CHECK FLIGHT CERTIFICATE							
SINGLE, PISTON-ENGINED AEROPLANES UP TO 2730 kg (6000 lb) MAW						CFS Issue 1	
Aircraft Type:							
Date:		Pilot:		Observer:		Reg:	

Defects

No.	Defect	-/R/FT

(use a continuation sheet as necessary)

Conclusions/Comments

Note: The provision of false information, or failure to disclose information, relevant to the grant of an aviation document constitutes an offence under Section 17A(5)(b) of the Civil Aviation Authority Act 1979, and Regulation 128 of the Air Navigation Regulations 1981. The applicant will be subject to prosecution as well as the revocation, suspension or cancellation, of their aviation document, or in the event of initial issue, the rejection of the application.

PILOT-IN-COMMAND'S DECLARATION

I CERTIFY that I have tested the above aircraft, in accordance with this Check Flight Test Schedule, and have detailed the deficiencies and unsatisfactory features above.

Name:	Signed:	Date:	Licence No:

Performance	Climb		
Average weight			
Average altitude		ft	
Average temp		°C	
Speed			
Achieved rate		fpm	
Scheduled rate		fpm	
Margin		fpm	
Permitted margin	-70	fpm	

(delete as applicable) The box below to be completed by the nominated engineer*

Airfield:

Start Weight | | Kg/Lbs*

Take-off cg:

ENGINEER'S DECLARATION

I certify that all the airtest results are within the specified allowable tolerances, and that the achieved climb rate was above*/below* scheduled. If below, complete box X.

Signed:	Licence No

Box X The climb rate was below scheduled but was accepted for the following reason:

***Note**: aircraft with climb shortfalls more than 70 fpm should not be accepted.*

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For CAAF Use only				
	Appointment:	**Date:**	**Sign:**	**Comments:**
Report Logged by:	**AA - AW**			
Report seen by:	**AEI**			
	FOI - RW			
	SAMEI			
	SFOI - D			

General

Only CAAF personnel and pilots specifically accepted and briefed to carry out CAAF Airworthiness Check Flight Schedules Flight Tests may conduct the test.

***Crew**:* Captain, co-pilot (if applicable), Flight engineer.

***Airfield**:* Departure airfield.

***AUM**:* The aircraft shall be loaded to maximum all up weight if possible, and record the weight at first engine start. Also delete Kg or Lbs as appropriate. Take-off cg: Actual C of G at lift-off.

***Climb#1 / Climb#2**:* Enter in these columns data from the first and second climbs.

***Average Weight**:* The aircraft all up weight at the midpoint of the measured climb.

***Average Altitude**:* The altitude at which the line drawn to average the measured points passes through at the mid time.

***Average Temp**:* The temperature at which the line drawn to average the measured points passes through at the mid time.

***Speed**:* The target climb speed (Indicated Airspeed.)

***Achieved Rate**:* The climb rate as given by the slope of the line drawn to average the measured altitude points in feet per minute.

***Scheduled Rate**:* The expected gross rate of climb read from the appropriate graph in the Flight Manual with any adjustments for configuration differences. For large aircraft, the basic gross data are normally to be found in a separate supplement labelled 'Additional Flight Test Data'.

***Margin**:* The difference between the Scheduled and Achieved rates of climb (negative if achieved is lower than scheduled).

Defects Enter all defects from the flight. All defects must also be entered in the Technical Log. Procedural items entered in the Technical Log (such as re-stowing oxygen masks) need not be entered here. Items affecting flight safety which were known before the flight, whether or not they were deferred should be entered. In the latter case, the defect should be annotated accordingly after the details.

***No**:* The first column is to allow the items to be numbered.

***Defect**:* Enter details of the defect.

***-/R/FT**:* Classify each defect according to its impact on safety, regardless of whether it can be deferred according to the MEL. Any deferrals should be dealt with in the normal way in the Technical Log. Items requiring rectification (or deferral under the MEL) before further flight for hire or reward or before the issue of the CofA should be marked 'R'. Additionally, items that require rechecking in-flight following rectification (such as inadequate climb performance) should be marked 'FT'. Items requiring both should be marked 'R/FT'.

***Action?**:* **Conclusions/** This column should be left blank unless further information is required from the engineers or the item is considered to be of sufficient importance that CAAF action is considered necessary, then the person/department/agency from whom further action is required should be noted in this column. Annotate accordingly if an MOR or similar report is to be raised.

Comments: Any conclusions, notes or comments useful for tracking defects.

***Name**:* Only the pilot who carried out the test may certify and sign this sheet.

CHECK FLIGHT SCHEDULE					
SINGLE, PISTON-ENGINED AEROPLANES UP TO 2730 kg (6000 lb) MAW					
Aircraft Type:		Registration:		Date:	
Engine:		Propeller*:			

*Enter details if more than one type of propeller is permitted, otherwise state 'Standard'

WARNING

It is illegal to carry passengers on a test flight without a Certificate of Airworthiness in force, except persons performing duties in the aircraft in connection with the flight (normally the pilot and one observer).

Check flights entail greater risk than normal flight, and although it may be legal to carry passengers on a test flight with a Certificate of Airworthiness in force, it is strongly recommended that the pilot in command should, before accepting any other persons on a test flight, inform them that the risk is greater than on an ordinary flight. A full seat harness or a diagonal shoulder strap must be fitted for spinning. A parachute should be worn.

1. INTRODUCTION

The intention of this schedule is to allow a general check of an aircraft against the stated operation in the Flight Manual, Pilot's Operating Handbook or equivalent. Where data are not available in the aircraft manuals, additional data may be given in Appendix 1. Where data are not available and the type is not listed, or where an air test is required to clear a Modification, appropriate schedules will be agreed between the Applicant and the CAAF.

It is recommended that the tests are made in the sequence given. The results are to be written in ink in the spaces provided. Where measurement units are other than those specified (e.g. speed in kph), suitable conversions should be made and tolerances/units noted.

2. GENERAL

Operator/ Maintenance Organisation:	

Aerodrome Elevation:		ft	Aerodrome Temp:		°C	QNH:		mb

Weather Significant to Tests (eg. Cloud base and tops, any turbulence)

The aeroplane and its engine are at all times to be operated within the limitations imposed by the Certificate of Airworthiness (C of A), by cockpit placards and instrument colour coding, and by the Flight Manual. Aeroplanes for which there is no approved Flight Manual must be flown to the limitations in the appropriate Manual designated on the C of A. The normal operating checks and drills given in the Manual must be followed.
During the flight test, the crew must monitor the behaviour of all equipment and report any unserviceable items. In particular, if the test flight follows maintenance work, it is important to make sure that the items involved function satisfactorily, and that no additional faults have resulted accidentally.

Item 11 (Spinning) must be completed unless the aircraft is prohibited from spinning. This may be performed on a separate flight without an observer (note that weight and cg restrictions for spinning certain types mean that spinning must be conducted separately).

Appendix 1 – Additional information.

Appendix 2 - must be completed in addition to this schedule for aircraft which are pressurized or are fitted with turbo-charged engines.

Appendix 3 - must be completed in addition to this schedule for aircraft which are operated as a Seaplane, Floatplane or Amphibian.

3. LOADING

Unless it is impractical to do so, the aircraft should be loaded to maximum take-off weight or0 maximum landing weight if it is lower. It is permissible to test at a lower weight if climb data and stall speeds are scheduled with weight. Ballast should be used in order to comply with any prescribed loading requirements.

Max Take off/ Max landing weight		Permissible CG range	
Max weight for spinning (utility category)		Permissible CG range	
Take-off weight (actual) (kg/lb)		CG Position (actual)	

If the aircraft is not flown at Max Take Off Weight explain why:

4. PRE-FLIGHT

Fitness for Flight or Permit to Test issued and signed or valid CofA	
Check that the following items are on board:-	

(1) Aeroplane Flight Manual or other designated manual (eg. Owner's Manual, Pilot's Operating Handbook, Pilot's Notes).	
(2) Cabin fire extinguisher (if applicable).	☐ SAT/ ☐ UNSAT/ ☐ NOT FITTED

5. GROUND TESTS

5.1 Flying Controls and Engine Controls

Flying Controls - Check for full travel, freedom and correct functioning:

Elevator/Stabilizer	☐ SAT / ☐ UNSAT	Elevator/Stabilizer trimmer	☐ SAT/ ☐ UNSAT
Ailerons	☐ SAT / ☐ UNSAT		
Rudder	☐ SAT / ☐ UNSAT	Rudder trimmer	☐ SAT/ ☐ UNSAT
Wing flaps	☐ SAT / ☐ UNSAT	Slats (including locking)	☐ SAT/ ☐ UNSAT

Engine Controls (including friction/locking mechanisms)

Throttle	☐ SAT / ☐ UNSAT	Carburettor heat	☐ SAT/ ☐ UNSAT
Propeller pitch	☐ SAT/ ☐ UNSAT	Cooling flap	☐ SAT/ ☐ UNSAT
Mixture	☐ SAT/ ☐ UNSAT	Fuel booster pump	☐ SAT/ ☐ UNSAT

5.2 Equipment

Check the following items for security and correct functioning:-

Safety harness/lap straps	☐ SAT/ ☐ UNSAT
Door/canopy fastening	☐ SAT/ ☐ UNSAT
Adjustment of pilots' seats and locking	☐ SAT/ ☐ UNSAT

5.3 Engine Run

The aeroplane should face cross-wind; if wind strength makes parking cross-wind hazardous, face into wind.

From AFM, POH		Measured	
Magneto test RPM		No.1 magneto off, RPM drop	
Max split permitted or RPM at which tested		No.2 magneto off, RPM drop	
Max Drop Permitted		Hot air or Alternate air RPM drop	
Carburettor hot air or Alt airtest RPM			

Maximum power check	
Power check RPM from AFM	
Manifold pressure	
RPM pressure	

Fuel

6. TAXYING

Brake system pressure (if available)	☐ SAT/ ☐ UNSAT/ ☐ NOT AVAILABLE
Parking brake (including Lock and Release)	☐ SAT/ ☐ UNSAT
Brakes (including freedom from binding and normal ability to hold aircraft at high engine power)	☐ SAT/ ☐ UNSAT
Taxying (including nose-wheel steering/ tail-wheel steering/differential braking)	☐ SAT/ ☐ UNSAT
Brake system pressure(if available)	☐ SAT/ ☐ UNSAT/ ☐ NOT AVAILABLE
Parking brake (including Lock and Release)	☐ SAT/ ☐ UNSAT
Brakes (including freedom from binding And normal ability to hold aircraft at high Engine power)	☐ SAT/ ☐ UNSAT
Taxying (including nose-wheel steering/ Tail-wheel steering/ differential braking)	☐ SAT / ☐ UNSAT

7. TAKE-OFF

Wing flap setting	
Trimmer settings – Elevator/stabilizer	
- Rudder	
Behavior during take-off:- Record any abnormal features, e.g. unusual tendency to swing, ease or difficulty of raising nose-wheel/tail-wheel, control forces (including any unusual control forces) or wing heaviness	

Was artificial stall warning triggered? ☐ YES/ ☐ NO

8. CLIMB PERFORMANCE

Flight conditions: Clear of cloud and turbulence, and well clear of any hills which could produce wave conditions.

Configuration: Normal for en-route climb (see Manual).

Power: Maximum Continuous with air intake in 'Cold' or 'Ram' air position.

Altimeter: 1013 mb (29.92 in Hg).

Speed: Scheduled en-route climb speed ; Maintain speed ±2 knots/mph
(knots/mph IAS) **(From AFM, POH)**

Wing-flag position		Engine cooling – flag position	
Fuel used(annotate if estimated) kg/lb		Climb weight (kg/lb)	

Time (min)	Altitude (ft) 1013 mb	IAS (knots/mph)	OAT (°C)
0			
½			
1			
1½			
2			
2½			
3			
3½			
4			
4½			
5			

NOTE: If no Outside Air Temperature gauge is fitted, obtain the temperature at the climb altitude for the local area from the Meteorological Office. State this figure and annotate accordingly. Towards the end of the climb

Manifold pressure		Fuel pressure	
RPM		Cylinder head temperature	
Oil pressure		Rudder	
Oil temperature			
Trim position			
Elevator/stabilizer			

If there is any difficulty in recording these figures during the timed climb, maintain the climb speed and power, and record them at the end of the climb.

9. STALLS

To be made with propeller control fully fine and throttle closed

Fuel used (annotate if estimated) kg/lb		Stalling weight (kg/lb)	
		Weight at which stall speeds derived (kg/lb)	

Stall	**1**	**2**	**3**
Landing Gear (unless fixed) Flaps	Up Up	Up Take-Off	Down Landing
Trim, power off, at 1.5 x Scheduled stall speed (knots/mph IAS) (2)			
Stall warning (knots/mph IAS)			
Type of artificial stall warning (eg Horn/Light)			
Stall (knots/mph IAS)			
Scheduled stall speed at stated weight (knots/mph IAS) (2)			
Did control column reach back stop?			
Sequence of nose and wing drop (if any)			
Total angle of wing drop (see notes below)			
Other characteristics (eg buffet prior to stall)			

(1) To be made on aeroplanes where a take-off wing-flap setting is specified.

(2) From AFM, POH. If non-scheduled see Appendix 1. If speeds at a single weight are given, scheduled speeds at

a different weight may be calculated as VS2= VS1 x (W2/ W1)$^{1/2}$

Notes: Deceleration to stall to be at 1 kt/sec (1 mph/sec). Required limits -

- stall warning 4 KIAS to 12 KIAS (4 mph to 14 mph) above measured stall speed
- Stall speed +3 to -5 kts/mph relative to scheduled stall speed
- Wing drop to be contained within 20° of roll (note that it is permissible to use small amounts of aileron)

10. Cruise Checks

10.1 Maximum Speed in Level Flight Landing gear

and wing flaps retracted. Accelerate the aeroplane in level flight –

Fixed pitch propeller: Full throttle or maximum continuous RPM

Constant speed propeller: 200 RPM below maximum permissible, 2" below max MP

		Altitude	OAT	
In level flight record				
IAS (Knots/mph)			Elevator/Stabilizer trimmer	
RPM			Rudder trimmer setting	
MP				

10.2 DIVE TO VNE

THIS TEST MUST ONLY BE FLOWN IN SMOOTH AIR CONDITIONS

Increase speed up to VNE. Keep RPM within maximum permissible. If any unusual airframe or control vibration is felt, immediately reduce speed by gradually pulling the control column back and by closing the throttle.

Record:-	
Scheduled VNE	
Any unusual behaviour	
Whether the control forces and responses over small angles are normal Steadiness of propeller governing (if applicable)	
Maximum IAS (knots/mph)	

Regain cruising flight by closing throttle and gradually pulling the control column back. Record:-

Engine:	
behaviour on closing throttle	☐ SAT/ ☐ UNSAT
Propeller governing (if applicable)	☐ SAT/ ☐ UNSAT

11. SPINS (Applicable only to aeroplanes cleared for deliberate spinning).

Note that it may not be possible to conduct this item on the same flight as the other items due to loading/cg restrictions. If flown separately:

Date	A/C Weight	C of G

A minimum of one spin is to be made in each direction. Recovery should be initiated after two turns.

Direction of rotation	Left	Right
Whether spin or spiral dive		
Turns to recover		
Any abnormality of spin or recovery	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT

12. FUNCTIONING CHECKS

When appropriate during the flight, check the following:

12.1 Flying Controls

	Friction	Backlash	Are control forces normal?
Elevator/Stabilizer	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT	☐ YES/ ☐ NO

Aileron	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT	☐ YES/ ☐ NO
Rudder	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT	☐ YES/ ☐ NO
Elevator/Stabilizer Trimmer	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT	☐ YES/ ☐ NO
Rudder Trimmer	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT	☐ YES/ ☐ NO

During normal cruise, check that aeroplane:-

(a) can be trimmed to fly level ☐ YES / ☐ NO

(b) has no tendency to fly one wing low ☐ SAT / ☐ UNSAT

(c) flies straight with slip indicator central ☐ YES / ☐ NO

12.2 Unpowered and Powered Wing-flaps

Confirm no roll induced when operating flaps ☐ SAT/ ☐ UNSAT

12.3 Powered Wing-flaps (Omit for unpowered flaps)

Operate as follows recording time and any unusual change of longitudinal trim with flap position and any significant change in lateral trim.

12.3.1

	Limit speed	Time	Comments
From up to take-off* from		(sec)	
Take-off to down*		(sec)	

*at about 5 kts/mph below limiting speed for setting. If the flap does not move to the full down position:-

(a) Record angle at which flaps stops	
(b) With flap selected Down, reduce speed until flap reaches full down position. Record IAS (knots/mph).	

12.3.2 From Down to Take-off (sec)

From Take-off to Up (sec)

at any convenient speed below limiting speeds.

12.4 Landing Gear - Normal Operation

Power-operated systems - time extension and retraction at limiting speed(s). From

Up to Down (sec)		From Down to Up (sec)	

Manually operated systems - check operation is SAT/ UNSAT.

Check landing gear unsafe warning. With landing gear retracted, select pitch control fully fine, close throttle until warning sounds, record:-

RPM		Manifold pressure	

Check landing gear unsafe warning, with landing gear retracted, set full flap. Confirm warning satisfactory. ☐ SAT/ ☐ UNSAT

13. Fuel System

During the flight, feed from each fuel tank in turn for not less than 3 minutes. Record:-

System functioning on each tank (identify which)				
Fuel selector	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT
Fuel gauges	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT	☐ SAT/ ☐ UNSAT

14.Electrical/Avionics Systems

Check all electrical and avionics equipment for satisfactory operation:-

Record generator charging rate under maximum Electrical load	

15. Gyro Instruments

Check behaviour of gyro instruments. Record unsatisfactory items:-

If air-pump driven, record Press gauge		During cruise at		RPM

16. Other Instruments

Check for satisfactory functioning. Record unsatisfactory items:-

17. Radio

Complete Radio Check Flight Report, if required. Schedule available on application.

18. Emergency Extension of Landing Gear

(Note: This check should only be conducted if the normal system operation can be restored inflight.)

Final extension of the gear before landing to be made on the emergency system. Record operation:-

☐ SAT/ ☐ UNSAT

19. LANDING

With landing gear extended and wing-flaps in the landing position, carry out a normal landing following an approach at the speed specified in the Manual:-

Behaviour during landing:
Record any abnormal features, eg. inability to trim, unusual control forces, difficulty in flaring, 'wheelbarrowing' or porpoising after touchdown

Was artificial stall warning triggered?

☐ YES/ ☐ NO

20. POST-FLIGHT

20.1 Placards
Check that all Cockpit, Cabin, Baggage Space and external placards are fitted and legible.

20.2 Lighting
Check that all external and internal lighting is serviceable.

20.3 Check Flight Certificate
Complete the Check Flight Certificate at the front of this Schedule.

21. Climb Performance

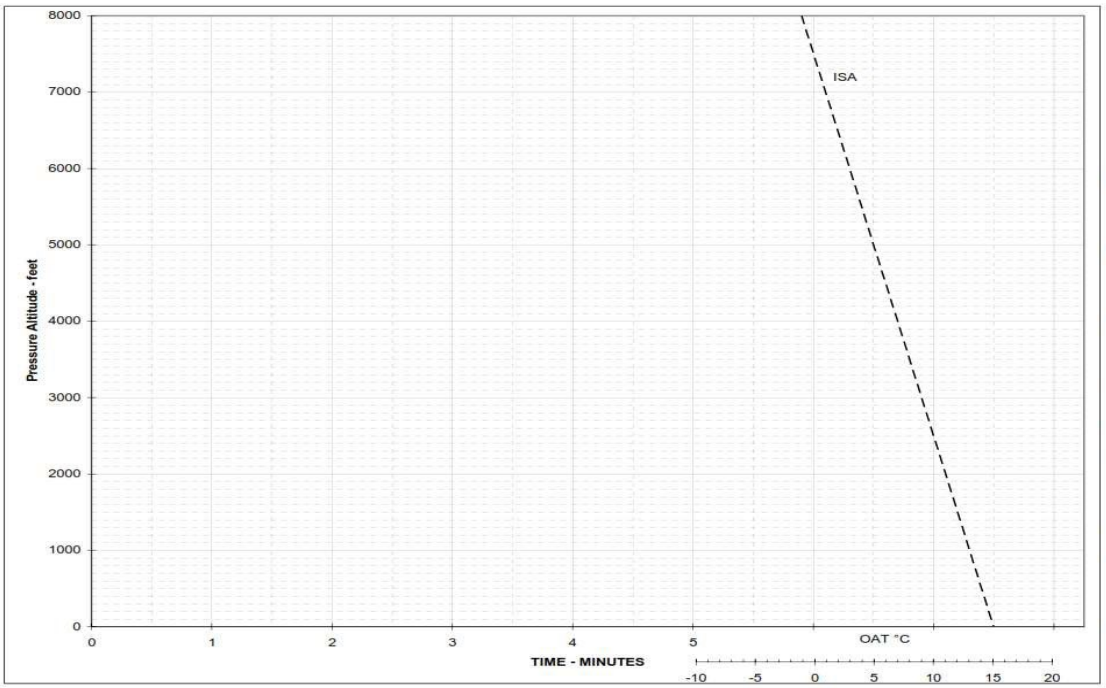
Plot results on the attached graph. Drawing a straight line in a position which is a best fit to the points. Take the slope of this line as the average climb rate. Compare results with those in the AFM or POH. If none given use Appendix No. 1. If none given in AFM POH or Appendix No. 1, use any available data but state origin and attach a photocopy. If no information is available, compare achieved results with previous measurements on the same aircraft/aircraft type (this information can be obtained from CAAF Air Safety Department). Where climb rate is given at specific weights, temperatures or altitudes use interpolation (for each parameter affected) to find the value at the conditions flown (i.e. if the climb rate at the actual input value [such as weight] is not given, determine a climb rate that is proportionately between the rates given at the points either side of the actual input value according to how close it is to either).*It is important that the results are presented as observed,* and that any significant meteorological conditions are noted.

To assist CAAF checks of scheduled climb rates, note any corrections made to the basic scheduled values for items such as temperature, CAAF change sheet etc. on the graph in the spaces provided. Annotate scheduled climb rate with the weight for which it is applicable if it is different to the actual climb weight.

NOTE: Where no correction for temperature is given in the designated Manual, the following temperature correction is to be applied:-

Where the indicated outside air temperature is above International Standard Atmosphere for the altitude, the scheduled rate of climb may be reduced by 4 ft/min/°C (2.2 ft/min/°F). When the indicated OAT is below ISA, the scheduled rate of climb is to be increased by the same amount.

Transfer the relevant numbers on the graph to the Check Flight Certificate at the front of this schedule.



AIRCRAFT TYPE
REGISTRATION
DATE OF TEST

Mean Weight		Kg/lb
Mean Altitude		feet
Mean OAT		°C
SCHEDULED ROC		
Basic		ft/min
Correction		ft/min
Correction		ft/min
Final SROC		ft/min
Observed ROC		ft/min
Difference from Scheduled		ft/min
	(Observed ROC minus Final SROC)	