders to very fast corporate jets, flight testing and training.

Recently there have been a few close calls at the Bend airport. Some examples are:

- Airplane aborts takeoff when glider lands over the top of it
- Two airplanes merging in the pattern on downwind
- Aircraft departing on the downwind climbing into crossing aircraft or Turbine aircraft at 5,000' MSL
- Descending into the pattern on top of another aircraft
- Lining Up And Waiting, causing a go-around

We wish to mitigate the chances of a serious mishap occurring. To do this we need everyone's help!

Please consider implementing the following list of tips and best practices in order to increase safety while operating at the Bend airport and beyond. All of these recommendations come from seeing or hearing the improper and sometimes unsafe methods used many times in the recent past.

- We recommend everyone take some time to review the basics of good patterns and non-towered communications. See the original FAA sources, the Airplane flying Handbook and AC 90-66B w/Change 1 Non-towered Airport Flight Operations.
- Begin listening to the CTAF 10 miles or more away when inbound to gain situational awareness (SA) and make your initial call inbound. E.g. "Bend Traffic, [airplane type & last 3 digits of tail#], 10 miles east, 6,000, inbound, Bend."
- Use concise, accurate and proper communications. Avoid excess wordiness and "chit-chat" when the frequency is busy. Speak clearly, loudly and at a medium pace.
- Use the sterile cockpit concept as much as possible so that you can focus on traffic calls and looking for traffic.
- Whenever there are 2 or more aircraft airborne in the pattern or approaching, use standard FAA pattern entries. The 45 entry is preferred; crossing at pattern altitude and turning downwind is acceptable with no or very little other traffic; straight-ins from an instrument approach, traffic permitting or enter downwind leg as appropriate. All too often we have seen non-standard entries during busy periods at Bend, which decrease safety and sometimes cause collision hazards. Some examples of this are:
    - Crossing mid-field high and descending into the downwind leg. This creates a collision hazard that has had catastrophic results many times in the past.
    - Crosswind entries. Creates collision hazard by aircraft entering pattern in unexpected location.

- Left base-leg entries to Runway 16 (opposite pattern side entries). Creates conflict with base traffic and helicopters.
- 45 degree entries to, or near where the base leg should start or 45 entry turning on to the downwind leg upwind of the runway (the 45 should go to a mid-field turn to downwind!). Any other location is not expected and creates a collision hazard.
- Short, e.g. 1 mile, teardrop patterns instead of going a minimum of 2 miles beyond the runway before descending and executing a teardrop entry. Too short of a teardrop creates conflict with downwind traffic.
- Crossing the field at 5,000 MSL when there is turbine traffic in the area. Collision hazard.
- Long downwind entries well upwind of the runway. This creates conflict with crosswind traffic. The better alternative is to go do a 45 degree entry.

- We recommend that when airplanes cross from east to west for a teardrop entry, do so at 5,500 MSL or higher as there is frequent turbine traffic at Bend, which fly a 5,000 MSL pattern. Go at least 2 miles west before descending and get to 4,500 MSL well before pattern entry (On the 45 at the latest).
- Keep your patterns tight! The trend for years now has been bigger and bigger patterns. This creates inefficiency and safety issues. Do your best to safely fly a tight pattern. Small GA airplanes do not need 2+ mile final approaches nor do they need to be 1 mile plus away from the runway on downwind. If you have difficulty with this, seek competent instruction. There is no shame in getting your skills tuned up.
- Avoid using landmarks for position reporting, or at least use direction and distance with the landmark. Most non-local (and some local) pilots are not familiar with landmarks, therefore using direction and distance will increase SA for everyone. Example: “Bend traffic, Skylane 34C, 2.5 mile right 45, runway 16, Bend” or “Bend traffic, Skylane 34C over the solar farm 2.5 mile right 45, runway 16, Bend”.
- Do not call “final” when more than 3-5 miles from the runway (distance depends on speed of the aircraft). Calling a 12 mile final is a bad practice and can cause delays for other aircraft wishing to takeoff. Beyond 5 miles you are not even in the airport area. A much better call would be “Bend traffic [airplane type] 23B, 12 miles south, straight in approach, Bend”. Then when 3-5 miles out call “…final runway XX”. Better yet, if the pattern is busy, do a 45 degree entry to downwind.
- When in the pattern, your lookout should be to the outside of the pattern, not looking down at the runway. Almost all of your threats are away from the runway. Spend most of your time looking where there is potential for a conflict with other aircraft.
- When departing the KBDN airport on a downwind departure, do not climb through pattern altitude until clear of the airport area.
- Be aware of increased commercial traffic into and out of KRDM. This can affect departures straight out from RWY 34 and base to final to RWY 16 at KBDN. If you extend downwind for spacing on RWY 16, be cognizant of RDM traffic. It is becoming more common to have traffic alerts or visual contact with SkyWest airliners within 3 miles of KBDN.
- When an airplane i.e. corporate jet enters left downwind for RWY 16 at KBDN, adjust your pattern to minimize conflict. Consider exiting the pattern and re-entering in sequence.

- Avoid becoming a controller on the radio by offering corrective action to the offending pilot. Maintain professionalism. If it becomes a problem, deal with it on the ground, face-to-face. It may become a good instructional opportunity as well as keeping up good relations with visitors.
- Do not Line Up and Wait (LUAW). This control tower instruction provides little benefit at a non-towered airport and can cause several safety issues. Only a few seconds are saved by the LUAW vs. waiting at the hold short line. Once on the runway you cannot see what is behind you. If the pattern is full ask for someone to create a gap so you can takeoff.
- CHECK THE NOTAMS BEFORE FLYING! It is amazing to see how often this simple task is neglected. It's required, do it.
- Consider getting ADSB-In capability or a Traffic Awareness System. This is money well spent as it can add a lot to your situational awareness. A $200-300 portable receiver and a phone or iPad with appropriate software is all that is needed. If you have a traffic awareness system, check it before takeoff.
- Do not perform 360° turns back to downwind to create spacing. That may put you in conflict with other aircraft entering on the 45. Either extend downwind, or exit the pattern with a 90° turn away from the runway and reenter on the 45.
- If you are entering on the 45, and you converge with another aircraft on downwind, turn downwind outside the other aircraft and maintain visual separation. Extend your downwind to create spacing before turning base.
- Do not turn an early crosswind. Climb to 300' below pattern altitude before turning crosswind.
- You can find presentations on non-towered communications and patterns at: http://mikekloch.com/home/advanced-airplane-learning/presentations/

Not everyone will likely agree with every item in this list. If you have a disagreement please feel free to share and discuss. If everyone tightens up their procedures then the airport will be a safer place to fly.

Mike Kloch & Peter King
FAA Safety Team Representatives
Mike.kloch@gmail.com
peter.king@masterflight.aero