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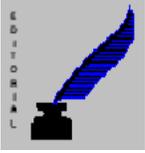
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*Teaching the world
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DECEMBER 2013

MERRY CHRISTMAS!

EDITOR C. ROBINSON



WHAT'S UP? OIL QUANTITY!

Oil. Bubbling Crude. Black gold. The Beverly Hillbillies stumbled upon their oil quite by luck. Pilots need not tap into their supply of luck when assuring an adequate quantity of oil prior to takeoff; simply check the engine dipstick.

Everybody knows that the oil is pretty important stuff and that our reciprocating engines won't reciprocate for long without an adequate supply of oil. Most of us would not drive our cars when low on oil, even though if a problem arises it is an option to coast it to the side of the road. Why would we fly an aircraft low on oil where, if an engine problem develops, it becomes a serious emergency?

There are five functions of engine oil: cooling, sealing (pistons), lubrication, flushing (cleaning), and hydraulic pressure.

Keep the aircraft full of oil. Add one quart as soon as it indicates one quart low on the oil dipstick.

1. Air passing through the cowling picks up heat from the cylinders and carries it away. That works well for the heat that makes it to the outer reaches of the engine, but not so well for the parts deep within the engine's core. Oil provides the internal cooling. That is, oil absorbs heat generated inside the engine. Less oil means less heat absorption/transfer capabilities and consequently a hotter internal temperature.
2. Oil aids in forming a seal between the piston and the cylinder wall to prevent leakage of gases from the combustion chamber.
3. Oil lubricates the engine, reducing friction between the moving parts.
4. In addition to reducing friction, the oil acts as a cushion between metal parts.
5. Oil helps clean the engine. Combustion of gasoline and air is a rather dirty process. Lots of contaminants are produced. As the oil circulates, it picks up most of these contaminants and either keeps them suspended until the next oil change or deposits them in the oil filter. Oils likewise help reduce wear by picking up foreign particles and carrying them to a filter where they are removed.
6. Aircraft with constant speed propellers use a portion of the engine oil to increase and decrease propeller pitch angles.

Realizing that there are varied and important functions that oil needs to perform during flight heightens the importance of having adequate engine oil prior to takeoff.

Oil pressure and temperature gauges provide redundancy and a means of verifying engine trouble. Pilots are taught to analyze trends in these two important gauges. Adding trends caused by low oil quantity may complicate troubleshooting unnecessarily.

Oil Quantity -- Manufacturers Recommendations

Regulations governing the standards of aircraft engines are found in FAR 33.39 which says that oil systems must be designed and constructed to ensure proper operation in all flight attitudes and conditions. For airplanes with wet sump (our Lycoming engines with the oil pan/reservoir under the crankcase) systems, "this requirement must be met when only one-half of the maximum lubricant supply is in the engine." The oil dipstick provides a way to determine the minimum oil quantity with which the engine can be operated safely - it is one-half of the maximum indication etched on the dipstick. If the engine holds 12 quarts, for example, it can be operated with a minimum of six.

However, engine manufacturers do not indicate the 'minimum low level' so that pilots can run the aircraft at this level for extended durations. Below the regulated oil level is less than optimal; heat transfer and burn rate will no longer be as needed for the engine.

In Conclusion

- Keep the aircraft full of oil. Add one quart as soon as it indicates one quart low on the oil dipstick.
- Oil consumption is a very important trend to monitor in an engine; therefore we try and keep track of how many quarts of oil are added between oil changes by having pilots record on the sign-out sheet if they add any oil. Always fill out the oil sheets.
- When you check the oil level shortly after the engine has been run for a while, Please remember that the dipstick reading will be noticeably lower because a significant quantity of oil remains adhered to various engine components. Estimate an additional 1/4 of a quart when checking the oil level immediately after the aircraft has returned from a flight.
- Always add only full quarts and then throw the empty oil container away. Putting the cap back on a partial quart renders the oil contaminated and the oil cannot be used in the future. Plus, having an empty or partial quart of oil flopping around in the back of the aircraft is messy and distracting – you probably wouldn't toss empties in the back seat of your car.
- It is not a valid excuse to skip checking the oil quantity because the oil dipstick was tightened down too tight on the previous flight. Get maintenance assistance if required to check the oil. Always tighten only "finger tight" when replacing the dipstick.



Note to Seminole pilots — The FAA approved pilot operating handbook contains the following about the oil system:

1. General 1.9: "Oil Capacity (U.S. quarts) (per engine) 6"
2. Normal Operations 4.12: "Check the oil quantity (four-to six quarts). Six quarts are required for maximum range."
3. Handling and Servicing 8.19: "The oil capacity of the Lycoming engines is 6 quarts per engine with a minimum safe quantity of 2 quarts per engine. It is necessary that oil be maintained at full for maximum endurance nights." **DO NOT INTERPRET 8.19 AS A RECOMMENDED OIL LEVEL.** Our guess that the statement is in reference to FAR 33.39, that the design criteria is met for proper operation in all flight attitudes and conditions is ensured with only 2 quarts. Another interpretation can be found in *Lycoming Flyer: Maintenance*, "The phrase — "a minimum safe quantity of 2 quarts per engine" — should be explained. If the operator checked oil after a flight and found less than 2 quarts in the engine, it is quite probable that engine damage has resulted. No flight should be started with only 2 quarts of oil in the sump. Pilots and mechanics should not confuse the models just discussed with other Lycoming four-cylinder, wet-sump engines that hold a maximum of 8 quarts of oil."

Flight training is a rough environment and your aircraft need to be treated with tender loving care -- so don't skimp on engine oil!!!

Y'all come back now, y'hear?



Happy Holidays from Long Beach Flying Club!



CONGRATULATIONS!

ACCOMPLISHMENTS

JOHN BAK	Private	Warrior	CFI RICHARD GARNETT
JEFF BUENTGEN	Private	Warrior	CFI RUDI LIMICH
ANDREW DAVIDSON	Private	C-172	CFI RYAN DAVIS
KUNG-JEN LIN	Private	C-152	CFI RICHARD GARNETT
ORIOLO MARTOS-ISIDORO	Private	C-152	CFIs GARNETT/BOLOGNESI
DAVIDE BRAVIN	Instrument	C-152	CFIs GARNETT/BOLOGNESI
ANDREAS YUDISTIRA	Instrument	Warrior	CFIs BEBENSEE/ VASANDANI
DAVIDE BRAVIN	Commercial Single	C-172RG	CFIs GARNETT/BOLOGNESI

CONGRATS to SUMESH VASANDANI top CLUB CFI for November, logging the most hours of dual given in club aircraft! Runners-up were TOMAS MARTINEZ and RICHARD GARNETT!

TOP GUN AWARD goes to MINJUN KIM for logging the most flight hours in club aircraft in November! Runners up were DAVIDE BRAVIN and BUDI SANTOSO!!!

NEW & REJOINED CLUB PILOTS! WELCOME!



- ERNE BRODIE*
- GLENN BROOKS*
- MIKAL ENGLISH*
- KEVIN GABELE*
- BRYAN HARRIS*
- BRAM PAMBUDIANTO*
- HYEJEONG PARK*
- SCOTT SNYDER*
- CHRIS WITTMAN*
- RYSKY YUSREN*
- BUDI SANTOSO*

NOTAM: Club pilots wishing to write articles for our monthly newsletters would be greatly appreciated!

NOTAM: The Redbird TD2 BATD is certified and ready to log instrument currency!!!

CHRISTMAS is coming!!!

We will have the following office hours during the holidays:

8:30 AM to 1:30 PM	Tuesday, December 24, 2013	Christmas Eve
Closed	Wednesday, December 25, 2013	Christmas Day
8:30 AM to 1:30 PM	Tuesday, December 31, 2013	New Year's Eve
Closed	Wednesday, January 1, 2014	New Year's Day

Aircraft rental for the rest of the time will be handled using night dispatch procedures. Call ahead for the combinations -- and Happy Holidays!



CALENDAR

JAN 18:	Flabob Airport - 3rd Saturday Aircraft Displays & Car Show, www.flabob.org .
December 13:	COME TO THE CLUB CHRISTMAS HOLIDAY BUFFET -- 1:00 here at LBFC! CHRISTMAS GIFT IDEA -- give the gift of flight a Long Beach Flying Club gift certificate fits perfectly in that holiday stocking!
JAN 29:	Long Beach Flying Club and the Long Beach Airport Association GENERAL MEMBERSHIP MEETING will be held at the AirFlite facility on Taxiway Bravo at the end of Wardlow Road. A buffet will be served, sandwiches, fruit and dessert, beginning at 6:30 PM with the program beginning at 7:00 PM. Everybody is welcome to attend -- we hope to see you there! This meeting will count toward CFI credit for this month!
JAN 12:	Brown Field 2nd Sunday Fly-In, San Diego Flight Museum, www.aerospacemuseum.org
JAN 5:	Santa Paula - Aviation Museum of Santa Paula First Sunday Open House and Vintage Aircraft Fly-In. Contact: 805 525 1109 www.amszp.org .
JAN 11:	Catalina Aero Club DISPLAY DAY FLY-IN Saturday, 10 am to 2 pm. Aircraft built 1961 and earlier land FREE! Historical aircraft display sign-offs. Buffalo Burgers at DC-3 Grill! Meet other pilots and Aero Club members. Contact: 714.751.9420.
JAN 12:	Whiteman Airport Second Sunday Open House, Whiteman Airport Association. Contact: www.whpsafety.org/display.html
JAN 19:	Brackett Field (POC) Third Sunday Antique Aircraft Display -- classic cars, and biplane rides. FREE. Fly ins welcome, historical sign offs. Restaurant on-site. Plenty of airplane and vehicle parking. 10-3PM. Contact Yvonne, 626-576-8692.
FEB 26:	Long Beach Flying Club CFI meeting from 6:00 pm to 7:00 pm. We will be opening club challenges and opportunities, discussing of regulations, training procedures, and other aspects of flying. Join us for an inspirational and educational hour!
DEC 29:	Agua Dulce Airport BBQ & Fly-In from 1100 am to 2:30 pm. A wide range of modern and vintage aircraft often fly into Agua Dulce Airport (L70). All planes welcome -- Fly over for some great Texas style barbecue, the trimmings, friends and fun. Cost: \$5.00. Info: www.airnav.com/airport/L70 or dulceair@sbcglobal.net .
JAN 4:	Chino Monthly Event includes seminars and, weather permitting and whenever possible, flight demonstrations by appropriate aircraft. Seminars start at about 10am and last till about 2pm and occur on the first Saturday of every month. Contact 909.597.3722.
JAN 16:	Long Beach AIRPORT ADVISORY COMMISSION Meeting at Skylinks Golf Course at 4:00 PM. 4800 East Wardlow Road, Long Beach, CA 90808
JAN 16:	LGB MONTHLY TOWER TOUR!!! Begins at 1:00 PM. Contact the club to sign up.
JAN 14:	SCAUWG (Airspace Users Working Group) meets at AirFlite at 10:00 AM.

HAPPY DECEMBER BIRTHDAYS



- ERIC ABREGO*
- ZULFIKAR AHMAD*
- MARV BALLARD*
- DAVID BECKTELL*
- TZU-CHIANG (JOHN) CHIH*
- HOLME COOLEY*
- JOSEPH DODDS*
- BRADLEY FERRIS*
- RICK GUTIERREZ*
- AARON KRIEGER*
- JEREMY LAM*
- TOMAS MARTINEZ*
- IBRAHIM MOUSA*
- DONALD MYHRA*
- JIM PARTIN*
- ALLEN SPENCER*
- SHEHAN WIJEYASOORIYA*
- CHARLIE ZABINSKI*

Congratulations!



KUNG-JEN LIN
Private Pilot!
CFI Richard Garnett

JEFF BUENTGEN ———>
Private Pilot!
CFI Rudi Limich



ORIOLE MARTOS-ISIDORO
Private Pilot!
CFI Lorenzo BOLOGNESI



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ORDER TODAY! Long Beach Flying Club Polo Shirts in Navy, Black or Gray. Sizes small, medium, large, or X-large. We also have hooded sweatshirts in black or gray. We'll need your choice of color and size when you call us at 562.290.0321 with your credit card number. Download from www.LBFlying.com or Email shirts@Lbflying.com an order form of our complete line of pilot shirts. Shipping and handling \$4.95 per order, CA residents add 8.25% sales tax.

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We stock a host of aviation books, shirts, charts, and other pilot supplies, along with aviation-themed Christmas tree ornaments, mugs, clocks, you name it!

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GIVE THE GIFT OF FLIGHT!

A Long Beach Flying Club gift certificate for any denomination you wish, be it for the first flight, pilot supplies, or aircraft rental, makes a great gift for any occasion!

There are three ways to obtain the gift of flight:

1. Stop by and pick up a gift certificate during our office hours (8:30 am to 4:30 pm daily). You can purchase accessories to go with the gift certificate such as a visor, aviation mug or LBFC logo shirt.
2. We can send you a preprinted gift certificate for any denomination you wish -- just give us a call! We'll charge your credit card and get the gift certificate in the next out-going mail.
3. We can email you a gift certificate. Send us or call us with a credit card number to activate it for any denomination you wish. You will be given a Gift Certificate number to fill in at the bottom of your printout.

It's just that easy to give a unique and treasured gift. Keep it in mind for upcoming birthdays or anniversaries!

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DISCOVERY FLIGHT

\$99 for one, two or three in a C172 or Warrior
Fly with an FAA Certificated Flight Instructor - you fly the aircraft!

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AERIAL TOUR OF LA'S FAMOUS LANDMARKS

\$195 for a 60 minute tour for 1, 2 or 3 people
HOLLYWOOD TOUR:
Dodger Stadium * Hollywood Sign * Beverly Hills * Getty Center * Palos Verdes * Queen Mary

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