Section: 0 COVER PAGE

DETAILS OF MANUFACTURER

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AIRCRAFT TYPE & MODEL

Type:	JABIRU
Model:	J430

APPROVAL PAGE

Nationality and Registration Marks	Australia
Manufacturer	Jabiru Aircraft Pty Ltd
Designation of Aircraft	J430
Registration Number	**ZU - TOL**
Aircraft Serial Number	**926**

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AMENDMENT RECORD SHEET

Amendment No.	Paragraph(s) Affected	Signature	Date of Incorporation

Incorporation of a General Amendment should be certified by inserting the date of incorporation & signature in the appropriate columns.

All amendments should be embodied consecutively.

INTRODUCTORY PAGE

This Owners Manual is provided by Jabiru Aircraft Pty Ltd as a guide to the operation of the Jabiru J430 model aircraft. The J430 model can be supplied as a complete aircraft or assembled from a kit. Between individual aircraft the characteristics and performance may vary. While factory-built aircraft are test flown after manufacture and conform to a minimum performance standard, kit builders must ensure that as part of the test flight program the characteristics and performance of their particular aircraft are assessed, and any guidance figures that are provided in this manual are updated.

Jabiru Aircraft Pty Ltd accepts no responsibility for the guidance data and information provided in this Manual.

This Owners Manual applies only to the particular aircraft identified by the registration marking and serial number on the Approval Page and contains the airworthiness limitations and essential operating data for this aircraft.

Special operations requiring additional limitations and instructions are listed in the "Supplements Section" and this section shall be consulted before undertaking any such operations. For operating information not included in this manual, reference should be made to the appropriate operations or manufacturer's manuals.

The Owners Manual shall be carried in the aircraft on all flights.

The pilot in command of the aircraft shall comply with all requirements, procedures and limitations with respect to the operation of the aircraft set out in the Owners Manual for the aircraft.

Amendments shall be issued by Jabiru as necessary and will take the form of replacement pages, with the changes to the text indicated by a vertical line in the margin together with the amendment date at the bottom of the page. Interim/Temporary amendments may be issued in the same manner and are to be inserted as directed. These amendments will take precedence over the stated affected page. It is the owner's responsibility to incorporate in this manual all such amendments.

This aircraft has been qualified on the basis of the equipment fitted at the time of qualification.

REVISIONS

Revisions to this Manual will be distributed to all JABIRU Service Agents and to owners of aircraft registered with JABIRU AIRCRAFT Pty Ltd.

Revisions should be examined immediately upon receipt and incorporated in this Manual.

NOTE

It is the responsibility of the owner to maintain this Manual in a current status when it is being used for operational purposes.

Owners should contact JABIRU AIRCRAFT PTY LTD whenever the revision status of their Manual is in question.

A revision bar will extend the full length of new or revised text and/or illustrations added on new or presently existing pages. This bar will be located adjacent to the applicable revised area on the outer margin of the page.

All revised pages will carry the revision number and the date on the applicable page.

DEFINITIONS

AIRFIELD PRESSURE ALTITUDE	The Airfield Pressure Altitude is that altitude registered at the surface of the aerodrome by an altimeter with the pressure subscale set to 1013 millibars
INDICATED AIRSPEED (I.A.S.)	Indicated airspeed, which is the reading obtained from an airspeed indicator having no calibration error.
TAKEOFF SAFETY SPEED	The Takeoff Safety Speed is a speed chosen to ensure that adequate control will exist under all conditions, including turbulence and sudden and complete engine failure, during the climb after takeoff.
LANDING SAFETY SPEED	The Landing Safety Speed is the speed chosen to ensure that adequate control will exist under all conditions, including turbulence, to carry out normal flare and touchdown.
NORMAL OPERATING SPEED	This speed shall not normally be exceeded. Operations above the Normal Operating Speed shall be conducted with caution and only in smooth air.
V_A MANOEUVRING SPEED	Maximum for manoeuvres involving an approach to stall conditions or full application of the primary flight controls.
KCAS KNOTS CALIBRATED AIRSPEED	Indicated airspeed corrected for position and instrument error and expressed in knots. KCAS is equal to KTAS in standard atmosphere at sea level
KIAS KNOTS INDICATED AIRSPEED	The speed shown on the airspeed indicator and expressed in knots.
KTAS KNOTS TRUE AIRSPEED	The airspeed expressed in knots relative to undisturbed air which is KCAS corrected for altitude and temperature.
V_{FE} MAXIMUM FLAP EXTENDED SPEED	The highest speed permissible with wing flaps in the prescribed extended position.
V_{NO} MAXIMUM STRUCTURAL CRUISING SPEED	The speed that should not be exceeded except in smooth air, and then only with caution.
V_{NE} NEVER EXCEED SPEED	The speed limit that may not be exceeded at any time.

V_{S1} STALLING SPEED	The stall speed or minimum steady flight speed at which the airplane is controllable in a specified configuration.
V_{S0} STALLING SPEED LANDING CONFIGURATION	The stall speed or minimum steady flight speed at which the airplane is controllable in the landing configuration at the most forward centre of gravity.
V_X BEST ANGLE-OF-CLIMB SPEED	The speed which results in the greatest gain of altitude in a given horizontal distance.
V_Y BEST RATE-OF-CLIMB SPEED	The speed which results in the greatest gain in altitude in a given time.

METEOROLOGICAL TERMINOLOGY

OAT OUTSIDE AIR TEMPERATURE	The free static air temperature. It is expressed in either degrees Celsius or degrees Fahrenheit.
STANDARD TEMPERATURE	Standard Temperature is 15 degrees C at sea level pressure altitude and decreases by 2 degrees C for each 1000 feet of altitude.
PRESSURE ALTITUDE	The altitude read from the an altimeter when the altimeter's barometric scale has been set to 1013 mb (29.92 inches of mercury).

ENGINE POWER TERMINOLOGY

BHP BRAKE HORSEPOWER	The power developed by the engine.
RPM REVOLUTIONS PER MINUTE	Engine speed.
STATIC RPM	The engine speed attained during a full-throttle engine runup when the airplane is on the ground and stationary.

AIRPLANE PERFORMANCE AND FLIGHT PLANNING TERMINOLOGY

MAXIMUM CROSSWIND VELOCITY	The velocity of the crosswind component for which adequate control of the airplane during takeoff and landing was actually demonstrated during the certification tests. The value shown is limiting.
USEABLE FUEL	The fuel available for flight planning
UNUSABLE FUEL	The quantity of fuel that cannot be safely used in flight
LPH LITRES PER HOUR	The amount of fuel (in litres) consumed per hour
NMPL NAUTICAL MILES PER LITRE	The distance (in nautical miles) which can be expected per litre of fuel consumed at a specific engine power setting and/or flight configuration.
g	The acceleration due to gravity.

WEIGHT AND BALANCE TERMINOLOGY

STATION	Only two load stations are specified: ie Seat Station which is the centre of the fixed seats and Fuel Station which is the centre of the fixed fuel tank.
C.G. CENTRE OF GRAVITY	The point at which an airplane, or equipment, would balance if suspended.
C.G. LIMITS	The extreme centre of gravity locations within which the airplane must be operated at a given weight.
STANDARD EMPTY WEIGHT	The weight of a standard airplane, including unusable fuel, full operating fluids and full engine oil.
BASIC EMPTY WEIGHT	The standard empty weight plus the weight of optional equipment.
USEFUL LOAD -	The difference between ramp weight and the basic empty weight.
MTOW MAXIMUM TAKEOFF WEIGHT	The maximum weight approved for the start of the takeoff run.

Section: 1 GENERAL

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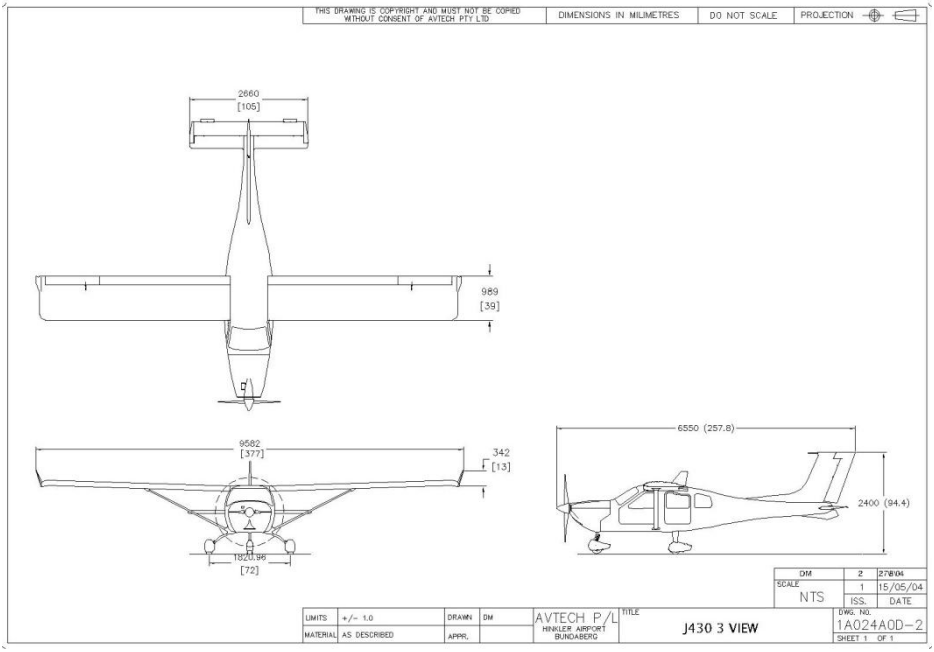
Section: 1 GENERAL

1.1. THREE VIEW DRAWING



Ground Turning Radius = 6.4 metres.

1.2. DESCRIPTIVE DATA

1.2.1. ENGINE

Manufacturer:	Jabiru Aircraft Pty Ltd Aero Engines Division
Type:	3300 Air Cooled

1.2.2. PROPELLER

Manufacturer:	Jabiru Aircraft Pty Ltd
Type:	Fixed Pitch Wooden Dwg No. C000262-D60P43
Diameter:	60 inches (1524 mm)
Pitch:	53 inches (1346 mm)

1.2.3. APPROVED FUEL TYPES AND GRADES

100 LL or 100/130 grade aviation gasoline
MOGAS with Octane rating 95 or greater (or AKI 90 or higher) may also be used where avaition grade fuel is not available.

NOTE: MOGAS containing Ethanol (or any other alcohol) **MUST NOT** be used as it will damage the fuel tank sealant.

1.2.4. FUEL CAPACITY

Total:	140.0 litres
Useable	135.0 litres

1.2.5. APPROVED OIL GRADES

Oils developed and branded for use in aircooled aircraft piston engines (eg Aeroshell 100 plus)

In cold climates
Aero Oil W Multigrade 15W- 50
Or equivalent Lubricant Complying with,
MIL-L-22851C, or
Lycoming Spec301F, or
Teledyne Continental Spec MHF-24B

1.2.6. OIL CAPACITY

Sump capacity is 3.5 litres

1.2.7. TYRE MAINTENANCE

Standard Mains:	280 - 315 kpa	(40-45 psi)
Nose:	175 - 210 kpa	(25-30 psi)

Note that 6 ply tyres only may be used on the main wheels. 4 or 6 ply tyres may be fitted to the nose wheel.

Section: 2 LIMITATIONS

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Section: 2 LIMITATIONS

2.1. INTRODUCTI0N

Section 2 includes operating limitations, instrument markings and basic placards necessary for the safe operation of the airplane, its engine, standard systems and standard equipment. Observance of these operating limitations is required.

The aeroplane shall be operated so that the limitations and instructions included in this section are observed.

2.2. TYPE OF OPERATION

VFR by Day
No aerobatics, including Spins.

2.3. AIRSPEED LIMITATIONS

Airspeed limitations and their operational significance are shown below.

SPEED	KIAS	REMARKS
V_{NE} Never exceed speed	138	Do not exceed this speed in any operation.
V_{NO} Maximum structural cruising speed	120	Do not exceed this speed except in smooth air, and then only with caution.
V_A Manoeuvring speed	88	Do not make full or abrupt control movements above this speed.
V_{FE} Maximum flap extended speed	80	Do not exceed this speed with flaps down.

Airspeed Indicator Markings and their operational significance are shown below.

MARKING	KIAS Value/Range	SIGNIFICANCE
White Arc	48 – 80	Full flap operating range. Lower limit is max. weight V_{SO} in landing configuration. Upper limit is max. speed permissible with flaps extended.
Green Arc	80 – 120	Normal operating range. Lower limit is Take-off Safety speed. Upper limit is max. structural cruising speed.
Yellow Arc	120 – 138	Operations must be conducted with caution and only in still air.
Red Line	138	V_{NE}

2.4. WEIGHTS and LOADING

Maximum takeoff weight	760 kg
Maximum landing weight	760 kg

2.5. CENTRE OF GRAVITY LIMITS

Forward: 99-mm AFT of Datum up to and including 600kg
261-mm AFT of Datum at 760kg

Aft 277mm AFT of Datum at all weights

Datum : Wing Leading Edge

Leveling Means:

Longitudinal Spirit Level placed on Trim Lever Decal

Lateral Spirit Level placed on flap drive cross tube.

2.6. POWERPLANT LIMITATIONS

	POWER	RPM	Maximum Temperatures		Fuel Pressure Limits		Oil Pressure Limits	
			Cyl Head	Oil	Min	Max	Min	Max
Absolute Limits	Maximum Take-Off (120 BHP)	3300	200 °C (392°F) (Note #1)	118°C (244°F)	5 kPa (0.75psi)	20 kPa (3psi)	220 kPa (31 psi)	525 kPa (76psi)
Continuous Limits	Maximum Cont (120 BHP)	3300	180°C (356°F)	100°C (212°F)	5 kPa (0.75psi)	20 kPa (3psi)	220 kPa (31 psi)	525 kPa (76 psi)
Limits For Ground Running	N/A	N/A	180°C (356°F) (Note #2)	100°C (212°F) (Note #2)	5 kPa (0.75psi)	20 kPa (3psi)	80 kPa (11 psi)	525 kPa (76 psi)

Note #1 Time with CHT at between 180°C and 200°C is not to exceed 5 Minutes
Note #2 If temperature limits are reached, shut the engine down or cool it by pointing the aircraft into wind.

Minimum Oil Temperature for Takeoff	Needle must be seen to move off the stop before Takeoff	
Minimum Oil Pressure	in Level Flight or climb	220 kPa
	In Descent	80 kPa
	At Idle	80 kPa (11 psi)
	At Start	525 kPa (76 psi)
Maximum RPM for all operations		3300
Full Throttle Static RPM	Not Above	3000
	Not Under	2800

2.7. OTHER LIMITATIONS

2.7.1. AUTHORISED MANOEUVRES & ASSOCIATED LIMITATIONS

Aerobatic manoeuvres, including spins, are not approved.

2.7.2. SMOKING

Prohibited.

2.7.3. MAXIMUM AIR TEMPERATURE FOR OPERATIONS

40°C for takeoff at gross weight.

2.7.4. FLIGHTS WITH DOORS REMOVED

Prohibited.

2.7.5. MAXIMUM PERMISSIBLE NUMBER OF OCCUPANTS

Four (including Pilot).

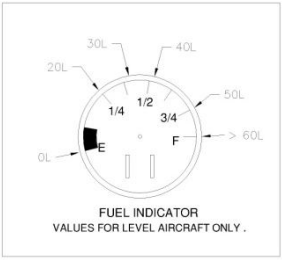
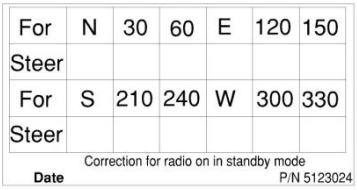
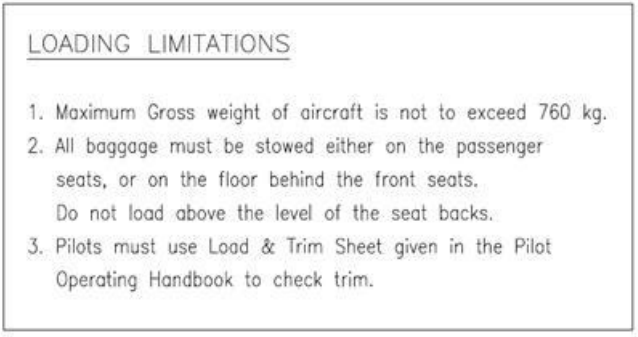
2.7.6. MAXIMUM CROSSWIND VELOCITY

14 knots

2.8. PLACARDS

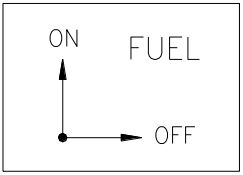
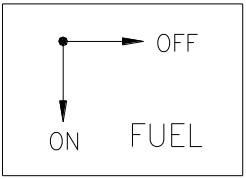
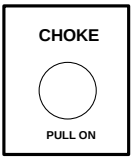
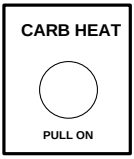
Cockpit Placards General

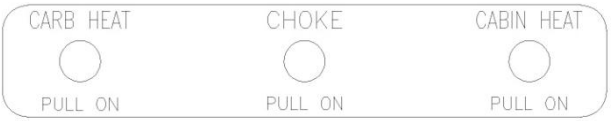
Warning Placard P/No5073794	**WARNING** • Users of this aircraft do so at their own risk • This aircraft must be flown in accordance with the Owners Manual • Aerobatics Including spins are PROHIBITED • Noise Level at Full Power exceeds 95 dB(A). Ear Protection Should be worn AIRCRAFT TYPE : JABIRU J430 Designed and Manufactured in Australia by JABIRU AIRCRAFT Pty Ltd BUNDABERG QLD Fitted on the rear Face of the Forward Wing Spar Carry-through Beam in the Cabin Ceiling.
Owners Manual P/No 5036194	**FLIGHT/OWNERS MANUAL** Fitted to Inside of RH Door above the Door Pocket.
Door Open LHS P/No5027094	**OPEN** Fitted to the Outsides of LH Door Above the Door Catch Lever
Door Open RHS P/No 5028094	**OPEN** Fitted to the outside of RH Door Above the Door Catch Level
Door String Placard P/No5026094	**PULL TO OPEN** Fitted on Inside of both Doors Above Door Handle.
Fuel Contents P/No. 5A022A0D	50 40 30 20 10 0 LITRES Fitted to sight glasses of wing fuel tanks.
Fuel Gauge P/No. 5A050A0D	FUEL LEVEL WING TANKS Fitted on the instrument panel immediately below fuel gauges – where electronic fuel gauges are fitted.

Electric Fuel Gauge Quantities. P/No. 5A053A0D Where Equipped.	 FUEL INDICATOR VALUES FOR LEVEL AIRCRAFT ONLY . Fit inside wing root immediately aft of windows through to electric fuel gauge senders
Compass Card P/No. 5123024	 Fit in compass card holder attached to compass.
Loading Limitations P/No 5A132A0D	 Fitted on inside of fuselage of RHS of cabin below rear quarter window.

Cockpit Controls

Trim Position P/No. 5A031A0D (1 OFF)	 Fit to centre console beside of elevator fwd stop, between trim levers.

Brake On P/No. 5A031B0D	 Fit to centre console beside brake lever, arrow pointing aft.
Fuel Tap Position – Fwd In-Line Tap P/No 502319N	 Fitted on the Main Beam in front of the Fuel SELECTOR Valve
Fuel Tap Position – Door Frame In-Line Taps P/No 502329N	 Fitted to the rear door frames of the front doors beside the wing tank fuel selector valves.
Choke Cable P/No5051094	 Fitted at the base of the choke cable. Note: This placard may be incorporated into the fascia of the instrument panel.
Carby Heat P/No 5026194	 Fitted at the base of the CARBY Heat Cable. Note: This placard may be incorporated into the fascia of the instrument panel.
Carby Heat P/No 5A030A0D	

	 Fitted to lower central section of instrument panel (where VLA panel layout is used.)
Brake On P/No. 5A031B0D	 Fit to centre console beside brake lever, arrow pointing aft.

External Fuselage

Static Port (P/No 5043094)	**STATIC VENT KEEP CLEAR** Attach to LHS of Vertical Fin in line with Static Tube
Electrical Earthing P/No 5078064	**EARTH ON NOSE LEG** Attach above the Earthing Pole adjacent to the Fuel Filler Cap.
Fuel Grade P/No 5091064 2 OFF	**FUEL** **AVGAS** 100LL 67 Litre Capacity Earth on Post Attach to top skin of wing adjacent to Fuel Filler Cap.
Wing Bolt Tightening P/No 5039094 Qty 8 Required	**DANGER DO NOT TIGHTEN** Attach to the fuselage and wings beside each wing, and lift strut attachment fitting.

Section: 3 EMERGENCY PROCEDURES

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Section: 3 EMERGENCY PROCEDURES

3.1. INTRODUCTION

Section 3 provides checklist and other procedures for coping with emergencies that may occur. Emergencies caused by aeroplane malfunctions are rare if proper preflight inspections and maintenance are practiced. Enroute weather emergencies can be minimised or eliminated by careful flight planning and good judgement when unexpected weather is encountered. However, should an emergency arise, the basic guidelines outlined in this section should be considered and applied as necessary to correct the problem.

3.2. AIRSPEEDS FOR EMERGENCY OPERATION

Engine Failure After Takeoff	80 KIAS
Manoeuvring Speed (at all weights)	91 KIAS
Maximum Glide Distance, Still Air	80 KIAS[1]
Precautionary Landing Approach with Engine Power (FULL FLAP)	65 KIAS
Landing Approach Without Engine Power:	
landing Flaps Up	80 KIAS
landing Flaps Down	65 KIAS

[1] Note A slightly higher speed may give better distance over the ground if gliding into wind; a slightly lower speed if gliding

3.3. OPERATIONAL CHECKLISTS

3.3.1. ENGINE FAILURES

- **ENGINE FAILURE DURING TAKEOFF RUN**

1	Throttle	Idle
2	Brakes	Apply
3	Ignition Switches	OFF
4	Master Switch	OFF

- **ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF**

1	Airspeed	80 KIAS
2	Fuel Shutoff Valve	OFF
3	Ignition Switches	OFF
4	Wing Flaps	as required
5	Master Switch	OFF

- **ENGINE FAILURE DURING FLIGHT**

1	Airspeed	Best Glide Angle 80 KIAS[2] [1]
2	Carburetor Heat	ON
3	Fuel Shutoff Valve	ON
4	Fuel Pump	ON
5	Ignition Switches	ON

- **AIRSTART & LIMITATIONS**

In the event that the engine is stopped during flight, it may be restarted by application of fuel & ignition, provided that the propeller is still windmilling.

The propeller may stop windmilling below 80 KIAS.

[2] Note: A slightly higher speed may give better distance over the ground if gliding into wind; a slightly lower speed if gliding downwind

The JABIRU 3300 engine is a high compression (8 : 1) engine & therefore airstarts when the propeller has stopped rotating, without use of starter, are unlikely before reaching V_{NE}.

Therefore, the following procedure addresses only airstarts by use of the Starter Motor.

IMPORTANT

DO NOT **depress starter button while propeller is rotating**.

1	Ignition Switches	OFF
2	Cabin	Clear
3	Increase angle of attack & reduce speed (up to & including a stall) until propeller stops rotation	
4	Establish Glide	80 KIAS
5	Fuel	ON
6	Fuel Pump	ON
7	Master	ON
8	Ignition Switches	ON
9	Starter Button	Depress
10	Throttle	Open
11	Repeat as necessary: ensuring propeller has stopped rotation before each restart attempt.	

Note: The engine cools quickly with the propeller stopped. Choke may need to be used to start.

3.3.2. FIRES

- **FIRE DURING START ON GROUND**

1	Cranking	CONTINUE to get a start that would suck the flames and accumulated fuel through the carburettor and into the engine.	
If engine starts,			
2	Power	1500 RPM	
3	Fuel	OFF & allow engine to empty carburettor	
4	Engine	Inspect for damage	
If engine fails to start,			
5	Cranking	CONTINUE in an effort to obtain a start. If no start in 15 seconds, Shut off fuel & continue to crank for another 15 seconds.	
6	Fire Extinguisher	Obtain (have ground attendants obtain if not installed).	
7	Engine	SECURE.	
		A Master Switch	OFF
		B Ignition Switch.....	OFF
		C Fuel Pump Switch..	OFF
		D Fuel Shutoff Valve.	OFF
8	Fire	Extinguish using fire extinguisher, wool blanket, or dirt.	
9	Fire Damage	Have authorised people inspect, repair damage or replace damaged components or wiring before conducting another flight.	

- **ENGINE FIRE IN FLIGHT**

1	Throttle	CLOSED
2	Fuel Shutoff Valve	OFF
3	Mag Switches	OFF
4	Master Switch	OFF
5	Fuel Pump Switch	OFF
6	Cabin Air	OFF
7	Airspeed	80 KIAS (if fire is not extinguished, increase glide speed to find an airspeed which will provide an incombustible mixture).
8	Forced Landing	Execute (as described in Emergency Landing Without Engine Power).

- **ELECTRICAL FIRE IN FLIGHT**

1	Master Switch	OFF
2	All Other Switches	OFF
3	Vents/cabin air	OPEN
If fire appears out and electrical power is necessary for continuance of flight:		
4	Master Switch	ON
5	Fuses	CHECK for faulty circuit, **DO NOT** reset or replace.
6	Radio/Electrical Switches	ON one at a time, with delay after each until short circuit is localised.
7	Land as soon as possible to inspect for damage	

- **CABIN FIRE**

1	Master Switch	OFF
2	Vents/Cabin Air	OPEN
3	Land as soon as possible to inspect for damage.	

3.3.3. FORCED LANDING

- **EMERGENCY LANDING WITHOUT ENGINE POWER**

1	Airspeed	80 KIAS (flaps UP) Approach 65 KIAS (flaps DOWN)
2	Fuel Shutoff Valve	OFF
3	Fuel Pump	OFF
4	Ignition Switches	OFF
5	Wing Flaps	as required
6	Master Switch	OFF
7	Touchdown	Slightly Tail Low
8	Brakes	as required

- **PRECAUTIONARY LANDING WITH ENGINE POWER**

1	Airspeed	75 KIAS
2	Wing Flaps	1st Stage
3	Fuel Pump	ON
4	Selected Field	FLY OVER Note terrain and obstructions
5	Radio and Electrical Switches	ON
6	Wing Flaps	FULL (on final approach)
7	Airspeed	65 KIAS
8	Touchdown	Slightly Tail Low
9	Ignition Switch	OFF
10	Brakes	as required

- **DITCHING**

1	Radio	Transmit MAYDAY on area frequency, giving location and intentions.
2	Heavy Objects	SECURE
3	Approach	High winds, heavy seas INTO wind Light winds, heavy swells Parallel to Swells
4	Wing Flaps	FULL
5	Power	establish 50 ft/min descent at 65 KIAS
6	Touchdown	level attitude
7	Face	Cushion at touchdown with folded coat or cushion
8	Aeroplane	Evacuate through cabin doors. If necessary, breakout windows and flood fuselage to equalise pressure so doors can be opened.
9	Lifevests	Inflate

- **LANDING WITH A FLAT MAIN TYRE**

1	Wing Flaps	FULL
2	Approach	Normal
3	Touchdown	GOOD TYRE FIRST hold aeroplane off flat tyre as long as possible with aileron control.

3.3.4. POWER SUPPLY SYSTEM MALFUNCTIONS

If fuse blows, unload the circuit and replace fuse. If it blows again, continue to next airport and rectify.

If main fuse fails, land at the next airport and replace. Run the engine; if the fuse again fails, rectify before continuing flight.

3.3.5. MAXIMUM GLIDE

For Minimum Rate of Sink: 80 KIAS

For Maximum Distance in Still Air: 80 KIAS

To maximise distance achieved into wind, increase glide speed by approximately 1/3 of wind velocity.

Glide performance will be improved (if time permits) by stopping propeller windmilling. This can be achieved by slowing below 50 knots.

3.3.6. RECOVERY FROM AN INADVERTENT SPIN

Aerobatic manoeuvres, including spins, are prohibited
While inadvertent spins are unlikely, should this occur, proceed as follows:

1	Throttle	IDLE
2	Ailerons	NEUTRALISE
3	Rudder	Opposite direction of spin and HOLD ON
4	Just AFTER rudder reaches the stop, move the control stick FORWARD far enough to break the stall. Full down elevator may be required at aft centre of gravity loadings to assure optimum recoveries.	
5	HOLD these control inputs until rotation stops. Premature relaxation of control inputs may extend the recovery.	
6	As rotation stops, neutralise rudder and make a smooth recovery from the resulting dive	

3.4. OTHER PROCEDURES

3.4.1. CARBURETTOR HEAT

This system serves to prevent the formation of ice within the carburettor, where it primarily forms on the throttle plates in such a manner as to obstruct the airflow, with resultant eventual engine stoppage. Vaporisation of the fuel & expansion of air through the carburettor cause a cooling of the mixture, which can be as much as 15 degrees C below the temperature of the ambient air. This permits moisture in the air to condense and form ice. The first indications of icing are an RPM drop or a drop in manifold pressure. Progressive icing will cause obstruction of the carburettor, which manifests itself in the form of a rough running engine. During this time the smaller volume of air aspirated has richened the mixture. Ice can form more rapidly with partial throttle, due to the lower pressure in the carburettor. At full throttle, the danger is lessened somewhat. Therefore, carburettor heat is not to be used during takeoff or climb, also because it creates a small power loss.

IMPORTANT
During descent & approach, the carburettor heat should be used because low power settings create low pressures in the induction manifold. In case of a go-around, turn the carburettor heat OFF. Prolonged use of carburettor heat with more than 80% power applied could provoke detonation.

When using Carburettor Heat, pull knob to FULL ON.
DO NOT use partial Carburettor Heat.

Carburetor icing can occur when on the ground, particularly when the aircraft and engine have become damp overnight. Check carburetor heat during power check as normal, prior to lining up on runway close the throttle completely, if a low tick over or engine stoppage occurs ice is present so burn it off with twenty seconds of heat and then test again prior to take off.

3.4.2. IGNITION MALFUNCTION

A sudden engine roughness or misfiring is usually evidence of ignition problems. Switching from both ON to alternately switching each system OFF will identify which system is malfunctioning. Switch to the good system and proceed to the nearest airport for repairs.

3.4.3. LOW OIL PRESSURE

1	A rapid drop from normal indicated pressure to indication "0"	
	Action	Observe for smell of oil
		Open cabin air vents
		Observe for signs of spilt oil on cowls, windscreen, wing struts
		If strong smell of oil and oil appearing on airframe, reduce power to minimum to sustain level flight and proceed to nearest landing area.
		Be prepared to make an emergency landing enroute, should the engine fail.
2	Gradual reduction in oil pressure below observed normal position:	
	Action:	Observe oil temperature indications
		If oil temperature is higher than normal indications and all other engine functions are normal, proceed to the nearest landing area, land and check oil levels and external oil system for leaks
		If oil level is low, top-up to full mark on dipstick
		Allow engine to cool, start engine, run to full power and recheck oil pressure
		If oil pressure readings are normal, proceed with flight, observing both oil pressure and temperature readings.
		If, after the run-up check, the oil pressure remains low, have the engine checked by an authorised person.

Section: 4 NORMAL OPERATIONS

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Section: 4 NORMAL OPERATIONS

4.1. INTRODUCTION

Section 4 provides checklist and other procedures for the conduct of normal operations.

4.2. SPEEDS FOR NORMAL OPERATION

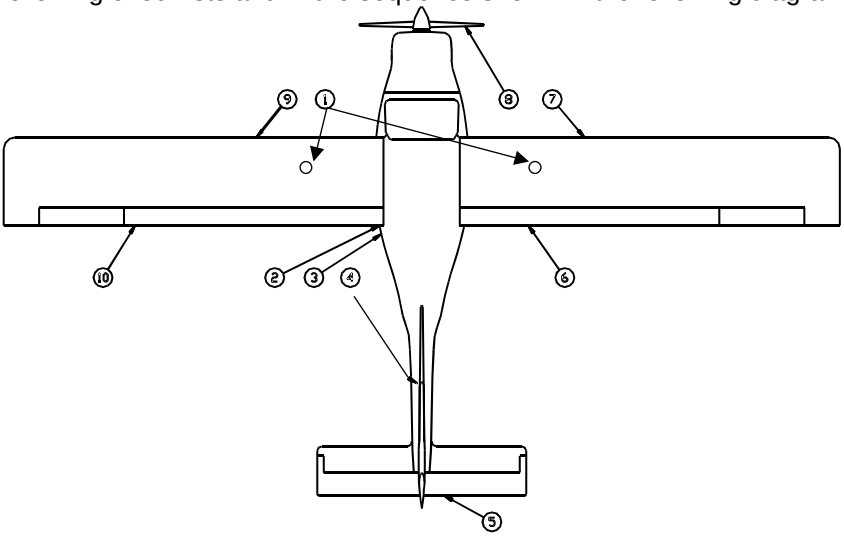
The following speeds are based on a maximum weight of 760 kg and may be used for any lesser weight.

Takeoff:		
	Initial Climb Out, 1st Stage Flap	75 KIAS
	Short Field Takeoff, 1st Stage Flap Speed at 50 Feet.	71 KIAS
	When Clear of obstacles, retract flaps and climb at	85 KIAS
Climb, Flaps Up:		
	Normal	85 KIAS
	Best Rate of Climb, at low altitude	85 KIAS
	Best Climb Gradient at low altitiude	85 KIAS
Landing Approach:		
	Normal Approach, Flaps Full	75 KIAS
	Short Field Approach, Flaps Full.	65 KIAS
Baulked Landing		
	Apply full power; allow speed to increase to	70 KIAS
	Retract Flap to 1st Stage when clear of obstacles	
	Then retract flap fully and continue to climb at or above	85 KIAS
	Maximum Recommended Turbulent Air Penetration Speed	91 KIAS
	Maximum Demonstrated Crosswind Velocity	14 Knots

4.3. CHECKLIST & PROCEDURES

4.3.1. PREFLIGHT INSPECTION

Prior to flight, the aircraft should be inspected in accordance with the following checklists and in the sequence shown in the following diagram:



NOTE
Visually check airplane for general condition during walk-around inspection. In cold weather, remove even small accumulations of frost, ice or snow from wing, tail and control surfaces. Also, make sure that control rods and cables are free of ice and move freely.

PREFLIGHT INSPECTION CHECKLISTS

1) FUEL (Both Wing Tanks)		**Remove Fuel Caps**
1	Fuel Quantity	CHECK level in tank by dipstick. CHECK cap breathers are clear.
2	Water Check	Before first flight of the day & after each refueling, use sampler cup & drain small quantity of fuel from each fuel tank sump quick-drain valve & check for water & sediment.
3	Fuel Filler Caps	CHECK secure
2) CABIN		
1	Owners manual	AVAILABLE IN THE AIRCRAFT.
2	Control lock.	REMOVE Seatbelt Fastening
3	Ignition Switches	OFF
4	Master Switch	OFF
5	Fuel Shutoff Valve	ON
6	Seatbelts and Shoulder Harnesses	CHECK condition and security
7	Aileron Cable Mountings & Rod Ends	CHECK for free rotation & excessive movement, bolts secure & anchors on rear of seats secure.
8	Elevator Cable Mounting & Rod End	CHECK for free rotation & excessive movement, bolt secure & anchor on Main Beam secure.
9	Rudder & Nose Wheel Steering Push Rods & Rod Ends	CHECK for security & free movement
10	Flap Control	CHECK free movement & bolts secure.
11	Throttle & Carburettor Heat Controls	CHECK for full & free travel.
12	Brake Lever	CHECK for free travel & pressure.

3) LEFT UNDERCARRIAGE		
1	Mount Bolts	CHECK security
2	Tyre	CHECK inflation & wear.
4) STATIC SOURCE		
1	Static Source	CHECK for blockage.
5) EMPENNAGE		
	Tail Tie-down	DISCONNECT
	Control Surfaces	CHECK freedom of movement & security
	Rudder, Elevator & Trim Cable	CHECK freedom of movement & security
6) RIGHT WING - TRAILING EDGE		
1	Aileron	CHECK freedom of movement & security.
2	Flap	CHECK security
3	Control Rods & Cables	CHECK aileron & flap control bolts & nuts & flap control rod for security. CHECK rod ends for freedom of rotation & excessive movement
7) RIGHT WING		
1	Wing Tie-down	DISCONNECT.
2	Main Wheel Tyre	CHECK for proper inflation & wear or damage.
3	Wing Strut Mount Bolts (top & bottom)	CHECK for security
	CAUTION *Wing Strut attachment bolts must be free to rotate. DO NOT TIGHTEN. Ensure Nut just bears on washer*.	
4	Wing Root Mount Bolts	CHECK for security.
5	Pitot Tube	REMOVE cover & CHECK opening for blockage.
8) NOSE		
1	Propellor & Spinner	CHECK for nicks & security

2	Cowl	REMOVE & CHECK security of engine components & systems, particularly mounts, spark plugs, wiring,fuel lines, baffles CHECK for oil leaks
3	Engine Oil Level	CHECK & top up if necessary. Clean up any spilt oil.
4	Cowl	REPLACE & CHECK clips fastened & secure & pins located
5	Front Wheel	CHECK for proper inflation & wear or damage.
9) LEFT WING		
1	Main Wheel Tyre	CHECK for proper inflation & wear or damage.
2	Wing Strut Mount Bolts	CHECK for security.
	CAUTION Wing Strut attachment bolts must be free to rotate.DO NOT TIGHTEN. Ensure Nut just bears on washer	
3	Wing Root Mount Bolts	CHECK for security
4	Wing Tie-down	DISCONNECT
10) LEFT WING - TRAILING EDGE		
1	Aileron	CHECK freedom of movement & security
2	Flap	CHECK security.
3	Control Rods & Cables	CHECK aileron & flap control bolts & nuts & flap control rod for security. CHECK rod ends for freedom of rotation & excessive movement

4.3.2. BEFORE STARTING ENGINE

1	Preflight Inspection	COMPLETE
2	Seatbelts & Harness	ADJUST & LOCK
3	Fuel Shutoff Valve	ON
4	Radio/Intercom	OFF
5	Brakes	TEST & SET

4.3.3. STARTING ENGINE - COLD ENGINE.

1	Carburettor Heat	COLD
2	Choke	ON
3	Throttle	CLOSED
4	Fuel Boost Pump	ON
5	Propeller Area	CLEAR
6	Master Switch	ON
7	Ignition Switches	ON
8	Start Button	PRESS
9	Note: If the engine is cranking below 300 RPM, it will not start	
	As soon as engine is running, throttle back to an idle speed of 900 - 1000 RPM	
10	Check all engine instruments for function	
11	Choke	CLOSED

IMPORTANT. Check the engine oil pressure.
If you do not see oil pressure within 10 seconds, shut down the engine immediately and determine the cause.

4.3.4. STARTING ENGINE - HOT ENGINE.

Proceed as for cold engine above, but eliminate the choke operation 2. Instead, throttle closed.

4.3.5. WARM-UP and FUNCTIONAL CHECK

Warm-up the engine with a fast idle of 1000 - 1200 RPM until the oil temperature reaches 50 degrees C. During this phase, the cooling of the cylinder head is insufficient due to reduced airflow across the cylinders. It is therefore advisable not to shorten the warm-up time by running the engine at higher RPM. The aeroplane should be pointed into wind to allow additional cooling air. As soon as the oil reaches 50 degrees C, it is possible to do the run-up.

4.3.6. BEFORE TAKEOFF

1	Brakes	CHECK
2	Cabin Doors	CLOSED & LATCHED
3	Flight Controls	FREE & CORRECT
4	Flight Instruments	SET
5	Fuel Shutoff Valve	ON
6	Elevator Trim	NEUTRAL
7	Flaps	SET FOR TAKEOFF
8	Ignition Check	Throttle to 2000 RPM Hold this engine speed for 10 seconds. Switch OFF No. 1 Ignition and watch for RPM drop. Switch ON the No. 1 Ignition & switch OFF the No. 2 Ignition watching for the RPM drop. RPM drop should not exceed 100 RPM on either system. If drop is excessive, shut down & determine the reason. Switch No. 2 Ignition ON.
	NOTE During the check with one system only, the inactive sparkplugs may tend to load up slightly. To clean plugs, run the engine with both ignitions for a few seconds, then recheck the second system.	
9	Power Check	Throttle to 2850 RPM Open the throttle fully & slowly to check the maximum RPM being produced. Wind conditions may effect, but as an average 2850 RPM should be seen.
	NOTE If the RPM is found to be more than 150 RPM lower than normal, the engine should be examined to determine the reason.	
10	Idle Check	Throttle back to idle position & check that the engine runs smoothly. With too low an idle speed, or rough running, the cause must be located & corrected to avoid the

		potential for an in-flight stoppage
11	Carburettor Heat Check	Throttle up to 2000 RPM Pull out the Carburettor Heat Control & look for an RPM drop. Return the Carburettor Heat Control to the Full IN or cold position.

4.3.7. TAKEOFF

Normal Takeoff

1	Wing Flaps	1st Stage
2	Carburettor Heat	COLD
3	Throttle	FULL.....OPEN
4	Elevator Control	LIFT NOSE WHEEL AT 45 KIAS and wait for aircraft to fly itself off (at around 65 KIAS)
5	Climb Speed	75 KIAS until Flaps retracted, then 85 KIAS.
6	At top of Climb, Fuel Boost Pump	OFF

Short Field Takeoff

1	Wing Flaps	1st Stage
2	Carburettor Heat	COLD
3	Brakes	APPLY
4	Throttle	FULL OPEN
5	Brakes	RELEASE
6	Elevator Control	SLIGHTLY TAIL LOW
7	Climb Speed	71 KIAS (until all obstacles are cleared).
8	Wing Flaps	RETRACT slowly increasing speed to 85 KIAS

4.3.8. ENROUTE CLIMB

1	Airspeed	85 KIAS
2	Throttle	FULL OPEN

NOTE

During climb, monitor the cylinder head & oil temperatures to avoid exceeding their limits. The aircraft has been tested to ensure adequate cooling in climb, therefore any excessive readings may indicate a malfunction. Should this occur, decrease the rate of climb in order to increase the airspeed for improved cooling.

4.3.9. CRUISE

1	Power	Not above maximum continuous power of 3150 RPM. 2800-2900 Normal.
2	Elevator Trim	ADJUST.

4.3.10. BEFORE LANDING

1	Seatbelts & Harnesses	ADJUST & LOCK
2	Carburettor Heat	as required
3	Fuel Boost Pump	ON

4.3.11. LANDING

Normal Landing

1	Airspeed	65 KIAS
2	Wing Flaps	FULL DOWN (below 70 KIAS)
3	Touchdown	MAIN WHEELS FIRST
4	Landing Roll	LOWER NOSE WHEEL GENTLY
5	Braking	MINIMUM REQUIRED

Short Field Landing

1	Airspeed	65 KIAS
2	Wing Flaps	FULL DOWN (below 70 KIAS)
3	Power	REDUCE to idle as obstacle is cleared
4	Touchdown	MAIN WHEELS FIRST

5	Brakes	APPLY AS REQUIRED
6	Wing Flaps	RETRACT when convenient for better braking

Baulked Landing

1	Throttle	FULL OPEN
2	Carburettor Heat	COLD
3	Wing Flaps	RETRACT to 1/2 DOWN
4	Airspeed	70 KIAS until clear of obstacles
5	Wing Flaps	RETRACT TO 1st STAGE until clear of obstacles then retract fully and continue to climb at or above 85 KIAS

4.3.12. AFTER LANDING

1	Wing Flaps	UP
2	Fuel Boost Pump	OFF
3	Carburettor Heat	Full IN or Cold

4.3.13. SECURING AIRPLANE

1	Radio/Intercom	OFF
2	Ignition Switches	OFF
3	Master Switch	OFF
4	Controls	LOCK with seatbelt
5	Fuel	OFF

4.4. OTHER PROCEDURES

4.4.1. FUELING - SAFETY WARNINGS

- Never prepare fuel in an area that is enclosed or where fumes could reach ignition point. DO NOT SMOKE or allow open flames or sparks in the vicinity. Never add fuel while the engine is running.

- Never refuel an aircraft if fuel could be spilled on hot engine components (this should not be a problem with the JABIRU due to the location of the fuel tanks and fillers).
- Use only approved fuel containers and never transport fuel in an unsafe manner.
- Always check for fuel contamination. Contamination is a major cause of engine failure. The best place to avoid contamination is at the source. Once your fuel is in the container a very hazardous potential exists. Use a clean safety approved storage container. Do not overfill the container - allow for expansion.
- The engine is designed for use with **aviation gasolines only**. Be sure to use products of at least the standard shown in Section 1.
- Always earth the aircraft through the Earthing Points provided at the fuel fillers.
- Before first flight of the day, and after each refueling, use a sampler cup and drain a small quantity of fuel from the fuel tank sump quick drain valves -check for water, sediment and contamination.

4.4.2. TAXIING

When taxiing, it is important that speed and use of brakes be kept to a minimum and that all controls be utilized (see Taxiing Diagram, Figure 4.1) to maintain directional control and balance.

The carburettor heat control knob should be pushed full IN (that is, NOT selected) during all ground operations unless heat is absolutely necessary.

Taxiing over loose gravel or cinders should be done at low engine speed to avoid abrasion and stone damage to the propeller.

DO NOT accelerate over loose gravel or cinders or propeller damage will result.

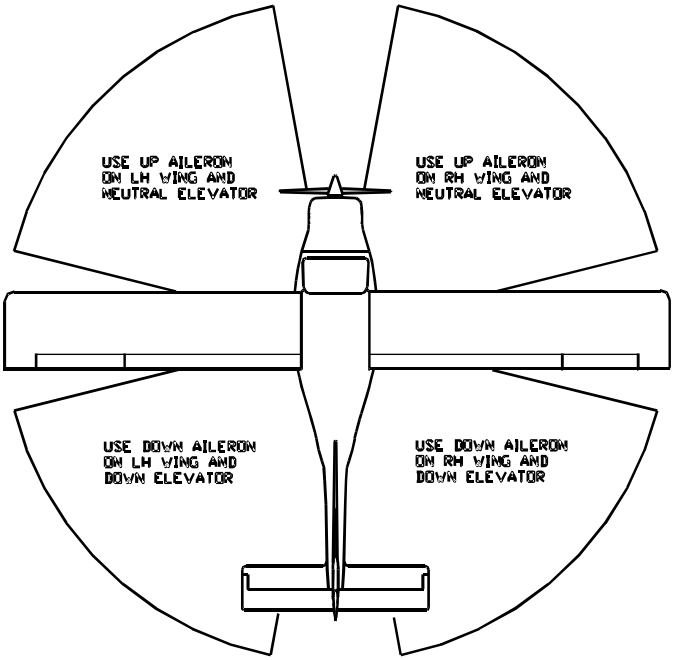


Figure 1- Taxiing Diagram

4.4.3. PROPELLOR CARE

Full throttle runups over loose gravel are especially harmful to propellor tips. When takeoffs must be made over a gravel surface, it is very important that the throttle is advanced slowly. This allows the airplane to start rolling before high RPM is developed, and the gravel will be blown behind the propellor rather than pulled into it. When unavoidable small nicks appear in the propellor, they should be immediately corrected.

4.4.4. CROSSWIND TAKEOFF

Takeoffs into strong crosswinds are normally performed with the minimum flap setting necessary for the field length, to minimize the drift angle immediately after takeoff. With the ailerons partially deflected into the wind, the airplane is accelerated to a speed slightly higher than normal, and then pulled off positively and smoothly to prevent possible settling back to the runway while drifting. When clear of the ground, make a coordinated turn into the wind to correct for drift.

4.4.5. CRUISE

Normal cruising is performed between 75 % and 90 % power. Continuous cruise should not be above 3150 RPM. Flights should be planned at 22 litres per hour with 45 minutes reserve, with appropriate allowances for wind conditions which will assist in determining the most favourable altitude and power setting for a given trip.

4.4.6. CROSSWIND LANDING

The limiting crosswind velocity of 14 knots has been demonstrated at FULL Flap. However, in strong crosswind conditions use the minimum flap consistent with the strip length available.

Use the Wing Low technique right through to touchdown and land on Mains first.

4.4.7. BAULKED LANDING

In a baulked landing (go-around) climb, the wing flap setting should be reduced to the First Stage immediately after full power is applied and the aircraft has accelerated to a safe climb speed. Upon reaching a safe airspeed, the flaps should be slowly retracted to the full up position, whilst allowing the aircraft to accelerate to the best climb speed.

4.4.8. NOISE ABATEMENT

Increased emphasis on improving the quality of our environment requires renewed effort on the part of all pilots to minimize the effect of airplane noise on the public.

As pilots, we can demonstrate our concern for environmental improvement by application of the following procedures:

1	At altitudes under 2000 feet, avoid flying in close proximity to houses or over parks and recreational areas
2	During approach to or departure from an airport, climb after takeoff and descent for landing should be made so as to avoid prolonged flight at low altitude near noise sensitive areas.

4.4.9. VISIBLE MOISTURE

Where flights are likely to include operations in visible moisture or rain, the use of RAIN-X window treatment is recommended.

4.4.10. STOPPING THE ENGINE

To stop the engine, turn OFF the ignition switches and turn OFF the Master Switch. Carburettor Heat should be returned to the Full IN or cold position.

4.4.11. STARTING WITH EXTERNAL POWER SOURCE

Where it is necessary to start the engine from an external power source:

	Remove Top cowl
	Place jumper leads directly on battery terminals, ensuring positive to positive and negative to negative
	Start as for normal operation
	Stop engine, remove jumper leads,refit cowl

W A R N I N G

Wheels must be chocked.
Ensure propeller is clear.
Ensure qualified person is in the operator seat.
Do not attempt to refit cowl with propeller running.

Section: 5 PERFORMANCE

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Section: 5 5.1. PERFORMANC

5.1. STALLING

5.1.1. STALL SPEEDS

(In KIAS and power off condition)

Flap Setting	Zero	Stage 1 Takeoff	Stage 2 Landing
Maximum Takeoff & Landing Weight	56	50	45

5.1.2. NATURE OF STALL WARNING

Configuration		Stall Warning
Power Off	Clean Flap Stage 1 Flap Stage 2	Audible Warning horn 5 – 8 knots before stall.
Power Full	Clean Flap Stage 1 Flap Stage 2	Audible Warning horn 5 – 8 knots before stall

5.2. TAKEOFF & LANDING DISTANCES

Takeoff safety speed is 1.3 Vsi	65 KIAS
Landing Approach speed (Full Flap)	65 KIAS

The unfactored, sea-level takeoff distance to 50' at NIL wind or slope, on a short dry grass surface, is 400 metres. The sea-level take-off strip length exceeds the landing strip length.

Takeoff and Landing Distance is therefore 400 metres times 1.3 = 520 metres.
This distance is established using the normal technique described in paragraph 4.3.7.

This distance must be increased by a distance increment of 115 metres for each one thousand feet (1000') of pressure altitude.

5.3. MAXIMUM CROSSWIND FOR TAKEOFF & LANDING

14 knots.

Section: 6

WEIGHT, BALANCE & EQUIPMENT LIST

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Section: 6

WEIGHT, BALANCE & EQUIPMENT LIST

6.1. Introduction

This section contains basic weight and center of gravity information necessary to ensure correct loading of the aircraft.

This section is separately approved by an Aircraft Weight Control Officer, and is to be carried in the Flight Manual at all times.

6.2. Aircraft Empty Weight Record

Registration No.	**ZU - TOL**
Aircraft Model	**Jabiru J430**
Serial Number	**926**
Date of Weighing	**15-11-2017**
Empty Aircraft Weight (kg	**401.00 kg**
Empty Aircraft Arm (mm aft of datum)	**178.87**
Aircraft Moment (kg.mm)	**71730**
Trim Sheet IndexUnits	**71.73**
Fixed Ballast Installed In aircraft at Time of Weighing (kg)	**Nil**
Ballast Station (mm aft of Datum)	**N/A**

Notes:

1 empty aircraft includes Full Engine oil, and unusable fuel

Mr LW Alford **15-11-2017**

……

Weight Control Officer Date.

6.3. Loading System

6.3.1. General

The load and trim system for this aircraft is provided in the form of a trim chart, which is shown with sample calculations at Figure 6-1, and as a blank chart in Figure 6-2

These charts, Figure 6.1 & Figure 6-2, are graphic representations of the weight and balance calculations for the aircraft and represent an acceptable method of ensuring that the aircraft is correctly loaded.

The aircraft is loaded correctly, only if **both** the **zero fuel** and the **takeoff** cases fall inside the line on the "Aircraft Trim Conditions" graph given in Figure 6-1

The chart is based on an aircraft "EMPTY WEIGHT TRIM INDEX" which is calculated using the following formula:

$$\text{Empty Weight Trim Index} = \frac{\{(\text{Aircraft Empty Weight}) * (\text{Empty Weight Arm})\}}{1000}$$

Example Trim Index Calculation:		
Aircraft Empty Weight	=	323-kg
Aircraft Empty Weight Arm	=	68-mm aft of datum
Empty Weight Trim Index	=	(323 * 68) / 1000
	=	21.9

The Chart performs two functions. The vertical scales on the Right Hand side of the chart provide a graphical method to calculate the operating weights of the aircraft, while the horizontal scales at the top of the chart provide a graphical method to calculate the cg positions.

6.3.2. Calculating the Aircraft Operating Weights

1-1 Use the Aircraft Empty Weight obtained from Page 6/2 of this Flight Manual, or the latest aircraft weighing records to enter the vertical scale Labeled “Aircraft Empty Weight” on lower right hand side of the Figure 6-1t.

1-2 Move horizontally to the left into the “Weight on Front Seat” Scale.

1-3 Move vertically downward one red line for each 20-kg of weight that is placed on the front seats, and mark a point.

1-4 Move horizontally to the left from the point made in Step 3 to enter the “Weight on Rear Seat” Scale.

1-5 Move vertically downward one line for each 20-kg of weight that is placed on the rear seats, and mark a point.

1-6 Move Horizontally to the left from the point made in Step 5, to enter the “Weight In Baggage Area” Scale

1-7 Move Vertically downward one line for each 10-kg of baggage and mark a point.

1-8 Move horizontally to the left from the point made in Step 7 to enter the “Take Off Fuel Quantity” Scale and mark a point, This point is the “Zero Fuel Weight Reference Point”

1-9 Move Horizontally to the left of the “Zero Fuel Reference Point” and Mark a “Zero Fuel Weight Line” across the “Aircraft Trim Condition” graph.

1-10 From the “Zero Fuel Point” on the scale (marked in Step 8), move vertically downward one line in the “Take-Off Fuel Quantity Chart” for each 10-liters of fuel being carried at the take-off condition. Mark this “Take-Off Fuel Point” on the scale.

1-11 Move horizontally to the left, and mark a “Take-Off Fuel Weight Line” across the “Aircraft Trim Condition” graph.

6.3.3. Calculating the Operating CG Locations

Note: Because the center of gravity for the front seat occupants is only 12-mm forward of the datum, trim-index changes due to the front seat occupants are negligible. Because of this, there is no need to include front seat occupants when using these "Trim-Index Charts" to calculate the cg location.

This statement should not be misinterpreted. Front seat weight does have an effect on the aircraft cg location and if you are calculating the aircraft cg location by any means other than this trim sheet method you **must** include the front seat weight in your calculations.

2-1. Enter the chart at the top horizontal scale labelled "Weight on Rear Seats" using the aircraft "Empty Weight Trim Sheet Index" taken from Page 6/2, or from the results of the latest weighing of the aircraft.

2-2. Drop a vertical line down to intersect with a sloping red line in the red scale and mark a point at this location.

2-3 Calculate the weight that will be placed on the rear seats to include pax and any baggage that is placed on the seat . Round this value to the nearest 10-kg.

2-4 Move horizontally to the right from the point marked in Step 2-2 one line for each 10-kg of load calculated in step 3. (i.e. 60-kg = 6 lines) and mark a point at this location.

2-5 Drop a vertical line down from the point marked in Step 2-4 to intersect a sloping purple line in the Blue "Baggage Calculation Box", and mark a point at this location.

2-6. Estimate the weight of baggage stowed in the baggage compartment behind the rear seat to the nearest 5-kg.

2-7 Move horizontally to the right from the point marked in Step 2-6 one line for each 5-kg of baggage weight estimated in Step 2-6, and mark a point at this location.

2-8 Drop a vertical line down from the point marked in Step 2-7 to intersect a sloping line in the "Fuel Quantity Box", and mark a point at this location.

2-9 Continue the Vertical Line began in Step 2-9 down to intersect with the "Zero Fuel Weight Line" drawn in Step 1-4. mark this point as the "**ZERO FUEL Condition**"

2-10 Move horizontally to the right from the point marked in Step 2-9 in the "Take-Off Fuel Box", one line for each 10 liters of take-off fuel, and mark this point.

2-11 Move vertically downward from the take-off fuel point marked in Step 2-11 to intersect with the "Take-Off Fuel Weight Line" marked in Step 1-8. Mark this point the "**Take-Off Condition**"

6.3.4. Allowable Loading Conditions

An allowable loading condition exists when both the "Zero Fuel Condition", and the "Take-Off Condition" fall with the area bounded by the Line in the "Aircraft Trim Conditions" Graph.

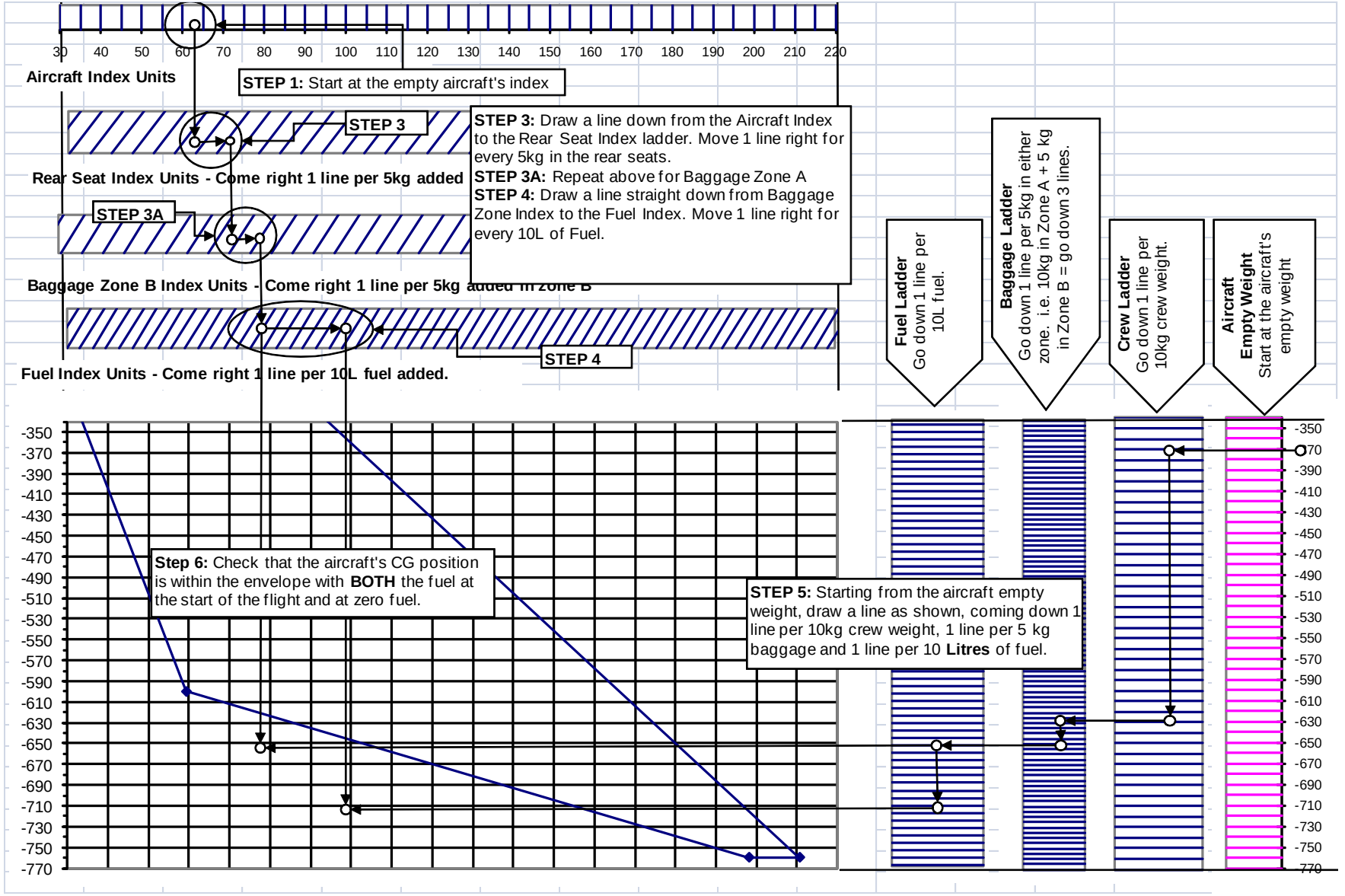

Figure 6- 1 Aircraft load and Trim Chart with Sample Calculations

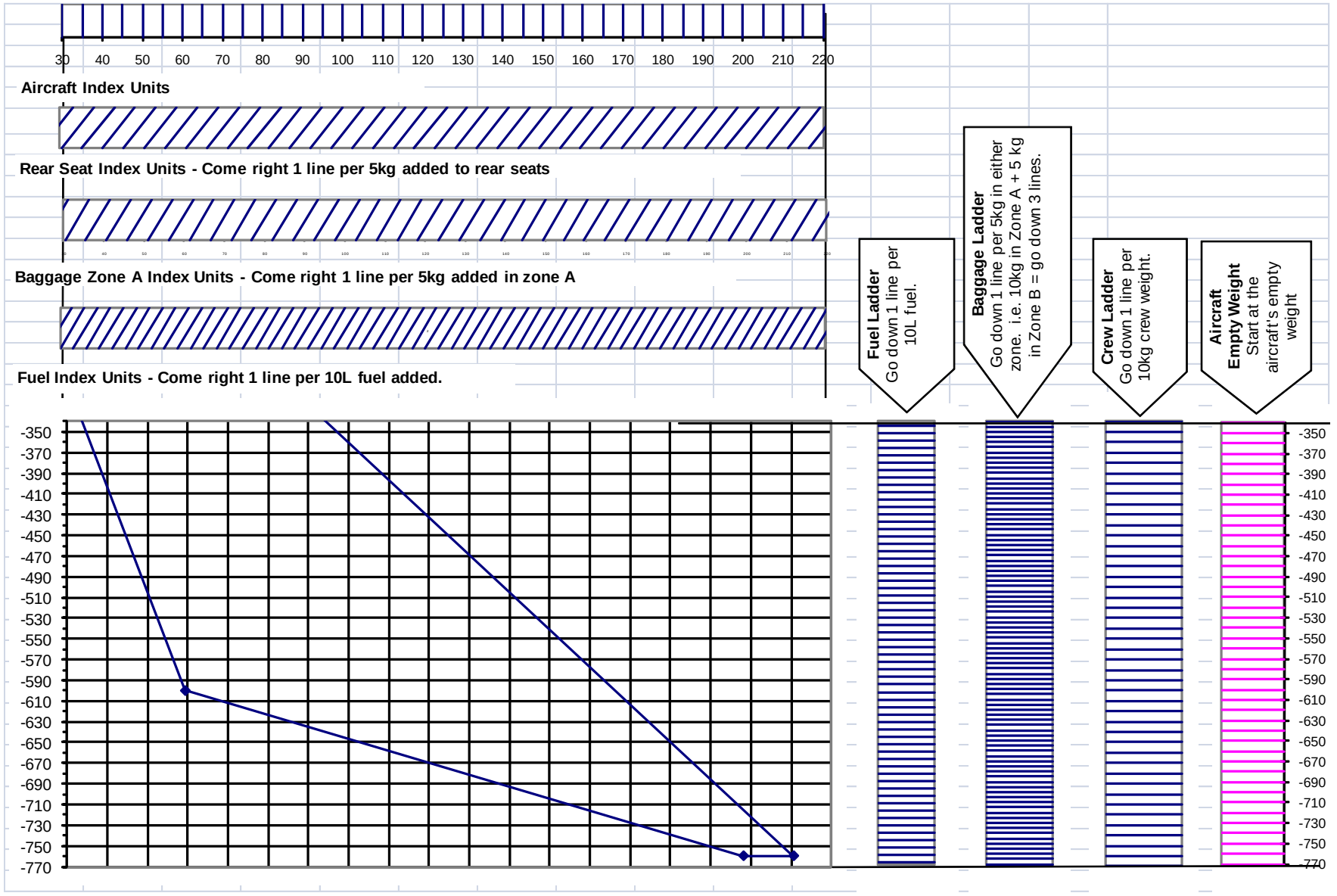

Figure 6- 2 Aircraft load and Trim Chart

6.4. Weight Limits

Maximum takeoff weight	=	760-kg (1676-lbs)
Maximum landing weight	=	760-kg (1676-lbs)

6.5. Center of Gravity Limits

6.5.1. Operational Aircraft Center of Gravity Details

Forward Limit:	99-mm aft of datum up to & including 600 kg 261-mm aft of datum at 760 kg
Aft Limit	277-mm aft of datum at all weights
Datum	Wing Leading Edge
Leveling Means	
Longitudinal	Spirit Level placed on the trim control lever decal.
Lateral	Spirit Level placed across the fuselage forward of the firewall on cowl location rubbers.
Front Seat Station	12-mm forward of datum
Rear Seat Station	1034-mm aft of datum
Baggage Station	1570-mm aft of datum
Fuel Station	451-mm aft of datum

6.6. Aircraft Equipment List

Items listed in the following table were fitted to the aircraft at manufacture and were included in the aircraft basic weight.

Instrument & Avionics Equipment List for:	Jabiru J430 Registration	926 ZU-TOL
ENGINE	Jabiru	33A2785
PROPELLER	Jabiru G/A	Blades: 589 + 590 Hubs: 431
Description	**MODEL**	**SERIAL NO**
VHF Radio	Garmin GTR 200	2QQ008863
Transponder	Dynon	06219
Encoder	Dynon	06219
Antenna Transponder	CI105	37797
Intercom	Flightcom 403 MC	SA03149
Tacho / Hourmeter	VDO	656220-003
Fuel Flow Meter	Dynon	185145
Airspeed Indicator	Standard	AS1T17080007
Altimeter	Standard	2044
Vertical Speed Indicator	Standard	1439
Compass	Standard	CM24S150070
Panel Night Lights	Yes	N/A
Wing Tip Lights	Yes	N/A
Strobe Light	Yes	N/A
Landing Lights	Yes - Double	N/A
Anticollision Light	Yes	N/A
Cigarette Lighter	Yes	N/A
EFIS/EMS/GPS	Dynon Skyview	8824
Extra Probes For EFIS	SV-ADAHRS-200A Mod+SV-OAT	8893
	SV-EMS-220/A Engine Module	6992
	SV-GPS-250/A GPS Receiver	3117
	No2-SV-BAT 320 Battery	6486
	Engine Monitoring + Harness	50740-006
	AOA Pitot Probe	8770
Dynon Autopilot	Servo 1	11029
	Servo 2	11078