





NB: You are required to contact Flight Section CAA prior to each and every Check Flight

<h1>CHECK FLIGHT SCHEDULE</h1>					
<b>SINGLE PISTON-ENGINED AEROPLANES – ENHANCED SCHEDULE</b>					<b>CFS 4 issue 1</b>
Aircraft Type:		Registration:		Date:	
Engine & number:		Propeller*:& number			

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

Aircraft Details	
AAN Reference:	
Relevant History	
Modification State	
Additional Info	

### 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.

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## 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. The schedule is not aimed at initial permit issue of major rebuilds of historic aircraft for which AFTS 233 should be used. However this schedule should be used for initial issue or subsequent permit issue of a series aircraft (e.g. Tiger Moth) or used for permit renewals of Single Engined Piston aircraft above 2730 Kg. (For straightforward renewals only idle-power wings-level stalls are required.) Where data is not available or where an air test is required to clear a Modification, appropriate schedules will be agreed between the Applicant and the CAA.

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

<b>Flight Number</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Date</b>			
<b>Airfield</b>			
<b>Airfield Altitude</b>			
<b>T/O Time</b>			
<b>Land Time</b>			
<b>Surface Temp, w/v, Weather Conditions and impact on test results</b>			
<b>QFE/QNH</b>			
<b>Pilot</b>			
<b>Observer</b>			
<b>T/O AUW/Cof G</b>			
<b>Tests Made</b>			

Operator/ Maintenance Organisation:

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The aeroplane and its engine are at all times to be operated within the limitations imposed by the Draft AAN, permit or 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 2 to CFS2 must be completed in addition to this schedule for aircraft which are pressurized or are fitted with turbo-charged engines.

Appendix 3 to CFS 2 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 tested at maximum take-off weight or 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. For an initial issue the aircraft should also be tested with both forward and aft c of g where possible

Max Take Off /Max Landing Weight	<input type="text"/>	Permissible CG range	<input type="text"/>	<input type="text"/>
Max Weight for spinning (Utility Category)	<input type="text"/>	Permissible CG range	<input type="text"/>	<input type="text"/>
Take-off Weight (Sortie 1)	<input type="text"/>	CG Position (actual)	<input type="text"/>	
Take-off Weight Sortie 2	<input type="text"/>	CG Position (actual)	<input type="text"/>	
Take-off Weight Sortie 3	<input type="text"/>	CG Position (actual)	<input type="text"/>	

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

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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 (e.g. Owner's Manual, Pilot's Operating Handbook, Pilot's Notes – Give reference).

(2) Cabin fire extinguisher (if applicable). SAT/UNSAT/NOT FITTED

5. **GROUND TESTS**

5.1 **Flying Controls and Engine Controls**

Comment on functionality of the flying and engine controls with particular attention paid to free-play, lost motion, friction, notchy feel etc.

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

Elevator/Stabilizer \_\_\_\_\_ Elevator/Stabilizer trimmer \_\_\_\_\_

Ailerons \_\_\_\_\_

Rudder \_\_\_\_\_ Rudder trimmer \_\_\_\_\_

Wing flaps \_\_\_\_\_ Slats (including locking) \_\_\_\_\_

*Engine Controls (including friction/locking mechanisms)*

Throttle \_\_\_\_\_ Carburettor heat \_\_\_\_\_

Propeller pitch \_\_\_\_\_ Cooling flap \_\_\_\_\_

Mixture \_\_\_\_\_ Fuel booster pump \_\_\_\_\_

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## 5.2 Equipment

Comment on the following items describing their type (e.g. Sutton Harness) and assess for security and correct functioning:-

Safety harness/lap straps \_\_\_\_\_

Door/canopy fastening \_\_\_\_\_

Adjustment of pilots' seats and locking \_\_\_\_\_

Adjustment of rudder pedals \_\_\_\_\_

## 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	<input type="text"/>	No.1 magneto off, RPM drop	<input type="text"/>
	or RPM at which tested		
Max Split Permitted	<input type="text"/>	No.2 magneto off, RPM drop	<input type="text"/>
	Max Drop Permitted		
	<input type="text"/>		
Carburettor hot air (or Alt air) test RPM	<input type="text"/>	Hot air or Alternate air RPM drop	<input type="text"/>

### Maximum power check:-

Power Check RPM from AFM	<input type="text"/>		
Manifold pressure	<input type="text"/>	Fuel pressure	<input type="text"/>
RPM	<input type="text"/>		

### Propeller Governing Check

RPM tested and Variation

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**6. TAXYING**

Brake system pressure (if available) for each separate system

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Parking brake (including Lock and Release)

---

Brakes (including freedom from binding and normal ability to hold aircraft at high engine power)

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Taxyng (including nose-wheel steering/tail-wheel steering/differential braking – directional control?)

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**7. TAKE-OFF**

Wing flap setting

--

Trimmer settings:

--

Elevator/Stabilizer

--

Rudder

--

Aileron

--

Behaviour during take-off:-  
Record the event, e.g. tendency to swing, ease or difficulty of raising nose-wheel/tail-wheel, control forces (including any unusual control forces) or wing heaviness. Comment on ease of control in crosswind if appropriate

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Was artificial stall warning triggered?

YES/NO

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## 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: Consult CAA if this power setting is ambiguous or considered too high for a 5 min period of use.  
 Altimeter: 1013 mb (29.92 in Hg).

Speed: (knots/mph IAS)  Scheduled en-route climb speed ; Maintain speed  $\pm 2$  knots/mph (From AFM, POH)  
 Wing-flap position  Engine cooling - flap 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 record:

Manifold pressure   
 RPM   
 Oil pressure   
 Oil temperature   
 Trim positions: Elevator/Stabilizer:  Rudder:   
 Fuel pressure   
 Cylinder head temperature

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.

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9. **STALLS**

**Note: For straightforward permit/ C of A renewals of aircraft with an AUW in excess of 2730 Kg the only requirement will be to test “idle-power wings-level” stalls. If there is any doubt as to the extent of stall testing required the CAA should be contacted prior to conducting the check flight.**

To be made with propeller control fully fine.

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

Stall Clean	1	2	
	Idle Power		75% Power (See Note) <sup>(1)</sup>
Trim, power off, at 1.5 x Scheduled stall speed (knots/mph IAS) <sup>(2)</sup>			
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) <sup>(2)</sup>			
Did control column reach back stop?			
Sequence of nose and wing drop (if any)			
Total angle of wing drop (see notes below)			
Altitude Loss			
Angle of wing drop if roll and yaw controls held neutral			
Is it possible to prevent the roll by use of the roll control alone?			
Power settings Used for 75%			

- (1) This power setting should be agreed with the CAA. 75% may be excessive. A power used in level flight on the downwind leg of a conventional circuit may be appropriate.
- (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  $V_{S2} = V_{S1} \times (W_2/W_1)^{1/2}$

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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
- The aircraft should be controlled in yaw with rudder and in roll within aileron attempting to keep the wings level at the stall. Any uncontrolled wing drop should be documented.

To be made with propeller control fully fine.

Fuel used (annotate if estimated)    kg/lb	<input type="text"/>	Stalling Weight (kg/lb)	<input type="text"/>
		Weight at which stall speeds derived (kg/lb)	<input type="text"/>

<b>Stall Take-off Config</b>	<b>1</b>	<b>2</b>	
Flap used:.....	Idle Power		75% Power (See Note) <sup>(1)</sup>
Trim, power off, at 1.5 x Scheduled stall speed (knots/mph IAS) <sup>(2)</sup>			
Stall warning (knots/mph IAS)			
Type of artificial stall warning (e.g. Horn/Light)			
Stall (knots/mph IAS)			
Scheduled stall speed at stated weight (knots/mph IAS) <sup>(2)</sup>			
Did control column reach back stop?			
Sequence of nose and wing drop (if any)			
Total angle of wing drop (see notes below)			
Altitude Loss			
Angle of wing drop if roll and yaw controls held neutral			
Is it possible to prevent the roll by use of the roll control alone?			
Power settings Used for 75%			

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To be made with propeller control fully fine.

Fuel used (annotate if estimated)	kg/lb	<input type="text"/>	Stalling Weight (kg/lb)	<input type="text"/>
			Weight at which stall speeds derived (kg/lb)	<input type="text"/>

Stall Landing Config	1	2	
Flap used:.....	Idle Power		75% Power (See Note) <sup>(1)</sup>
Trim, power off, at 1.5 x Scheduled stall speed (knots/mph IAS) <sup>(2)</sup>			
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) <sup>(2)</sup>			
Did control column reach back stop?			
Sequence of nose and wing drop (if any)			
Total angle of wing drop (see notes below)			
Altitude Loss			
Angle of wing drop if roll and yaw controls held neutral			
Is it possible to prevent the roll by use of the roll control alone?			
Power settings Used for 75%			

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### Turning Stalls

From a 30° co-ordinated banked turn, speed 1.5  $V_{S1}$ , and with 75% power (or that used for wings level stalls) set, decelerate at no more than 1 kt per second by a progressive aft movement of the pitch control until the aircraft stalls.

To be made with propeller control fully fine.

Fuel used (annotate if estimated)    kg/lb		Stalling Weight (kg/lb)	
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<b>Clean - Direction of Turn</b>	L	R	L	R
Stall warning (knots/mph IAS)				
Type of artificial stall warning (eg Horn/Light)				
Stall (knots/mph IAS)				
Did a/c roll more than 60° into or out of turn? Comment				
Were uncontrollable rolling and spinning tendencies encountered				
Altitude Loss				
Power Used				

Fuel used (annotate if estimated)    kg/lb		Stalling Weight (kg/lb)	
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<b>Landing Config - Direction of Turn</b>	L	R	L	R
Stall warning (knots/mph IAS)				
Type of artificial stall warning (eg Horn/Light)				
Stall (knots/mph IAS)				
Did a/c roll more than 60° into or out of turn? Comment				
Were uncontrollable rolling and spinning tendencies encountered				
Altitude Loss				
Power Used				

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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

In level flight, record:-	Altitude	<input type="text"/>	OAT	<input type="text"/>
IAS (knots/mph)	<input type="text"/>	Elevator/Stabilizer trimmer setting	<input type="text"/>	<input type="text"/>
RPM	<input type="text"/>	Rudder trimmer setting	<input type="text"/>	<input type="text"/>
MP	<input type="text"/>			

10.2 **DIVE TO  $V_{NE}$**

**THIS TEST MUST ONLY BE FLOWN IN SMOOTH AIR CONDITIONS**

Increase speed up to  $V_{NE}$ . 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 $V_{NE}$ (knots/mph)	<input type="text"/>
Any unusual behaviour	<input type="text"/>
Whether the control forces and responses over small angles are normal	<input type="text"/>
Steadiness of propeller governing (if applicable)	<input type="text"/>
Maximum IAS (knots/mph)	<input type="text"/>

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

Engine behaviour on closing throttle	<input type="text"/>
Propeller governing (if applicable)	<input type="text"/>

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

Where more than one flight is required the details of weight and balance for spinning should be made clear in section 2. Ideally an aft c of g should be tested.

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		

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**12. FUNCTIONING CHECKS**

When appropriate during the flight, check the following:-

**12.1 Flying Controls**

**Comment on friction, backlash, notchiness, forces and control harmony**

	Friction	Backlash	Are control forces normal?
Elevator/Stabilizer			
Aileron			
Rudder			
Elevator/Stabilizer Trimmer			
Rudder Trimmer			

During normal cruise, check that aeroplane:-

- (a) can be trimmed to fly level \_\_\_\_\_
- (b) has no tendency to fly one wing low \_\_\_\_\_
- (c) flies straight with slip indicator central \_\_\_\_\_

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### 12.2 UnPowered and Powered Wing-flaps

Comment on tendency to roll when operating flaps \_\_\_\_\_

### 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*		(sec)	
From 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)	<input style="width: 100%; height: 20px;" type="text"/>
From Take-off to Up†	(sec)	<input style="width: 100%; height: 20px;" type="text"/>

†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 satisfactory.

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.

Comment on warning. \_\_\_\_\_

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**13. Fuel System**

Give a brief overview of a/c fuel system,

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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  
Fuel gauges


**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

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16. **Other Instruments**

Check for satisfactory functioning. Record unsatisfactory items:-

17. **Radio**

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

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18. **Emergency Extension of Landing Gear**

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

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, 'wheel-barrowing' or porpoising after touchdown. Comment on controllability in crosswind if appropriate

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.

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## 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 CAA Flight 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.*

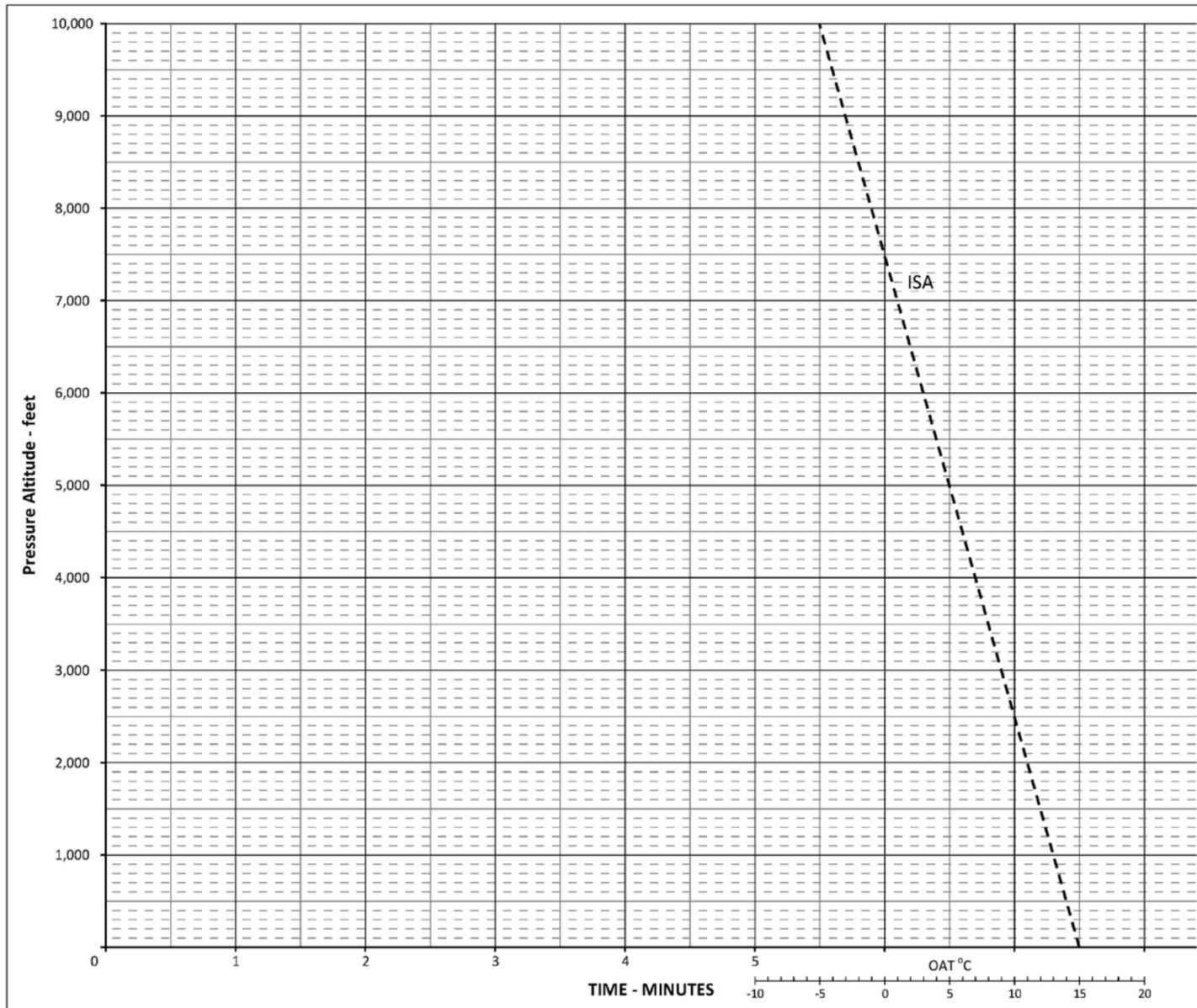
To assist CAA checks of scheduled climb rates, note any corrections made to the basic scheduled values for items such as temperature, CAA change sheet etc. on the graph in the spaces provided. Annotate scheduled climb rate with the weight for which it is applicable if it is different to the actual climb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

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<u>AIRCRAFT TYPE</u>
<u>REGISTRATION</u>
<u>DATE OF TEST</u>

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)