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FAQs - Aeroprakt Aircraft

Welcome to Aeroprakt Aircraft ownership!

Regularly checked and maintained, your new aircraft should give you many years of reliable service, covering many hundreds if not thousands of flying hours. To help ensure you start off in the right way; here are some guidelines and suggestions. They may seem boring and time-consuming right now – after all, you just want to get out and fly.

However, please READ THIS DOCUMENT FIRST and it may save you at least time, and perhaps a lot more!

Before flying:

1. Read all the manuals supplied with the aircraft – in particular the Pilot Operator & Maintenance Manuals. This will help familiarise you with your aircraft and its performance. Also, read the radio manual, and (if fitted) the transponder manual and (if fitted) any other equipment operating instructions. These simple actions will help ensure you avoid unnecessary problems.
2. Read over the 'New Owner Familiarisation' flying training programme which includes all the speeds, limitations etc you need to know before flying the aircraft.
3. Familiarise yourself with the daily inspection and pre-start checklists. These are supplied by the factory and are based on their many thousands of hours of flying their aircraft.

When you get home:

4. Complete and return all the warranty forms supplied with the aircraft. Look for the Rotax engine warranty, radio warranty, and any other items such as the propeller, transponder, strobe lights, special instruments etc. There is no warranty form for the aircraft itself, the warranty starts automatically the day you take delivery.

Please note – if the warranty forms are not completed and returned to the respective manufacturers, you will be liable for the cost of any repairs.

5. Register with Rotax to receive engine service information. Ideally, complete this via the internet so you receive automatic notification and copies of all bulletins which affect your engine number. Go to *www.rotax-owner.com* for details and registration, including entering your engine number.
You can also check the RAAus website for Rotax service bulletins – see:
https://www.raa.asn.au/safety/airworthiness/
6. Aeroprakt airframe service bulletins will be communicated directly to you, should your aircraft be affected. Alternatively, you can make regular checks yourself either on the Foxbat Australia website or on Aeroprakt's own website at:

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http://www.aeroprakt.kiev.ua/pages/show/bulletins/

7. Familiarise yourself with the cockpit and controls. Whether you are a new pilot or have years of experience, there will be differences to aircraft you may have already flown. Some particular points to note are:

a. Throttle Spring. The Rotax engine throttle is spring-loaded to full open if a cable breaks. This means you can control power with the ignition should a cable failure occur – not easy, but at least you have power!

b. Throttle friction. Throttle friction should be adjusted so that the throttle lever does not move when released at engine idle.

- for side throttles, the friction bolt is under the LH front of the pilot seat;
- for the centre throttle, the friction bolt is accessed with a socket spanner through a hole on the side of the centre console, located close to the floor by the right-side front of the pilot seat.

c. Choke. There is no mixture control on the Rotax – the carburettors are self-compensating for air density. There is a choke lever on the centre console for cold starting; set the throttle at idle, operate the choke and turn the key to start. As soon as the engine is running, gently return the choke to its 'off' position – increasing the throttle a little if needed – until smooth running is obtained.

d. Brakes. Note that the park brake should be engaged when starting the engine. Move the park brake lever to its rearmost position and then pump the brake lever to apply the brakes, in effect 'locking' the hydraulic system. *Please note* – when in the locked position, the park brake operates as a one-way valve. Should the aircraft move forward when the park brake is in the locked position, continue to apply the brakes via the brake handle(s) until the aircraft stops moving. *NOTE – be sure the park brake is in the forward/off position before landing!*

e. Headsets. Normally the pilot headset plugs into the left (pilot side) pair of sockets and the passenger/co-pilot into the right pair. The push to talk buttons work with the corresponding headsets and pilot/passenger controls.

f. Rudder pedals. The rudder pedals are connected directly to the nose wheel for steering while on the ground. Avoid moving the pedals when the aircraft is stationary as this can put unnecessary stress on the steering mechanism.

g. Ballistic rescue system. If you have one fitted, ALWAYS remove the cockpit safety locked pin for the BRS release handle before flying. There's no point in having the parachute if you leave it pinned – you'll never be able to release it in an emergency.

8. Maintenance tips. The following items are intended to be a brief summary of the main points you need to know about your new aircraft. They are not intended to replace the Aircraft or Engine Maintenance manuals – which should be the final reference source for any maintenance.

a. Servicing. After the first 25 flying hours, you and/or a qualified engineer should carefully inspect the entire aircraft according to the schedule in the Aircraft and Engine Maintenance Manuals. At this time, the engine oil and filter should be

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replaced and the spark plugs checked for any abnormality.
Although the Rotax and Aeroprakt Maintenance Manuals do not require a further service for 50 more flying hours (75 in total) Foxbat Australia recommends a second check and oil & filter change after only a further 25 hours (ie after 50 hours total). This allows you to re-check the spark plugs and oil – it also means all future services are carried out on the 50-hour intervals (100, 150, 200 etc).
b. Engine. The engine powering your aircraft is a Rotax 912 series100hp, flat four cylinder, liquid/air cooled unit. The cylinder heads are liquid-cooled, the barrels are air-cooled. It has dual electronic ignition and hydraulic, self-adjusting valve lifters. A carburettor heating system is standard on all recent aircraft. Maintenance is straightforward, but be sure to read the Rotax maintenance manual – contained on the CD ROM supplied with the aircraft documentation.

There are a few points to note about your engine:

i. Normal coolant. Your aircraft comes filled with a standard 50:50 coolant/water mix using Mobil Antifreeze Extra – pink in colour. You can top this up if needed with the same fluid. Make sure you keep the mixture 50:50. You may use other manufacturer's coolants but flush out all the original type before re-filling.
ii. Waterless coolant. All recent Rotax engines CANNOT USE WATERLESS
COOLANT. However, older engines may still use waterless coolant. Contact Foxbat Australia for details.
iii. Oil & filter. You must use one of the Rotax listed oils, for example Aeroshell Sport 4 - this is a high quality, semi-synthetic oil with a gear additive (the gearbox is lubricated with the engine oil) suitable for use with both leaded and unleaded fuels. Contact us for replacement oil filters.
Note (a) - when you change the oil and filter, you must check the magnetic
plug on the front left side of the engine for any accumulation of metal. This plug can be very tight and you should use extreme care when removing to ensure there is no damage to the plug – it can very expensive to remove a plug which has become damaged!
Note (b) – NEVER turn the propeller backwards on your aircraft as this can
lead to air entry into the hydraulic valve-lifters!
iv. Oil temperature. All recent Aeroparkt aircraft in Australia have been fitted with an oil thermostat. If your aircraft is not already fitted with one, and you think it could improve warm-up times and stabilise oil temperatures, please contact Foxbat Africa for further information. Retro-fit kits are available.
v. Fuel. Rotax recommends premium unleaded fuel rated minimum 95 Octane. You can use leaded fuel (minimum 97 octane – avgas 100LL is suitable) if needed. You can mix leaded and unleaded. If you use leaded

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fuel, it is very important to change the engine oil and filter at the frequencies stipulated in the Rotax service manual.

vi. Ignition. The firing order of the cylinders is 1,4,2,3, where 1 and 3 are the
right (starboard) side cylinders and 2 and 4 are the left (port) side cylinders
counting from the front. Contact us for replacement spark plugs.s

c. Brakes. Your Aeroprakt aircraft uses standard pink aviation MIL-spec hydraulic fluid in the brakes. The quantity of fluid in the braking system is quite small – only a few tens of ccs – so it is important to check the level in the reservoir on the firewall as part of your pre-flight checks. Ideally, replace the fluid every 500 flying hours or every 24 months if this is sooner. Fresh fluid can be obtained from Foxbat Africa or any competent aircraft servicing facility.
Do not use clear DOT 4 or 5 automotive hydraulic fluid.
In prolonged hot weather, the fluid can evaporate through the breather surprisingly quickly. However, the level of the fluid will also reduce normally as the brake pads wear.

d. Lubrication. Every 50 flying hours, use small squirts of Lanox or a similar oil on all the bearings and moving parts in the engine bay, control surfaces and inside the fuselage on the bell-crank bearings. Lanox helps to keep bearings clean and generally, repels dust and water.

e. Cleaning. When washing your aircraft DO NOT use high pressure sprays as these can force water into the aircraft interior, fuel tanks, pitot-static and electrical systems. Although the paint is extremely robust, it is not intended to resist the power of a pressure washer!
You can use any good quality automotive polish/wax to shine and protect the paint.

When cleaning the cabin polycarbonate plastic transparencies, use a product such as 'Plexus' which is designed for the job and which will fill any minute scratches. Use a one-way polishing motion (up/down or side-to-side) – do not polish in circles, as this can leave cumulative patterns in the transparency which can become distracting in certain lighting conditions – such as strong sunlight.

DO NOT USE HOUSEHOLD OR AUTOMOTIVE POLISHES OR CLEANERS such as Windex or Mr Sheen on the polycarbonate plastic as these contain chemicals, which can cause long-term damage such as discolouration and crazing in the polycarbonate. If you use an automotive cleaner/polish, make sure it is recommended for polycarbonate transparent plastics.

f. Holes in the fabric. Any tearing or hole in the fabric wing/control surface coverings should be carefully examined to determine the cause. Small accidental holes or tears – up to 5mm in length/diameter - can be temporarily repaired using duct tape or100 mile-an-hour tape of a colour to match your

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paint. However, these small holes and any larger ones must be repaired permanently using a patch of Diatex fabric and suitable glue. Once repaired, the patch can be painted to match the aircraft.

9. Flying tips. Both the A22 and A32 are very forgiving aircraft to fly, having no tricky handling characteristics. They stall cleanly (or, rather, mush down) with no tendency for a wing drop. Take-offs and landings are quite straightforward. The following tips are therefore intended as a guide to the early stages of flying your aircraft.

Please see the supplied Familiarisation Programme document for details of the recommended flying conversion course to help you fly safely and get the most from your Foxbat.

a. General. Although the Foxbat has flaps (technically 'flaperons' as they act as both ailerons and flaps) the performance of the aircraft is such that flaps are only really needed to take-off from or land into very short strips. Keep the slip ball in the centre at all times!

b. Fuel management. The aircraft have two wing tanks. Normally, fly with only one fuel tank ON/OPEN. Try not to empty one tank while there is significant fuel in the other – in very rare circumstances an air-lock can cause fuel starvation. Please see the separate document with your information pack – 'Fuel Management' – which gives more detailed information.

c. Take-off. Apply full throttle over a count of about 1-2-3-4-5 and at the same time GENTLY pull back on the control stick until the nose wheel is maintained about 6 inches off the ground. The aircraft will take off in this attitude at about 35-45 knots depending on take-off weight. This technique helps in two main ways – it helps get the propeller clear of loose stones etc which may be on the runway and also lifts the nose wheel out of harm's way on bumpy strips.

d. Engine failure on take-off. First, read the appropriate Pilot Operating Handbook (POH) on this subject! Second, even at maximum weight, it is safe to turn back and land on the departure runway if you have reached at least 400 feet of height above ground level. GET THE NOSE DOWN AND MAINTAIN SPEED of at least 55-60 knots in the turn! With your instructor's agreement, practice the manoeuvre starting from above 750 feet at first, then gradually reduce the starting height as you gain enough experience. However, if in doubt – LAND AHEAD, MAXIMUM 30 DEGREES either side of track!

e. Climb. Best climb is at 50-60 knots with full power at 5,000+ rpm. The aircraft will climb at engine speeds as low as 4,000 rpm, although at this speed performance is marginal.

f. Cruise. Depending on the aircraft and pitch setting of the propeller, you will be able to cruise at any true air speed (TAS) between about 45 and 115 knots. The propeller pitch can be adjusted on the ground depending on your main use of the aircraft – coarser for cruising and finer for (even) shorter take-offs and climb rates.

g. Rough air. On any aircraft, the airframe takes the most punishment in rough air. Slow down to below the yellow arc on the ASI in rough air – particularly at

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higher weights.
h. Descending. The A22 has quite a 'draggy' airframe, so you can descend quickly by throttling to idle and allowing the nose to drop. Beware of exceeding Vne (never-exceed-speed)! Best glide is around 50-60 knots – trim for this speed no flap, hands off. The A32 has a much more slippery airframe, so watch out for a more rapid speed build up on descent.
i. Landing. Normal approach speed down final should be no more than 55 knots. Reduce to 45 knots over the threshold and hold off at about 1 foot altitude until the aircraft gently settles – MAIN WHEELS FIRST – on to the runway. Gently hold the nose wheel off until it settles of its own accord.
A common fault is too high a speed on approach – 60 knots or more. Remember, these aircraft have very high-lift wings, stalling in the high 20's/low 30's of knots, which will keep you flying all the way into the hedge at the far end of the runway!
j. Cross winds. The demonstrated flapless cross-wind limit of both the A22 and A32 is 22 knots – by an experienced Aeroprakt factory pilot. A better limit for an average pilot is around 12-14 knots. As in all aircraft, use of flap significantly lowers the safe crosswind limit. Whenever possible, land directly into wind. If you can't, adopt the crosswind landing technique your instructor taught you and/or whichever you are most comfortable with. Make sure the nose wheel is pointing in the direction of travel when you lower it on to the runway.
k. Braking. Both the A22 and A32 are very light aircraft – even fully loaded. Once worn-in the brakes are more than up to the job of stopping the aircraft quickly. Beware of locking the brakes on wet grass and other slippery surfaces – and make sure the PARK BRAKE is OFF as part of your pre-landing checks!
l. Tie-downs. Your aircraft comes with a set of three tie-down screws and straps. On current models, the best tie-down points are at the tops of the wing struts – make sure you angle the straps as shown in the tie-down instructions with the tie-down kit, so they don't slide down the struts and become ineffective. To avoid damage, tie round the metal strut, not the composite fairing. You should use either the noseleg or or propeller shaft as the third tiedown
point.
m. Finally… It is always best to chock the wheels rather than leave the park brake
set for any length of time – particularly overnight.

10. Other helpful tips.

a. Useful things to carry

- spare fuses of various relevant values
- either a spare inner tube for the tyres, a can of self-sealer or, better, a complete seal and re-inflate kit to treat punctures when away from base;
- dedicated good quality leather for the polycarbonate/lexan (don't be tempted to use it on the rest of the aircraft or you'll end up scratching the screen!);

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- a can of 'Plexus' or similar and a soft cloth for polishing the lexan;
- all recent Aeroprakt aircraft have metal pins to lock controls. If your aircraft does not have one of these, use a strap or rope to lock the control surfaces when parked, a bungee cord may be OK for light winds. You can also use the seat belts but this means re-adjusting them every time.

b. Rain. These aircraft are designed and intended as strictly VFR fair weather aircraft. However, there may be times when you have to park the aircraft outside in poor weather. Please note – it is not waterproof! Rainwater may leak in and can stain your seats and luggage container. However, it will drain out of the wings, tail and fuselage structures through the drain holes. The best protection is the (optional) cabin/fuselage cover if you have to leave your Foxbat out in the rain. Please contact Foxbat Africa for details.

c. Small scratches/paint chips. There are specific RAL paint references for the Foxbat paint colours. However, the actual colour you get from your friendly local paint shop can vary a lot depending on who operates the mixer etc. Therefore, if you need some touch-up paint, we recommend you take a part of your aircraft (eg the prop spinner) and ask the paint shop to match it. This way you are more likely to get a correct match.

d. Security. It is a criminal offence to leave your aircraft parked unattended without a suitable visible locking device to prevent it being flown away. Door locks alone are not enough! You have 2 choices – either a cable or chain lock round the propeller (use a plastic-coated device to protect the prop and your paint) or a locking bar through the rudder pedals. Please contact Foxbat Africa if you need further advise on security.

Happy flying! Please let us know of any omissions – or any additions you would like included in these notes.

John Bassi
Foxbat Africa