



NEWSLETTER

Carb Heat

Hot Air and Flying Rumours

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APRIL 2003

Inside:

President's Page: by Gary Palmer

Next Meeting:

**Thursday, Apr. 17 2003 8:00 PM
Canadian Aviation Museum**

The 30 Day Inspection

By

Thomas Turner

Feature Presentation

Custom PSRU Design

By

Martin Poettcker

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**President's Page
by Gary Palmer**

Just as we were starting to enjoy a taste of spring, winter showed up on short final to remind us we live in the great frozen north. Hopefully by our April meeting the worst of the nasty surprises will be behind us.

Spring soft field precautions

The continuing cold weather and snow, means the frost has not left the ground, and may not for a few weeks. This means we need to be extra cautious and keep vehicles off the grass until the earth is firm enough to support a vehicle's weight. I know we can count on your co-operation in this regard.

Carp Air show planned for August 23-24.

The Ottawa International Air Show is returning to Carp airport on the weekend of August 23 to 24, as the "**Carp Flight Fest**". **Curtis Hillier** has volunteered to co-ordinate our participation in this event. I am sure Curtis can count on your assistance in making this event a success for EAA. There is a general meeting for pilots based at Carp scheduled for Sunday April 13th, in the Borden Building, by Westair at 10:00 AM.

Air Cadets Flight Day Sunday April 17th.

Once again we will be hosting the Air Cadets for their flight day, so expect to see a bunch of eager aviators enjoying our facility that weekend.

Upcoming meetings.

Looking forward we have an interesting tentative slate of speakers and topics planned including:

May	Partenavia Mystere S45 presentation, last meeting of spring at NAM, Bush Theatre
June	Oshkosh planning meeting Saturday June 14, 10:00 AM, Carp chapter clubhouse

Thursday March 20th meeting: Gary Loubert's Custom Engine Instrumentation Design

Gary Loubert, not wanting to be outdone by Martin Poettcker, provided an excellent review of his unique custom designed, modular engine instrumentation system. Gary showed a couple of prototype systems and was kept busy by fellow chapter members, after the meeting, explaining the intricacies, and growth potential of his systems. The design of Gary's systems makes use of a robust, reliable CANBUS system developed for automotive electronic instrumentation systems. His approach separates the data acquisition Module(s), and the data display module(s). This makes it easy to start with a simple engine instrumentation system, and a low cost LCD display, and expand the system as needs dictate, and finances allow including full colour displays with flight information, and redundant display capability. The Bus also minimizes weight and wiring complexity since information is multiplexed on a single pair of wires from the remote data collection module that can be located in the engine compartment. His system design allows for full customisation of display formats which makes it ideally suited to the extra set of temperature sensors that make the test flight period safer and more productive. Gary plans to sell his systems at very affordable prices and is looking for alpha trial users to shake out any bugs in the systems.

Thursday April 17th meeting @ NAM: Martin Poettcker's Custom PSRU Design

After a refreshing, and doubtless educational week at Sun n Fun, Martin returns to illuminate us on the fine engineering art of designing and fabricating his own custom planetary gear reduction drive based on a Ford C6 planetary gear set. As with the Torsional Damper, the PSRU presented many unique design and fabrication challenges. Martin, as usual was up to the challenge in finding unique solutions to each problem, keeping rework to an absolute minimum. This session, promises to be very educational, as usual.

I look forward to seeing you at the Aviation museum, at our normal start time of 8:00 PM.

Gary

THE 30-DAY INSPECTION

By [Thomas Turner](#)

Which is safer: a well-used rental aeroplane flown by dozens of pilots, from students to high-timers; or a personally owned aeroplane, flown regularly by only one, certificated pilot?

Popular logic suggests the personally owned aeroplane is usually in better shape, and therefore safer. It may be, though, that a personal aeroplane develops squawks that aren't discovered before they become costly to repair... if not downright dangerous.

PREFLIGHT INSPECTIONS

THIS IS ONLY A TEST: Conduct a complete pre-flight inspection of the aeroplane you intend to fly. Then, pull out the pre-flight inspection checklist from the aeroplane's Pilot's Operating Handbook (POH). You remember there's one in there, don't you? Chances are *excellent* that there's at least one item on the POH checklist you've forgotten to look at this time around. It's simply human nature to miss things sometimes which is why the checklist is there. Use it.

Rental aeroplanes usually fly a lot. Often several different sets of eyes and hands inspect a given rental aeroplane every day. Most of them (students) are using the checklist. If Pilot A misses something on his pre-flight inspection (and assuming it doesn't affect the safe outcome of his flight), Pilot B may catch it on hers. Hence, rental aeroplanes will tend to get repeated thorough and often complementary pre-flight inspections.

Personal aeroplanes may go days, or even weeks, between flights. Often the owner is the only person that gives the aeroplane pre-flight inspections. That's fine if he/she consistently gives the aeroplane a complete once-over with fresh eyes. BUT, if he or she tends to miss one item or another, then that item may go completely un-inspected between required checks (more on these in a moment). and, if the owner misidentifies the severity of a "squawk" found during an inspection, then he/she might as well have never seen the glitch at all. and no one will see it differently.

REQUIRED INSPECTIONS Depending on the airplane's use, certain inspections are required under the Federal Air Regulations (FARs):

- **Annual inspection.** All U.S. civil aeroplanes must receive a thorough inspection at least every 12 months. The "annual" is in effect a conformity check, to verify the aeroplane still meets the mechanical requirements of its Type Certificate (TC). Although the Airworthiness Inspection the aeroplane received when it was new never expires, the Airworthiness Certificate is not considered valid unless the aeroplane has a current annual inspection. Not just any licensed aviation mechanic can "sign off" an annual inspection; the technician verifying the aeroplane meets its TC standards must hold a special Inspection Authorisation an "IA."

NOTE: Builders of "homebuilt" aeroplanes licensed as "experimental" can get Federal authorisation to conduct annual inspections on the aeroplane they built. This authorisation is valid only for the specific aeroplane he/she built, and is not transferable to a new owner if the aeroplane is sold.

- **100-hour inspection.** Aeroplanes operated "for hire," including rental aeroplanes, must receive an inspection every 100 operating hours. The "100-hour" usually covers everything inspected in an annual inspection, but unlike an annual the 100-hour may be "signed off" by any licensed mechanic, not necessarily an IA.
- **50-hour inspection.** Most aeroplanes in charter service must receive an abbreviated inspection every 50 flying hours. The "50-hour" may also be signed off by a mechanic, not necessarily an IA.

How It Works: The philosophy is that a privately operated aeroplane must receive a good once-over at least annually. If the aeroplane is offered "for hire" to the public, but will be rented to pilots who should "know what to look for" to determine airworthiness, then it is held to a higher standard and must have additional (100-hour) inspections. When aeroplanes are operated with the "unknowing public" aboard, such as a charter operation, then the Feds dictate the aeroplane be inspected even more regularly.

AND INTRODUCING, THE 30-DAY INSPECTION

Since a number of persons -- each one with different lapses and areas of emphasis -- inspect them much more frequently, and because they're inspected by professionals much more frequently, it can be said that the rental aeroplane may indeed be "safer" than the personally owned aircraft. If you own your own aeroplane you can, of

course, compensate for this by using the pre-flight inspection checklist, and performing what I call the "**30-day inspection.**"

If you're like me, you're always in a rush when time comes to make a flight. You may be travelling on business, and have a schedule to keep. It may be cold or wet outside, hardly conducive to a lengthy pre-flight. The family may be loaded up for a vacation flight, baking inside the plane and anxious to get off the ground. You may be distracted by friends or other aeroplanes milling about the airport. Any or all of these make it tempting to skimp on the pre-flight inspection.

This is in **NO WAY** a suggestion to replace or hurry through a good pre-flight inspection, but it **WILL** help you keep tabs on some special airworthiness items, and help protect you if you inadvertently let conditions dictate the thoroughness of your pre-flight. If you own your own aeroplane, you may find it valuable to budget an hour or so to do a complete aircraft inspection, when you are **alone** and under **no pressure** to make a flight, or *not even going flying at all*. In other words, go out to the airport about once a month when you do *not* plan to make a flight, and give the aeroplane a "**30-day inspection.**"

30-DAY INSPECTION HOW TO

In addition to the POH-style pre-flight inspection, review:

REQUIRED MECHANIC/INSPECTOR CHECKS

- **Inspection status.** Double-check that the annual (and any other required) inspection will not come due in the next month (it's amazing how sometimes pilots can forget such things). Or if it does come due the next month, go ahead *right then* and schedule the inspection.
- **Transponder check.** Whether an aeroplane is flown VFR or IFR, if it has a transponder installed, that transponder must be operationally checked every 12 months. Make sure the date of the check doesn't come due within the next month or, if it does, go ahead and schedule the check.
- **IFR checks.** If your aeroplane is certified for instrument flight, its altimeter and static system must be certified every 24 months. If it's due before your next scheduled "**30-day inspection,**" go ahead and get an appointment to re certify your aeroplane for instrument flight.
- **Airworthiness Directives.** Reference your airplane's Airworthiness Directive (AD) Log (specific to the individual aeroplane) and see if any ADs must be complied with within the next month (given your expected number of flying hours in the upcoming month). Remember some ADs specify repetitive inspections as frequently as every 50 flying hours. Other, low-frequency AD work (sometimes measured in calendar years, or thousands of flying hours) may be overlooked on an annual inspection, so double-check this as well. Schedule any work that may be required soon, so you won't have to delay a flight later.

Insider's Tip: Owner/pilots commonly make a marker board for the hangar (or a notebook to leave in the aeroplane, if the aeroplane is tied down outside), listing the tachometer reading or date when each required check will come due. Such a record will make it very easy for you to check this airworthiness status before a flight.

OWNER/PILOT CHECKS

- **Oil changes.** Determine when the next oil change is due, and make plans to change the oil and/or filter (or schedule a shop to do it for you) if an oil change will likely come due in the next month.
- **VOR accuracy checks.** If your aeroplane is certified for instrument flight, you must log a VOR accuracy check within 30 days prior to a flight on an instrument flight plan even if you use GPS or some other method of navigation. Leave yourself a note on the instrument panel to make and log the check on your next flight (if you can't check it on the ground at your home airport). Remember you can't launch IFR unless the most recent VOR accuracy check is logged "*somewhere*" in the aeroplane.
- **GPS database updates.** Check that any GPS databases are updated as required. Order updates if they'll come due before your next 30-day inspection.
- **Complex systems.** If your aeroplane has retractable landing gear or other complicated systems, spend extra time looking them over carefully during your 30-day inspection.
- **Trim.** Adjustable trim systems have a "*safe*" range for takeoff, marked on indicators in the cockpit. In some aeroplanes, the cockpit indicators may "*slip,*" indicating something other than what the actual trim setting may be. During your 30-day inspection, set the cockpit trim indicators to the "*zero,*" or neutral position, then look at the actual trim tabs on the control surfaces. If the indicator is "*Zero'd out*" in the cockpit, trim

tabs should be flush with the control surfaces. Consult a mechanic experienced with your type of aeroplane if you find anything different, before attempting a flight.

- **Lubrication.** Take this time to grease up fittings and otherwise lubricate your aeroplane, per the servicing instructions in the POH or in the airplane's maintenance manuals.
- **Tire pressures and strut inflation.** Check tire pressures and add (or remove) air as necessary. If your aeroplane has pneumatic landing gear struts, check for proper inflation; get it adjusted if needed.

There are likely a lot of other things you should check on your 30-day inspection, but you get the idea. Make your own checklist, and update it as you discover new things to check or particular to your aircraft during your "*30-day Inspection*."

BOTTOM LINE:

Whether you're flying a rental aeroplane or one of your own:

- Always conduct a thorough pre-flight inspection.
- When you've completed your inspection, reference the POH Pre-flight Inspection checklist to make sure you didn't miss checking anything.
- Bring any questionable items to a mechanic or other knowledgeable person's attention before you fly.

If you're fortunate enough to own your own aeroplane, then:

- Recognise that yours is the **only** safety check the aeroplane gets between scheduled inspections and that nobody's perfect.
- Consider making the "*30-day Inspection*" part of your aeroplane ownership plans.

ED GILES

OBITUARY FOR A FELLOW PILOT/AME.

By Olav. Peterson

Ed Giles was known to several Chapter members but because he operated out of Kars airport, at Larry Rowan's hangar, his services were limited to those who appreciated his skills and the pilots in the environs. I had been a very appreciative customer of his for over 15 years and this has created a deep bond. Moreover, the contributions to aviation throughout his life have been significant and I feel that he is part of the family of pilots and a kin to the clan. Those who were fortunate to have met Ed have surely benefited in their personal development without doubt! His funeral was held on Saturday, March 22/03 at Kars and I miss him profoundly.

Ed Giles has been providing "health-care" for our Skyhawk for the past 15 years. He always believed that getting the fingernails and hands greasy of the owner-pilot would only result in greater benefits to the pilot and aviation safety. His method during inspections consisted of constantly injecting tid-bits of information and pointers. I think he was hoping that some of his experience would take hold and enhance the skills, knowledge and confidence of his clients.

Over the many years while working side-by-side with Ed during the annual inspections, I must admit in retrospect, that his attitude was right because my perception to potentially impending mechanical glitches has been honed to a finer level. His attitude to working as a team has instilled in me so many good habits in the day-to-day maintenance of our aeroplane. I had respect for his skills, his vast and long-time experience and his love for anything aviation, devotion to his profession and motivation in promulgating his knowledge to others. His attitude exuded honesty and wish to be helpful and having Ed as 'my mechanic' instilled a profound bond.

But our conversations during the annuals in Larry Rowan's hangar at Kars and the lunch-breaks in the sun-shade of the Rideau Valley Gliding Club 'command centre' was not restricted only to aviation for Ed had so many other interests and friends and family to talk about. Of course, in the milieu of an airport and surrounded by aeroplanes and 'aviation types', our conversation often centred on what was the current reality, concern and interest of the people around and Ed had many and endless info to relate about his travels, opinions, observations and escapades. We all

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