

## c42 flight manual

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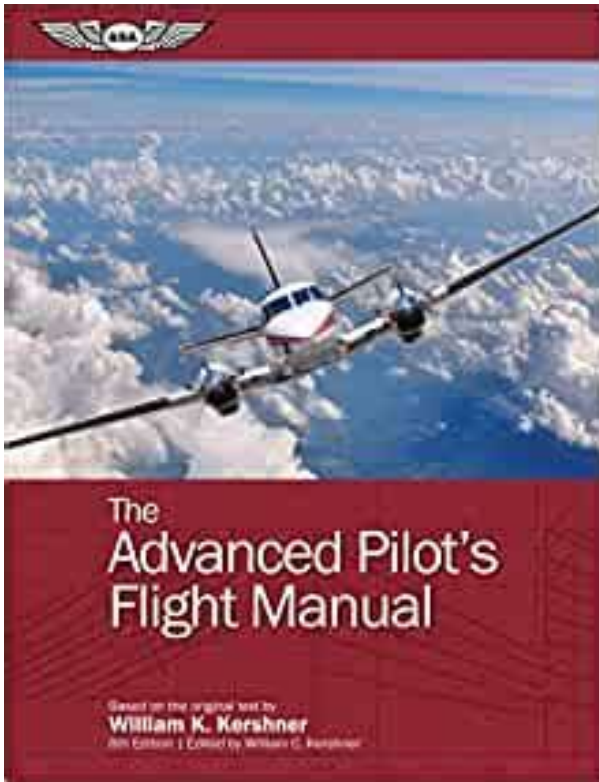
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The described options of the C42 Series use are certified for Germany and have been tested in Germany. Please note that for using the C42 Series as a towplane for towing gliders, towing aerial signs or decanting sky divers, different regulations may apply in different countries. Please contact your local authorities for further clarification. POH C42 Series Issue4 Rev.3 24.01.2013 Page 2 of 92 RECORD OF MANUAL REVISIONS No. POH C42 Series Issue4 Rev.3 07.02.2017 Page 4 of 92 C42 Series Pilot Operating Handbook Introduction C42 series aircraft are built in compliance with the airworthiness requirements of various countries and are certified as Microlight, Ultralight, Advanced Ultralight and Light Sport Aircraft. To operate the aircraft the pilot must hold a license or certificate appropriate to this category of aircraft. The aircraft is not to be flown unless it is registered, carries registration markings in accordance with the requirements of the country in which the aircraft is to be flown, and has a Permit to Fly or certificate of Airworthiness valid in the country of operation. The aircraft is to be flown under daytime VFR conditions. Flight in conditions other than daytime VFR without the correct aircraft equipment and pilot ratings is extremely dangerous and can result in serious injury or death. Pilots holding licences for other categories, even higher ones, are required to be checked out by an appropriately qualified instructor prior to flying this aircraft as it possesses characteristics that are unique to light sport type aircraft. These characteristics include low inertia, susceptibility to turbulence and wind gradient and special engine considerations. The safety of all occupants, the aircraft and persons on the ground are the sole responsibility of the Pilot in command. Do not operate this aircraft in a manner that would endanger the occupants, the aircraft or persons on the ground. POH C42 Series Issue4 Rev.3

07.02. [http://www.smgj.co.kr/PROGRAM\\_FCKeditor\\_UserFiles/descargar-manual-visual-studio.net-2010.xml](http://www.smgj.co.kr/PROGRAM_FCKeditor_UserFiles/descargar-manual-visual-studio.net-2010.xml)

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manual.

General Arrangement (Typical)

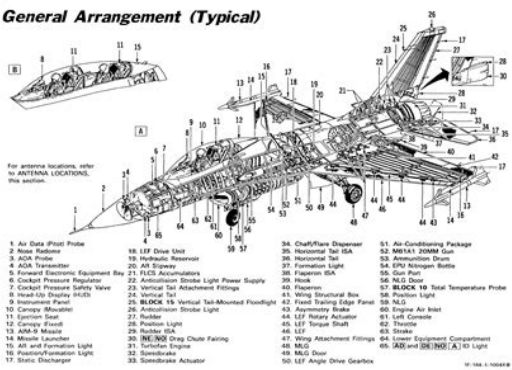


Figure 1.1

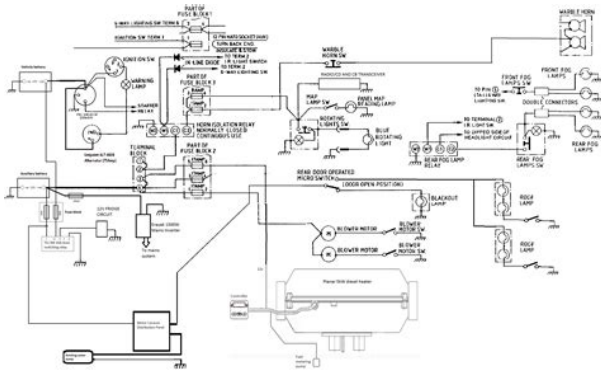
2017 Page 5 of 92 C42 Series Pilot Operating Handbook Bear in mind that the engines used in C42 aircraft are not certified aviation engines and thus may not offer the same safety standards found in other classes of aircraft. Prepare your flight so that you can always reach an emergency landing area should you experience engine failure. On cross country flights, ALWAYS keep an emergency landing field in sight. Changes to the control system, structure, wings and engine are prohibited. These changes would invalidate any certificate of airworthiness or permit to fly and as such would result in an insurance becoming null and void. All operating difficulties and equipment failures should be reported to your dealer or the manufacturer. For fire safety reasons, smoking is prohibited on board of the aircraft. Never move the prop with the ignition MAG switches on. Fuel type for fourstroke 912 UL and 912 ULS engine Super leaded or unleaded according to DIN EN 228 with max. 5% ethanol, AVGAS 100 LL or AVGAS UL91 To start the engine OPEN Main fuel valve ON Electrical fuel pump IDLE Throttle OPEN Choke OFF Carburettor heat ON Ignition both magnetos CLEAR Propeller blade area ON Brakes CLOSED After engine starts, choke If the engine does not start, repeat the starting procedure. POH C42 Series Issue4 Rev.3 07.02.2017 Page 21 of 92 C42 SERIES Pilot Operating Handbook If the engine has been flooded, close main fuel valve, open the throttle to a half and start the engine. When the engine starts, quickly reduce the throttle to idle. A fourstroke engine requires a fairly long warm up period. The cylinder heads of the Rotax 912UL engine are liquidcooled whereas the cylinder barrels are aircooled. The coolant and oil systems are connected to one heat exchanger, thus the temperatures of both fluids adapt to each other. Due to heat exchange the oil also warms up faster during the runup phase. Perform the MAG check at 4000 rpm. <http://www.mazurubezpieczenia.pl/zdjecia/fck/download-manual-visual-basic-2008-express.xml>



Rpm drop should not exceed 300 rpm with a maximum difference between MAGs of 115 rpm. In case

your aircraft is equipped with a cowl flap, please refer to the instructions in the paragraph 4.9 when equipped with a cowl flap POH C42 Series Issue4 Rev.3 07.02.2017 Page 22 of 92 C42 SERIES Pilot Operating Handbook 4 Flight Operations 4.1 Taxiing The nose wheel steering is conventional and is directly connected to the rudder pedals. Push the right pedal to turn right. Push the left pedal to turn left. Taxiing is simple. The turning radius of the C42 is small, and the plane handles cross wind during taxing very well. When taxiing with a strong tail wind, hold the control stick firmly in the neutral or nosedown position. Gently bring the throttle to full forward position, check tachometer. At full throttle, the tips of the propeller blades produce hard knocking sounds. Pull the stick slightly back during the initial roll. Retract flaps at a height of approx. 150 ft. This will cause a slight nose heavy moment. After reaching a safe altitude the electrical fuel pump can be switched off. Slight right rudder is necessary to compensate both engine and propeller torque during climbing. Whenever possible, takeoff into the wind. No special procedures are required. During the initial takeoff phase, it is essential that the aircraft accelerate sufficiently in order to prevent stalling, should a sudden loss of power be experienced. Avoid obstructions. Using the flaps touch down at a low speed. The approach phase can be shortened by slipping. Before undertaking an emergency landing in rough terrain, turn off the fuel valve and the ignition. In order to fly the aircraft comfortably, it should be trimmed to the desired airspeed with the throttle set for the appropriate rpm for horizontal flight. With the increase of airspeed, significantly less amount of rudder deflection is needed. In steep banks keep the nose and airspeed under control by means of the rudders and elevator.

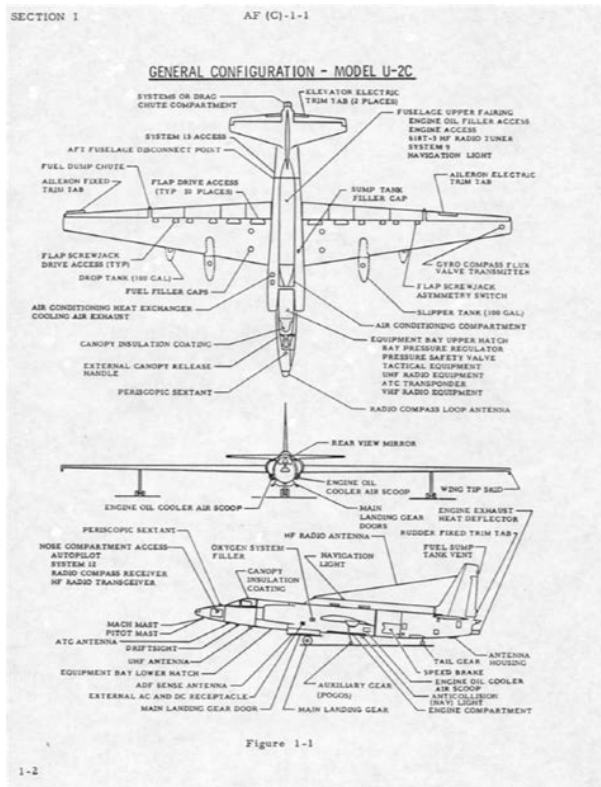
The engine cowling will be well above the horizon. When flown in this condition the aircraft is fully controllable. However, lateral altitude corrections must be done mainly with the rudder. If the aircraft is stalled slowly with the elevator in detent, it will enter into a stable stalled descent. Altitude loss can be up to 100 ft. By slightly releasing the elevator, airspeed will increase and the aircraft will return to horizontal flight. Maximum altitude loss is 250 ft. The aircraft reacts similarly in all flap positions. POH C42 Series Issue4 Rev.3 07.02.2017 Page 26 of 92 C42 SERIES Pilot Operating Handbook 4.6 Descent and landing Begin with your approach early enough in order to set the correct landing configuration without hurrying. Activate carburettor heat. The electrical fuel pump must be switched on. In order to be able to steeply approach short landing strips, use flap position 2 landing. Moreover, the glide path can be effectively shortened by a sideslip. At the height of approximately 10 ft 3m begin rounding out to the landing flair. Shut off all electrical accessories and radios before shutting down the engine. At lower altitudes it is best to land straight ahead without attempting any course corrections. Before attempting an emergency landing in rough terrain, turn off the fuel valve and switch off the ignition. When landing in a high vegetation grain or similar reduce speed directly above the vegetation by extending the flaps to position 2, pull stick fully aft and allow the aircraft to sink into the vegetation. II Loss of engine power during cruising flight Crosscountry flights should be planned to ensure that a suitable landing field could be reached in the case of a loss of the engine power. POH C42 Series Issue4 Rev.3 07.02.2017 Page 28 of 92 C42 SERIES Pilot Operating Handbook With sufficient altitude you may attempt to restart the engine, check 1. Fuel valve OPEN 2. Magneto switches ON 3. Fuel SUFFICIENT 4.



<http://ninethreefox.com/?q=node/10514>

Fuel pump ON III Starting the engine in flight ON both magneto switches ON electrical fuel pump. OPEN throttle OFF carburettor heat fire up engine using starter Maintaining airspeed to windmill the prop can help. POH C42 Series Issue4 Rev.3 07.02.2017 Page 29 of 92 C42 SERIES Pilot Operating Handbook 4.9 Using the optional cowl flap on the aircraft C42 If your aircraft is equipped with the cowl flap, you have a possibility to control the temperatures of your engine via manual adjustment of the cooling air. It works in C42 both for the oil and cylinder head temperature and coolant temperature due to the installed oil and water heat exchanger. Moreover, you can considerably shorten warmup period by starting up the engine with a fully closed cowl flap. It does not only protect the engine but also saves fuel. Though, for a reasonable and secure handling of the cowl flap it is necessary to closely watch the oil and cylinder head temperature. Attention If the cowl flap is closed the cooling air supply to the radiator will not be sufficient over a longer period, i.e. the oil and cylinder head temperature and coolant temperature will rise to an inadmissible range the red warning light range. The cooling down of the cylinder head temperature to admissible and optimal temperatures can be supported by reducing the engine output and increasing the airspeed in descending. The functionality test of the cowl flap is made during preflight inspection. POH C42 Series Issue4 Rev.3 07.02.2017 Page 30 of 92 C42 SERIES Pilot Operating Handbook 4.10 Emergency procedures I Tipping due to lower speeds Reduce back pressure on the stick and lower the nose. Recover II Sideslip Set rudder in the opposite direction to a sideslip Reduce back pressure on stick III Spin Throttle to idle.

<http://www.indianantique.com/images/brauniger-iq-basic-manual.pdf>



Apply rudder opposite to the direction of rotation until the rotation will stop Reduce back pressure on stick Slowly pull aircraft up IV Spiral dive Set aileron and rudder opposite to the direction of rotation and pull back the stick slightly until a horizontal position will be taken. In calm weather conditions it can also be used to try to land the aircraft. If in doubt, deploy the parachute rescue system. POH C42 Series Issue4 Rev.3 07.02.2017 Page 31 of 92 C42 SERIES Pilot Operating Handbook VI Loss of aileron control Use the rudder to control the aircraft via yawinduced rolling moments. If in doubt, deploy parachute rescue system. VII Loss of rudder control Controlling gentle turns is possible with the ailerons only. If possible, perform a field landing in a straight flight. If in doubt, deploy parachute rescue system. VIII Carburettor fire Main fuel valve OFF Electrical fuel pump OFF Full throttle Sideslip Follow emergency landing procedures. POH C42 Series Issue4 Rev.3 07.02.2017 Page 32 of 92 C42 SERIES Pilot Operating Handbook 5 Ground Handling 5.1 Towing Manual moving of the aircraft is accomplished by using the tail struts upper connections as push points. Since there is no tow bar applicable at the nose gear, you have to press down the tail to raise the nose wheel off the ground. With the nose wheel clear of ground, the aircraft can be simply steered by pivoting it on the main wheels. 5.2 Hoisting The aircraft may be lifted with a hoist of at least 1000 lb 0.5 tons capacity by using Tsupport ceiling hangers. Use suitable spring snap hooks for the three designated mounting points on the cabin roof. Caution Do not set parking brakes during cold weather when accumulated moisture may freeze the brakes or when brakes are overheated. 5.4 TieDown When parking the aircraft outdoors, nose into the wind if possible. Set parking brakes or block wheels with brake pads.

<http://greenandtelco.com/images/brauniger-iq-alto-manual.pdf>



Use ropes or belts no chains, wire or steel cables and fasten them to the tie down points upper end of the front wing struts. Then secure them to the ground anchors. Additionally, mount a rope or strap between the engine cowling and propeller spinner and secure to another ground anchor. The control stick must be secured with the help of the safety belt in a fully retracted position. POH C42 Series Issue4 Rev.3 07.02.2017 Page 34 of 92 C42 SERIES Pilot Operating Handbook TieDown Point at the Upper Front Strut Area TieDown Point between the Engine Cowling and Propeller Spinner POH C42 Series Issue4 Rev.3 07.02.2017 Page 35 of 92 C42 SERIES Pilot Operating Handbook 6 Minimum equipment Four point harness for each seat Airspeed indicator with correct colour coding Altimeter with Kolsmann window Compass Tachometer Cooling liquid temperature gauge Oil temperature gauge Oil pressure gauge Fuel gauge Generator charge control Data placard Pilot's operating handbook Parachute rescue system Checklist 7 Dimensions Cf.The center of gravity is measured in mm or inches in relation to the reference datum and then calculated as a percentage of the wing chord.Should the chute get wet, it must be aired and repacked. There is a time limit on the use of the rocket cartridge in rocket deployed systems. Before taking off, remove the system safety pin. After landing secure the system with the safety pin. The figures given are valid for a MTOW of 793 lbs 360 kg flown solo and 1041 lbs 472.5 kgs with two persons on board. POH C42 Series Issue4 Rev.3 07.02.2017 Page 44 of 92 C42 SERIES Pilot Operating Handbook 13 Attaching the wings 13.1 Attaching the wings to the fuselage The wings are attached to the fuselage as follows Step 1 Bring the wing main strut into a correct position to the wing by means of attaching the auxiliary struts in the receptacles on the front and rear wing spar. Step 2 Grip the main strut and raise the wing tip.

Step 3 Turn the wing into a horizontal position, keeping the wing tip slightly higher than the wing root. Step 4 Slowly push the wing against fuselage and wing spar brackets. Step 5 Before pushing against the spar brackets, look for the slideway at the rear spar intake so that to lead the rear wing spar in the locking position. When the retaining bolt is touched, rotate the right wing slightly clockwise the left wing must be rotated counter clockwise. By moving slightly upwards, the rear wing spar will lock into the retaining bolt and the front wing spar will take position under the retaining bolt of the front wing tube holder. Push the front wing spar against the bracket while slightly lowering the wing tip. The front wing spar will lock into the retaining bolt. At the same time, launch the lower end of the wing support in the square crossframe. Carefully check that both wing spars have properly locked into place. POH C42 Series Issue4 Rev.3 07.02.2017 Page 45 of 92 C42 SERIES Pilot Operating Handbook Step 6 Attention and now immediately 1 insert mounting bolts into the front wing spar bracket 2 insert mounting bolts into the rear wing spar bracket 3 insert toggle bolt into the square crossframe spar to secure the wing support 4 all three bolts must be secured with the ring pins! 5 lift the wing and check that the wing support is fixed by the toggle bolt

really reliable. Repeat Step 1 to 6 for the other wing. Remove any aileron locks used. Step 7 attach right and left aileron push rods to the seesaw connection. Carefully assure that the slide mechanism of the special balljoint connectors is in completely closed position. Step 1 Lift right wing at the wing tip, rotate slightly to unlock first the forward wing spar and then the rear one. Step 2 Draw the wing back off the fuselage until the stop ring on the slide tube is reached. Step 4 Swing the wing tip back. Step 5 Place the wing tip on to the retainer bracket on the empennage.

<https://michaels-limo.com/wp-content/plugins/formcraft/file-upload/server/content/files/1626ef70b263f8--bosch-ppw-3320-manual.pdf>

Repeat steps 1 to 5 for the left wing. POH C42 Series Issue4 Rev.3 07.02.2017 Page 47 of 92 C42 SERIES Pilot Operating Handbook 14 Preflight inspection Before each flight the pilot must carry out a visual inspection of the aircraft. 14.1 Engine Check propeller and spinner for damage and security. Check cowling near the propeller for abrasion sign of defective engine suspension or improper cowling attachment. Check for leakage under the engine cowling. Check cooling liquids and lubricants. Check secure attachment of the engine cowling. Check that coolers are clean oil cooler, water cooler. Check air vents for blockage. Check NACA intake for blockages 14.2 Landing gear Check secure attachment of all components hub caps, brake cylinders, brake discs. Check for a visible deformation. Check air pressure in the gasfilled shock absorber aircraft level, pull aircraft down and release, gasfilled shock absorber must fully rebound. Check pressure and condition of tires POH C42 Series Issue4 Rev.3 07.02.2017 Page 48 of 92 C42 SERIES Pilot Operating Handbook 14.3 Left wing Wing spar connections secured Wing struts properly attached and secured Auxiliary struts secured with quickrelease fasteners Pitot tube secured and free from dirt and water Check aileron shift levers and push rods by opening the zippers on the wing bottom. Check condition of fabric covering rips, etc. Check profiled struts for secure attachment. Check wing tips and wing tube for deformation. Check attachment of ailerons and flaps. Check the springloaded locks at the sliding sleeves for proper power transmission they have to be locked properly at the front and rear end of the tubes. Check QRSpades of the C42C and C42CS model for secure attachment and deformation. 14.4 Left side of fuselage. Check elevator shift lever through the baggage hatch in the.

The increasing range of Pooleys Check Lists presently cover the Fixed and Rotary Wing Aircraft types detailed below and each contain clearly enumerated and defined pages for checks of Cockpit Preparation, External, Internal, Engine Start, Taxiing, Power PreTake Off, Vital Actions, After Take Off, In Flight, Circuit Joining, Landing Shut Down and Emergencies. BM 68 Manufacturer Aviation Hangar 6 Wolverhampton Halfpenny Green Airport. The C42 aircraft is a Microlight, conforming to the definition within BCAR Section S, 1999. To operate the aircraft the pilot must hold at least a minimum of a Microlight PPL. The aircraft is not to be flown unless it is registered, carries registration markings in accordance with the CAA requirements, and has a valid Permit to Fly. C42 Owner's Manual Microlight Page 7. The effectiveness of the system for the safe recovery of the aeroplane has not been demonstrated. C42 Owner's Manual Microlight Page 8. It is imperative that this procedure is followed otherwise serious injury or death may result. C42 Owner's Manual Microlight Page 10. Taxiing is simple; the turning radius of the C42 is small, and the aircraft handles cross winds during taxiing very well. When taxiing with a strong tail wind, hold the control stick firmly in the neutral position. Spinning C42 Owner's Manual Microlight Page 12. Avoid "fully holding off" before touchdown as drift angle increases and airspeed decays, the control authority also reduces. C42 Owner's Manual Microlight Page 13. Remember KEEP FLYING THE AIRCRAFT AT ALL TIMES. C42 Owner's Manual Microlight Page 14. C42 Owner's Manual Microlight Page 15. Data placard and weight and balance document. Pre flight check list. Tachometer Cylinder head temp. Oil pressure gauge Oil temperature gauge C42 Owner's Manual Microlight Page 16. For operation at weights over 450kg, the forward limit is 366mm aft of datum. This is a limitation to remain within tested nose wheel loads. C42 Owner's Manual Microlight Page 17.



Oil and coolant levels normal. No usable fuel. Note Remaining within the maximum Takeoff Weight MTOW of 450 kg or 472.5kg with appropriate modifications fitted is the pilot's responsibility. C42 Owner's Manual Microlight Page 18. CARB ICING AND VAPOUR LOCK MORE LIKELY C42 Owner's Manual Microlight Page 22. Best glide angle 111 C42 FB 100 Rotax 912S, 100 hp Take off distance, to clear 15m fence 205metres Max. However, since some of its systems differ from those found on conventional aircraft; this section should be studied before dismantling, repair or inspection. Both fuel tanks are interconnectable so fitting an additional tank doubles the capacity to 100 litres or 130 litres. This capacity is placarded next to the filler cap. If the trim runs away to one extreme or fails in one position, no undue stick force is required to maintain control. C42 Owner's Manual Microlight Page 29. C42 Owner's Manual Microlight Page 30. Great care must be exercised in this case to ensure that the engine cannot be started accidentally. Normally remove the spark plugs' caps. C42 Owner's Manual Microlight Page 31. When on the ground the handle is secured against accidental activation by a small padlock, the key for which should be attached to the aircraft master key. C42 Owner's Manual Microlight Page 32. Please refer to your propeller operating manual. C42 Owner's Manual Microlight Page 33. Check rudder cable tension, 25 to 35 kgf. Check aileron cable tension, 18 to 24 kgf Change the fuel filter. Check stub axles for cracks. Check seat support tube cannot rotate. C42 Owner's Manual Microlight Page 34. Alternatively apply a small patch of selfadhesive material. For larger areas of damage, consult the importers, Red Aviation. In the event of technical problems, contact RedAir. C42 Owner's Manual Microlight Page 35. If both wings are in the folded back position the C42 can be easily moved by one person into a small hangar space.

Then push in the spring loaded pins by squeezing the split sleeve. C42 Owner's Manual Microlight Page 37. Secure the strut bottom with the bungee attached to the wing root. Step 26. Fold back the right wing according to steps 1 to 25. C42 Owner's Manual Microlight Page 38. It is not permissible to remove just one door. Ensure when flying with the doors removed that there are no loose items, take special care to check under the seats. C42 Owner's Manual Microlight Page 40. C42 Owner's Manual Microlight Page 41. C42 Owner's Manual Microlight Page 43. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. The C42 is manufactured with either an 80 hp 60 kW Rotax 912 engine or a 100 hp 75 kW Rotax 912s engine. The Rotax engine has a low fuel consumption and relatively low noise. The engine drives the propeller, which has groundadjustable pitch, through a gearbox with a 2.2731 reduction ratio. The cabin and fuselage shell is a composite material which, being nonstructural, can be removed for inspection and repair. The wings can be removed or folded if an optional folding kit is installed for storage and transportation. The wing tips are of composite construction which reduces drag and improves low speed handling. Electrical pitch trim is controlled by two buttons on the top of the stick, operated by the thumb. A push to talk button is on the front of the stick, operated by the index finger, together with a vertical handoperated brake lever similar to a motorcycle front brake lever. The distance from the seat to the pedals is fixed because the seat position is not adjustable. The relatively short lever does make the operation of lowering flaps quite physical when combined with holding the centre control stick at the same time. The maximum nominal ultimate strength at weak link must not exceed 660 pounds. Banner towing is allowed with the smaller Rotax 912 UL.

By using this site, you agree to the Terms of Use and Privacy Policy. It sits fairly close to the ground on a trigear undercarriage and its only when you open up the clamshell doors, hinged at the top, and slide inside, that you realise the cockpit is more spacious than many Group A aircraft. Its much bigger than a cosy Cessna 152, for instance, where most adults are rubbing shoulders, and much more modern. The seats look as though they're from a Caterham sports car, reclined and shaped, although the padding is a bit thin. If you're short, presumably you have to bring a cushion to stuff behind your back. Elasticated netting side pockets in the doors are big enough for charts etc, and there's storage space under the seats, but there's not much space anywhere else in the cockpit. Between the seats is a high central structure, covering the main fuselage spar, on which the stick is

mounted. It makes a handy armrest too. UK distributor, Simon Du Boulay of Aerosport uk, says this is deliberate to make Group A pilots feel at home. The test aircraft didn't have an attitude indicator but the VLA version of the C42, with a 23 kg heavier weight limit, will. That extra 23 kg won't add much in terms of usable load but will allow a fuller panel. The Microair 760 radio and Mode C transponder are typically small and light microlight avionics but worked well enough. Other instruments include three engine monitoring gauges oil pressure, oil temperature and cylinder head temperature, and a fuel computer. A choke knob for cold starts and cockpit heater knob complete the controls. There's no magneto switch because the sparks are by modern dual electronic ignition, and no carb heat because the twin carbs are heated by the engines liquid cooling system. It idled at 1,800 rpm, which was a bit fast, according to Paul. From the left seat, you can make a final visual fuel level check by opening a flap in the back wall material to the translucent plastic fuel tank located behind the passenger.

Visibility from the two-seat, side-by-side cockpit is excellent, the nosewheel steers directly from the rudder bars, and the hydraulic disc brakes on the main wheels are simply operated by a single handle on the central stick. No differential braking, but it isn't necessary when the aircraft can turn on a sixpence just by steering it. The throttle took a little getting used to; it's a slim aluminium tube between your legs, hinged to fold out of the way for getting in and out, and for positioning. There's one for both seats so the aircraft can be flown from either side. Paul instructed me to pull the stick back, apply full power. It's not surprising that the performance is so sprightly, with 100 hp pulling a max of 450 kg. The climbout was at seventy knots, with 900 fpm showing initially, picking up to 1,050 fpm. The electric trim is operated by buttons on the stop of the stick, and with the stick forces trimmed out we could continue hand-off. Paul was very keen on showing the hand-off capability. The stick forces, which had been quite stiff on the ground, were very light in the air with just a gentle two-finger touch required. This was slightly at odds with the feel of the short, stubby stick, which suggested, rather like a German car's manual gear lever, that forceful movements would be the norm. But then the C42 was proving quite a surprisingly little aircraft in many ways. It seems that once trimmed, the C42 runs on rails. With the power pulled back, the speed came back to the flap limiting speed of 62 knots and we deployed the first stage of flap, 15. The handle for operating the manual flaps is located in the roof and I found it too easy to go past stage one and straight to two. The trick, according to Paul, is to let go of the ratchet release lever as soon as the handle has cleared the gate it will then slot into the first stage of flap and won't accidentally carry on.

Once one stage of flap was deployed, we set power at 3,000 rpm and the speed settled at 58 knots, then, trim reset, it was time to go hand-off again. Wingdown proved the simplest approach and with the pilot's seat being so low to the ground, judging the flare was easy. A little more difficult was coordinating limbs during the ensuing touch-and-go. Pressing the stick-mounted PTT button to make a radio call was a bit beyond me this first time. Off we went again for several more circuits, each flown a little more precisely as the aircraft's controls became more familiar. Unlike some, it's not mounted to the engine frame or firewall, but directly to the main fuselage frame, a large diameter aluminium alloy tube running the length of the aircraft with triangulated alloy tube substructures bolted on the bodywork hangs off these. This means that if the aircraft has a nose-heavy landing, not an uncommon occurrence for training and group aircraft, it's just the nosewheel assembly that needs checking, not the whole engine mount. The wings can be removed, taking about twenty minutes per wing, to occupy less hangar space or to put on a trailer. The biggest job is removing the top canopy fairing, while disconnecting the metal struts and spars is a simple job of removing cotter pins and locking clips. The struts stay with the wing, and there's no need for adjustment when reconnecting the flap and aileron pushrod operated controls. There's also a folding wing version. The fabric covering the wings, tailplane and rudder is a lattice cloth called GTfoil, claimed to be resistant to ultraviolet light, and it fits tightly over aluminium tube frames. Upswept composite wingtips are an option and are said to give better low-speed control and reduce drag. The same composite of glass fibre and Kevlar

honeycomb is used for the fuselage bodywork and engine cowlings, all immaculately finished. The engine cowling is split into top and bottom halves with fifteen fasteners for the top, eight for the bottom.

<https://www.thebiketube.com/acros-3m-definitions-manual>