



NATIONAL ASSOCIATION OF FLIGHT INSTRUCTORS

MENTOR

LIVE



What Kind of Pilot Runs Out of Gas?



Presented by:

LIVE

Mike Adams, Sr. Vice President of Underwriting



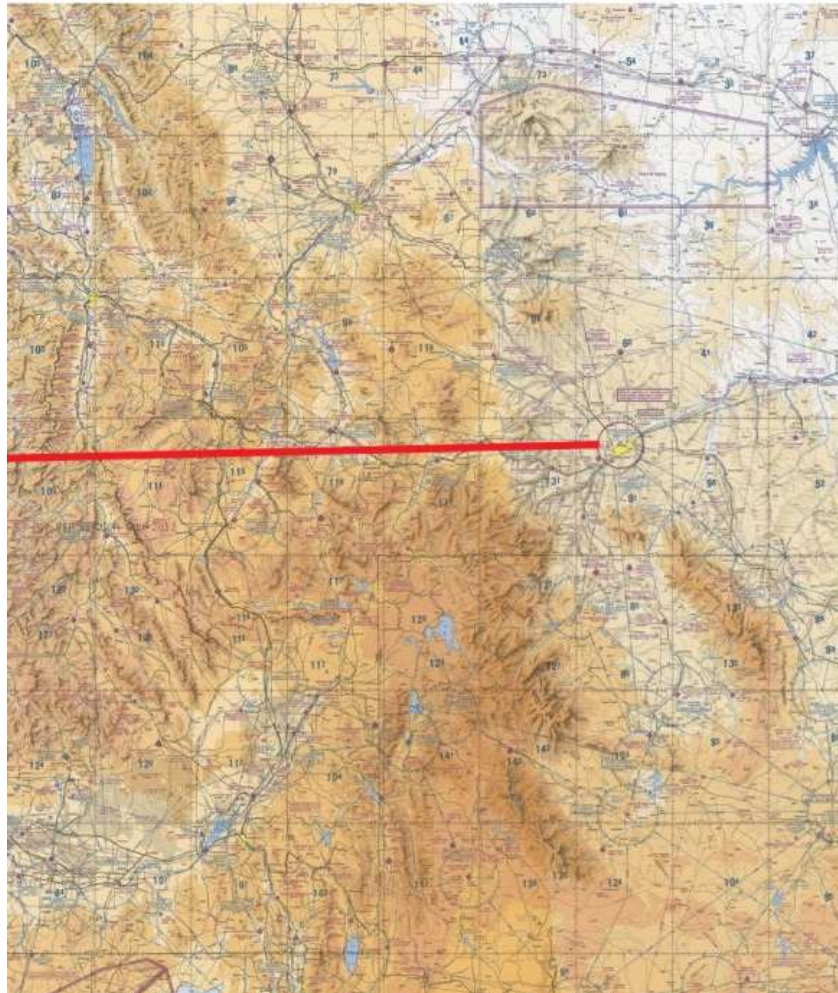
Mike Adams

- Instrument Rated Private Pilot.
- 30 Years Underwriting Aviation Risks.

Avemco

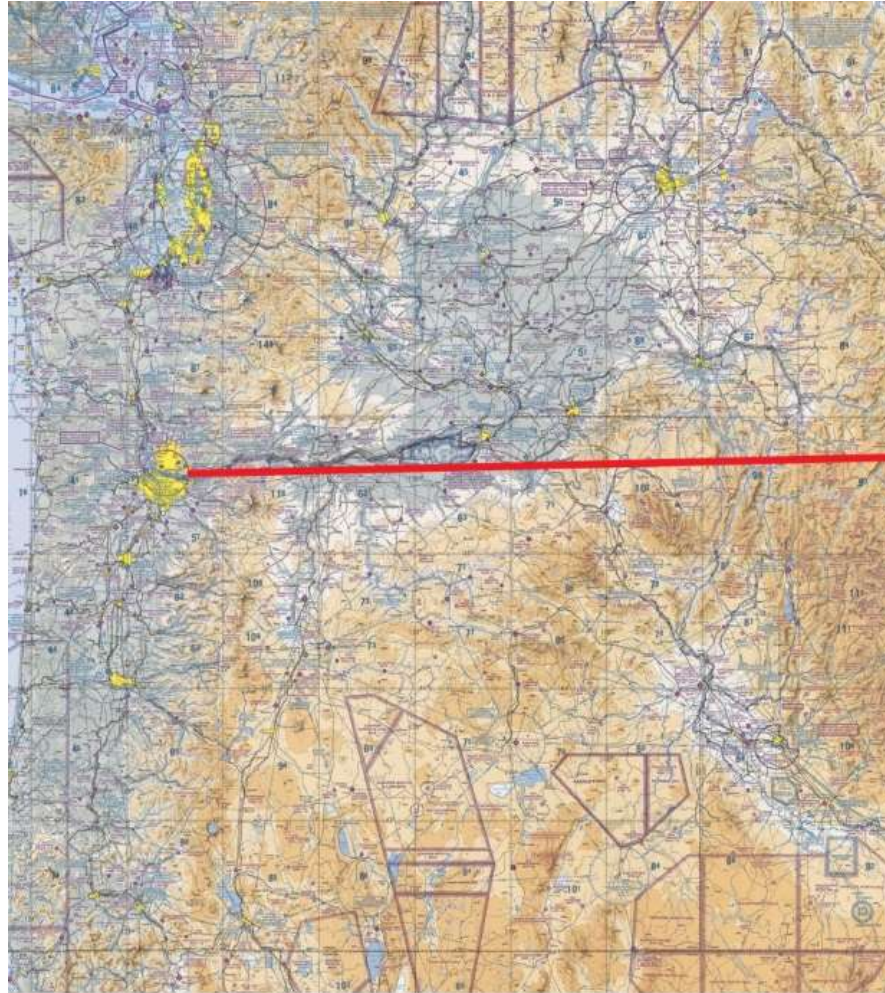
- The only direct provider of General Aviation Insurance for over 50 years.
- A++ (Superior) by A.M. Best consecutively since 1977.

KBIL – KHIO



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KBIL – KHIO



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Flight Plan

- KBIL to KHIO:
 - 56 gal. useable (standard fuel C-182P)
 - 603 NM
 - 4:20 Flight Time
 - 12.2 gal/hr.
 - Total fuel burn =
approx. 52 gal
 - Fuel remaining =
maybe 4 gal/20-30
minutes





What the POH says (in one place)

PERFORMANCE-SPECIFICATIONS

CESSNA
MODEL 182P

PERFORMANCE - SPECIFICATIONS

SPEED:

Maximum at Sea Level	148 KNOTS
Cruise, 75% Power at 6500 Ft	144 KNOTS

CRUISE: Recommended Lean Mixture with fuel allowance for engine start, taxi, takeoff, climb and 45 minutes reserve at 45% power.

75% Power at 6500 Ft	Range	475 NM
56 Gallons Usable Fuel	Time	3.4 HRS
75% Power at 6500 Ft	Range	670 NM
75 Gallons Usable Fuel	Time	4.7 HRS
Maximum Range at 10,000 Ft	Range	565 NM
56 Gallons Usable Fuel	Time	5.1 HRS
Maximum Range at 10,000 Ft	Range	810 NM
75 Gallons Usable Fuel	Time	7.3 HRS

Other Factors of Flight

- Supplies for week-long business trip & FAA Safety Fly In.
 - Business promotional material.
 - Traveling display for show.
 - Clothes.
 - Emergency Kit.
 - ½ case of oil.

VFR to KHIO (Other Factors)

- Not heavily loaded.
- Higher is better.
- Winds? Out of the West.
- Sightseeing.
- External Pressure.



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What I Learned

Self-Discipline is critical:

- One hour remaining.
- Stop ½ way, but no more than 3 hrs.
- Land for gas = Get gas.
- Plan for the unplannable.
- Plan for effects of:
 - Altitude.
 - Temperature.
 - Turbulence.





FAR 91.151 & 91.167

(a) No person may begin a flight in an airplane under VFR conditions unless, under the forecast weather conditions there is enough fuel to fly to the first point of landing and, assuming normal cruising speed --

- (1) During the day, to fly after that for at least 30 minutes; or
- (2) At night, to fly after that for at least 45 minutes.

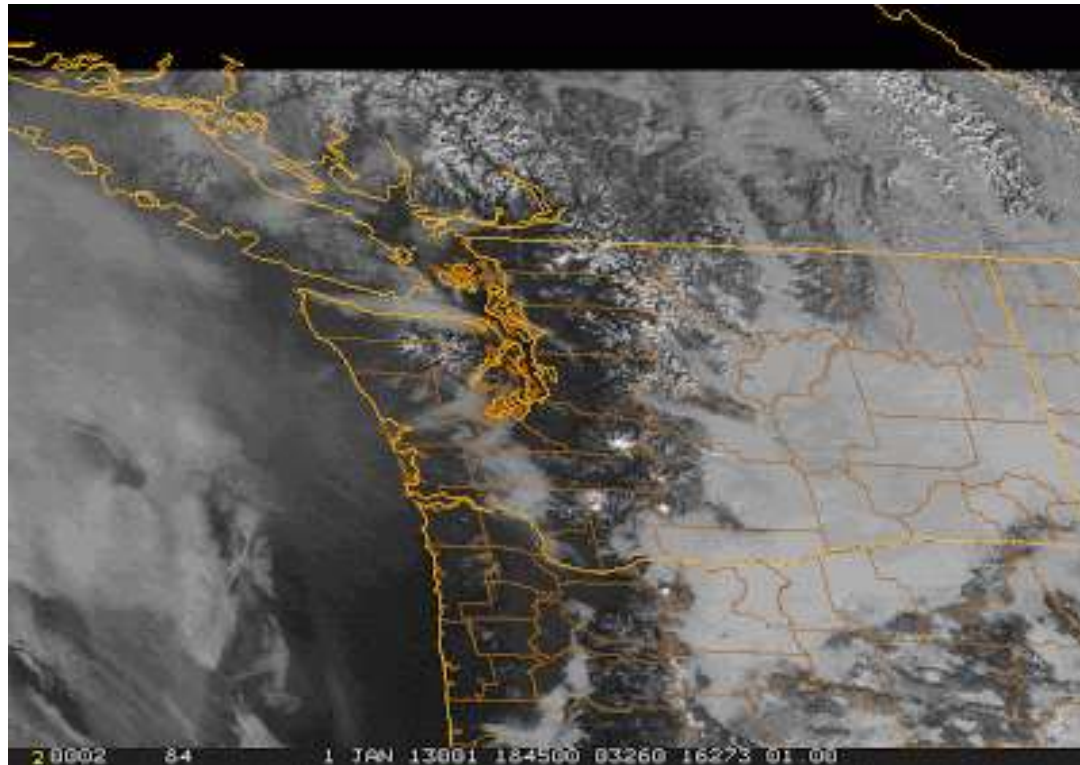
(b) No person may begin a flight in a rotorcraft under VFR conditions unless it carries enough fuel (considering forecast weather conditions) there is enough fuel to fly to the first airport of intended landing; and, assuming normal cruising speed, to fly after that for --

- (1) Complete the flight to the first airport of intended landing;
- (2) Except as provided in paragraph (b) of this section, fly from that airport to the alternate airport; and
- (3) Fly after that for 45 minutes at normal cruising speed or, for helicopters, fly after that for 30 minutes at normal cruising speed.

and
and,

Unexpected Diversions

- Lousy Weather.



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Source: <http://cliffmass.blogspot.com/2013/01/darkness-and-now-redemption.html>

Unexpected Diversions

- No Fuel.
- Carry Cash.



Unexpected Diversions


- Closed runway.




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The New York Times **U.S.**

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Haircut Grounded Clinton While the Price Took Off

By THOMAS L. FRIEDMAN,
Published: May 21, 1993

Correction Appended

WASHINGTON, May 20— It may have been the most expensive haircut in history.

Two of Los Angeles International Airport's four runways were shut down for nearly an hour on Tuesday, some incoming flights were delayed and Air Force One sat on

SIGN IN TO E-MAIL
PRINT

RUBY SPARKS
COMING SOON

Communicate

Tell ATC what's happening.

Say the magic words...

- "Minimum Fuel."
- "Emergency."



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Always Have a Plan B

Avianca Flight 52.

- Never declared “Minimum Fuel.”
- Never declared “Emergency.”



May 18, 1980



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Photo: <http://www.driever.nl/foto/achtergronden/JLM-NatGeo-Mount-St-Helens-1980-May-18.jpg>

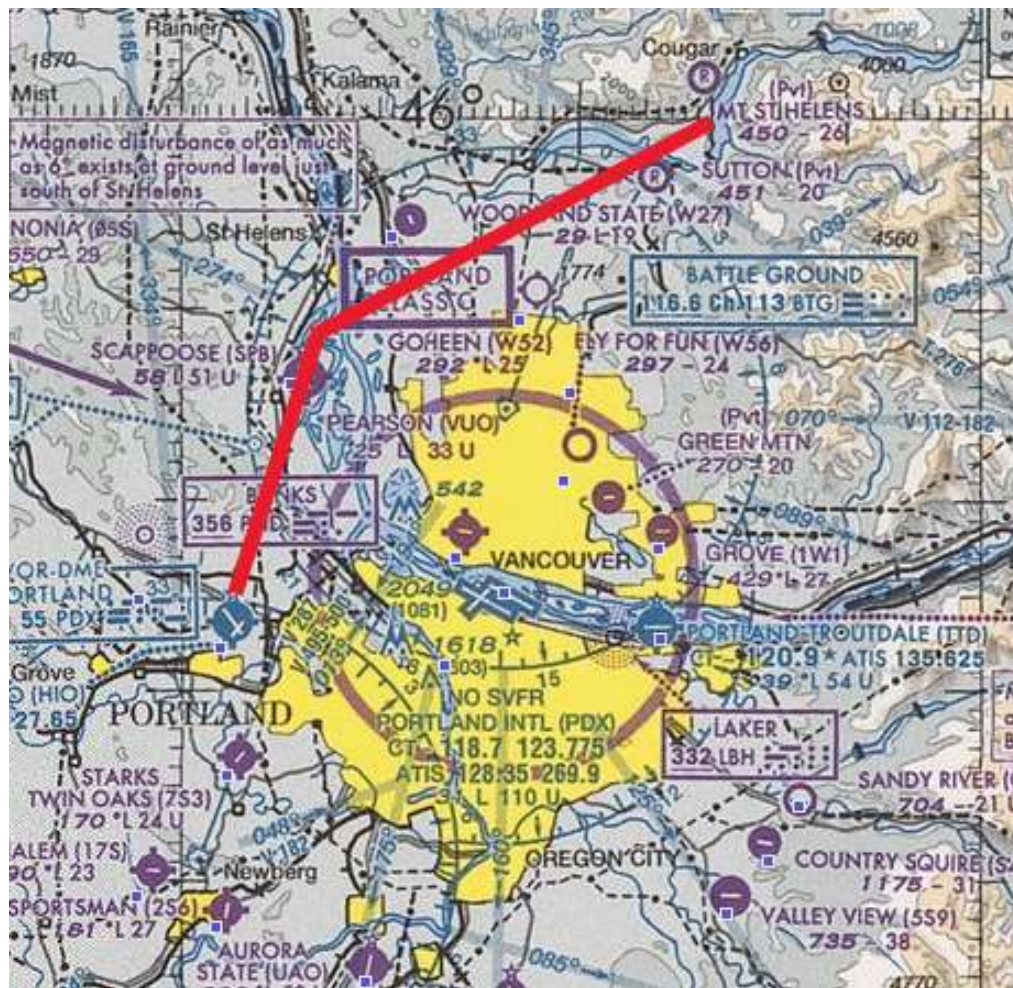
Mt. St. Helens

- KHIO to Mt. St. Helens return to KHIO.
- Cessna 182.
 - Pilot plus 3 friends.
 - Approx 18 gal fuel each tank.
 - 100 NM.
 - 1 Hr. 30 Min flight.
 - (Acft within GTOW & CG.)



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The Route



Plan B



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Lesson Learned

- Check time & fuel – write it down!
- Continue to check time & fuel.

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Student Solo Cross Country-NavAids



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*Source: <http://www.registerguard.com/rg/life/discovery/27739958-188/area-wilderness-outdoor-hiking-trail.html.csp>

What the POH says (in one place)

PERFORMANCE-
SPECIFICATIONS

CESSNA
MODEL 150M

PERFORMANCE - SPECIFICATIONS

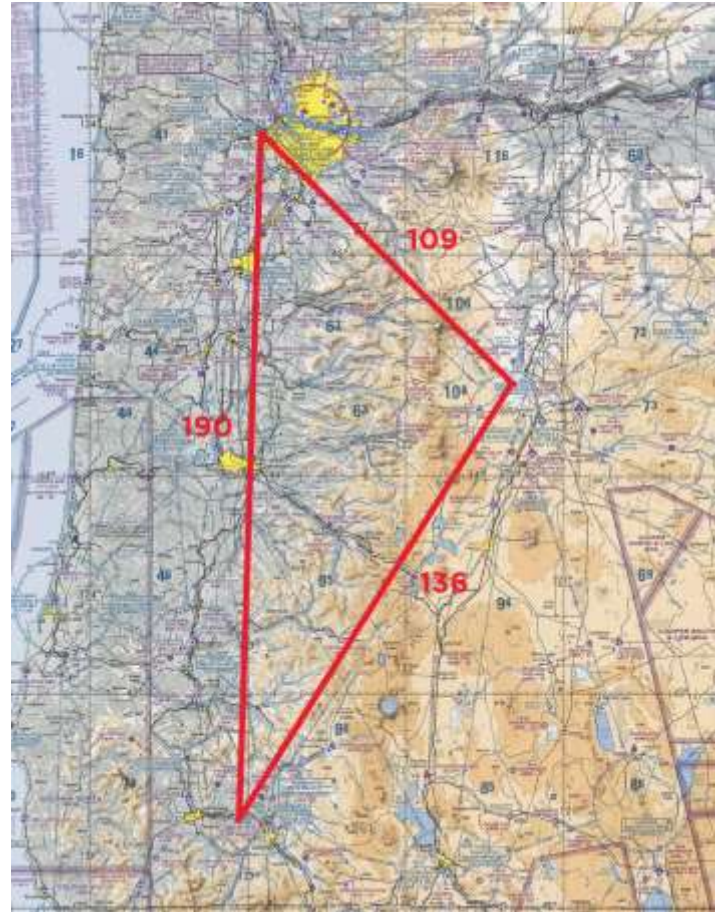
SPEED:

Maximum at Sea Level109 KNOTS
Cruise, 75% Power at 7000 Ft106 KNOTS

CRUISE: Recommended Lean Mixture with fuel allowance for engine start, taxi, takeoff, climb and 45 minutes reserve at 45% power.

75% Power at 7000 Ft	Range	340 NM
22.5 Gallons Usable Fuel	Time	3.3 HRS
75% Power at 7000 Ft	Range	580 NM
35 Gallons Usable Fuel	Time	5.5 HRS
Maximum Range at 10,000 Ft	Range	420 NM
22.5 Gallons Usable Fuel	Time	4.9 HRS
Maximum Range at 10,000 Ft	Range	735 NM
35 Gallons Usable Fuel	Time	8.5 HRS

Student Solo Cross Country-the plan



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Closing Thoughts



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Closing Thoughts

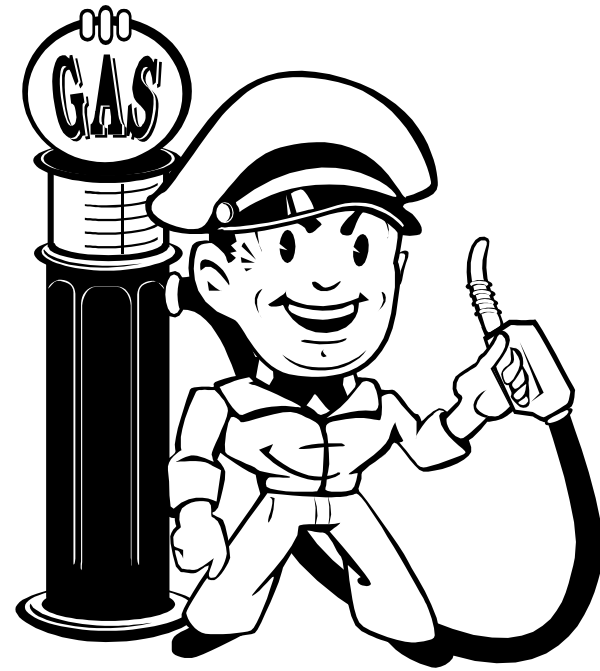
- Personal Minimums.
- Ethics.
- Stop for Gas = Get Gas.
- Plan for the unplannable.
- Is your predicted fuel-burn accurate?



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Closing Thoughts

- Don't rely on the POH.
- Check for yourself.
- Top off.
- Fly specified time.
- Top off.
- Measure with dipstick.
- Add margin of error.



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Program



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Questions?

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