

Scaled Composites  
Lunch and Learn

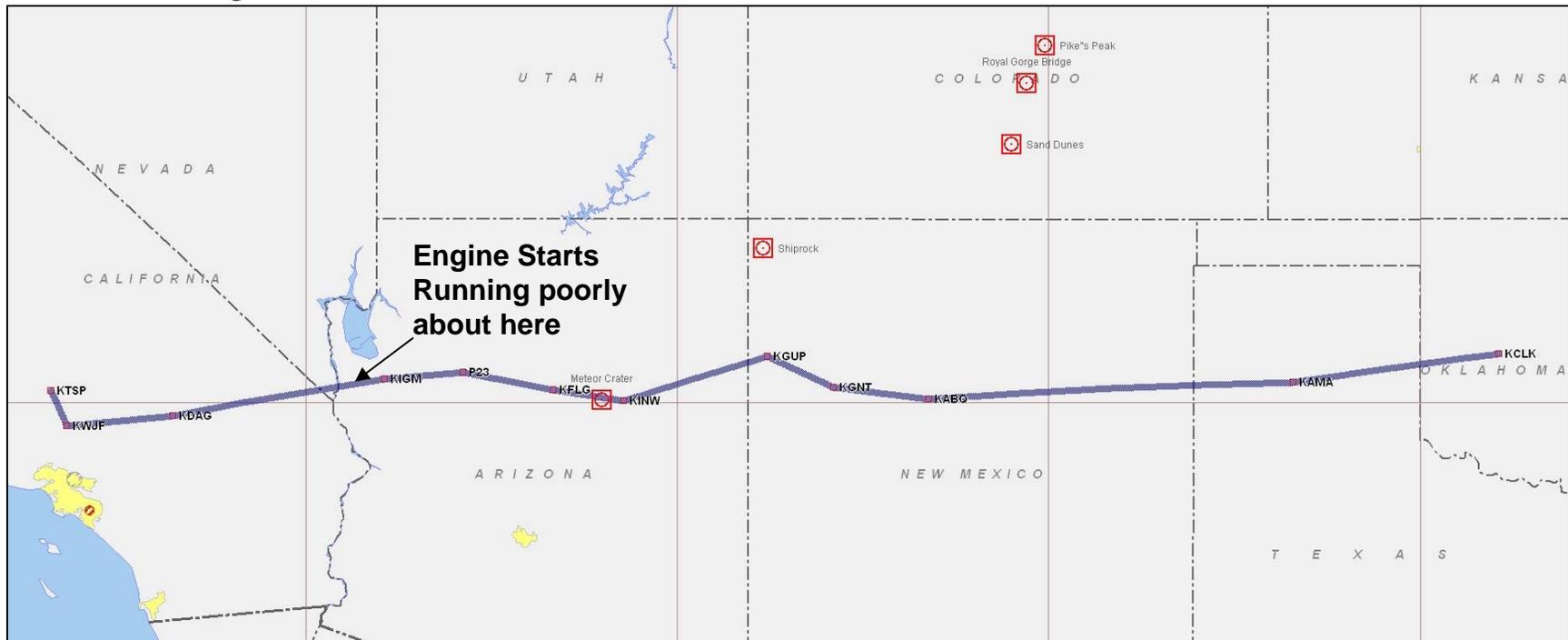
**Poor Judgment:  
Hints for Recognizing It When  
it's Biting You on the Ass**

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February 25<sup>th</sup>, 2009

# Introduction

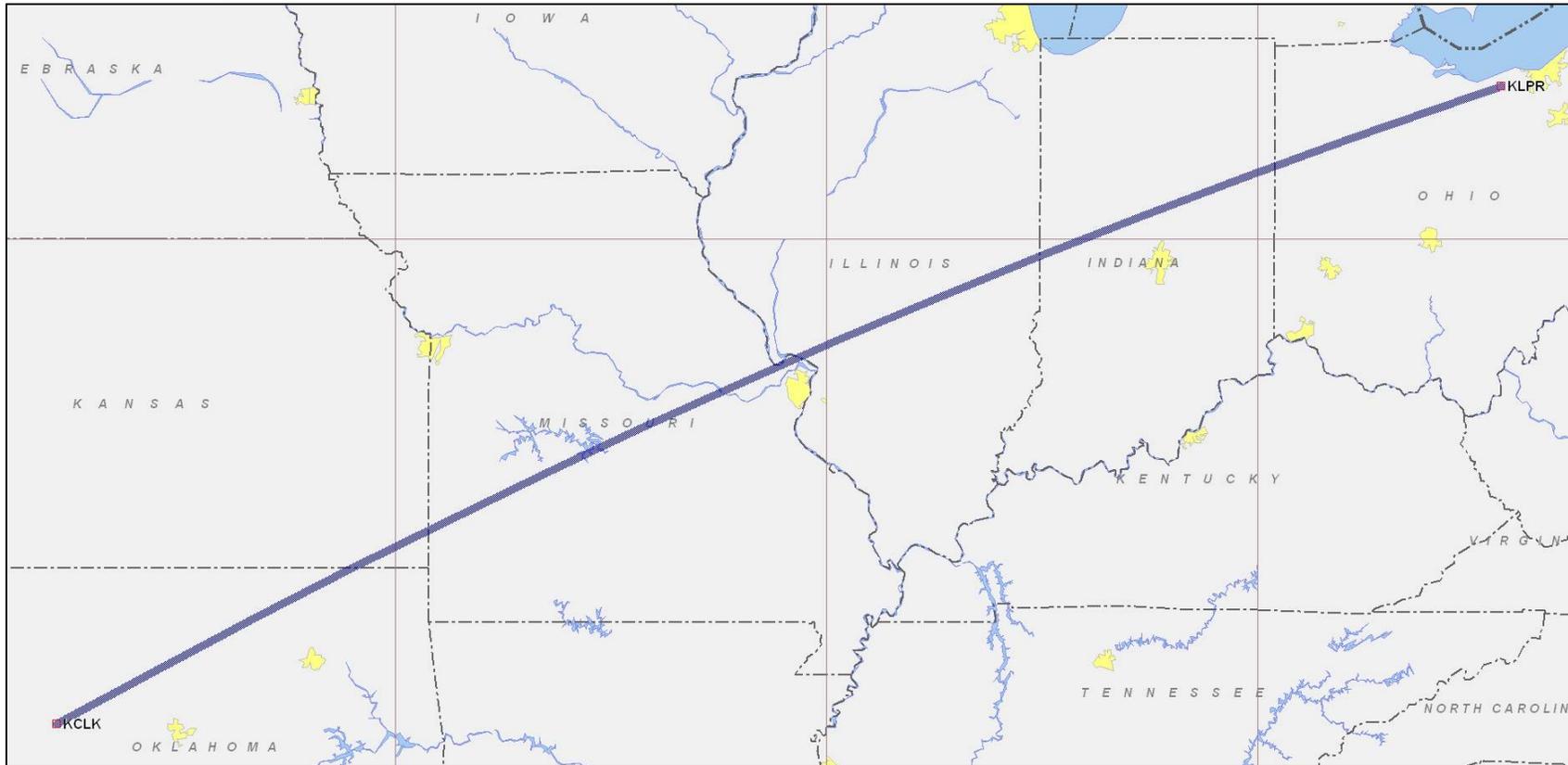
- Not a flying story – human story
- I guarantee you'll think I'm an idiot
- I guarantee you'll think that "I'd never do that"
- Will laugh with embarrassment and feelings of superiority
- Just as stupid as "Watch This" or "Here, hold this beer"
  
- Trip description:
  - **KTSP** to Cape Cod / New Jersey for vacation
  - to **OSH** for vacation/fora (COZY and Canard)
  - Come home
  
- Previous flights:
  - Test flight after replacing broken magneto with new EI – had two EI's (Pmag / Emag)
  - Sightseeing for friends over Antelope Valley
  
- String of stupid decisions

# July 18<sup>th</sup>, 2008: KTSP - KCLK



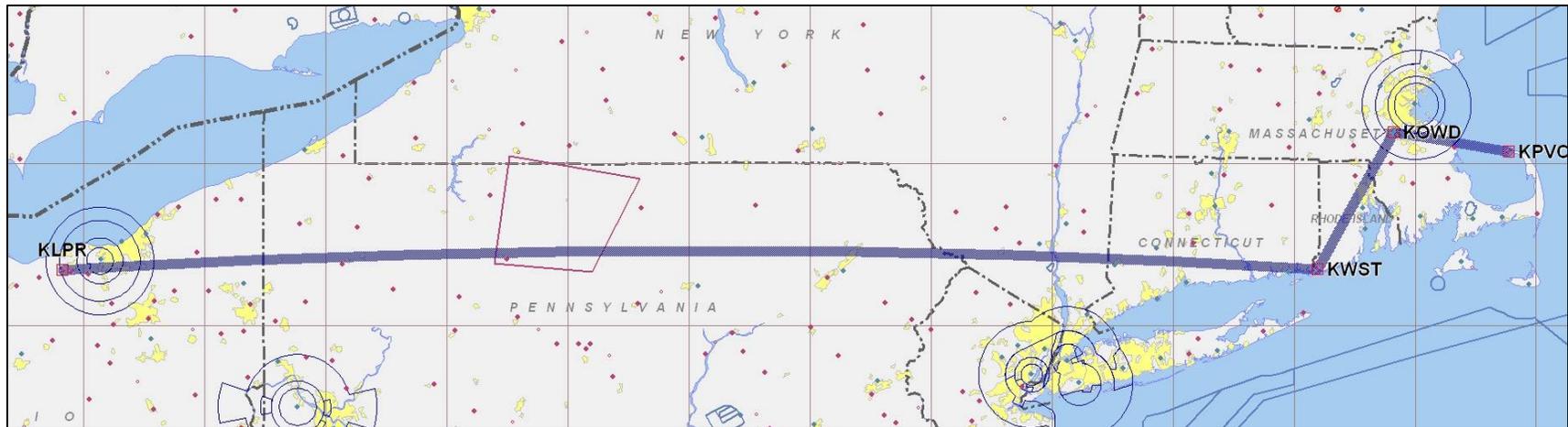
- 987 NM Non-Stop
  - ~6.2 hrs
  - ~800 NM with EI Issue
- Lost ~100 RPM
- CHT's up ~50 F
- Fuel Flow up ~1/2 gph
- Played with:
  - Throttle
  - Mixture
  - Ignition On/Off
- First Stupid Decision – continue flight with known issue
- Land in Clinton (gas, oil, bathroom)
- No A&P on field – won't be back for 3 days
- Add oil, takeoff cowl – no obvious problems
- Run-up crappy – one EI not working – go back and check under cowl again
- Don't want to be stuck somewhere in AZ, NM or in **KCLK** – have friend in OH – need to get there

# July 18<sup>th</sup>, 2008: KCLK - KLPR



- Second Stupid Decision - rationalize takeoff from **KCLK** to get to OH
- 859 NM - ~5.5 hrs
- Running poorly from start - take off on one EI
- Second one kicks in after 10 minutes (warm-up, presumably) – runs as before on 1.5 EI's Land in OH
- Look under cowl again - nothing obvious – add oil
- Spend night with friend in OH

# July 19<sup>th</sup>, 2008: KLPR – KWST – KOWD - KPVC



- Don't want to be stuck in OH – already paid for vacation in Cape Cod
- Third Stupid Decision - Take off on one EI again – second kicks in after 10 minutes during climb – runs medium crappy again
- ~568 NM with two stops
- ~4.5 hrs total
- Fly over scattered/broken decks @13.5k ft.
- Instead of going straight to final destination - land in Westerly to visit friend (who's not there – eat lunch and have phone conference with vendor)
- Fourth Stupid Decision – take off on one EI and fly to Norwood, MA to visit another friend
- Fifth Stupid Decision – take off on one EI and fly to Provincetown for week vacation
- Call EI vendor and have new unit Fedex'ed to **KPVC**

# July 25<sup>th</sup>, 2008: KPVC – KHWV – KHTO - KPVC



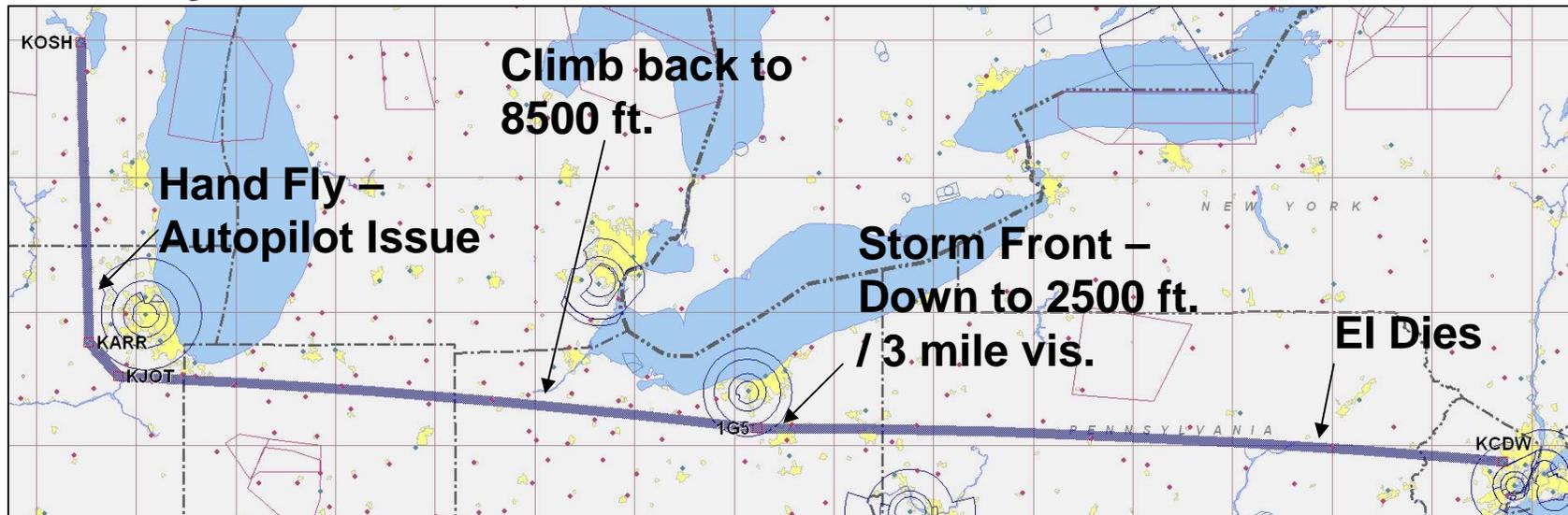
- Replaced dead EI
- Sixth Stupid Decision – take off on two EI's, knowing that I've already had an undiagnosed failure
- But “need” to bring nephew home to LI – son comes with
- ~140 NM each way
- ~50 min. each way
- Engine/both EI's runs fine to **HWV**
- Major problem 7 minutes after takeoff on return, son in right seat
- CHT's through roof – can only maintain 2000 rpm
- Make Emergency landing in **KHTO** – disconnect **OTHER** EI – **NOT** the new one
- Seventh Stupid Decision – take off on one EI
- Fly back to **KPVC** on new EI
- Deanie very upset – everyone OK
- First epiphany – almost killed my son

# July 26<sup>th</sup>, 2008: KPVC - KCDW



- Decide - No passengers for rest of trip – whoohoo – at least **ONE** good decision
- Eighth Stupid Decision: Take off on one EI, having had **TWO** failures
- But need to get to NY to visit mom
- ~200 NM
- ~ 1.5 hr into 20 kt. headwind
- 45 min above broken deck
- **DON'T TELL MOTHER ANYTHING**
- Have new EI Fedex'ed to NJ
- Install – now have two replaced EI's
- Get flight for Deanie from NY to **OSH**
- Notice - **Not** getting substantially smarter (can laugh now, but doesn't change facts)

# July 30<sup>th</sup>, 2008: KCDW - KOSH



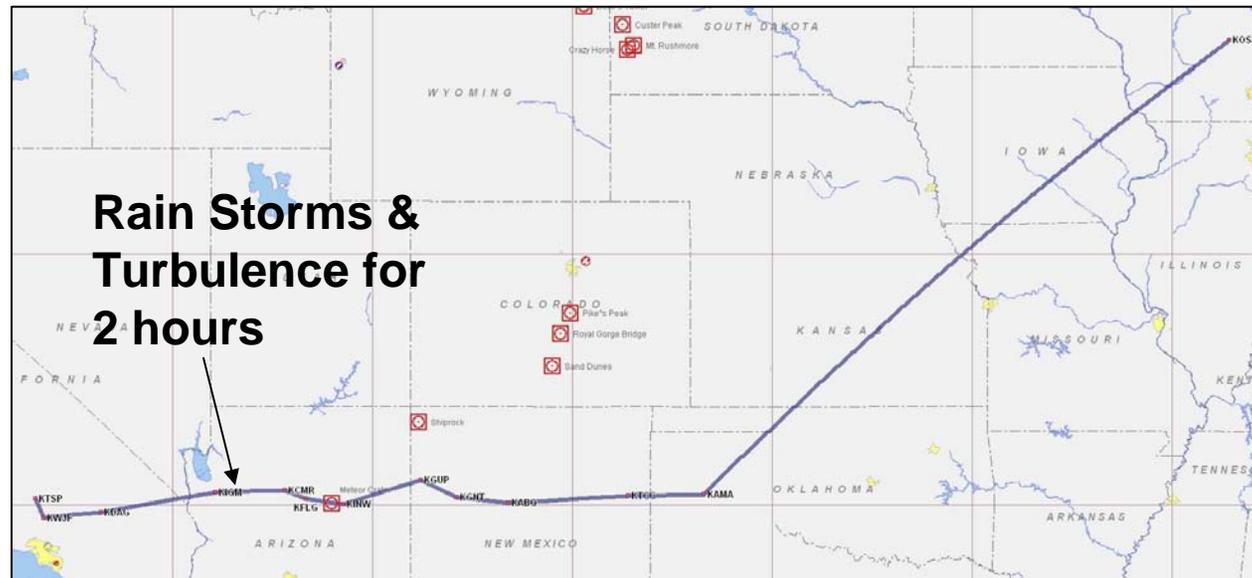
- Figure, get to **OSH**, deal with vendor directly, then get home
- Ninth Stupid Decision – take off with two possibly bad EI's
- ~780 NM
- ~4.5 hrs planned - ~5.5 hrs actual (winds/diversion)
- New (NJ Install) EI dies after 1.5 hours over eastern PA
- Tenth Stupid Decision – continue flight
- From 10,500 ft., attempt to climb over front near Cleveland – can't get over – double back and descend from 13,500 ft. to 2,500 ft. (**AWOS/ATC** indicates **VFR**, light showers underneath – no convective activity)
- Eleventh Stupid Decision – continue flight down low, through low visibility (~3 mile), on one EI
- But, have to get to **OSH** to pick up Deanie at Appleton...
- Very tired, very stressed, into **OSH** – borrow car, get Deanie

## At OSH:

July 31<sup>st</sup>, 2008 – August 2<sup>nd</sup>, 2008

- Spend three days taking apart EI's, diagnosing with vendor
- Give Canard Forum / COZY Forum
- Attend lunches, dinners
- Argue with Vendor (Emagair)
- Replace EI's with new and spare
- Talk to friends about plan to get plane home

# August 2<sup>nd</sup>, 2008: KOSH – KTCC – KTSP



- Twelfth Stupid Decision (maybe slightly less stupid, since these EI's are supposedly "fixed") – take off, but at least this time, with a plan
- ~1650 NM
- ~12 hr. for day
- Use fixed EI's – mechanical fix
- Plan:
  - Fly at 2500 rpm
  - Never over 2600 rpm
  - Keep speed up for cooling
  - Have third "extra" EI in plane – just in case
- No problems first 5.5 hrs.
- Stop in **KTCC** for food/fuel/oil
- Thirteenth Stupid Decision (by this time, routine) – take off on last leg home
- Bumpy all the way with headwind – moderate turbulence through AZ/CA
- Engine runs fine whole way
- VERY tired, nauseated, land just before dark
- Removed EI's – returned for refund
- Took plane apart – after 6 hours of work, haven't flown or worked on since mid-August

# Learnings / Conclusions

- **From This Experience:**

- **Thirteen** Stupid Decisions – any of which could have killed me – Odds relatively low, but **FAR** higher than normal
- We're engineers, but: **don't** focus on **TECHNICAL** issues with EI / Engine – that's **NOT** the problem
- No matter how smart you are, or think you are, you can still be a complete idiot
- Anyone who thinks that because they have a degree from college and a good job means that they're not capable of making mistakes that can and will kill them is in complete denial
- You will sometimes do things that if your friends said they were going to do, you'd tie them up to the boiler in the basement to keep them from doing it
- Reading NTSB reports and having a “**what was that moron thinking**” attitude is lying to yourself and can kill you
- Get there-it is can kill you
- Having to be somewhere, or thinking that you have to be somewhere, can kill you
  
- **Sometimes, even recognition of all of these issues, and having them all running around in the back of your head, is INSUFFICIENT**

- **Other Personal Instances of Poor Judgment:**

- 1978: Finger in Surface Grinder
- 1978: 75 mph Motorcycle grounding
- 1979: Caught Hair in Milling Machine
- 1981: Motorcycle Case crack
- 1985: Q2 nose-over
- 2004: Shoelace nose gear collapse

- **Commend Elliot Seguin/ Jen Whaley for GOOD judgment at Reno (Previous Lunch & Learn)**