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Tecnam p2008jc mkii manual

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Page 1 Page 0 - 1 Aircraft Flight Manual Doc. No. 2008/100 Ed.1 - Rev. 0 2013, July 30 TECNAM P2008 JC TECNAM ANUFACTURER S.r.l. COSTRUZIONI AERONAUTICHE .P2008 JC IRCRAFT MODEL EASA T : A .583 (2013, 27 ERTIFICATE DATED SEPTEMBER : Page 2 Page 0 - 2 SECTION 0 INDEX RECORD OF REVISIONS3 LIST OF EFFECTIVE PAGES8 FOREWORD11 SECTIONS LIST12 Ed. 1, Rev. 0 Aircraft Flight Manual INDEX... Page 3 Page 0 - 3 1. RECORD OF REVISIONS Any revision to the present Manual, except actual weighing data, is recorded; a Record Revisions is provided in this Section and the operator is advised to make sure that the record is kept up-to-date. The Manual issue is identified by Edition and Revision codes reported on each page, lower right side. Page 4 Page 0 - 4 EASA Approval Tecnam Approval Revised Description of or Under DOA page Revision Privileges EASA approved as First issue G. Paduano M. Landi M. Oliva part of Type Investigation Ed. 1, Rev. 0 Aircraft Flight Manual RECORD OF REVISIONS... Page 5 Page 0 - 5 EASA Approval Tecnam Approval Revised Description of or Under DOA page Revision Privileges Ed. 1, Rev. 0 Aircraft Flight Manual RECORD OF REVISIONS... Page 6 Page 0 - 6 INTENTIONALLY LEFT BLANK Ed. 1, Rev. 0 Aircraft Flight Manual... Page 7 Page 0 - 7 INTENTIONALLY LEFT BLANK Ed. 1, Rev. 0 Aircraft Flight Manual... Page 8 Page 0 - 8 2. LIST OF EFFECTIVE PAGES The List of Effective Pages (LOEP), applicable to manuals of every operator, lists all the basic AFM pages: each manual could contain either basic pages or one variant of these pages when the pages of some Supplements are embodied. Pages affected by the current revision are indicated by an asterisk (*) following the revision code. Page 9 Page 0 - 9 INTENTIONALLY LEFT BLANK Ed. 1, Rev. 0 Aircraft Flight Manual... Page 10 Page 0 - 10 INTENTIONALLY LEFT BLANK Ed. 1, Rev. 0 Aircraft Flight Manual... Page 11 Page 0 - 11 3. FOREWORD Tecnam P2008 JC is a single-engine, two-seat aircraft with a strut-braced high wing and fixed landing gear. Section 1 provides general information and contains definitions, symbols explanations, acronyms, and terminology used. Before using the airplane, you are recommended to read carefully this manual: a deep knowledge of airplane features and limitations will allow you for operating the airplane safely. Page 12 Page 0 - 12 4. SECTIONS LIST Section 1 General (*) Section 2 Limitations (**) Section 3 Emergency Procedures (**) Normal Procedures (**) Section 4 Performance (**) Section 5 Weight and balance (*) Section 6 Airframe and Systems description (*) Section 7 Ground Handling and Service (*) Section 8... Page 13 Page 1 - 1 SECTION 1 - GENERAL INDEX INTRODUCTION3 CERTIFICATION BASIS3 WARNINGS - CAUTIONS - NOTES3 THREE-VIEW AND DIMENSIONS4 ENGINE6 PROPELLER6 FLIGHT CONTROL SURFACES TRAVEL7 SPECIFIC LOADINGS..... Page 14 Page 1 - 2 INTENTIONALLY LEFT BLANK Ed. 1, Rev 0 Section 1 - General... Page 15 Page 1 - 3 1. INTRODUCTION The Flight Manual has been prepared to provide pilots and instructors **Airplane Information Manual** This manual provides essential information for safe and efficient operation of a lightweight airplane, specifically the CS-VLA. It includes details required by pilots to operate the aircraft safely. **Physical Characteristics** * The airplane has a wingspan of 9 meters (29.5 feet), wing area of 12.16 square meters (130.9 square feet), and an aspect ratio of... * The fuselage measures 6.93 meters (22.9 feet) in length, 1.20 meters (3.9 feet) in width, and 2.67 meters (8.8 feet) in height. * The engine is a Rotax 912 S2, with a displacement of 1352 cubic centimeters. **Flight Control Surfaces** * Ailerons move up to 22° and down to 14° (± 2°). * Stabilator moves up to 4° and down to 15° (± 2°), with a trim tab that moves up to 2° and down to 12° (± 1°). * Rudder moves up to 25° (± 1°) on the right side. **Aerodynamics and Meteorology** * Calibrated Airspeed (KCAS) is the airspeed corrected for instrument errors. * Indicated Airspeed (KIAS) is the speed shown on the airspeed indicator in knots. * Meteorological terminology is defined, including standard atmospheric conditions at sea level. **Performance and Flight Planning** * Crosswind Velocity is the wind velocity that allows safe takeoff and landing control. * Usable fuel refers to the fuel available for flight planning, while unusable fuel cannot be safely used in flight. * Weight and balance terminology is explained, including datum, arm, and moment. **Conversion Charts** * Unit conversion charts are provided for various units of measurement, such as temperature (Fahrenheit/Celsius), weight (kilograms/pounds), and speed (meters per second). * A chart for converting liters to US gallons and vice versa is also included. Maximum operating altitude is 13000ft (3962m) above Mean Sea Level (MSL). At altitudes between 10000 and 13000ft, pilots are recommended to use supplemental oxygen. The powerplant operates within specific limits, with a maximum continuous power of 73.5kW at 2388rpm for up to 5800 minutes. The propeller is fixed pitch with a diameter of 1730mm. The engine uses aviation fuel, with AVGAS 100LL being the recommended type, but using it for an extended period can lead to increased wear and combustion deposits. Limitations and Certifications The aircraft is certified for normal category operations under EASA CS-VLA regulations, with limitations on maneuvers, load factors, and crosswind safe operations. The minimum flight crew consists of one pilot, and the maximum number of occupants is two people, including the pilot. Maneuvers are limited to +4g and -2g, while flaps extended reduces this limit to +2g. Crosswind components have been demonstrated as safe up to 15kts during takeoffs and landings. The aircraft requires specific equipment installed and operational for VFR Day operations, including analogue instruments and the Garmin G3X suite. Limitation procedures are displayed prominently in the cockpit, highlighting speed limitations and aircraft operating restrictions based on installed equipment configuration. Additional placards provide information on engine compartment, oil brakes, usable fuel, emergency exits, parking brakes, throttle markings, and other systems. Section 3: Emergency Procedures - This section contains crucial checklists and detailed procedures for dealing with emergencies caused by aircraft or engine malfunctions. Despite being extremely rare, these events can occur if regular maintenance and pre-flight inspections are not performed. Emergency alerts on the instrument panel come in three colors: green (indicating a device is turned on), amber (signaling a non-hazardous situation requiring crew action), and red (indicating emergency conditions). In case of an alternator malfunction, the alternator light may illuminate, but if the voltage exceeds 16V, the over-voltage sensor automatically shuts down the alternator. If the ALTOUT caution is on, specific actions must be taken regarding the generator switch and master switch. If there's a failure in either the left-hand (LH) or right-hand (RH) display of the G3X system, navigation and engine data will automatically appear in the remaining display. However, if one display fails, it's crucial to revert to the working display. The Pitot Heat system, when activated, shows a green annunciation; however, an engine caution indicates that the system is not functioning properly. In case of an emergency evacuation, secure the engine by setting the throttle to idle. Keep heading control with the rudder. Apply brakes as needed. Once safely stopped, turn off the ignition key, fuel selector valve, electric fuel pump, alternator, and master switches. Low fuel pressure is indicated by a warning light, prompting the selection of an opposite tank if not empty. If fuel pressure doesn't build up, land as soon as possible using forced landing procedures (see paragraph). ENGINE FAILURE 1. Engine Failure During Flight: Throttle Lever: IDLE (keep fully out) - Rudder: Keep heading control - Brakes: Apply as needed When safely stopped: - Ignition key: OFF - Fuel selector valve: OFF - Electric fuel pump: OFF - Alternator & Master switches: OFF Page 3 - 11: Low Oil Pressure Warning If oil pressure drops below 12 psi (psi low warning on), reduce throttle to minimum, land ASAP if pressure doesn't recover. If still low, follow emergency landing procedure (see page 68). Page 3 - 12: High Oil Temperature Warning For high oil temp, reduce throttle to min if warning is on; check engine limits first. If temps don't decrease, increase airspeed if possible. If temps remain high, adjust valve for heat regulation. Page 3 - 13: CHT Limit Exceedance Procedure If cylinder head temperature exceeds 135°C, follow these steps: reduce throttle to min, land ASAP if warning is on; otherwise, check engine limits first. If temps don't decrease, land as soon as possible and apply emergency landing procedure (see page 70). Page 3 - 14: Engine Restart After Mechanical Failure After mechanical seizure, fire, or major prop damage, do not restart engine. Check carburettor heat, electrical fuel pump, fuel quantity, and ignition key (both switches). Page 3 - 15: Engine Fire On Ground Procedure For ground engine fire, turn off electrical fuel pump, and engage parking brake. Evacuate the aircraft immediately. Page 3 - 16: Engine Failure During Takeoff Procedure In case of engine failure during takeoff, open cabin vents and set ignition key to off. Do not attempt engine restart; land as soon as possible using emergency landing procedure (see page 71). Page 3 - 17: Landing Emergencies Procedures For forced landing without engine power, maintain 71 KIAS airspeed and find a safe place to land. Pre-landing checklist is essential. Page 3 - 18: Main Tire Defect Procedure If a main tire defect is suspected or reported, complete pre-landing checklist. Land on the side of the runway opposite to the defective tire. Page 3 - 19: Recovery From Unintentional Spin Procedure To recover from unintentional spin, hold throttle at idle, and use rudder full in the opposite direction. Keep stick central and hold neutral until the spin stops. Then, set rudder to neutral. Page 3 - 20: Other Emergencies Procedures For carburettor ice conditions, consider low engine rpm and moisture presence. Airbox carburettor heater can help prevent carburettor ice; however, its effectiveness is limited. In the event of trim control malfunction, follow these steps: Check the breaker and trim switch for proper function. If jamming persists, activate the trim cutout switch. Adjust speed to maintain control without excessive stick force. Land as soon as possible. **Section 3 - Emergency Procedures** * Trim control failure: + Breaker check + Trim switch position check + Cutout switch activation (if necessary) + Speed adjustment for stable flight + Emergency landing **Section 4 - Normal Procedures** **Introduction** **Airspeeds for Normal Operations** **Pre-flight Inspections** + Cabin inspection + Aircraft walk-around **Checklists** + Before Engine Starting (After Pre-flight Inspection) + Page 80-81: INTENTIONALLY LEFT BLANK **Section 4 - Normal Procedures (continued)** **Index** **Introduction** **Airspeeds for Normal Operations** **Pre-flight Inspections** + Cabin inspection + Aircraft walk-around **Checklists** + Before Engine Starting (After Pre-flight Inspection) + Page 82-83: INTENTIONALLY LEFT BLANK **Section 4 - Normal Procedures (continued)** **3. Pre-flight Inspections** + Aircraft documents check + Weight and balance calculation **Aircraft Walk-around** + Visual inspection of aircraft components + Check for defects, cracks, and excessive play **Figure 4-1: Aircraft Walk-around Pattern** * Left fuel filler cap check * Fuel level check (using graduated dipstick) * Drainage operation (with aircraft parked on a level surface) **Normal Procedures Checklist** * Fuselage skin condition check * Tire condition, inflation, and alignment check * Main landing gear fuselage skin condition check * Stabilator leading edge check * Engine cowling surface conditions check * Engine inspection door checks **Note** * Remove pitot tube and static ports protective plugs before flight. Avoid blowing inside the pitot tube and airspeed indicator system's static ports to prevent damage. Page 4 - 12 Checklist: Before Engine Starting After Flight Inspection 1. Seat position and safety belts: adjust seat correctly, ensuring the adjustment lever is aligned with the aircraft's longitudinal axis. 2. Engine throttle: idle; choke as needed; fuel selector valve: select the tank with less fuel; electric fuel pump: ON. Page 4 - 13 Checklist: Before Engine Starting (continued) 1. Propeller area: call for CLEAR and visually check to ensure no person or object is present in the area close to the propeller. 2. Brakes: check; flight instruments: check altimeter. Page 4 - 14 Checklist: Before Takeoff 1. Parking brake: engage ON; engine instruments: check oil temperature (50-130°C), cylinder heads temperature (Max. 135°C), and oil pressure (12...). Page 5 - 2 Section 5 - Performance Index Introduction: This section provides data for accurate flight planning from take-off to landing. Page 5 - 3 Airspeed Indicator System Calibration: Calibrated airspeed V is plotted against indicated airspeed V, showing flap configurations UP, T/O, and LN. **Performance Data** **Stall Speed** The aircraft stalls at a weight of 630 kg, with a stall speed of approximately 160 knots. **Crosswind** The maximum demonstrated crosswind component is 15 knots, which can be used to calculate the necessary corrections for takeoff and landing. **Takeoff Performance** To account for variations in performance, apply the following corrections: + Headwind: subtract 5 meters per knot (16 ft/kt) + Tailwind: add 15 meters per knot (49 ft/kt) + Weight: correct distances by multiplying by 1.10 **Takeoff Rate of Climb** To account for variations, apply a factored rate of climb of 0.90. **En-Route Rate of Climb** Apply the same correction factor as takeoff to the en-route rate of climb. **Cruise Performance** The aircraft's cruise performance is affected by: + Weight: correct fuel consumption and endurance by multiplying by 1.033 + Temperature: subtract 2.5% from range for each +15°C OAT, or add 3.3% for each -100kg weight **Landing Performance** To account for variations, apply the following corrections: + Headwind: subtract 4 meters per knot (13 ft/kt) + Tailwind: add 13 meters per knot (43 ft/kt) + Weight: correct distances by multiplying by 1.67 **Important Notes** * All corrections are based on data from flight tests and are subject to variation. * The aircraft's performance is affected by a range of factors, including weight, temperature, wind conditions, and propeller speed. 1. Introduction to Weight and Balance Index The weight and balance index is a critical component of aircraft maintenance, ensuring safe operations within established limits. 2. Weighing Procedures Prepare the aircraft for weighing by levelling it, determining the center of gravity (C.G.) location, and conducting weighings according to specific procedures. 3. Introduction to Weight and Balance Index (continued) Aircraft must be operated in accordance with maximum takeoff weight and C.G. excursion limits as outlined in the Flight Manual Section 2. Propeller GT Propellers - p/nGT-2/173/VRR-FW101 Heat Exchanger - p/n28-10-8000-000 Oil Reservoir (full) - p/n956137 Oil Radiator - p/n886032 The P2008 JC aircraft is described in this section, including its airframe and systems. The airframe consists of wings, fuselage, empennages, and landing gear. The fuselage is made of carbon fiber composite materials and has two main shells that are assembled together with aluminum stiffeners for the connection of the main landing gear, seats, wing, and instrument panel. The aircraft has conventional stick and rudder pedals for flight controls, with longitudinal control acting through a push-rod system equipped with a trim tab. Ailerons are controlled differentially through push-pull rod systems in each main wing. The instrument panel includes various components such as the pitot heat switch (optional), carburetor heat knob, throttle, analogue fuel quantity indicators, and fuel selector valve. The aircraft has two doors on both pilot and co-pilot sides, with a gas spring support. The powerplant consists of a Bombardier-Rotax 912 S2 engine, which has a maximum rating of 98.6hp (73.5kW) at 5800 rpm/min. The fuel system is designed to supply the reciprocating engine with the suitable flow rate and pressure according to engine limitations. The fuel selector valve is also included in the fuel system assembly. 9.2 Avionics and Electronics The P2008 JC features an advanced avionics system, including four analogue avionics for primary flight information such as airspeed, altitude, magnetic compass, and slip indicator. Additionally, a Garmin G3X integrated avionic suite provides the pilot with critical situational awareness data on a dual-screen display. Furthermore, the aircraft is equipped with two dedicated indicators displaying flap and pitch trim positions, along with external COM/NAV and transponder sources (Garmin SL 30 and GTX 328) for navigation and communication purposes. The Garmin SL 30 provides detailed navigation information, including course direction and active/standby frequency data. 9.3 External Power Supply An external power source is located on the right side of the tail cone, allowing for direct electrical system feeding via a bus bar connected to an external power supply device. 10. Pitot-Static Pressure Systems The P2008 JC airspeed/altitude indicating systems utilize a Pitot-Static pressure system consisting of a total pressure/Pitot probe and two static pressure ports located on the left wing strut and engine firewall, respectively. 11. Braking System Each main wheel features an independent hydraulically actuated brake system with a master cylinder attached to each pilot's rudder pedal. Hydraulic pressure is applied through lines connected to the caliper for effective braking performance. Section 8: Ground Handling & Service Index This section outlines factory-recommended procedures for proper ground handling and routine servicing, including inspection intervals, aircraft changes or repairs, maintenance requirements, refuelling guidelines, oil level control checks, and landing gear tire pressure control. It is crucial to follow a planned schedule of lubrication and preventive maintenance based on local climatic and flying conditions. Maintenance Manual and Job cards provided by TECNAM, Edition 1, Revision 0, Section 8 - Ground Handling & Service Aircraft Changes or Repairs... **Ground Handling Precautions** * Do not refuel aircraft near flames, sparks, or similar. Avoid skin contact with fuel to prevent corrosion. * Ensure a fire extinguisher is nearby during refueling operations. * Turn off overall aircraft instrumentation before refueling. **Engine Cowling Check** * Parking brake: ON * Fuel selector valve: OFF * Magneto: OFF * Generator & Master switches: OFF * Unlatch all four butterfly Cam-locks by rotating them 90° counter-clockwise while slightly pushing inwards. * Remove engine cowling, paying attention to the propeller shaft passing through the nose. **Ground Handling** * The aircraft is most easily and safely maneuvered by hand by pushing on wing struts near attachments or by pulling it by its propeller near the axle. * A tow bar can be fixed onto the nose gear fork. Aircraft may be steered by turning the rudder or, for steep turns, by pushing lightly on the tail cone to lift the nose wheel. **Mooring** * The aircraft is moored to ensure its immovability, protection, and security under various weather conditions. * Mooring is strongly recommended when the wind is more than 15 knots and the aircraft is completely refuelled. *Cleaning and Care** * Aircraft surface must be kept clean to ensure expected flight performance. Excessively dirty surfaces can affect normal flight conditions. **Windows Cleaning** * For windows cleaning, it is allowed the use of acrylic products employed for glass and Plexiglas surfaces cleaning. **Ice Removal** * Anti-icing products are not allowed. To remove ice, tow the aircraft in the hangar and operate with a soft brush or a humid cloth. - INTRODUCTION3 SECTION 2 - LIMITATIONS5 The information in this manual provides supplementary instructions for replacing the basic Aircraft Flight Manual pages, specifically those related to VFR Night Equipment Configuration. Owners are responsible for updating these pages according to the instructions provided. - SECTION 3 - EMERGENCY PROCEDURES9 SECTION 4 - NORMAL PROCEDURES11 - SECTION 5 - PERFORMANCE13 SECTION 6 - WEIGHT AND BALANCE15 SECTION 7 - Page 157 **INTRODUCTION** This supplement provides additional information for VFR Night Equipment Configuration. Owners must update the relevant pages according to the instructions provided. - INTENTIONALLY LEFT BLANK Ed. 1, Rev. 0 Supplement no.S1- VFR NIGHT EQUIPMENT CONFIGURATION... Page 158 Page S1-3 Page S1-4 INTENTIONALLY LEFT BLANK Ed. 1, Rev. 0 Supplement no. S1- VFR NIGHT EQUIPMENT CONFIGURATION... Page 159 **SUPPLEMENT S1: REPLACEMENT INSTRUCTIONS** **# # # ENEAL REFERENCE TO BASIC AFM SECTION 1 - INTRODUCTION Supplement S1 provides replacement instructions for the basic aircraft flight manual pages related to VFR Night Equipment Configuration. - PAGE Ed. 1, Rev. 0 Supplement no. S1- VFR NIGHT EQUIPMENT CONFIGURATION... Page 160 FUEL CAPACITIES AND APPROVED FUELS The aircraft is equipped with AFMS for VFR NIGHT operations, and the fuel capacities are as follows: 62 liters (16.38 US gallons) per unit for 170 AFMS for VFR NIGHT equipped airplanes Page 2N - 8. Additionally, the maximum capacity is 120 litres (32 US gallons), and the maximum usable fuel is MOGAS ASTM D4814 with a minimum RON of 95/AKI 91. PROPELLER AND POWERPLANT The aircraft features a GT Propeller manufactured by GT-2/173/VRR-FW101, with a one-piece, two-blade propeller constructed from wood materials and a protective layer of laminate. The fixed pitch is 1730 mm, and no reduction is permitted. The maximum operating altitude is 13,000 ft (3,962 m) MSL. INSTRUMENTS AND WEIGHTS The aircraft's powerplant instrument markings and their color code significance are as follows: RED LINE for minimum limit, GREEN ARC for normal, YELLOW ARC for caution, and RED LINE for maximum. The weights include a maximum takeoff weight of 630 kg (1,388 lb) and a maximum landing weight of 630 kg (1,388 lb). The baggage compartment has a maximum weight capacity of 20 kg (44 lb), with a maximum specific pressure of 12.5 kg/dm (256 lbs/sq in). CENTER OF GRAVITY AND APPROVED MANOEUVRES The center of gravity range is between the forward limit of 1.841 m (20% MAC) aft of datum for all weights and the vertical plane tangent to the propeller flange, which must be levelled in the longitudinal plane. Refer to the seat track supporting beams (see procedure in Section 6). The aircraft is certified in Normal Category in accordance with EASA CS-VLA regulation applying to aeroplanes intended for non-aerobatic operation only. MANOEUVRES LOAD FACTOR LIMITS Manoeuvre load factors limits are as follows: Positive +4 g, Negative -2 g. Manoeuvre load factors limits with flaps extended are as follows: Positive +2 g. FLIGHT CREW AND DEMONSTRATED CROSS WIND SAFE OPERATIONS The minimum crew is 1 pilot, and the maximum number of occupants is 2 people (including the pilot). The aircraft controllability during take-offs and landings has been demonstrated with a cross wind component of 15 kts. EQUIPMENT LIST FOR VFR DAY AND VFR NIGHT OPERATIONS The equipment list for VFR Day and VFR Night operations includes: - ANALOGUE ALTITUDE - ANALOGUE AIRSPEED INDICATOR The aircraft Flight Manual Supplement (AFMS) provides essential information for pilots operating Visual Flight Rules (VFR) Night-equipped aircraft. The manual is divided into sections, each covering specific topics related to the aircraft's limitations, placards, and emergency procedures. Section 2: Limitations covers various placards placed on the instrument panel, including speed limitation, engine compartment, usable fuel markings, throttle marking, and more. These placards provide critical information for pilots to ensure safe operation of the aircraft. Section 3: Emergency Procedures includes checklists and detailed procedures for handling emergencies such as electric power system malfunctions, pitot heating system failures, and G3X failures. The section also covers other emergency situations that may arise during flight. 1. **Malfunctioning Aircraft or Engine Emergencies** In the event of a malfunction, proper maintenance and pre-flight inspections significantly reduce the likelihood of an emergency occurring. 6. In-Flight Engine Restart After a mechanical engine seizure, fire, or major propeller damage, restarting the engine is not recommended. If required, ensure carburettor heat is on, electrical fuel pump and fuel quantity indicator are functioning correctly, and select the opposite tank if it's not empty. 7. Smoke and Fire In case of an engine fire on the ground: * Engage parking brake * Carry out immediate evacuation In case of in-flight engine fire: * Cabin heat: ON * Fuel selector valve: Select opposite tank * Electric fuel pump: ON * Throttle: FULL FORWARD until the engine stops * Ignition key: OFF * Cabin vents: OPEN Do not attempt to restart the engine. Land as soon as possible, following forced landing procedures (See Paragraph 8). 8. Landing Emergencies In case of a forced landing without engine power: * Flaps: Extend * Airspeed: Maintain 71 KIAS * Find a suitable place to land safely, planning to approach it upwind * Fuel selector valve: Select opposite tank * Electric fuel pump: OFF * Ignition key: OFF * Safety belts: Tighten 9. Recovery from Unintentional Spin In case of unintentional spin: * Throttle: IDLE (hold in full-out position) * Rudder: Full, opposite direction of the spin * Stick: Centralize and hold neutral As the spin stops: 10. Other Emergencies 10.1. Carburettor Ice In case of carburettor ice formation: * Maintain engine rpm to prevent icing 10.2. Trim Jamming In case of trim control jamming: * Check breaker and trim switch for correct position * If jamming persists, check trim cutout switch ON * Adjust speed to control aircraft without excessive stick force * Land as soon as possible 10.3. Static Ports Failure In case of static ports failure: * Activate the alternate static port valve in the cabin (identified by the placard) * Follow the procedure: Cabin heat ALTERNATE STATIC PORT VALVE OPEN VFR Night. Equipment Configuration Supplement No.S1: Introduction: This section provides normal procedures and checklists for conducting VFR night flights with P2008 JC aircraft. The Garmin G3X is not intended as a primary reference for flight information, but rather for situational awareness. Airspeeds for Normal Operations: Airspeeds for normal operations are outlined in this section. Pre-Flight Inspections: 1. Cabin Inspection: Conduct a thorough inspection of the cabin to ensure all aircraft documents (ARC, Certificate of Airworthiness, Noise certificate, Radio COM certificate, AFM) are current and on board. 2. Aircraft Walk-Around: * Perform a visual inspection according to the pattern shown in Figure 4-1. * Check for defects, cracks, detachments, excessive play, unsafe or improper installation, as well as general condition. * Check inflation, tire condition, alignment, left main landing gear fuselage skin condition, and tire status (cuts, bruises, cracks, and excessive wear). * Inspect slippage markers integrity, gear structure, and brakes hoses for hydraulic fluid leakage. Figure 4.1: Left fuel filler cap Check desired fuel level using a graduated dipstick. Drain the left fuel tank sump by quick drain valve, collecting fuel in a cup (drainage operation must be carried out with the aircraft parked on a level surface). Note: Avoid blowing inside Pitot tube and airspeed indicator system static ports to prevent damage. 1. Pre-Engine Starting Checklist Before engine starting after flight inspection: Seat position and safety belts: adjust In-flight seat release can cause loss of airplane control. Ensure occupied seats are positively locked with adjustment lever well aligned with aircraft longitudinal axis (neutral position) and warning has springback returned to neutral. 2. Engine Starting Checklist - Idle Throttle - Choke: as needed - Fuel selector valve: select the tank with less fuel - Electric fuel pump: ON - Propeller area: clear, visually check for no person or object close to propeller. 3. Airing Checklist 1. Brakes: check operation 2. Flight instruments: check altimeter and attitude indicator alignment 4. Pre-Takeoff Checklist - Parking brake: ON, brake pedal press - Engine parameters: check all cautions/warnings OFF, within limits 5. Takeoff and Climb Checklist - Primary flight information (airspeed, altitude, heading, attitude) provided by analogue instruments. - On uncontrolled fields, before line up, check runway wind direction and speed, and traffic on final. 6. Before Landing Checklist - Electric fuel pump: ON - Fuel valve: select the fullest tank - Landing Light: ON - Flaps: set T/O approach speed: 58 KIAS on downwind, leg abeam touch down point: Flaps: set LAND Final Approach Speed: 54 KIAS... 7. Engine Shutdown Checklist - Parking brake: engage - Keep engine running at 1200 propeller rpm for about one minute to reduce latent heat. - Avionic equipment: OFF - Ignition key: OFF, keys extracted - Strobe light: OFF **Section 7: Aircraft Description and Systems** **# # # # Introduction This section provides a detailed description of the P2008 JC aircraft's airframe, systems, and components. **# # # Airframe and Systems Description The P2008 JC's airframe can be divided into four main parts: 1. **Wings** Made from carbon fibers composite materials. 2. **Fuselage** Composed of two main shells, with aluminum stiffeners for landing gear attachment. 3. **Empennages** (not mentioned in this section) 4. **Landing Gear** Consists of steel leaf-springs positioned crossways to the fuselage. **# # # # Flight Controls Aircraft flight controls are operated through a conventional stick and rudder pedals system, with a trim tab for longitudinal control. **# # # # Instrument Panel The instrument panel is divided into four areas: 1. Primary flight instruments. 2. Pilot's situational awareness display (G3X LH). 3. Chronometer and pitch trim indicator. 4. Day/Night switch for warning lights. **# # # # Internal Lights System A dimmable internal lights system is provided, with two panel lights and two LED lights above the annunciator panel. **# # # # Cabin and Doors The cabin has a heat control knob and receives hot air when pulled fully outward. Two doors are provided on the pilot and copilot sides. **# # # # Powerplant The P2008 JC is equipped with a 4-stroke, horizontally-opposed 4-cylinder ROTAX 912 S2 engine, producing 98.6hp at 5800 rpm/min. The P2008JC airplane is equipped with a range of systems that ensure safe and efficient flight operations. The fuel system provides the reciprocating engine with the suitable flow rate and pressure, while the electrical system offers primary and secondary DC power sources. The avionics system features five analogue indicators providing primary flight information on the instrument panel. Additionally, an external power supply is available for direct connection to the electric system. The airspeed/altitude indicating systems are connected to a Pitot-Static system, which uses a total pressure/Pitot probe and static pressure ports to provide accurate readings. The braking system features independent hydraulically actuated brakes for each main wheel, controlled by master cylinders attached to pilot's rudder pedals.