

Testing>Forms

Objectives of this task:

This final task of the Constructors Manual contains a set of forms that are intended be used to record the details of your new Jabiru aircraft and all of the flight testing sequences.

The first form, *Aircraft Identification*, should be used to record the serial numbers of all components: the kit number, engine serial number, propeller details and all instrumentation.

The other forms should be used in conjunction with the preceding task *Flight Testing*.

Taken as a group these forms should be kept as a permanent record.

Abbreviations

Here is a listing of common abbreviations that are used throughout these forms:

AGL	Above Ground Level
AH	Artificial Horizon
ALT	Altimeter
CHT	Cylinder Head Temperature
EFIS	Electronic Flight Information System
EGT	Exhaust Gas Temperature
EMS	Engine Management System
EOP	Engine Oil Pressure
EOT	Engine Oil Temperature
ETC	Electric Turn Co-ordinator
GPS	Global Positioning System
IAS	Indicated Air Speed
ISA	International Standard Atmosphere: 1013.2 hPa, 15°C
KIAS	Knots Indicated Air Speed
MAG	Magneto - engine ignition system
OAT	Outside Air Temperature
P. ALT	Pressure Altitude: the indicated ALT at ISA conditions
RPM	Revolutions Per Minute - engine speed
RWY	Runway
UHF	Ultra High Frequency - sometimes used for remote area comms
VHF	Very High Frequency - standard aircraft comms
VSI	Vertical Speed Indicator

Aircraft Identification

Owner	<input type="text"/>	Phone	<input type="text"/>
Address	<input type="text"/>	Mobile	<input type="text"/>
		Fax	<input type="text"/>

Model	<input type="text" value="J"/>	Registration	<input type="text"/>
Kit #	<input type="text"/>	Engine Serial number	<input type="text"/>

Propeller: Jabiru / Sensenich (Cross out one)	Size x Pitch	<input type="text"/>
	Serial Number	<input type="text"/>

Flight instrumentation

	Make/Serial number		Serial number
EFIS /AH	<input type="text"/>	ASI	<input type="text"/>
		ALT	<input type="text"/>
GPS	<input type="text"/>	VSI	<input type="text"/>
		ETC	<input type="text"/>

Engine instrumentation

	Make/Serial number	Jabiru #	Serial number
EMS	<input type="text"/>	TACH	<input type="text"/>
		EOP	<input type="text"/>
		EOT	<input type="text"/>
		CHT	<input type="text"/>
		EGT	<input type="text"/>
		VOLT	<input type="text"/>

Sequence #1 – Ground run

Date <input style="width: 100%;" type="text"/> Engine hours start <input style="width: 80%;" type="text"/>	WIND <input style="width: 100%;" type="text"/> OAT <input style="width: 100%;" type="text"/> Pilot <input style="width: 100%;" type="text"/>
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Run up - 2000 rpm

	rpm drop (200rpm max)		<u>Engine parameters</u>
Left MAG	<input style="width: 50px;" type="text"/>	EOP	<input style="width: 50px;" type="text"/> CHT <input style="width: 50px;" type="text"/>
Right MAG	<input style="width: 50px;" type="text"/>	EOT	<input style="width: 50px;" type="text"/> EGT <input style="width: 50px;" type="text"/>
Carb Heat	<input style="width: 50px;" type="text"/>	All in the green range	

Full power check

	<u>Engine parameters</u>
Maximum sustained rpm <input style="width: 100px;" type="text"/> 2975 – 3050 rpm	EOP <input style="width: 50px;" type="text"/> CHT <input style="width: 50px;" type="text"/>
Restrict the full power run to less than 2 minutes total time	EOT <input style="width: 50px;" type="text"/> EGT <input style="width: 50px;" type="text"/>
	All in the green range

Idle check

	<u>Engine parameters</u>
Idle rpm <input style="width: 100px;" type="text"/> 800 - 900 rpm	EOP <input style="width: 50px;" type="text"/> CHT <input style="width: 50px;" type="text"/>
Allow the engine to run at 1200 rpm for 2 minutes and then check the idle	EOT <input style="width: 50px;" type="text"/> EGT <input style="width: 50px;" type="text"/>
	All in the green range

<p>Taxi tests</p> <p>Brakes both pull evenly and release with no drag <input style="width: 20px;" type="checkbox"/></p> <p>Steering: tracks straight into wind with feet off <input style="width: 20px;" type="checkbox"/></p> <p>Steering: left and right turns are equal radius <input style="width: 20px;" type="checkbox"/></p>	<p>Notes</p>
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Sequence #2 – Rigging

Date

Engine hours start

WIND OAT

RWY P. ALT
1013.2 hPa

Loading

Pilot

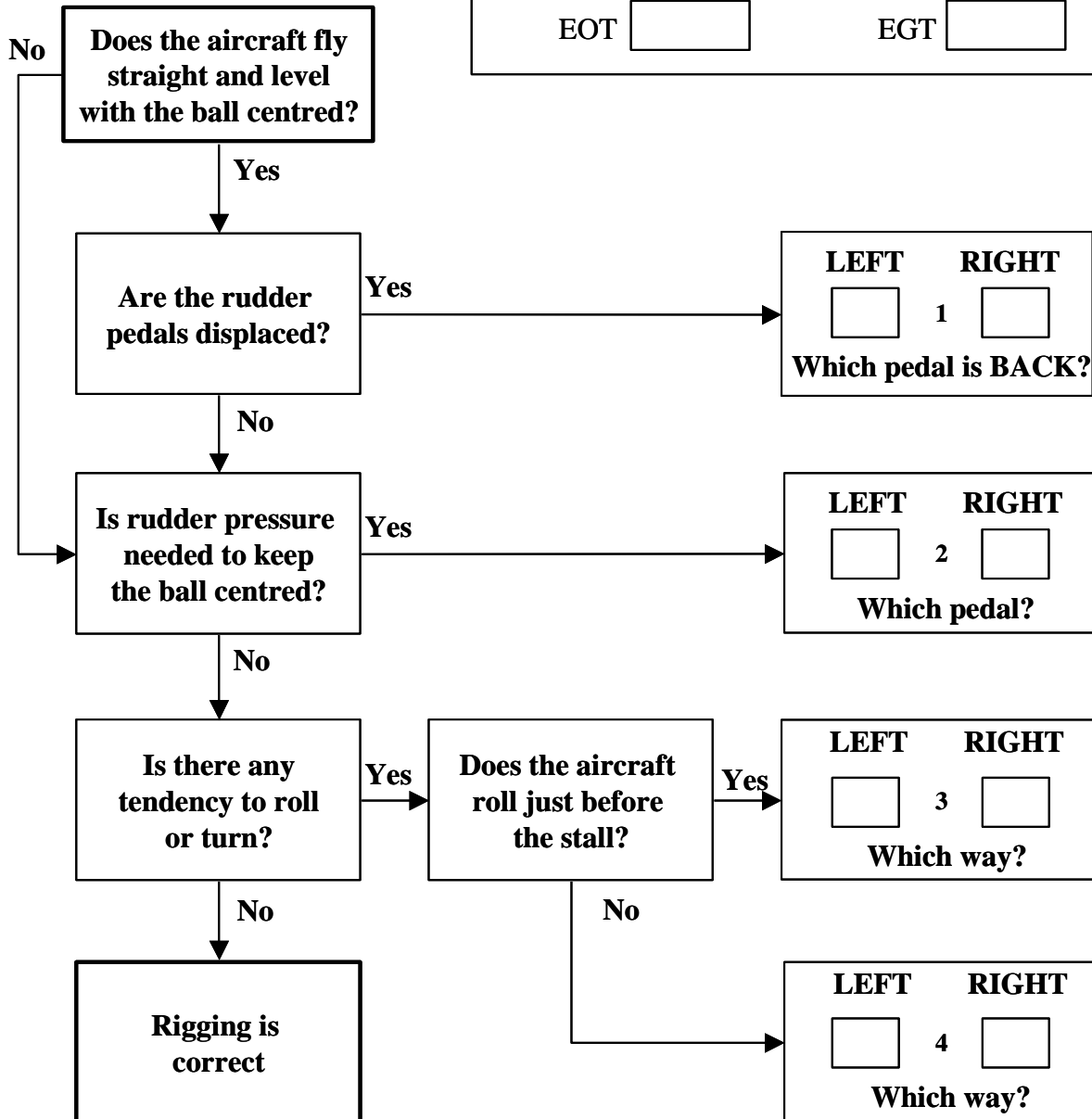
Pilot only, no PAX,
20 litres of fuel per side

Full power climb at 80 KIAS

Engine RPM
2900 – 3050 rpm

EOP CHT

EOT EGT



Sequence #3 – Performance & handling

Date <input style="width: 80%;" type="text"/>	WIND <input style="width: 80%;" type="text"/>	OAT <input style="width: 80%;" type="text"/>
Engine hours start <input style="width: 80%;" type="text"/>	RWY <input style="width: 80%;" type="text"/>	QNH <input style="width: 80%;" type="text"/>

Loading

Pilot <input style="width: 80%;" type="text"/>	Loading rules - either:
PAX <input style="width: 80%;" type="text"/>	Pilot < 100Kg only: 100 litres fuel; or <input style="width: 40px;" type="checkbox"/>
	Pilot and 1 PAX to 172Kg total: 50 litres fuel <input style="width: 40px;" type="checkbox"/>

Stalls

All stalls are started from 3000 feet AGL or above, starting from 60 KIAS. Airspeed is decreased at a constant rate of 1 knot per second until the aircraft is fully stalled and the IAS at the point of stall is recorded below.

IDLE power	NO Flap	Straight Ahead: [40 – 50]	<input style="width: 80%;" type="text"/>
		30° Bank to LEFT	<input style="width: 80%;" type="text"/>
		30° Bank to RIGHT	<input style="width: 80%;" type="text"/>
	HALF Flap	Straight Ahead	<input style="width: 80%;" type="text"/>
		30° Bank to LEFT	<input style="width: 80%;" type="text"/>
		30° Bank to RIGHT	<input style="width: 80%;" type="text"/>
	FULL Flap	Straight Ahead	<input style="width: 80%;" type="text"/>
		30° Bank to LEFT	<input style="width: 80%;" type="text"/>
		30° Bank to RIGHT	<input style="width: 80%;" type="text"/>
FULL power	NO Flap	Straight Ahead: [38 – 45]	<input style="width: 80%;" type="text"/>
		30° Bank to LEFT	<input style="width: 80%;" type="text"/>
		30° Bank to RIGHT	<input style="width: 80%;" type="text"/>
	HALF Flap	Straight Ahead	<input style="width: 80%;" type="text"/>
		30° Bank to LEFT	<input style="width: 80%;" type="text"/>
		30° Bank to RIGHT	<input style="width: 80%;" type="text"/>
	FULL Flap	Straight Ahead	<input style="width: 80%;" type="text"/>
		30° Bank to LEFT	<input style="width: 80%;" type="text"/>
		30° Bank to RIGHT	<input style="width: 80%;" type="text"/>

Sequence #3 – Performance & handling

Trim test

Cruise power, clean	Idle, full flap
AFT [50-65 KIAS] <input type="text"/>	AFT [60-70 KIAS] <input type="text"/>
FWD [90-140 KIAS] <input type="text"/>	FWD [end of white arc] <input type="text"/>

Glide at 62 KIAS

Controllability <input type="text"/>	Control rigging <input type="text"/>
Glide engine RPM <input type="text"/>	[1000-1200rpm]

V_{NE} 2700-2900 RPM

Vibration <input type="text"/>	Buffeting <input type="text"/>
Controllability <input type="text"/>	Control rigging <input type="text"/>

Full power, Straight & Level

IAS at full power <input type="text"/>	P. ALT 1013.2 hPa <input type="text"/>	OAT <input type="text"/>
RPM at full power <input type="text"/>	CHT <input type="text"/>	EOP <input type="text"/>
	EGT <input type="text"/>	EOT <input type="text"/>

Timed climb at 80 KIAS

Start P. ALT 1013.2 hPa <input type="text"/>	Finish P. ALT <input type="text"/>	OAT <input type="text"/>	
Time to climb 1000 ft <input type="text"/>	sec <input type="text"/>	CHT <input type="text"/>	EOP <input type="text"/>
Rate of climb (indicated) <input type="text"/>	fpm <input type="text"/>	EGT <input type="text"/>	EOT <input type="text"/>

General

Lateral & Directional Control Rigging <input type="text"/>	Lateral & Directional Stability and Control <input type="text"/>
Lateral & Directional Rigging and Trim <input type="text"/>	Longitudinal Static Stability <input type="text"/>