



Skywriter



Monthly Newsletter of the Calgary Ultralight Flying Club

April 1999

Across The Wing

by Wild Stark

Our next Raffle will be for a Transceiver. One of the decisions made at our last Directors' meeting was to offer a Radio for our next Raffle prize. Judging by how well the GPS draws were received, this useful item should be popular as well. The Draw will be at the June meeting. Tickets will once again be \$5 each or 3/\$10. We don't know yet whether it will be Delcom or Icom as we're currently shopping around for the most kick for the buck.

I'd also like to thank Bob Cameron and Dan Mitchell for attending our last Directors' meeting. I've mentioned at previous monthly meetings that we would like to have 1 or 2 club members attend these meetings to help provide input and gain an appreciation of the 'business side' of our club. We're also hoping that as a useful side benefit, more candidates will thus be available when we re-elect the various Director positions. Our club will stay active and interesting if it has a steady supply of

'fresh blood'. Our next meeting will be in September. If you'd like to attend, let one of the Directors know.

At our March meeting, I was once again extolling the advantages of partnering in an airplane. It has worked very well for the 4 partners that share our Rans S-12. This 5 year old 582-powered bird has had three 'moments of silence, while in flight'. Each time, it so happened that Ed D'Antoni was at the controls, but it was the engine that decided to help Ed line up for another immediate landing. I had made a wisecrack at the meeting about Ed crashing our plane. I did not realize at the time, that with so many newer members not being aware of these three mishaps, which happened between '92 and '94, they would

take the 'crash' word seriously. I'd like to apologize to Ed for that. I know beyond doubt, that because he was at the controls during these incidents, the plane always came to rest without a scratch or dent. Ed also happens to be the Flight Instructor that helped me complete my training and gain my UL permit. To this day I have not forgotten the many lessons and drills he put me through in order to get comfortable with how to keep an airplane under control while in more adverse situations.

By the time you read this, I'll be winding my way down to the Sun'n'Fun airshow, with a little white bird once again in tow. It has been 2 years since I first started this venture. I always heard that it's easy to make a small fortune in Aviation - just start with a larger one. I've joined those who can claim personal experience in this event. When I still had a career in the computer industry, we used to quote shipment dates as 'RSN - Real Soon Now'. Boy, does that fit in the UL-world as well.

Stu Simpson will be hosting the April meeting. I look forward to seeing you all in May, and presenting the Eureka at the June meeting. →



Wilf in the Rans S12 he shares with 3 others

Destinations

by Andy Gustafson

Another day and another destination, or so I thought. The warm wind was blowing from the south changing to south-east, at 5-7 knots, according to Calgary international airport tower. I had planned to head up towards Crossfield and maybe land at the Bishell strip, 22 miles from my home-strip. It is a really nice flight, a very comfortable and short distance.

With a spray bottle of "Fantastic", I cleaned up my wings, and polished up the windshield. I did my pre-flight and off I went, climbing to my cruising altitude of 4200'. The wind was blowing a lot more than I had anticipated. My ground speed showed a mere 42 mph on the GPS, and I figured that if the wind picked up anymore, I could have a long flight back to my Delacour strip. (Maybe I'm being too careful.) But, if I headed into the wind and went south, the flight back would be a quick one. So I kept flying into the wind, passing over Chestermere-Kirkby, turned west and decided to set down on Chestermere Lake. Fishermen had a couple of cars parked on the lake so the ice would be strong enough for my light Challenger II. The ice was the smoothest and slickest surface that I have ever landed on, like a slippery mirror. I slowed down to a crawl on the roll-out, before I did any turning. With lots of room to manoeuver, I did a few turning skids. I have done a lot of ice-racing with cars in my youth, and this being an airplane, I had the advantage of the rudder and the prop-blast. A new experience, like flying in a two-dimensional environment. Very good practice for those icy runways. (Don't try this at home folks.)

Next stop, Indus. At 5 miles out I announced my intentions to deaf ears. Better to let whoever know than not at all. Even from a distance I could see the airspace over Indus airport looking like London Heathrow on a hectic day. The circuit was very busy and joining the left down-wind for runway 16, the traffic seemed to flow very smoothly. It shows

that even an uncontrolled airport can function very good. Everybody has to strive for proficiency when they operate at an uncontrolled, busy airport like Indus. Safety is not to be compromised.

I touched down on 16 with full flapperon deflections, which easily let me turn off at the intersection and taxi to the hangar area. The first thing that caught my eye was the beautifully restored Fokker Super Universal being towed out of its hangar, and Dr. Jack Barlass's brand new King Cobra replica, gleaming in the bright sunlight. Jack was relaxing in his chair beside his "war-bird", totally enjoying the sounds and scenery of a busy airport. I shut down beside his hangar and was joined by Dave Boulton, flying in from Black Diamond in his Quickie. Two RX 550-Beavers in formation, just crossed over mid-field to join the circuit. I think that every airplane at this airport was out of their hangars this day. Fred Pentelski in his Rans S-6ES, Fred Beck in his Bushmaster and Fred #3, Mr Wright, just back from a jaunt in the blue skies in his Hi-Max. Blue Yonder's fleet of EZ-Flyer trainers, doing touch-and-goes. Ron Axelson in his Ercoupe, was heading for Pincher Creek. Don and Eleanor Rogers in their immaculate Chinook plus 2, getting ready for a flight. I have visited Indus-Winters many, many times but never seen more enthusiasm than on this beautiful early spring day. Its amazing to see how the U/L movement has progressed around Calgary since I started flying Ultralights back in 1987. No wonder our local Calgary Ultralight Flying Club is being recognized nation wide.

The flight home turned out to be quite bumpy because of daytime heating . I enjoyed several good thermals over those dark fields, getting good lift and free altitude gain. Calgary Int. reported winds from 160 at 10-12 kts. Another cross-wind landing at my home strip, but as usual, my Challenger makes them easy. I only logged 50 minutes of air-time on this flight down to Indus and back, and even if I did not make it to Crossfield, the north country is still up there to be explored.

Happy landings. →

Skywriter

Skywriter is the official newsletter of the Calgary Ultralight Flying Club and is published 12 times per year. Forward your articles and letters to:

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Assistant-editor: Bernie Kespe (see below)

Calgary Ultralight Flying Club

Meetings of the Calgary Ultralight Flying Club are held on the second Thursday of every month, except July and August, at 7:30 pm, at the Northeast Armoury, 1227 - 38 Avenue NE.

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Director: Jim Creaser 226-0180
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Past President: Ed D'Antoni 247-6621
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Flying Events

April 11th to 17th, Florida - EAA Sun 'n Fun, Lakeland, Florida

May 2nd, Red Deer - Red Deer Flying Club's annual fly-in breakfast

May 9th, Sundre - Mother's Day fly-in breakfast, 7 - 11 am, Sundre airport

June 13th, Hinton, AB - Hinton flying club fly-in breakfast and airshow, contact Jim Fry, 780-865-2159.

July 7th to 11th, Arlington - NW EAA Fly-in, Arlington, Wash.

July 17th, Chestermere-Kirkby Field Annual fly-in pancake breakfast (free), 8:00am to 12:00 noon, for more information contact Bob Kirkby at 403-569-9541.

July 28th to Aug 3rd, Oshkosh - EAA Airventure, Oshkosh, Wisconsin

One Pilot's Opinion

by Bob Kirkby

Nav Canada Fees

Nav Canada's ANS (Air Navigation Service) fees went into effect in March. Although there's been lot's of press about these fees over the past year I don't think the Ultralight flying community has been paying much attention. Every time these ANS fees are mentioned there is always a statement that Ultralights are exempt.

I recently read the detail on the new fee structure for my own edification and discovered that, in fact, there is no mention of Ultralight Aircraft, or any aircraft type for that matter. The fees are based entirely on aircraft gross weight and intended use. The lowest weight limit is 600 kg (1322 lbs). Any aircraft under a 600 kg gross takeoff weight is exempt from these fees. By definition Ultralights must be under this weight. Homebuilt's, however, may or may not be under this weight and could fall into the next category. Any aircraft with a gross takeoff weight between 600 kg and 2000 kg (4409 lbs) is subject to a \$60.00 per year fee. Aircraft in this second category that are used primarily for business or commercial purposes are subject to higher fees or daily fees, which I will leave for the inquisitive to look up for themselves (see NavCanada's web site: www.navcanada.ca). The fees became effective March 1, 1999 and if your aircraft is subject to a fees you should be getting an invoice in the mail soon. Another good reason to fly Ultralights, eh?

Industry Canada Radio Fees

Some good news for a change. Industry Canada (formerly Communications Canada) agreed last year to stop charging its ridiculous annual radio license fee for VHF radios carried onboard aircraft. Thanks to lobbying by pilot organizations like COPA the government finally agreed that a fee for no service was nothing more than an unjustifiable tax. All owners who



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have in the past being paying this annual license fee should receive a notice by the end of March indicating that they no longer require this license unless their aircraft is being operated between Canada and a country other than the US. This is most unlikely for light aircraft owners. (I have received mine as of this writing.)

So, if I subtract the radio license fee (normally \$35.00) from the \$60.00 NavCanada ANS fee, my cost of operating my Cherokee 235 has gone up by \$25.00 per year. That's tolerable. If I combine this with the \$35.00 I'm saving on my Renegade radio license I'm \$10.00 richer than last year. And now that I am being billed for air navigation services I don't have to feel so humble about using the them.

As a side note to the new fees, I recently read that New Zealand is imposing some tough user fees on their flying community effective July 1, 1999. Examples include \$42.50 for simply filing a VFR flight plan, \$10.00 for in-flight weather information and \$6.90 for an IFR approach at an international airport. I hope nobody from NavCanada is reading this.

Is your Ultralight real or imaginary?

Transport Canada has launched a campaign to update its ultralight owner database. At the end of February questionnaires and information packages

were sent to all registered owners of ultralights requesting an update of the aircraft's status and current owner's contact information. The objective of the program is to have an accurate database on active ultralight owners and their aircraft and to remove aircraft no longer in service from the registry. If you own an ultralight, active or not, and have not received a package, the TC Registration office would like to hear from you. To receive a package call 800-305-2059 or e-mail knoxl@tc.gc.ca.

Airdrie Airport Fiasco

If you live in Calgary you probably haven't heard much about the Airdrie Airport conflict. If you live in Rockyview and you read the local papers you've been seeing a lot of press on the problem. I won't review all the detail on what has happened, but briefly, the new owners of the Airdrie Airport have made know their plans to increase the length on one of the runways to accommodate larger aircraft to facilitate development of a maintenance business or businesses.

An information meeting was held in early February which was attended by literally hundreds of Airdrie residents. The airport owners apparently did a poor job of public relations, refused to answer questions, and the meeting deteriorated into a shouting match. A subsequent meeting was *(continued on page 5)*

arranged in March, not by the airport owners but by the local MP, and this time the owners refused to attend.

The net result is that the residents of Airdrie are calling for the MD of Rockyview to stop the airport expansion plans but the MD has its hands tied since all airport property in Canada falls under federal jurisdiction. This has left the MD councillors in a pickle. They have some very unhappy constituents but don't know what to do about it.

An article in the March 16th issue of the Rockyview Times states that, "Rockyview Reeve Bob Cameron, Councillor John Gough and Airdrie Mayor Dan Oneil met with Municipal Affairs Minister Iris Evans in Edmonton in an effort to put forward a united front in approaching federal transportation minister David Collenette. Getting the provincial government on board was critical if progress was to be made with the federal government in respect to jurisdiction, said Cameron."

Apparently the MD already challenged the feds for jurisdiction. The article goes on to say, "In a recent letter, Collenette stated his ministry was looking at a re-working of the Aeronautics Act - 'but that could take years,' said Cameron. 'We don't want to wait for that.'" The trio is planning a trip to Ottawa in the very near future to meet with Collenette to see if they can wrestle some control over airport property away from the federal government.

If this doesn't raise warning flags for every pilot in the Calgary area, Canada for that matter, it certainly should. It is very unfortunate that the Airdrie Airport owners have done such a poor PR job leading to the current situation. I place the blame squarely on their shoulders.

What do you think is going to happen to Ultralight and light airplane flying in Rockyview if (or when) they are successful in obtaining some legislative control over aerodromes. Let me enlighten you. As with most MD's in Alberta the councillors are all farmers. Their first priority is always to protect farmers and farm land. Trust me,



Ultralight havens such as Indus-Winters Airpark could come under local control.

I've had first-hand experience at having a development proposal thrown out at the whim of a farmer. Don't take this the wrong way, I love farmers, I farm my land, but farming and flying don't always mix very well.

Assume a few Calgary ultralight pilots flew their airplanes from a field in Rockyview. A neighbour complains to the MD that the airplanes are disturbing his livestock. Is the council going to side with the farmer or a few Calgary pilots who don't even pay Rockyview taxes?

I've had this conversation with a couple of you and it has been suggested that we have nothing to worry about because the feds won't take them seriously. Well, let me remind you of the Banff and Jasper airport closures. Ten years ago I heard the same comments. "These airports are unobtrusive which any logical mind can fathom. Therefore, they won't be closed and we have nothing to worry about." Well, nobody ever accused Sheila Copps of having a logical mind, did they? In spite of years of lobbying by COPA and the airport user groups involved, they are now closed! - except for emergency landings only.

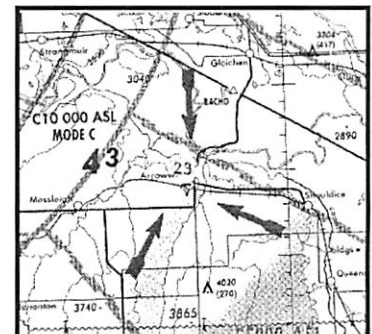
All it may take is one very loud MD supported by an influential Provincial Government to start the feds on the road to de-vesting control of aerodromes. So what are you going to do about it? I'm 52 and I

hope to be flying for another 20 years. What about those of you who are only 32?

I believe the Calgary Ultralight Flying Club should be taking a clear and proactive stance on this issue and should also be working with COPA to insure our right to fly is protected long into the 21st century. Meanwhile - fly by the book and don't antagonize the civilians. →

Chart Revision Note

For all those that purchased the VNC chart at the last meeting, an error was discovered on the chart. The location of airfield number 23 - Oberholtzer Farms- is misplaced 60 miles too far north, instead of being just north-east of Threehills, it should be situated just north of Arrowwood. Please make note of this and I apologize for the oversight. - Bernie



Killed by Pancakes

Hypoglycemia was common to pilots during World War II. But we aren't operating by the rules of war, and a sensible diet with sufficient sleep is the best preventative measure.

Nobody fully understands the importance of physical condition as it relates to the ability to make judgments. In fact, Nobody wants to take the time to tell you a story about one common hazard, called hypoglycemia, which can strike anyone who ignores the danger signs. So, here's the story.

A fresh spring wind was clearing the air around the Smallville town square, and the Maple Leaf was flapping over the one-room Post Office. Lazarus Nobody ignored the smell of bacon frying at the tiny cafe across the square. But Miss Pitch, Doctor Power and Father Path were following their noses across the street; Nobody's instructors were not famous for light eating during airshow season.

As Lazarus followed his crew across the corner to the eatery, Lars (Lazarus' errant son) was inside, wolfing down a stack of pancakes, dousing each toppling layer with syrup and raw sugar.

Seeing his dad enter the cafe, Lars rose to greet Miss Pitch, his hand extended. Small dabs of syrup dotted his chin like a zit curse, betraying the youth and zeal behind his leering smile. "Polly," he muttered, "what's the prettiest lady pilot in the South doing with this cruddy crowd?"

Doctor Power felt a ripple of anger flow through him, dissipating finally in 10 cracking knuckles. He and Lars were the only ones who noticed; Lars sat down slowly, signing for the group to join him at his table.

"Son," said Nobody, "where have you been since Thursday? We've got to have some preparation time for this airshow. We haven't done our routines since last year. Mouth full of pancakes, Lars jerked his head toward the local boarding house. "Been here waiting for

you. Seeded the town with lies and rumors, thrilled the girls and even got the high school teachers to petition against us. This town thinks we're maniacs, and I'll bet every soul here turns out to see us frap."

"Wait a minute," Doctor Power intoned. "You've been building us up as daredevils?"

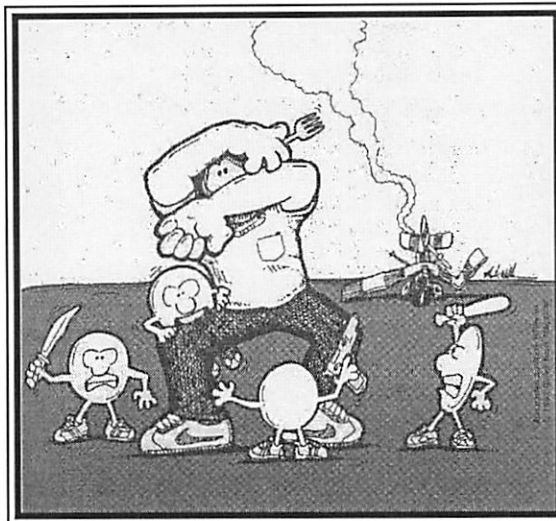
"Not us, caveman. Me!"

"Say, little Nobody, you aren't kicking around the outside loop idea again are you?" Polly Pitch was even beginning to get angry now. "You little blowfish, I'll spank you if you try that in one of our machines!"

The little grin on Lars' face was enough to move Doctor Power from his chair. "Sit down, Doc." Father Path was wiping his glasses and eyeing Lars intently. "The lad is a lad, and impetuous. He has promised an outside loop, and though the promise was no doubt made to a chippy, or chippies, in a bar, he can't show up at the airshow and not try. I say the only alternative, if he has any honor, is to quietly kill himself and thus spare his father and associates the embarrassment of bouncing in front of the crowd."

"Look, you guys. I have done this dozens of times, in this plane, and I won't have trouble doing it today. Dad, what do you say? You know I can do it . . . Can I?"

Nobody stirred from gazing out the window, and faced the group. He eyed



each one in turn, ending with a full stare between the eyes of his son. "What altitude?"

"About 2,200 agl."

"What speed?"

"Entry about 35; 50 out the bottom side."

"How you feel?"

"Great! Can I do it?"

"Boy," said Lazarus, "I swear, if you tell your mother about this I'll kill you. If you're alive. It's your choice."

Lars left his dad with the check; he bolted from the diner, running off toward the airport, only a halfmile east. "That boy scares me, Polly, but I can't say 'no' to him any longer. I hope he's in better physical shape than he looks." Nobody was glancing at Lars' tab as he spoke. He looked up at Polly and back at the bill. "Three orders of pancakes?" Young Shari Yung met Lars on the way to the airport. "Lars, can't you slow down?" Shari was skipping along to keep up. "Did you forget about last night? Or the night before? Do you remember not sleeping at all? Aren't you tired?"

Lars pressed on, but turned to grab Shari's arm and pull her along with him. Shari kind of liked that. "Hey, are you gonna do that outside thing?"

"Yea," he told her. "Look, don't let anybody know I've been staying at your place. If my dad finds out I haven't slept, or even eaten, for two days, he'd ground me for sure. Just don't tell him anything at all."

"OK, Lars. Say, you don't seem like you haven't slept. You seem full of energy."

"Hunh." Lars seemed not to notice her, but quickened his pace.

The crowd was cheering as Lazarus, Polly, Doc and the Padre finished off their precision flying routine with silent rollouts at the reviewing stand. The announcer got tongue-tied and the crowd was noisy. Up above, the fading smoke-written message "Smallville (continued on page 7)

Jaycees" was shifting off with the gentle breeze.

The little high school band was butchering the theme from "Jaws" as Lars pulled his bright red ultralight out in front of the stands. He was smiling, but the "jump" had faded from his bones. He was getting slower, less bright with each passing minute. There was a small army of small boys to push the plane, so Lars just followed it to the flight line.

Waving to the crowd, he cranked up the water-cooled monster and taxied out to the runway. The announcer was speaking in a mock whisper: "Here he goes, ladies and gentlemen. Will he return?"

Nobody was watching Lars' face through his field glasses. He saw the eyelids drooping and the head bob. Lars looked back at the crowd, then down the runway line, and cursed audibly as consciousness left him. The ultralight began to fast-taxi down the runway, veering to the right, starting a wide circle toward the crowd.

Doctor Power was the first to act, plotting an intercept course well away from the crowd. He met Lars and the ultralight at the edge of a drainage ditch, leapt up to the cockpit cage and kicked the wires from the magneto switch before turning to look at the path ahead.

"Jiminy Cricket!"

The crowd was mortified, unable to blink. Lars and Doctor Power disappeared, head first, below the wall of the drainage ditch, out of sight. Milliseconds later, Doctor Power flew up over the opposite wall, airborne. Landing with a thud, on his belly, he bounced two or three feet and stood up, as though it were planned.

The crowd began breathing again when Doc Power bowed, with flair, and they began to applaud him. Their attention was already elsewhere when Doc fell over, face first in the grass, twitching like one of the Stooges.

Polly was the first to the scene, after Shari, and stood back while Shari stroked Lars' head. "Oh Lord," she was crying. "Let him live, and I'll promise tonight I'll let him sleep. Just think, Lord, what it would do to my young psyche if I had to go through life, knowing I had killed a nice man with my persistent charms?"

Lazarus came skidding down the hillside, and motioned everyone back away from the wreckage. "Don't worry, Miss," he was saying. "He'll be all right, but he had a close call. Lars was almost killed by pancakes."

Shari looked up at Nobody, and then at Miss Pitch. She began to back away, shaking her head, and vowed to conquer only football players from then on.

Summary

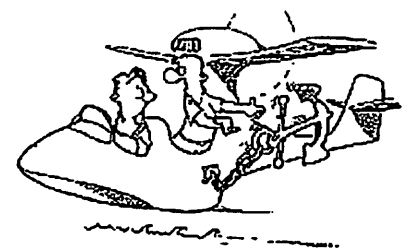
Lars fell prey to one of the most common physical maladies in the book: low blood sugar. Burning his candle at both ends for a couple of days, even at his age, had lowered the level of blood sugar to the point of collapse. When he consumed the pancakes, he had essentially "fooled" his body into action.

With the shocking dose of sugar came an increase in the level of insulin, which the body uses to stabilize sugar levels. The sudden rise in insulin level caused an excess of adrenaline, and after the sugar was consumed, the adrenaline was still flowing in his veins. The sudden swing to the other end of the sugar scale caused his blackout, which was almost without warning.

Flying, especially in ultralights, is much more of a demanding activity, physically, than most people realize. If you think you may be suffering from wild swings in blood sugar level, the cure is a normal meal, preferably high in protein. Protein will assimilate without triggering unnecessary amounts of adrenaline production, and will help to eventually stabilize blood sugar levels.

If you feel you are about to be the victim of hypoglycemia, a "sugar fix" will allow you a short reprieve, but the following relapse (in maybe 20 minutes) will be far worse than it would have been without it. Hypoglycemia was common to pilots during World War II, and they usually carried a chocolate bar in their kit, in case it struck them in flight.

We aren't operating by the rules of war, though, and a sensible diet with sufficient sleep is the best preventative measure you can take to avoid being "killed by pancakes".





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Returning Two-stroke Engines to Service After Long - Term Storage

by Reese Griffin

Spring and the approach of warmer weather signal that it's time to get those flying machines out, and into shape for a new season. In a previous article, we explored the procedures needed to prepare two-stroke engines for winter storage. Now it's time to reverse the process, and get the engine ready to run and fly.

Before you even THINK about pulling that starter rope (or flipping the switch, if you have the convenience of electric start), several important steps must be taken to be sure that the engine is ready to crank up, and that this can be accomplished without causing serious internal damage. If you have done a good job on the pre-storage preparation, reviving your power plant should go smoothly using the procedures described below.

The first order of business for an engine with electric start is to check out the battery. Visually inspect the case for any damage or electrolyte leaks. Also check the terminals for looseness or damage. Replace the battery if any such conditions exist. Put the battery on a long, slow charge (too quick and heavy a zap can fry it--take your time), then load test the battery. This can easily be done with an inexpensive tester

available at most auto parts and department stores. Replace the battery if it fails to take or hold a charge. Clean terminals, check battery mounting hardware, securely remount and reconnect the battery.

Next, it may be necessary to undo a few things that were done prior to storage. If the engine was wrapped in protective material, such as plastic sheets, or the intake and exhaust were capped or sealed as recommended, these coverings will need to be removed. Check around intake and exhaust outlet to be sure that there is no foreign material that could enter the engine.

Now, clean away any dirt or dust around the spark plugs and remove all plugs. With the ignition switch off, rotate the engine by hand. With the spark plugs removed there is no compression. The engine should turn freely and easily by hand. If the engine turns hard, place about 1/2 ounce of two-stroke oil, of the type recommended for your engine, into each cylinder through the spark plug holes. Oil can also be sprayed or squirted into the intake while the engine is being turned. All of this should help to break up slight deposits of rust that may have built up in storage. The piston rings and cylinder walls are usually the worst culprits for this condition.

If the engine turns very hard, or is completely seized, DO NOT FORCE IT.

Trying to force the engine to turn in this condition will almost certainly cause some damage. For example, you might crack a piston ring.

This is a condition that may not show symptoms right away, but may come back to haunt you later on--like when you are airborne.

When a tight, or seized two-stroke is encountered, the best window into the cylinders is usually through the exhaust ports. Remove exhaust pipes, muffler and manifold and inspect cylinder walls, pistons and

piston rings. Likewise, removal of air/fuel induction components lets you look into the crankcase and crankshaft area. Spraying or squirting two-stroke oil of the type recommended by the engine manufacturer

directly on pistons, cylinder walls, crankshaft and bearings, and CAREFULLY turning the engine by hand will, in some cases, eventually free up the engine. If this approach does not work, or inspection shows

seriously worn or damaged internal parts, engine teardown and overhaul by a qualified engine repair technician is called for.

At this point, as long as the engine turns freely, its time for what might be called a "tune-up". A new set of spark plugs, properly gapped, is always a good idea, and a relatively small expense. This is also a good time for new air and fuel filters. These and other maintenance items will usually be discussed in your owner's or operator's manual, and will probably be included in a 50 or 100 hour inspection procedure. The maintenance schedule for a particular engine may call for additional procedures, such as retorquing cylinder head or crankcase bolts. In all situations, follow the service requirements and procedures spelled out in your owner's manual and/or service manual.

Our next concern is a most important one -- fuel and oil. If you have fuel or fuel/oil mixture that has been sitting in a tank or other container for 3 months or more, toss it out (in an environmentally correct and legal manner, of course). It is also (continued on page 10)



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advisable to avoid using two-stroke oil that has been sitting around for a long time, or in an open container. Make up a fresh batch of fuel/oil mixture, following the requirements listed in the owner's manual. Always observe common sense safety procedures when handling fuel, which is highly flammable and explosive. Also take precautions to keep fuel and fuel handling equipment clean and free from dirt, moisture and other contaminants. Remember that high-quality fuel and oil are a two-stroke's best friends, and cheap or contaminated fuel and oil are its worst enemies.

Liquid cooled engines will require a refill, and possibly other attention to the cooling system. Some engine manufacturers may allow for water only in the cooling system when freezing conditions are not expected. Others may recommend a mixture including anti-freeze or anti-corrosion additives. Again, consult the owner's manual for recommendations for specific engines.

Now, at last, it's time for start-up, shake-down and final tuning. Remember that your fuel system has probably been dry for awhile, and priming using a squeeze bulb or boost pump will be needed. As the fuel system is being primed, carefully check all fuel lines, connections and fittings for leaks. Keep in mind all standard safety precautions when working around running engines. Eye protection and hearing protection are strongly recommended. Always be mindful of turning props and



Andy Gustafsson flies off into the sunset in his Challenger. Photo by Stu Simpson

other rotating mechanisms. Be careful around hot exhaust and other hot engine parts. Run engines only in a well-ventilated area.

With the aircraft securely tied down, start the engine according to the manufacturer's recommended cold start procedure. Run the engine up to operating temperature, then perform any adjustments (such as carburetion, fuel injection, ignition timing) as instructed in the owner's manual or service manual. Continue to run the engine at various RPM's while still in tie-down. Watch the engine for any unusual shake or vibration. Listen to the engine for any strange noises, such as knocking, skipping or backfiring. Closely observe gauge readings for any abnormal conditions.

Most owner's manuals and service manuals include troubleshooting sections to help in diagnosing and correcting such problems. If any questions or doubts remain as to the running condition of the engine, it is best to consult a trained professional engine technician, the engine dealer or factory technical assistance line.

Any beast abruptly awakened from hibernation may act a bit strangely. Your two-stroke is no exception. Following the start-up and set-up procedures described above, performed in tie-down, it is best to make a few high-speed taxi runs and short flights within gliding distance of the landing site to complete the shake-down. Again, engine performance and gauges must be closely monitored during this phase of operation. If any questionable circumstances crop up, put it on the ground, check it out and be sure that the problem is cured before going too far afield.

Reese Griffin is in charge of Technical Publications for 2 Stroke International (2si) in Beaufort, SC. 2si is a manufacturer of high-performance, lightweight engines ranging from 7 to 100+ horsepower. 2si engines are used by many ultralight and kit plane builders, as well as in numerous other aviation and non-aviation applications.

A free information packet is available by contacting 2 Stroke International, or the Authorized Dealer at the address below.

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