

BLUE SIDE UP!



The BFC, founded in 1956, meets at Naper Aero Estates (LL10), a private residential airpark in Naperville, Illinois. Monthly meetings are held at the airport in the clubhouse near the South end of the runway on the first Tuesday of every month beginning at 7:30 PM. The Club has 45 equity members sharing three planes.

ERV - CIP

LL10 Avgas 100LL

\$4.71/gal

Aircraft Rates as of October 1st

C172S 4BC \$121.60

C172SP 3SP \$116.60

C182S 5RC \$142.26

CY Cumulative Hours Flown

January 2019

884BC 07.7 hrs.

983SP 13.9 hrs.

415RC 06.5 hrs.

TOTAL 28.1 hrs.

2018 Totals

884BC 248.6 hrs.

983SP 301.4 hrs.

415RC 231.4 hrs.

TOTAL 781.4 hrs.

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February Meeting Minutes

Members Section

Article – Engine Failures – Part 1, by Larry Bothe

MEETING MINUTES

The BFC held its monthly meeting on Tuesday, January 8th, 2019 at Naper Aero. The President called the meeting to order at 7:30 PM. The list of Attendees is provided in the sidebar on page 2.

The minutes from the last meeting were published in the newsletter. Comments were solicited but none made. The minutes were approved as published.

The Treasurers' report was reviewed for the members. Total flying time for January was 28.1 hours with 0 hours club time. We made \$5,120.78 in payments and had \$12,933.62 in receipts. The loan balance is \$100,484 and cash in the bank is \$95,719.50. See the complete financial details later in this newsletter. The treasurer's report was approved unanimously as presented.

The aircraft reports were presented by the plane captains. Old and new business items were presented. Please see details in the following sections.

The meeting adjourned at 8:40 PM.

Join us for our next meeting:

Tuesday, March 5, 2019

Business meeting at 7:30pm

See you there!

Attendees**Members**

Jim Krzyzewski
 Jack Lindquist
 Kris Knigga
 Gevin Cross
 Walt Slazyk
 James Robertson Jr.
 John Wrycza
 Manish Awasthi
 Mel Finzer
 Alan Chan
 Don Patterson
 Doug Beck
 JP Balakrishnan

Guests**Social**

Eric Popper

TREASURER'S REPORT

CASH		
Chase Checking		20,516.59
Chase Savings		75,202.91
Total		\$95,719.50
PAYMENTS		
Naper Aero	Fuel and Fees	3,259.12
Volartek	Loan Payment	1,110.21
Aircraft Clubs	Reservation System	36.00
Sporty's	Oil and Filters	234.45
Honeywell	5RC GPS Database Update	481.00
Total		\$5,120.78
RESERVES		
INSURANCE (\$1500/ mo)		-4,500
ANNUALS (\$1000/ mo)		-10,000
LL10 DUES (\$350/ mo)		-1,400
INACTIVE MEMBER		-7,727
ENG OVRHL 4BC		0
ENG OVRHL 5RC (\$750/mo)		-21,175
CREDIT BALANCE MEMBER		-5,700
ADS-B EQUIPMENT (\$7/hr,\$3 dues)		4,458
EQUITY INSTALLMENT MEMBER		-6,000
EQUIPMENT UPGRADE		-43,676
Reserves net		0
Reserve Increase/(Decrease)		\$7,813.00
LOAN		
INTEREST PAID @ 6.0%		\$508
PRINCIPAL PAID		\$1,157
AIRCRAFT LOAN Balance		\$100,484
RECEIPTS		
Dues & Flying		11,509.08
Equity		750.00
Bank Interest		2.54
Christmas Party		672.00
Total		\$12,933.62
CREDITS TO MEMBERS		
Fuel Away		473.03
Loan Pymt		555.10
Total		\$1,028.13

FLYING HOURS

January

884BC	
FLYING	7.7
TACH	2201.3
TBO	2000
TMOH	1959.4
†CLUB	0.0
*GAL/HR.	10.2

983SP	
FLYING	13.9
TACH	4864.3
TBO	2000
TMOH	1687.1
†CLUB	0.0
*GAL/HR.	10.2

415RC	
FLYING	6.5
TACH	5570.2
TBO	2000
TMOH	475.4
†CLUB	0.0
*GAL/HR.	12.3

TBO – engine time between overhauls

TMOH – engine time to major overhaul

† Includes orientation flights

* Gallons per hour for calculating hourly rate. Do not use for flight planning.

AIRCRAFT REPORTS

N884BC

- 1) Oil changed.
- 2) Nose wheel shimmy still there. Need shimmy kit. Finish landing rollout with yoke in your lap.
- 3) Nose tire valve difficult to check due to angle
- 4) Reports of G1000 GDL 69 unit errors. This is the XM receiver and since we don't have a subscription isn't doing anything.
- 5) Some difficulty with the latest database updates and encountering a few errors.

N983SP

- 1) Nose strut re-inflated.
- 2) Annual coming due in March
- 3) Compressor hose was repaired so please check tire pressure.

N415RC

- 1) Nose strut low. Mechanic will be informed.
- 2) Chips on prop blades possibly from gravel takeoffs.
- 3) High voltage reading reported. This could be due to the battery sitting in the cold and not charged for long periods of time. The alternator then needs to charge a low battery causing the high voltage.

OLD BUSINESS

Newer 182 purchase – A proposed motion (noted below) is planned to be raised for a vote during the March meeting. There was more discussion during this meeting regarding this proposal. Some reasons for acquiring a newer 182 are 415RC is 20 years old, purchased in 2000, over the 5000 hour limit specified in the bylaws, harder to maintain, GPS difficult to update. It's estimated 415RC could be sold for \$120K - \$130K. Some of the topics discussed were how long would the loan be for, should the hourly rate be higher and the monthly dues lower and concern regarding scarcity of finding a newer 182.

Proposed motion to be presented for a vote at the March club meeting:

“The board of directors of the BFC shall be authorized to sell the club’s 182 aircraft, N415RC and purchase a Cessna 182 aircraft with G1000 avionics and finance this purchase within the club with a loan of no more than \$150,000 at 6% interest. The monthly dues of the club will be increased by no more than \$30 per month in order to make the loan payment and pay any increased insurance costs. The base hourly billing rate of the new aircraft will be no more than \$15 greater than the current base billing rate of the club’s 182.”

NEW BUSINESS

John Wrycza was recognized for all the work he does maintaining the aircraft. Thanks John!

SAFETY

Be careful with the chain link gates around the hangars.

MEMBERSHIP – GUESTS

Alan Chan is a primary student pilot and applied for membership. A motion was made to officially accept Alan into the club. The motion was approved by all members present at the meeting. Welcome to BFC Alan!

MARKETING

No new marketing initiatives currently. New mailing in the spring.

ACCOMPLISHMENTS

Kevin Kanarski successfully passed his Instrument knowledge written test.

MEMBERS SECTION

This section is for you, the members, to showcase your airplane adventures in the Photo Corner and let others know of your accomplishments. We are also looking for members to submit articles for the newsletter. With the years of flying experience we have in our club we are looking for members to submit articles in the style of 'I learned about flying from that', 'Never Again' or 'Stick and Rudder'. It's in our best interest to make our small community of pilots safer by passing on experience and knowledge. Submit articles to the club secretary.

ENGINE FAILURES - PART 1

Submitted by Larry Bothe (originally written 11/10/2015)

I have been both cursed and blessed with engine failures. Nine of them in 42 years/7500 hours is more than my share. The curse is that they happened in the first place. The blessing is that no people were injured or airplanes damaged in any of those failures. I present the stories of these events, not because I did anything heroic in surviving them, but rather because there are some lessons for all of us in each one.

After in-flight fire, the next scariest thing for most pilots is engine failure. I have had them when receiving instruction, giving instruction, and in everyday personal flying. Engine failures can happen anytime, day or night, and even, as you will soon read, right after a satisfactory engine run-up. Even though modern airplane engines don't fail very often (except on me!), the FAA still requires the engine failure task during the checkride for all basic pilot certificates. I have created a Power Point presentation on how I believe engine failures should be handled. You can view it on the EAA webinar website at <http://www.eaavideo.org/detail/video/5543846774001/webinar--when-the-engine-goes-silent&q=Bothe>

Lest you think I'm making all of this up, here is a chronological list of my nine engine failures.

- 8/6/1965 – DeHaviland Beaver, ran a tank dry in the White Mountains, in Vermont, at night
- 3/26/1977 – Piper Apache, left engine quit on takeoff. Magneto problem.
- 12/26/2001 – Piper Cherokee 140, student switched tanks, shut the fuel off
- Early 2000's ???, Cessna 172N, ran very rough and shook badly on climb-out, mags (again)
- 12/16/2006 – 3 at one time, checkride in a Challenger II, Long Wing. Engine not properly jetted for cold weather operations.
- 7/7/2011 – Cessna 177 Cardinal, ran a tank dry on a ferry flight. Fuel selector in wrong position.
- 3/8/2013 – Champion 7EC, quit on climb-out, carb issue, high-speed fuel circuit blocked.

By far the most common cause of these failures is bad fuel management, and that in turn is direct pilot error. If you have fuel in the plane but you are not directing it to the engine

you have nobody to blame but yourself. I have had 3 of those types of failure, and two of them were my fault.

My first engine failure was one of the most feared ones. It occurred at night, over inhospitable terrain. I was flying an Army DeHaviland Beaver (as a student pilot, don't ask) in the White Mountains of New Hampshire. We were humming along at 8500 feet when that 450 hp Pratt & Whitney radial just stopped dead. No cough, no sputter; it was just like throwing a light switch. Suddenly all you could hear was wind passing over the plane. It was eerie. The instructor said "boost pumps on, switch tanks". I reached down and threw up the two boost pump toggle switches and then grabbed the large D-ring fuel selector valve handle (looked like it belonged on a ship!) and turned it. The engine roared back to life. The instructor said "now will you keep track of time?"

Please cut me some slack on this first one. After all, I was still a student pilot. Beavers have a complicated fuel system. The 3 main fuel tanks are in the fuselage; aft, center and forward. There are also 2 aux tanks, one in each wing. We had filled them all for the long trip from Bar Harbor, ME to Mt. Pocono, PA. With the aux tanks full the drill was to burn the forward main tank first, and then switch to the aft main. While burning the aft main you transferred the fuel from the aux tanks to the forward main; the aux tanks would not directly feed the engine. Then you used fuel from aft forward. I burnt the forward tank and switched to the aft OK, and did the transfer to refill the forward main. However, I failed to keep running time on the aft tank. I ran it dry, with predictable results. I got three quick lessons out of that experience; know how your fuel system works, keep track of time, and engines quit really fast when starved for fuel. Coughing and sputtering only happens in the movies.

The next fuel management engine failure occurred when I was checking out a fairly new pilot in a Cherokee 140 in which he had just purchased a partnership. The checkout was also a 3-leg repositioning flight. We did all the flying on one tank. As we approached our home field on the last leg I suggested that the new owner switch tanks to the full one for the landing. His hand went down by his left leg. I happened to be looking at the engine instruments and saw fuel pressure drop to zero. I immediately said, "Lynn, it's gonna quit", but I got only as far as "cuh" sound at the beginning of the word "quit". The engine died. I said to Lynn, "Put that back where it was." The hand disappeared again, and the engine instantly came alive.

We landed and pulled off the runway. I asked Lynn to show me what he had done. It turned out that he had gone from Left, past Right, into the Off position. I explained to Lynn that there was a detent you could feel at each selector position. He moved the selector back and forth through the positions a few times to experience the detent feel, and then we completed the checkout. The lesson is that you better not ask a student to do something you have not briefed him on, especially if you can't see the action. And once again, there will not likely be any warning, coughing or sputtering.

My most recent fuel management screw-up came while ferrying a Cessna Cardinal from Seymour, Indiana to Victoria, Texas. The new owner was a student pilot. He hired me to ferry it home for him, and he would ride along. In spite of a forecast of thunderstorms in Arkansas we took off anyway. The plan was to stop in northern Arkansas, get fuel, and look at radar to determine how to deal with the thunderstorms. A second fuel stop was planned for Shreveport, Louisiana. Radar showed that our best strategy was going to be

to get out of where we were fast and go straight west about 75 nm before turning southwest again. The added distance meant we would be in the air for quite a while, and with bad weather about I wanted all the fuel I could put in the plane. In order to accomplish that I put the fuel selector on LEFT before fueling, and admonished the line service person to put in every drop he could.

After paying for the fuel and a final look at radar, we were off. The new owner/student was flying in the left seat. I called Memphis Center to get flight following. Memphis was very helpful, and after a time suggested a turn direct Shreveport. Somewhere south of Little Rock the engine abruptly quit. I took the controls, pitched for best glide, trimmed, and declared an emergency to Memphis. Memphis immediately responded that the Magnolia Airport was at our 12 o'clock and 8 miles. I could see it through the haze. Memphis wanted to know if we would make it. I told them I didn't know; we were at 4500 feet and flying into a headwind when the engine stopped. After declaring the emergency I got the student started on troubleshooting/restart. From the left, boost pump on, try different mags, carb heat, throttle, mixture, and then I looked at the after-market fuel totalizer. It said 23 gallons remaining. DUH! That's exactly half of the Cardinal's total fuel capacity. Then I looked further down, and there was the fuel selector on LEFT, just where I had set it for fueling. I reached down and rotated it to BOTH, and of course the engine came right back to life. At that same time Memphis called to ask how we were doing on making it to Magnolia. I told them we had the engine running again and wanted to proceed to Shreveport Downtown Airport. They questioned that. I told them we had a fuel management problem but we were fine now. Memphis told us to climb back up to 4500 feet and proceed direct Shreveport.

The lesson from this one is that whenever engines quit, especially if it's abruptly, ALWAYS respond by switching fuel tanks and turning on the auxiliary fuel or boost pump. Cessna drivers, like me, can become very complacent about the fuel selector because we fly everywhere with it in the BOTH position. However, that fuel selector is only on BOTH until you or someone else takes it off BOTH, and then forgets. Always switch tanks.

Two of the incidents in my list were not true in-flight engine failures, but they were close enough to be included. They centered on magneto problems. The first one was an engine failure during the takeoff roll in a Piper Apache in which I was taking multi-engine lessons. I was in the second day, which is to say about half way through the course. After lunch we fired it up taxied out, did the run-up, got takeoff clearance, and I advanced the throttles. Now, those of you with a multi-engine rating know that almost the entire course is flying around dealing with one sort of engine failure or another. Some of those failures were induced by means other than retarding a throttle. The instructor sometimes employed mixture or fuel selector to make an engine quit. So when the left engine quit and the plane headed for the weeds about half way to rotation speed, I wasn't especially surprised. The drill for failure on takeoff but still on the ground is to pull all the throttles to idle and stop on the runway, or off the end if you ran out. I was taking off from about 7000 feet at Reading, PA so I didn't lack for runway. I was guarding the throttles so I just pulled them back to idle. A bit of rudder kept it on the runway. As we slowed to a stop I looked over to see what fiendish thing the instructor had done this time. To me, all the controls appeared to be in their normal position. The instructor was sitting there with his hands in his lap. I looked over at him quizzically. He said, "shop", and jerked his thumb towards the FBO. I told the tower and taxied off. We were done for

the day. When I returned to finish up the following day I was told the issue was “mag problems”, with no detail given.

The other magneto problem occurred when I was instructing a student in a Cessna 172. It was a 1980 model and had the unpopular magneto system where both mags are contained in the same enclosure. The student did a run-up that didn't reveal any problems. However, on climb-out shortly after takeoff, perhaps around 400 feet, the engine suddenly lost a lot of power and began shaking badly. I said to the student, calmly, “you better turn back to the field.” Nothing. He was frozen. Louder I say, “turn back!” Still no response. Determined to make the teaching point that the student could deal with this emergency, I then shouted, “TURN BACK, GOD DAMNIT!!!” That finally got his attention and he turned, went around the field, and landed. I know, we're not supposed to swear at students, but just once in a while..... The student later thanked me. He learned that when faced with an emergency you have to do something; not just sit there and wait for the crash.

This concludes Part 1 of this 3-part series. I have covered fuel management problems and magnetos that fail at odd times for no apparent reason. It is really important to keep track of time while flying. Engines burn gallons-per-hour, not gallons per miles covered over the ground. Fuel becomes critical based on how long you have been aloft; not how far you have come. With respect to magnetos, I have decided that they are not very trustworthy. They pack up on takeoff, and right after a perfectly fine run-up. You should be aware that engines can quit at any time, and be prepared to take corrective action. Don't freeze up and wait for the crash.

In Part 2 of this 3-part series I'll tell you about engine failures due to problems with carburetors and mixture. Three of those failures occurred during the same checkride (I'm not kidding!), and the last one was my only ride-it-to-the-ground experience.

OPERATIONAL & SAFETY REMINDERS

Remember, each of us owns 1/45 of these planes. Adherence to the reminders listed below will keep us safer and help to hold down the cost of maintenance. If you have a problem with a club plane notify the plane captain or maintenance officer before you arrange for any repairs. Let those people decide the best way to have the plane fixed. Phone numbers are in the fuel logbook in the plane.

Beware of TFR's: Presidential and stadium (Joliet Speedway & Dekalb Univ.).

Windshield cleaning: Use a clean, soft cloth to clean the windshield. Paper towels scratch the soft plastic. Clean rags should be in each plane; more are in the cabinets by 983SP.

Preflight inspection: Use the checklist. It's easy to get distracted and skip important things. When finished, step back and walk around the plane to take in the big picture.

Tire pressure: Check pressure visually before each flight. If tires look low add air using the red BFC air compressor located in the hangar. Tire gauge is with the compressor. 30 psi all around will do for the C-172's, 40 psi for the C-182.

Engine oil: Check the oil change sticker before each flight. If due it's OK to fly, but notify the plane captain or maintenance officer. If you add oil, log it in the fuel logbook. Oil consumption tells us about the health of the engine. Try to add only full quarts.

Nose strut: NEVER, EVER fly with a collapsed nose strut. Remember the sheared rivets in 388ES? That cost a lot to fix.

Bald tires: Bald (no grooves) is OK; cloth showing through the rubber is not. If in doubt roll the plane to check the portion of the tires that you can't see initially.

Closing airplane doors: Please open the window and close the door by gripping the lower windowsill. Opening the window relieves the air pressure as the door comes shut. Gripping the windowsill instead of the door panel handhold prevents expensive damage to the flimsy door panel (like we had on 388ES).

Ground-lean after engine start: Our fuel-injected engines run very rich at low power, which causes the plugs to foul. That results in bad mag checks and the need to have the plugs cleaned. As soon as the engine is running smoothly after start, pull the mixture out a distance of 2 finger widths. Taxi with the engine leaned. It's OK to do the run-up with the engine leaned provided that it runs smoothly. Remember to go to full rich for takeoff.

Runways and patterns at LL10: The preferred calm wind runway is 36. We prefer that you land on the pavement because tire wear is less costly than damage to the gyro instruments due to vibration. When making a right-hand departure, climb to pattern altitude before turning right. Alternatively, make three climbing 90° left turns and cross over the field.

Parking at the fuel pumps: Please be courteous to others. Don't park at the pumps for an extended period of time.

Tow bars: Never leave a tow bar attached to a plane after you are finished moving it. Don't set the tow bar down on the nose wheel pant; remove it.

Finally, if you damage a plane, man up and report it to the plane captain, maintenance office or a board member right away. You will not be judged (it can happen to anyone), and only those who need to know will hear about it. Our goal is to handle the problem discreetly, efficiently, and get the airplane back in service ASAP. Thank you.

BFC
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ABOUT OUR ORGANIZATION

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The Club has 45 equity members sharing three airplanes:

1. 1999 Cessna 172SP N983SP
2. 2007 Cessna 172S N884BC
3. 1998 Cessna 182S N415RC

Aircraft Reservations: www.aircraftclubs.com

BFC Website: www.flybfc.org

President: Jim Krzyzewski

Vice President: Gevin Cross

Secretary / Webmaster: Kevin Kanarski

Treasurer: Jack Lindquist

Safety Officer: Ray Kvietkus

Quartermaster: Jeff Andrews

Grillmaster: Bradley Swanson

BFC Instructors:

Nick Davis	630-393-0539
Raymond Kvietkus	630-907-7721 ¹
Mike Pastore	630-606-3692
Michael Beinhauer	847-902-7053
Nick Moore	530-906-9793

¹ Available for club checkouts and Flight Reviews

Chief Maintenance Officer:

John Wrycza	630-697-3559
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Plane Captains:

N884BC	Don Patterson	815-436-5771
N983SP	Kris Knigga	765-357-4735
N415RC	Jim Robertson	630-215-5003