Foxbat Australia

Newsletter – May 2011

In this issue

Breaking in your Matco brakes

All new Foxbats are delivered with the brakes 'conditioned' according to the Matco recommended procedure. However, as aircraft age, the brake pads and occasionally the disks wear out and require replacing.

It is important to condition your new pads (& disks) to ensure your brakes are working effectively.

Please note – with the Matco brakes on your Foxbat you must only use pink/red MIL spec hydraulic fluid. DO NOT USE automotive hydraulic fluids as these will damage the rubber seals inside the pistons and cause early failure.

Here is the recommended Matco process for conditioning your new brake pads and/or disks:

1. Apply brake pressure for a high/full throttle static run up – first, make sure your engine is thoroughly warmed! Note the RPM at which 'creep' (if any) begins.

2. Perform 2 or 3 high-speed (25-35 knots) taxi runs and apply firm braking down to about 5 knots – do not actually stop the aircraft. This will bring the brakes to their required 150-200 celsius operating temperature. After the final run, taxi back to the parking area. Ensure the brakes are off when parking (ie do not use the park brake) and if necessary chock the wheels and lock the controls.

3. Allow the brakes to cool for about 10-15 minutes.

4. Repeat step 1. There should be a noticeable increase in 'bite' of the brakes and less (if any) 'creep'.

5. If needed repeat steps 2 & 3 to further condition the brakes.

6. Properly conditioned brakes should have a uniform shiny appearance on the surfaces of the pads and disk and operate smoothly with moderate pressure on the brake lever.

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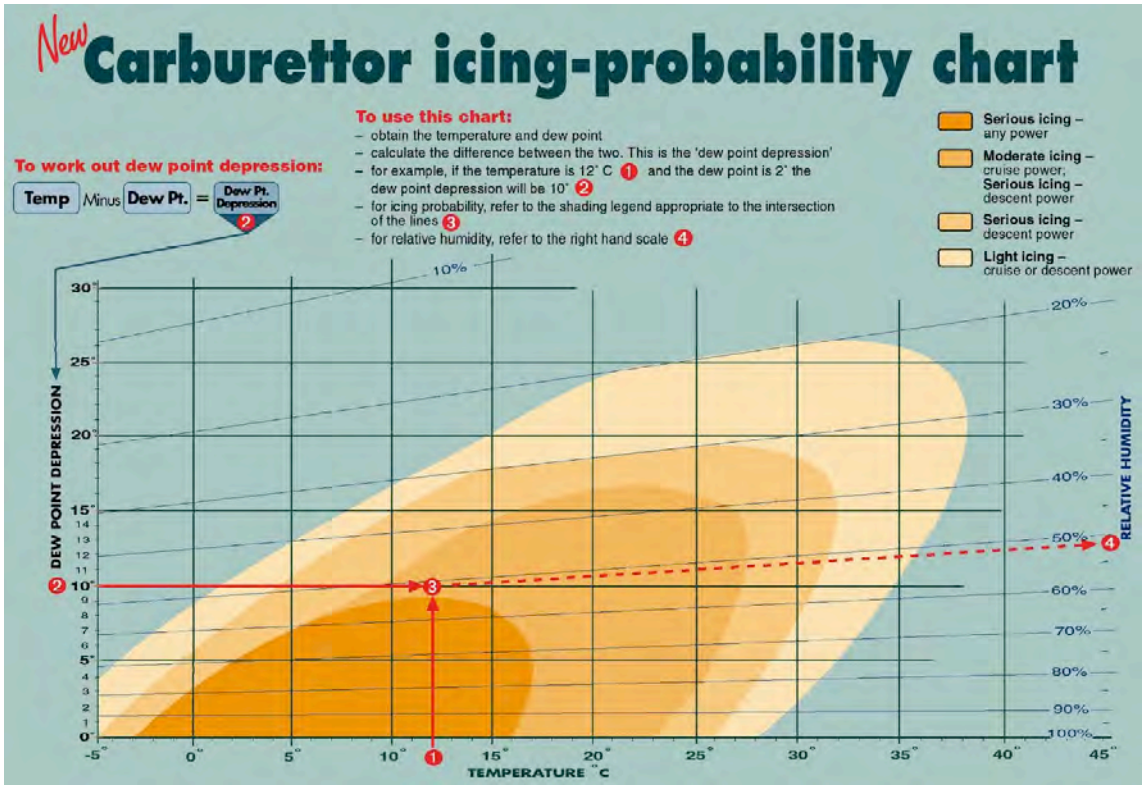
Carburettor icing



It's that time of year again – at least for us southerly cousins – when the prospect of carburettor icing looms once more. Although, as you can see from the chart above, moderate icing is even possible at cruise power at 25 celsius at higher humidities, such as are found in the tropics.

Thankfully, the Bing carburettors fitted to Rotax 912/914 engines are far less prone to icing than more traditional carburettors on GA aircraft as they are placed above and relatively close to the (hot) exhaust manifolds. In addition, many Rotax installations draw air from inside the engine cowlings and although this leads to a small reduction in power (warmer air is thinner than cold air, so produces less power) it does mean the carbs are even less prone to icing.

However, Rotax 912/914 icing is not completely unknown. The symptoms of carb icing vary – most commonly the engine slowly loses power and starts to run ever more roughly. Increasing power does not increase RPM.

Icing usually creeps up on you, it is unusual for the engine to suddenly start running roughly due to icing. Unless you have an effective carburettor heat system, getting rid of icing once you have it is not a quick or easy matter and opinions vary on the best approach – probably applying full throttle and descending into warmer air. Although if your engine is coughing and spluttering, getting closer to the ground and limiting your landing options is not the most attractive choice.

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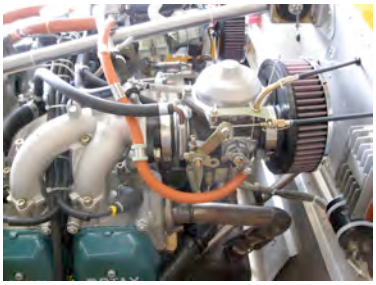
So, prevention is better than cure.

If your aircraft is not fitted with any kind of carburettor heating system, consider the viability of fitting a system. There are three main types of carburettor heating available on the market:



Heat rings

Heat box

Electric heater

1. Coolant-fed 'heat rings' are often a good answer on the Rotax 912. These fit between the carburettors and the manifolds. They are tricky to fit properly but they do have the advantage that they permanently keep the carburettor throat warm without heating the air, and thus do not affect the power the engine produces. The disadvantages are that if the coolant temperature is low – typically when starting up on a cool morning, the heat rings do not work. Similarly, a long cold descent at idle power can cool off the engine so much that again the rings are not warm enough to stop ice forming. Also, they need eight additional coolant hose joints – meaning more pre-flight checking and potential leaks!

2. Carburettor heat box. Typically, these draw intake air from around the exhaust muffler, which remains hot even at idle power. A few draw air through either the oil radiator or the water radiator. Some of these heated air systems work better than others. The best ones have a shroud which forces the intake air round the muffler before it enters the carburettors. Others simply have the intake positioned close to the muffler. Air through the radiators relies on the oil or water temperature remaining warm enough to heat the air sufficiently to melt any ice. The drawback is that you must remember to only use the heated air at low power settings – otherwise there is a real risk of detonation and damage to the engine.

3. Recently, some new electric carburettor heaters have appeared for Rotax 912 and other engines. These consist of a 12v sealed ceramic heating element screwed to a conducting metal back-plate, which is in turn attached to the carburettor body. A switch on the instrument panel activates the heater via a relay if/when needed. I have not been able to test these in Australia but European contacts tell me they work well – quickly and effectively. I have some on order for testing. The drawback with electric heaters is they add more complexity and potential for the electrics to go wrong.

If fitting any kind of carburettor heat system is just not possible or within your budget, then here are a few tips to help avoid the ice:

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- Make sure your engine is fully warmed up before flying. If you can, add an oil thermostat and/or a coolant thermostat to help keep temperatures in the green arcs. If you can't afford or don't want to add these items, at least put some tape over part of the oil cooler and/or water cooler radiators in the winter. Remember to remove it when spring comes!!

- When making even short descents, warm the engine every 500-1,000 feet with full power for about 30-60 seconds. Because they have liquid cooled cylinder heads, Rotax 912/914 engines are not prone to shock-cooling (which has been known to crack cylinder heads on air cooled engines). Nevertheless, it is good practice to keep the engine warmed on descents.

- Avoid flying at higher altitudes where the air is cooler and from which you have to descend. Avoid flying in known icing conditions, like when it is very humid and/or cold. If you have to fly in these conditions, try to use as close to full power as you can for most of the time.

- Ensure your fuel has no ethanol content. Ethanol absorbs water surprisingly quickly and when this mixture passes through your carbs, it is more likely to contribute to ice build up in the carb throats.

There's nothing so scary as a malfunctioning engine in an aeroplane. Carburettor ice is a major source of malfunction 'incidents' and even quite a few accidents. Do not become a statistic – avoid carb icing!

Foxbat deliveries to Tasmania

I am pleased to say there is a rapidly growing number of Foxbats in Tasmania – currently standing at seven including an amphibian, with two more on order. I have personally delivered four of these, making the crossing twice each via King Island and Flinders Island.

Water water everywhere….

King Island

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Newsletter – May 2011

In reality the Bass straight crossing should be no big deal provided you make appropriate preparations and flight plans. Obviously, the weather is important and much as I want a tailwind, so long as visibility and cloud base are OK the crossing should be uneventful – I'd recommend any Recreational/Sport pilot to give it a try at least once in their flying career.

My crossings were all one-way delivery flights – meaning I could not take an inflatable dingy with me as airlines do not allow you to cart one back with you. So I relied on my lifejacket, EPIRB and the highly recommended timed 'SKED' over water calls with Melbourne Radar as you cross.

When crossing the Straight, preparation is crucial. As the old saying goes: fail to prepare, prepare to fail.

First, the aircraft. All but one of these Foxbats were brand new aircraft. This is good and bad news. Good news in that everything is new and should work well; bad news in that if anything is going to fail, it will probably do so in the first few hours of flight….so a very thorough flight test before ferrying and meticulous pre-flight inspections are mandatory.

All the deliveries were from the Melbourne area. So I took the opportunity to land at Apollo Bay Airfield before starting the King Island crossings and Leongatha Airport before the Flinders Island crossings. This gave me a chance to double check the engine and aircraft again before heading out across those cold grey waves.

Second, the weather. Whatever the forecast, it seems Bass Straight has a climate all of its own. However, BoM, Weatherzone and the Air Services Australia Pilot Briefing Service are all invaluable contributors to the go-no-go decision. Along with calls to the expectant owners to establish local conditions before and during the flight.

The Flinders Island route, although the longest over water from the mainland, has the psychological advantage of quite a few rocks and small islands either directly on track or only a little off it. In reality, the chance of making it to one of these if you suffer a mechanical problem is probably remote. But the sight of them is comforting. Conversely, Cape Otway to King Island is shorter but there's nothing to see on the way, contributing to that feeling of being out there very much on your own. On one crossing this route, I was limited to 2,500 feet altitude due to (unforecast) cloud and you cannot see either Cape Otway or King Island from this altitude when you're in the middle of the Straight between them.

Overall, I'd recommend any Recreational/Sport pilot to try the crossing at least once – if only to sample the excellent Island produce on sale at the King Island Airport terminal. And if you're careful enough to time your arrival to coincide with an RPT, the café serves a great sandwich and coffee!

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Dynon releases v3.1 for SkyView

This is just a short update on the item in the last Foxbat Newsletter covering the release of the Dynon navigation/mapping firmware. Version 3.0 allowed only one navigation waypoint or 'Go to' when flying. The latest Version 3.1 has now added multi-point flight planning, as well as fixing a few other minor firmware glitches. The firmware can be downloaded on to your Dynon USB stick (supplied with the SkyView) and uploaded in the normal way. You'll also need to download the latest version of the Jeppesen database from their website to make use of the navigation firmware.

13 Trikes and a Foxbat

Sounds like a movie title…. But this was a trip in early May by Rob Hatswell in his Foxbat and the Southern Districts Flying group from Strathalbyn in South Australia. The plan was to head to their West Coast area, initially stopping off at the very hospitable Truro Fly-in and then to Port Pirie, across the gulf to Whyalla, over the Gawler ranges, to Streaky Bay, Port Lincoln and follow the coast back.

The group didn't quite get that far, as some of the newer pilots found the Trikes tiring and a bit of a challenge in the sometimes blustery conditions. Rob reports discretion was the better part of valour and they opted for the safer and conservative path to head early to Cowell and back east again.

Rob says: "I have to admit that after flying about 18 years in trikes, and being a CFI for most of them, the trip in the Foxbat was not only comfortable, but extremely stress free and a bit of a doddle. All this and I didn't have to compromise the view being in an enclosed cockpit, compared to the open cockpit of the Trikes.

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"Although this trip was cut short, these flying excursions in a group are really enjoyable, and an education no matter who you are, or what you fly. Two aspects I learnt, was check ALL restricted airspaces for NOTAMS regardless if they used to be nearly always inactive. If in doubt you can call AirServices, or radio through on the area frequency. I nearly assumed wrong here ! Secondly, to be careful of unknown airstrips, with blotchy grass and dirt patchwork. What you think is smooth can be as rough as guts.

"Our second day at Pirie, saw myself giving six lucky Trikers, flights in the Foxbat during the day. As the evening brought cleaner air the Trikes took to the skies for some local coastal flying".

Rob Hatswell and his yellow A22LS Foxbat – 24-7557 – is based at Gawler Airfield, South Australia.

Foxbat fuel dipstick

I am pleased to announce the availability of a new fuel dipstick for the A22LS Foxbat. These are available at this stage only for the long range (57 litres) tank. A version for the standard (45 litres) tank will be available soon.

The dipstick is powder coated aluminium with etched and coloured markings. Size is approximately 35 cms x 2.5 cms with a thickness of about 4 mm.

All new Foxbats will include one of the new dipsticks. If you want to get one for your aircraft – remember, only long-range tanks at the moment – please order through the website. Cost is A$80 including postage & GST.

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