

NEWS AND VIEWS

Welcome!

Geoff Gartshore (Editor) at
geoff.gartshore@gmail.com

Coming Events

1. Next COPA 26 Meeting is Tuesday Feb 8, 2022. Details to follow.
2. The Pilot Decision Making (PDM) Workshop is a monthly video-based meeting of pilots to discuss pilot decision making (air and ground). Pilots of all experience levels and ratings are welcome. Meetings are on Zoom, the first Wednesday of each month, at 7 pm. To join, send an email to cykf.pilotworkshop@gmail.com. Next meeting is Feb 2, 2022.

In this Issue!

- CO Alerts in the Cockpit!
- Brainteaser - Know Your Lighting at CYKF
- Coming Speakers
- Banner Towing (Updated)
- Members' Corner - The Benefits of Flight (Photo) Following
- Flights of Adventure - The Lockheed 10A

CO Alerts in the Cockpit!

In a recent issue of Pilotworkshops, a reader wrote in saying his CO detector goes off on almost every landing. His mechanic has checked the engine and exhaust with no sign of obvious leaks - what to do?

The Pilotworkshops answer: (www.pilotworkshops.com)

“This is more common than you might imagine. But before I address your situation with nuisance alarms, let me say three things:

First: If you ever get a carbon monoxide (CO) alarm out of the blue and you don't know why, turn off any heat, land, get some fresh air, and check out the problem. You did the right thing by having your mechanic check for leaks in your exhaust system.

Second: There's a bunch of conflicting data out there about an 'acceptable' level of CO. Err on the conservative side. Altitude already reduces oxygen availability in your lungs and flying demands more mental acuity than watching TV.

Third: The impact of CO is cumulative. While even a low level can add up over a multi-hour flight, a brief spike during landing is unlikely to cause problems.

So ... what's happening with your airplane?

Airflow over the fuselage changes with airspeed and configuration, and more exhaust gas might enter the cabin in certain situations. High power and low airspeed (high angle of attack), such as during slow flight, is a common cause. It can happen during landing, too. Don't panic. Your airplane has probably had this CO situation the entire time you've owned it. You just didn't know until installing the detector.

Coming Speakers

February 8, 2022 meeting.

Video safety presentation on forced landing survival. This should be very interesting and helpful!

March 8, 2022 meeting.

Robert Kostecka (Transport Canada) Certification of the Airbus A380 in Canada - to be confirmed.

We are looking for Speakers for 2022!

Contact Gord Millar
(flighttwentysix@gmail.com)
if you have a speaker contact or are interested in being a speaker for a future meeting.

Transient CO spikes aren't that hazardous because you don't stay in that condition long enough.

That said, ignoring an alarm is never a good policy, in my opinion. Some consumer CO detectors alert as low as 35 parts per million (ppm) of CO. For some airplanes—yours included—that's low enough to trip during normal flight operations. If you can, try a higher threshold for the alarm—*but no higher than 70 ppm*. The Consumer Product Safety Commission, and others, use that number as a threshold for noticeable effects on the general population. Ideally, you won't have to go even that high. If you're still getting alerts at 70 ppm every time you land, you should investigate further.

I'm also assuming the CO level drops to zero (or near zero) during other phases of flight. If you're seeing even 20 ppm in cruise flight, it's worth digging deeper. If the CO level is independent of the aircraft heat being on or off, there could be cracks in the exhaust system outside of the heater shroud, deteriorated seals where items pass through the firewall, or even excessive gaps around the cabin doors.

Finally, consider a CO level over 100 ppm in an airplane an urgent situation. Land as soon as practical. If you need priority to reach the ground sooner, declare an emergency to do so. CO poisoning is insidious: The longer you're exposed, the worse it gets, and the worse your facilities become to deal with it."

(Editor's Note:) I have a digital battery-powered CO detector in my Zenith. I occasionally see a reading of 30 ppm briefly during the takeoff climb out (as described above), which quickly changes to 0 as soon as the pitch angle decreases. I do not particularly trust the cheap spot detectors that change colour - they have a shelf life and are not particularly accurate. You can purchase a digital detector from Amazon for about \$35-40 and it works very well.



Brainteaser

By Warren Cresswell

KNOW YOUR LIGHTING AT CYKE

QUESTION #1:

Do all four runways at CYKF have lighting systems? Do all four runways have approach lighting systems?

ANSWER #1:

All four runways do have lighting systems but only Runways 08 and 26 have approach lighting systems. Runways 14 and 32 have high intensity threshold (green) and runway end lights (red) as well as white runway edge lights, of course.

Runway 08 has a simple ODALS approach lighting system consisting of 1500' of sequenced flashing lights leading to the centreline of the runway – designated "AO". This system does not permit Rwy 08 to be designated as a precision runway.

Only Rwy 26 has a full, High-Intensity Approach Lighting System ("HIAL") that permits designation of Runway 26 as a precision runway.

All four runways are served by Precision Approach Path Indicator lighting systems (PAPI).

QUESTION #2:

Runways 14 and 32 are served by a PAPI system designated "P1" whereas the PAPI systems for Runways 08 and 26 are designated "P2." What is the difference?

Banner Towing Service at KW!

Recent Change

Blake Puzon at FliteLine (KW Airport) now provides banner towing and can supply a good addition for advertising for a company or social/personal event.

He can also provide special messages (you missed a birthday or anniversary, or need spousal OK to buy a plane....). Blake's contact information is:

Blake Puzon
519-514-0530 (Ext 510)
charters@fliteline.ca

ANSWER # 2:

All the PAPI systems consist of four square-shaped lights on the left side of the approach end of the runway. On correct glidepath is depicted as the two inside lights being red and the two outside lights being white. However, Runways 08 and 26 have “P2” systems meaning that they are designed for aircraft with eye-to-wheel height of up to 25 feet, whereas Runways 14 and 32 have “P1” systems designed for eye-to-wheel height of up to only 10 feet. The longer runway is, of course, more suitable to larger aircraft with a higher “eye-to-wheel” height.

Eye-to-wheel height is the highest expected vertical distance from the pilot’s eyes to the lowest portion of the aircraft at threshold crossing with maximum certificated landing weight in the normal landing configuration for the aircraft type and given glideslope.

QUESTION # 3:

All the PAPI lighting systems at CYKF cannot be controlled by the ARCAL system, so the pilot cannot change their intensity. The systems have two intensities: low and high. Which one is used during the daytime and which one at night? How would you know/find out?

ANSWER # 3:

The high intensity setting takes effect, not during the nighttime, but rather during the daytime. The PAPI system turns to high intensity 30 minutes before sunrise and stays on high intensity until 30 minutes before sunset. At other times, the PAPI lighting is on low intensity. Thus, at nighttime – the system is on low-intensity. This is possible because it is easier to see the PAPI lights at night whereas daytime lighting makes it harder to see the PAPI unless it is on high intensity. This information is found in the Canada Flight Supplement page for CYKF under the LIGHTING section.

QUESTION # 4:

Where is the rotating beacon for the airport located on the field?

ANSWER #4:

The beacon is co-located with the Air Traffic Control Tower. Refer to the Aerodrome chart given in the CFS, or the Aerodrome Chart provided in the Canada Air Pilot.

QUESTION # 5:

CYKF lighting is operated by an ARCAL Type K system when the Tower is closed. How does this system operate?

ANSWER # 5:

ARCAL (Aircraft Radio Control of Aerodrome Lighting) is operated by the pilot using a specific radio frequency and keying sequence to turn on and adjust the light intensity.

At CYKF which has a Type K system, the frequency is the same as the Mandatory Frequency: 126.0.

To operate the lighting system for a duration of approximately 15 minutes, the pilot keys the microphone 7 times initially. This ensures that the lights are on maximum intensity. The intensity may be adjusted up or down to any one of three settings by keying the microphone 7, 5 or 3 times within 5 seconds for high, medium or low intensity settings respectively. The timing cycle may be restarted at any time by repeating the initial keying sequence. A savvy pilot on a nighttime approach following another arriving aircraft would prudently key the microphone 7 times to reset the full intensity for landing, thereby avoiding the risk that the lights might drop in intensity or go out during the critical landing phase.

QUESTION #6:

Runway 26 has a complete, high intensity approach and runway lighting system which facilitates precision approaches to this runway via the ILS Rwy 26 approach procedure. If any part of the High Intensity Approach Lighting system is inoperative at the time of a nighttime approach what are the implications?

ANSWER #6:

If any portion of the HIAL system is inoperative at the time of the nighttime approach, CYKF's certified precision Rwy 26 is downgraded to a non-precision runway. The pilot is required to increase the Decision Height by +49 feet to 250 feet and advisory visibility must be increased from ½ statute mile to 1 sm (RVR 5000).

QUESTION # 7:

Further to #6 above: if a NOTAM indicates that the HIAL lighting elements are functioning but the ARCAL system's ability to adjust the intensity of the ARCAL Type K lighting is unserviceable, what are the implications?

ANSWER # 7:

Same answer as # 6. In short, if any element of the HIAL system, including the ability of the pilot to adjust the intensity setting, is not functioning the adjustments to Decision Height and Advisory Visibility stated in #6 above must be made.

QUESTION # 8:

The approach and lighting systems for a precision runway are designed to have the aircraft touchdown where on the runway?

ANSWER # 8:

This depends on the size and type of aircraft, but generally for light GA aircraft, the goal is to touchdown on or just beyond the runway aiming points (commonly called the 1000' markers – 1000' in from the threshold).

QUESTION # 9:

You or your autopilot are flying the aircraft descending along the final approach course for the ILS Rwy 26 approach at CYKF. The azimuth and glidepath are bore-scoped as you approach the Decision Height of 1255' MSL (201' AGL). At the DH you look up, are visual but note that while your aircraft instruments indicate that you are right on glidepath, the PAPI indication on the left side of Rwy 26 indicates three or four red – too low. What is wrong? What should you do?

ANSWER # 9:

It is not a given that your aircraft instruments are in error. Your first call post-flight does not necessarily have to be to the avionics shop to assess the discrepancy. Instead, it may simply be that the "P2" PAPI system serving this runway is set for an eye-to-wheel height of 25 feet, which is much more than in your Cherokee with an EWH of less than 10 feet. What you should do is transition to the guidance provided by the PAPI and adjust your altitude to recapture the glidepath indicated by the PAPI and land down the runway. There's lots of room with a landing distance available of just over 7,000 feet.

QUESTION # 10:

Do all four runways at CYKF have windsocks? Where are they located? Are they lit at night?

ANSWER # 10:

All four runways do have windsocks. They are located near the threshold of each runway on the left side. They are all lighted at night. Refer to the Aerodrome sketch in the CFS or the Aerodrome Chart in CAP.

BONUS QUESTION FOR IFRs:

You've flown from CYKF to London on an IFR day and stopped for lunch. By the time lunch is over the ceiling and visibility at London has dropped a lot. In fact, the visibility on Rwy 15, your planned runway for departure, has dropped below ½ sm/2600 RVR and is now below minimums. Runway Visual Range ("RVR") for Runway 15 is only 2200. Your preflight briefing for the return flight to CYKF

indicates that there is no concern with icing and the weather back at Waterloo is still reasonably good to successfully complete an IFR approach and landing there. But you are unable to depart London because visibility there is below ½ sm/RVR 2600. Is there anything you might consider trying while you wait at London in order to get going back to Waterloo?

BONUS QUESTION ANSWER:

Ask the Tower to turn up the runway lights to full intensity and see if this will not push Runway Visual Range over the 2600 minimum level. Rwy 15 at London is served by RVR. At a Tower controlled airport, such as is the case at London, RVR takes priority over Ground Viz (METAR) or Tower observed visibility. In this instance, departure is legal if RVR exceeds 2600 due to the higher intensity of runway lighting.

Of course, it almost goes without saying that RVR 2600/1/2sm is not much visibility and it is often accompanied by a very low ceiling meaning you will be in the soup almost right away after liftoff. But if you are confident in your IFR skills and recency and also confident in your aircraft and its equipment, this could be a successful strategy to get out of London and back to Waterloo on this day.

Note: This strategy can only work where the runway in question is served by an RVR installation. This is not the case at CYKF. There, asking the Tower to increase the runway lights to full intensity is not going to cause any change to the ground visibility (METAR or AWOS) or the Tower observed visibility.

MEMBER'S CORNER

THE BENEFITS OF FLIGHT (PHOTO) FOLLOWING

By Geoff Gartshore

We all should agree that Flight Following provided by ATC is a very helpful service that promotes aviation safety, especially when flying through busy travel corridors.

But Flight Following is only a temporary measure, and the benefits end as soon as your Flight is finished and you are safely on the ground.

So, what do I mean by Flight (Photo) following?

I refer to having a video/photo record of your flights. This can preserve those flying memories for long after you're no longer able to fly, and can be a teaching and training tool as well.

You may already take photos with your smart phone on your flights – this typically requires some concentration as you hold your phone with one hand, fly with the other, and try to maintain altitude while orbiting that special landmark below.

There is an easier way.....

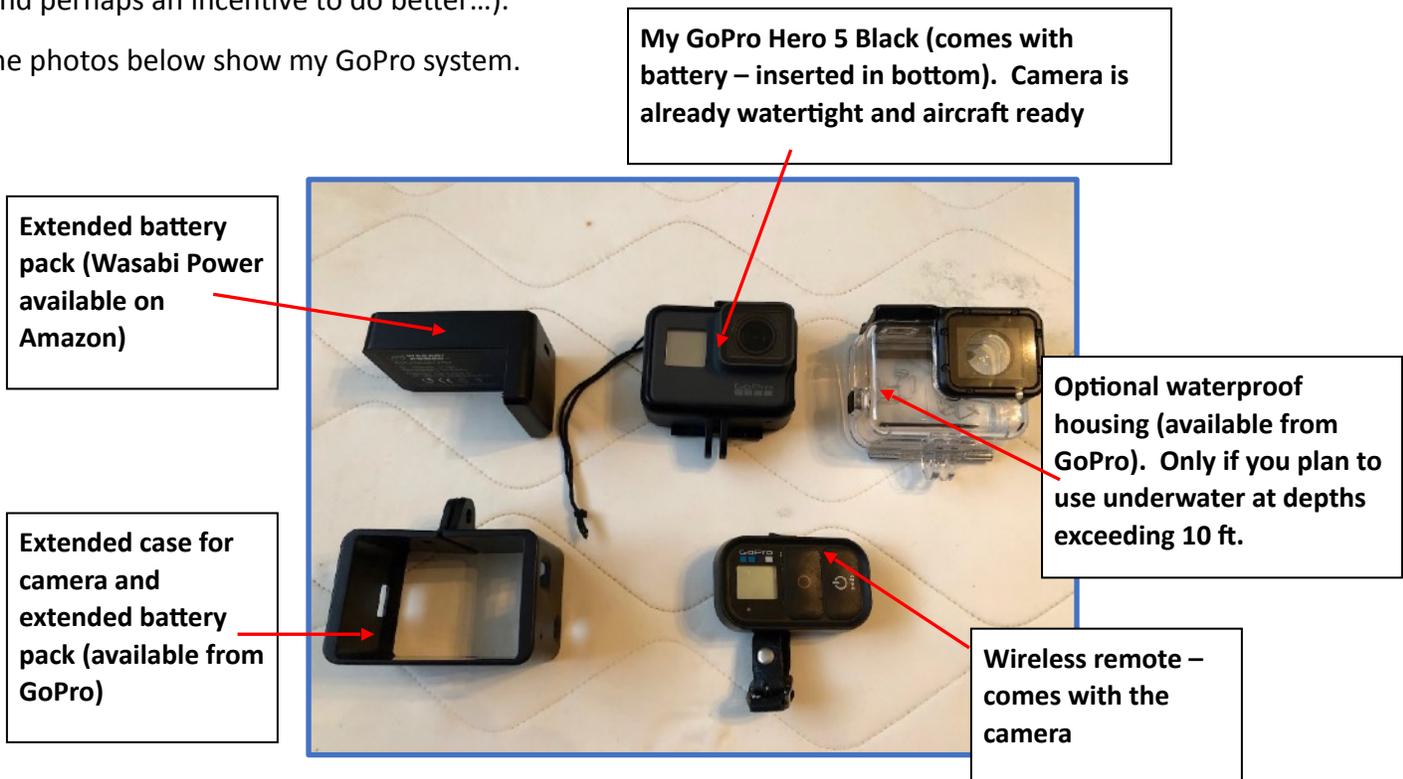
My GoPro Camera System

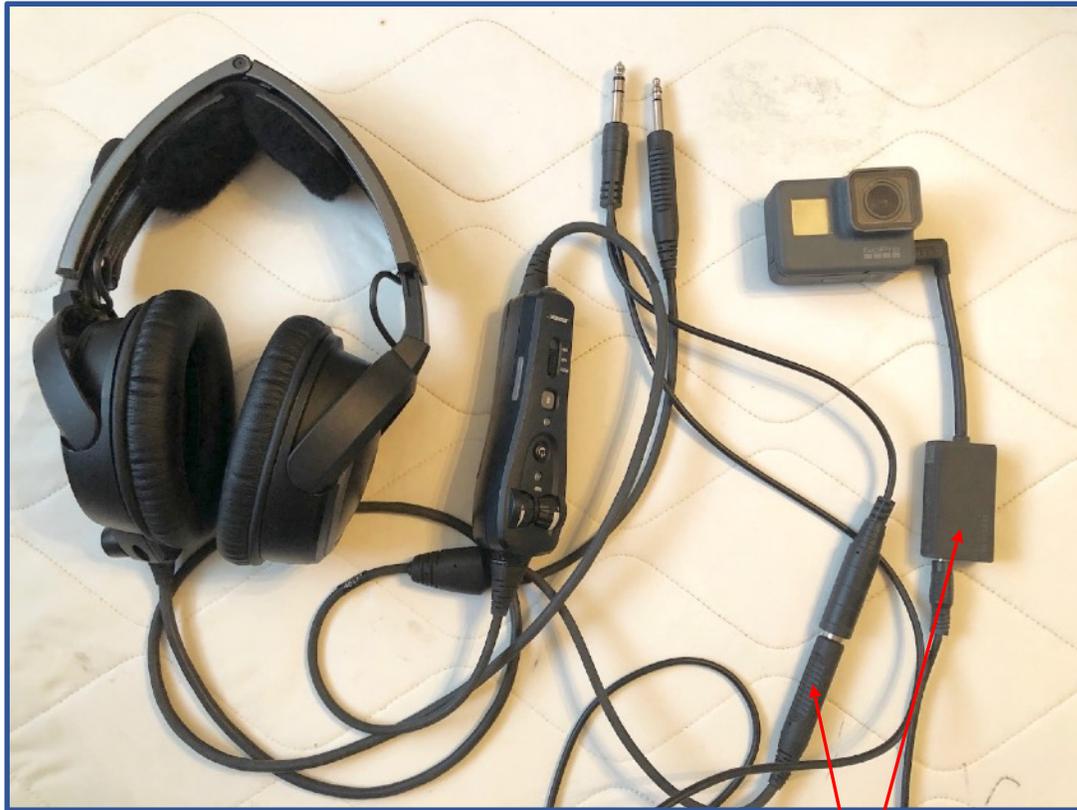
I have been an active GoPro camera user for the past 7 years, and the camera system has been a part of most of my flights during this period. My GoPro 5 provides extraordinary high-resolution photos and video, in a compact lightweight package, that can be mounted almost anywhere on my Zenith CH200. It is easily connected into my intercom, providing a permanent record of my flight communications, including ATC. It also has a built-in GPS, providing heading, groundspeed, altitude, elevation changes, and date/time, all of which can be displayed in the photo or video. It also accommodates an extended battery pack that can be added to the camera and secured in a special housing, providing up to a couple of hours of recording time.

Finally, and the best part, it is easily operated wirelessly with a hand-held remote that can be strapped to my wrist. The remote can be used to switch between camera modes (such as still photo, video), take a photo, start and stop video recording, and turn the camera off, regardless of where the camera is located (in the cockpit or somewhere outside on the aircraft).

This feature makes all the difference in safely taking photos and video during a flight. You can take photos and video while orbiting that special landmark, without looking through the camera. With the video rolling, you can safely perform flight maneuvers, takeoffs and landings while fully concentrating on flying the aircraft, not the camera. The GoPro cockpit footage can be viewed later on the ground to determine instrument settings during flight, which can be a very helpful training and diagnostic tool. Finally, the exterior-mounted camera can yield footage of your takeoff, landing, cruise, steep turns, and other manoeuvres, providing a very helpful appraisal of your flight technique (and perhaps an incentive to do better...).

The photos below show my GoPro system.





Audio adapter for intercom plug-in to record conversations and ATC (available from NFlightCam via Aircraft Spruce)

GoPro Mounting Options

You can mount the GoPro almost anywhere, with a variety of mounts that are available either from GoPro or 3rd party suppliers that are compatible with GoPro products (check on Amazon or your nearest camera store). The photos below show the mounts I use, along with accompanying camera views that are provided.

Cockpit

Mounting in the cockpit provides access to your intercom (to record ATC and other pilot communications, including your own commentary) and good views of either yourself, your instrument panel, or looking outside, plus combinations of those depending on field of view setting. Examples are provided in the photos below.



Gorilla clamp mount for cockpit – available from GoPro, Amazon, or your camera store. Highly flexible (360 deg), with powerful clamp



Corresponding cockpit view. Note: GPS data enabled. Speed shown is groundspeed (mph). Taken heading north along Lake Huron shore en route to Warton

Corresponding cockpit view. Note: GPS data enabled. Speed shown is groundspeed (mph) during this low and over pass of Runway 32 at Guelph



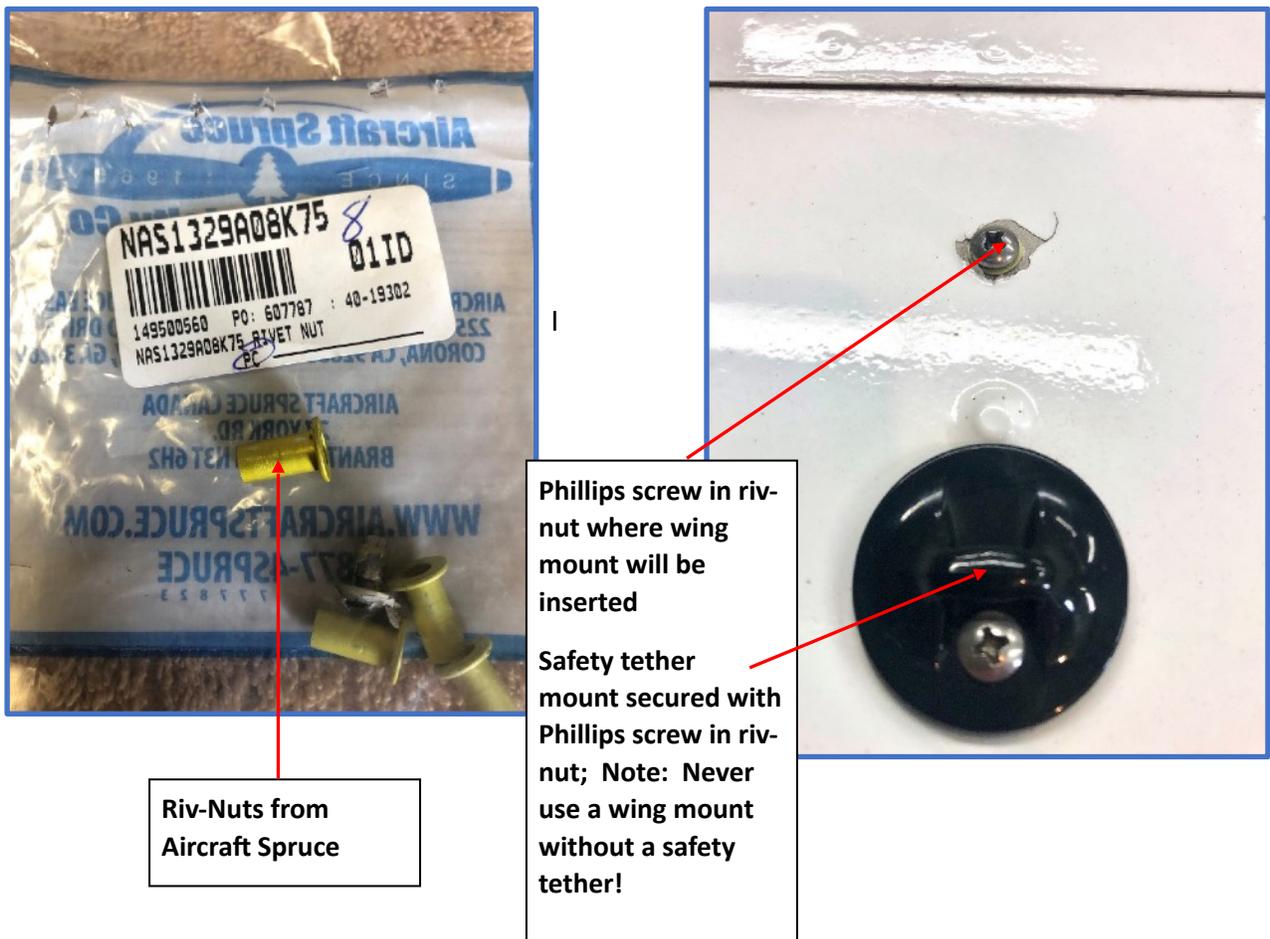
Wing Mount Options

(Note: Owners of Certified Aircraft should check with their AME before making any alterations such as described below for an Experimental Amateur-Built Aircraft)

These provide great views looking toward or away from the aircraft, forward and back, at almost unlimited angles and positions. For high wing aircraft, there are special clamps for different sizes of struts, available through Amazon (just make sure the mount is GoPro compatible for your model).

For low wing aircraft, NFlightCam makes a special wing mount kit for GoPro, that attaches easily and securely using one of the number 10 Phillips screws that you already have on your aircraft wing. If your aircraft wing is all riveted, with no Phillips screws available (as in my Zenith CH200) – no problem. Simply remove two rivets (one for the mount base and one for a safety tether base available from GoPro) and replace them with Riv-Nuts (Aircraft Spruce) - **(but see disclaimer above)**.

The riv-nut process for securing is shown below for my Zenith CH200. Note: the safety tether string and hard plastic base is sold in a pack of 3 or 5 from GoPro. This wing mount offers 360 degree view options and is easily adjustable prior to flight.



The installed NFlightCam wing mount on my Zenith, complete with safety tether, along with a corresponding photo from that location (captured from GoPro video), are shown below.



Safety Tether



Tie Down Mount Locations

My Pilot Pro (available from Pilot Shops and possibly Amazon and profiled on AvWeb), makes a GoPro compatible mount that easily attaches to either your wing tie down rings (high wing or low wing), or your tail tie-down ring. My set-up on the Zenith is shown in the photos below.



Note: again, the safety tether is critical

My Pilot Pro mount under the right wing – fully adjustable for 360 degree viewing



Camera view from the My Pilot Pro under-wing mount. Nice view of the Long Point spit heading south approaching Port Rowan

My Pilot Pro mount installed on the tie-down at the tail of my Zenith, providing fully adjustable 360 degree viewing. The camera and safety tether remain to be attached.



View from the tail-mounted GoPro, en route to Kitchener from Wiarton, with Lake Huron shoreline visible under the right wing

Hopefully you now have some incentive to consider what a remote camera system might mean for you.

Here are some thoughts to consider:

- The cost for the GoPro is not exorbitant – but averages out to about five or six \$100.00 fill ups at the avgas pump (package includes camera, battery, charging cord, wireless remote, plus a few mount bases). There are other camera competitors out there as well that may be similarly or more cheaply priced (do a Google search – Garmin VIRB is another option), and most should have mounts available from third party suppliers to keep costs down;
- You don't have to be a computer geek to operate the camera system and download/edit the photos and video – if you are already comfortable on your iPad/tablet, and computer, you shouldn't have any problem. Also, there are literally hundreds of YouTube videos out there that provide guidance on using the GoPro system, as well as other sport camera systems;
- I have found the training benefits to be enormous – like watching a game film after play. Recording my flights has helped me identify bad habits to correct, landing techniques to perfect, check systems after a repair or maintenance, or see things either in the cockpit or outside the aircraft that I had not noticed before; and
- The personal enjoyment I get from taking photos and video, and then reviewing them after a flight and even years later, has been priceless. When my flying days are over, I will have a repository of flight memories to enjoy!

FLIGHTS OF FANCY - THE LOCKHEED 10A

By Pat Hanna



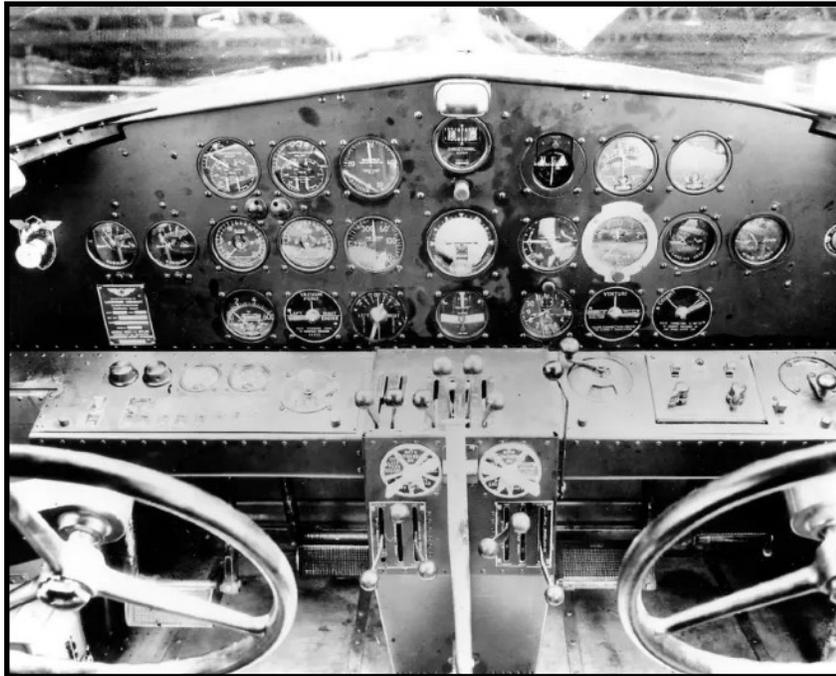
Beautifully Restored Lockheed 10A on the Tarmac at Billy Bishop City Centre Airport, Toronto

|

In the mid 1930's, the Lockheed Aircraft Company developed a twin-engine airliner to compete with the DC-2 and Boeing 247. It was a ten passenger all metal airliner powered by two Pratt & Whitney R985 Wasp Junior 450 horsepower radial engines. With a gross weight of 10,000 pounds and a cruising speed of 190 miles per hour at 9500 feet, the airliner had a range of about 800 miles. The 55 foot wingspan allowed for a very slow 64 mph landing speed. It was purchased initially by several U.S. airlines, but fame came in 1937 when aviatrix Amelia Earhart purchased a Lockheed 10E, powered by two Pratt & Whitney R1340 Wasp 600 horsepower engines. She had it highly modified and attempted her famous around-the-world flight. However history sadly records that the aircraft disappeared over the Pacific Ocean and was never seen or heard from again.

In September 1937, newly formed Trans Canada Air Lines (forerunner to Air Canada) purchased three brand new Lockheed 10A's (CF-TCA, CF-TCB, CF-TCC) for \$73,000 each and they served TCA for two years before being sold to the Canadian Government and assigned to the RCAF to assist in the war effort. After the war ended CF-TCA was sold several times but eventually ended up in the Canadian

Aviation and Space Museum in Ottawa. CF-TCB and CF-TCC were also sold several times and eventually disappeared.



Original Cockpit of the Lockheed 10A

One day, a retired Air Canada pilot was attending an air show in Texas and was admiring an old Lockheed 10A on display. Much to his surprise, the outline of the faded letters of the initial registration of CF-TCC was still faintly visible! He informed Air Canada, who watched the movements of the aircraft until 1983, when they purchased it for a second time and brought it to its new home at the Air Canada Maintenance base in Winnipeg. Over the course of the next three years, CF-TCC underwent a complete restoration and in 1986, it made its debut, flying across Canada to celebrate the 50th Anniversary of Trans Canada Air Lines/Air Canada. During this flight the Lockheed 10A made 49 stops in Canada and one in the USA before ending up in Vancouver at Expo 86!

Since 1986, Air Canada employees and retiree volunteers have spent thousands of hours maintaining this aircraft in perfect condition. It has made several cross-Canada tours, the last one being in 2017. A stop in Oshkosh on that trip earned it a coveted award and a showcase spot in Boeing Plaza.



**NoseArt on the Restored Lockheed
10A**

It was on one of these tours that I met this aircraft. Several flights were planned from the Toronto Island Airport on July 11th 1998 and a VERY limited number of seats were available. I was able to buy two tickets (\$100 each) for my fellow COPA friend Philip Eastman and me. On the appointed day, the weather was perfect and I had rented a Cessna 172, C-GAQV, so we flew to the Toronto Island Airport for our 11:00 AM flight. On short final for runway 33 (now closed), the Lockheed called “On final, behind the 172”! This was going to be a good day!

The aircraft was amazing to see! It had been restored with incredible attention to the original details (cockpit was the exception). Both pilots were line Captains that were volunteering for the privilege of flying this significantly historical aircraft for Air Canada. Captain M. Goneau was in the left seat for this flight and Captain K. Patry was in the right seat. Captain Patry had the honours of adding a quart of oil to each R985 prior to start-up! (see photo). There were eight seats available and we did a group photo before climbing aboard. Shamelessly, I was the first passenger on board and climbing uphill, I took my seat just behind the copilot on the right side. Buckled in, I tried to imagine what the

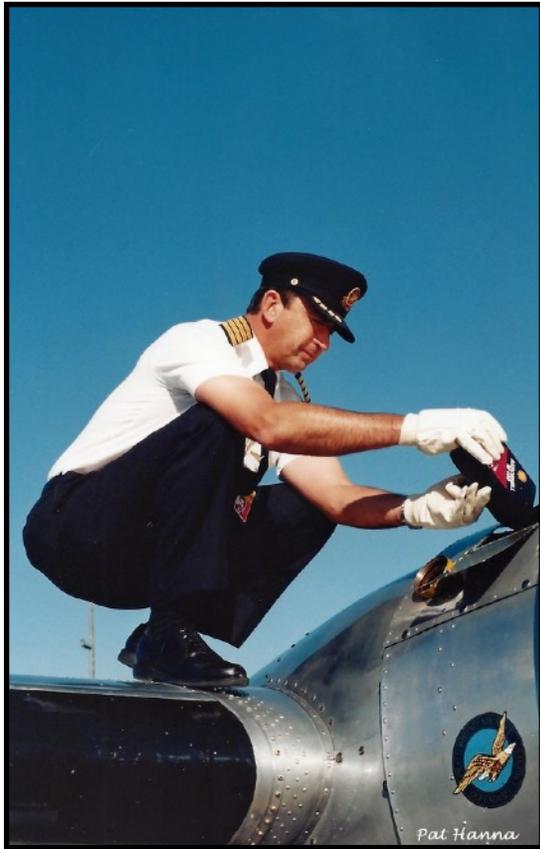
passengers felt when going for their first airliner ride back in the 30's. I tried to imagine pilots flying this airplane coast-to-coast in bad weather and flying through the mountains with a minimum of instruments...



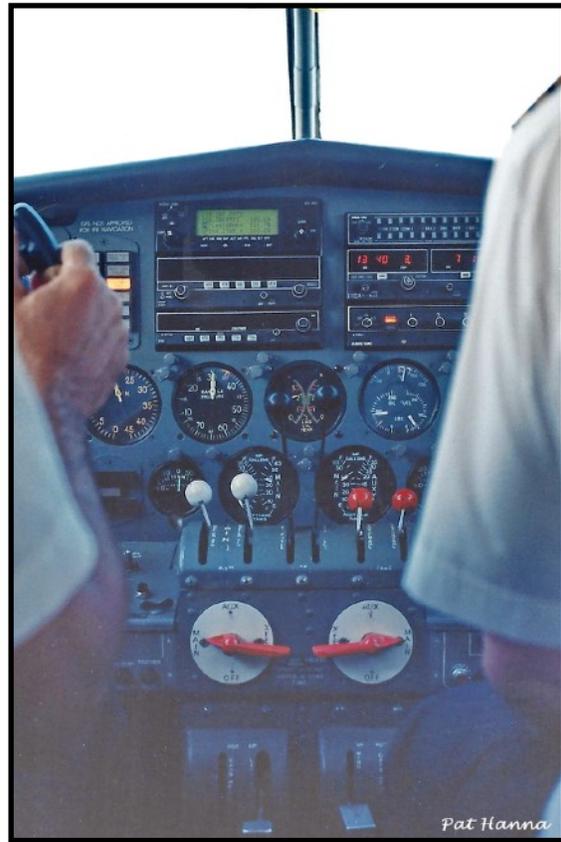
On the Tarmac at City Centre Airport Toronto



Delighted Group of Passengers - Youthful Pat 2nd from right!



Captain Patry Adding Oil



Pat's View of the Cockpit!

“Clear Props” was shouted through the open cockpit window and the right engine came to life quickly with the familiar rumble and shaking of a radial engine on start-up. With left engine running we taxied to the run-up area. There is nothing like the run-up of a radial engine when the power comes up! It was just like in the Harvards, except there were two engines! The noise levels went from soothing to WOW but nobody on board was complaining! Lined up and rolling on runway 26 in a crescendo of noise, the tail came up quickly and after gently becoming airborne, the gear was retracted. As the power came back to “climb power”, the cabin noise level improved significantly. We headed west along the lakeshore towards Oakville at 1500 feet, turning back east to fly north of the CN Tower. Power settings were set at 18” MP and 2450 RPM (that’s why I take photos!) and the airspeed was about 135 MPH. Cabin noise was tolerable and conversations could be had, but I stuck my head up into the cockpit and those poor captains are in a different world! The noise level was extreme with those two radials just a couple of feet away and the two-bladed props flailing at the air just forward of their seats. It’s no wonder those old airline pilots said “pardon” a lot!



Pat's Close View of the Cockpit During The Flight



View of City Centre Airport and Right Cowling



Beautiful View of CN Tower and Waterfront!



Nice Landing View of 2700 foot Runway 33

We flew around the downtown area and I was very pleased to get a nice photo of the downtown framed by the right-side windshield. Captain Goneau set up to land on the 2700 foot Runway 33 and the approach speed was quite like the 172 I had landed a couple of hours earlier. Touchdown was on the mains with the tail coming down as the speed dropped off. The roll-out was equally gentle with minimum braking on the short runway. Both pilots expressed their joy at flying this part of living history and happily signed my logbook (I was almost IN the cockpit a few times so it could ALMOST be “right seat time”)!

It was a Flight of Fancy indeed...one I will never forget!