

CHECK FLIGHT CERTIFICATE



Piper PA46-500TP Meridian

CFS 316 issue 1

Registration:

Date:

Crew:

Observer:

Performance

Climb #1

Average Weight		
Average Altitude		ft
Average Temp.		°C
Speed		KIAS
Achieved Rate		fpm
Scheduled Rate		fpm
Margin		fpm
Permitted Margin	-70	fpm

Airfield:

Start Weight Kg/Lbs*:

Takeoff cg:

Performance:

SATIS/UNSATIS/NOT APPLICABLE*

*(delete as applicable)**

Defects

No.	Defect	-/R/FT	Action?

(use a continuation sheet as necessary)

Conclusions/Comments

I CERTIFY that I have tested the above aircraft and have detailed the deficiencies and unsatisfactory features above. Those items annotated R or FT must be dealt with as shown in the notes on the reverse side.

Name:	Signed:	Date:	Licence No.:
For CAA Use only	Report Logged by:	Date:	Report No.:

NOTES

General

Only CAA personnel or pilots specifically briefed to carry out CAA Check Flights may conduct the test.

General notes on test conduct can be found in the CAA Check Flight Handbook.

This sheet replaces any flight test certificate given in the schedule.

Registration: If the aircraft is not on the UK register, add the manufacturers serial number and expected UK registration (if known).

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

Airfield: Departure airfield.

Start Weight: Actual all up weight at first engine start. Also delete Kg or Lbs as appropriate.

Takeoff cg: Actual cg at lift-off, preferably as a % of the Mean Aerodynamic Chord.

Performance

A full description of climb analysis is given in the CAA Check Flight Handbook.

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 re-checking in-flight following rectification (such as inadequate climb performance) should be marked 'FT'. Items requiring both should be marked 'R/FT'.

Action?: This column should be left blank unless further information is required from the engineers or the item is considered to be of sufficient import that CAA 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.

Conclusions/Comments

Any conclusions, notes or comments useful for tracking defects may be entered.

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

CAA Check Flight Schedules

All CAA Airworthiness Flight Test Schedules (CFSs) are prepared based on a design standard which, before September 2003, was the UK Type Certificate. Following the creation of EASA there may be different design standards in service within the European Union (EU) - this may include modifications approved in any EU country.

It is the responsibility of the flight crew to ensure that the exercises and limitations in the CFS are correct for the aircraft under test.

The prime source of information will be the aircraft flight manual and in the event of conflict the flight manual should be taken as overriding.

CAA policy is that pilots who conduct airtests on the behalf of the Authority must be acceptable to the Authority, must have been briefed on techniques and safety considerations before carrying out the tests in these schedules and must have carried out an airtest within the last 4 years.

The CAA does not accept responsibility for the use of a CAA CFS on a test flight not directly under their control.

CHECK FLIGHT SCHEDULE



PIPER PA46-500TP Meridian

CFS 316, ISSUE 1

Operator or Maintenance Organisation	
Airfield	
Registration	
Flight Date	
Pilots	
Observer	

INTRODUCTION

This schedule is only applicable to PA46-500TP Meridian aircraft. It is based on the assumption that the everyday operation of the aeroplane serves as a continuous check on the correct functioning of all normal services. On this test flight, however, the pilot is expected generally to monitor the behaviour of all equipment and report any unserviceable items. In addition to completing all the tests in this schedule, any characteristics which are considered to be unsafe or undesirable must be recorded.

The minimum crew for the test flight shall be one pilot, and one observer to record the results of the tests. The tests should, if possible, be flown in the sequence of this schedule; altitude conditions must be observed. Except where otherwise indicated, the flight techniques are those associated with normal operation of the aeroplane. The limitations and procedures of the Pilot's Operating Handbook and UK Supplement must be observed.

The data contained in this schedule was correct at the time of writing, but may not be in agreement with subsequent Pilot's Operating Handbook and Flight Manual amendments. In case of conflict, the current Manuals are overriding and CAA Flight Department should be informed of the conflict.

While it is legal to carry passengers on a test flight of an aircraft with a valid Certificate of Airworthiness, the practice is not recommended. If passengers are carried, however, they should be informed that the risk is greater than on an ordinary flight.

PART 1 - LOADING AND CALCUALTION OF WEIGHT

The aircraft is to be loaded with fuel to the maximum ramp weight, using ballast as necessary to keep the C.G. within the Flight Manual limits.

RECORD:	AIRCRAFT WEIGHT : (kg/lb)	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="height: 25px;"></td></tr> <tr><td style="height: 25px;"></td></tr> <tr><td style="height: 25px;"></td></tr> </table>			
	FUEL CONTENTS (kg/lb)				
	CG inches AOD:				

PART 2 - TEST SCHEDULE

Except where otherwise indicated, the flight techniques are those associated with normal operation of the aircraft.

1. PRE-FLIGHT FUNCTIONING CHECKS

Check flight deck placards for presence, accuracy and legibility. SAT/UNSAT

Carry out a comprehensive external and internal pre-flight check SAT/UNSAT

Check all filaments are working correctly SAT/UNSAT

Check each control trimmer for satisfactory operation over its full range.

Rudder	SAT/UNSAT
Manual Elevator Trim	SAT/UNSAT

Check satisfactory operation of the electric pitch trim and check that the pitch trim does not run when each half of the trim switch is operated separately. SAT/UNSAT

2. ENGINE START

During engine start note :

Maximum ITT achieved (degrees C)	
Time to stabilized idle (seconds)	

3. AFTER ENGINE START

Overspeed Governor Test	SAT/UNSAT
Reverser lockout test	SAT/UNSAT
Alternator	SAT/UNSAT

4. AUTOPILOT OVERRIDE

Set the heading bug to the actual heading.
 Engage the autopilot in HDG and HEIGHT modes
 Confirm autopilot clutches can be overridden

	in pitch	SAT/UNSAT
	and roll	SAT/UNSAT

Check that moving the trim switches disengages the autopilot
 SAT/UNSAT

5. TAKE-OFF

Carry out normal take-off.

Record any unusual characteristics

6. PERFORMANCE CLIMB

Recommended Starting Altitude
 Not Above FL50

Carry out a climb for five minutes. The recording of instrument readings should not be started until the aircraft is trimmed out in a steady climb in the required configuration. Airspeed should be kept within 3 knots of the required speed and a constant heading should be maintained throughout the climb. The climb should be carried out clear of cloud or turbulent air and away from areas likely to be affected by standing waves.

Configuration:	Flaps	UP
	Gear	UP
	Power	Maximum Continuous (1313 lb-ft torque, maximum 770 degrees C ITT)
	ECS	NORMAL
	Anti ice/de-ice	OFF
	Climb Speed	125 KIAS
	Altimeter set to	1013mb

Zero Fuel Weight kg
 Fuel Contents kg
 Start Aircraft Weight kg

TIME	ALTIMETER	ASI P1	IOAT	TORQUE
0				
0.5				
1.0				
1.5				
2.0				
2.5				
3.0				
3.5				
4.0				
4.5				
5.0				

ASI readings at any one moment L KIAS R KIAS

TRIM POSITIONS Elevator
 Rudder

ENGINE DATA AT 3 MIN

Torque Oil Pressure
 N_p Oil Temperature
 ITT Fuel Flow
 Ng

Zero Fuel Weight kg
 Fuel Contents kg
 End Aircraft Weight kg

Average Aircraft Weight kg

7. PRESSURISATION

Start FL130

With the CABIN PRESS control set to normal, raise the cabin altitude by setting a landing altitude of 15,000 feet. Use the rate knob to raise the cabin altitude at a comfortable rate (1000-2000 fpm). Record:

CABIN ALTITUDE AT AUDIO WARNING	FEET
CABIN ALT 10K amber caution	

(9,500 - 10,500 FEET)

Dump pressure and climb aircraft if necessary

CABIN ALTITUDE AT AUDIO WARNING	FEET
CABIN ALTITUDE red warning	

(11,500 - 12,500 FEET)

Check audio warning cannot be cancelled
 Confirm the emergency pressurisation activates

SAT/UNSAT
 SAT/UNSAT

Repressurise by setting a low landing altitude.

8. ALTERNATE STATIC

FL150

Steady level flight at 125 KIAS with the gear and flaps up.

Select Alternate Static Source

Record:

Change on left pilots ASI

--

+/- 5 kt

Change on left pilots Altimeter

--

+20/-80 ft

SAT/UNSAT

Select Normal Static Source.

9. CONTROLS AND TRIMMERS

FL150

Establish a high speed cruise and check flying controls for break out, backlash, weight and response

SAT/UNSAT

Check trimmers for friction backlash and response.

SAT/UNSAT

10. PRESSURISATION

FL150

With the cabin at maximum obtainable differential in MANUAL.

Record:

MAXIMUM CABIN DIFFERENTIAL	PSI	(5.5 PSI)
CABIN ALTITUDE	FT	1700-1800 ft

11. HIGH IAS

Accelerate to not more than 195 KIAS. Confirm airspeed readout turns red and record airspeed when audio warning sounds.

WARNING SPEED	KNOTS
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(188 knots)

Control checks using small movements of rudder and aileron
SAT/UNSAT

12. STALLING

With flap and gear up, idle power, carry out a stall from a 1.5 V_S trim speed, decelerating at 1 knot/second. Scheduled speeds are given in Table 1.

TABLE 1 Weight (Kg)	Flap UP/ Gear UP		Flap 36/ Gear DN	
	Trim	Stall	Trim	Stall
2200	119	79	104	69
2100	116	77	101	67
2000	113	75	99	66
1900	110	73	96	64
1800	107	71	94	62
1700	104	69	91	61

(limits: stall speed +3/-5 Knots)

Record:

Zero fuel weight	
Fuel contents	
Aircraft weight	

Trim speed	knots	Trim setting	
		Achieved warning	knots
Scheduled stall	knots	Achieved stall	knots
	(limit: Min diff 4kts)	Achieved Difference	knots

Time flaps from up to 36 degrees 115 KIAS secs (approx 7seconds)

Confirm gear warning audio occurs and red GEAR WARNING illuminates
SAT/UNSAT

Confirm gear warning audio cannot be cancelled
SAT/UNSAT

Time Gear down at 115 KIAS secs (approx 8 seconds)

Carry out a 36 flap, gear down, idle power stall from a 1.5 V_S trim speed decelerating at 1 knot/second.

Trim speed	knots	Trim setting	
		Achieved warning	knots
Scheduled stall	knots	Achieved stall	knots
	(limit: Min diff 4kts)	Achieved Difference	knots

Time flaps from 36 degrees to UP at 115 KIAS secs

Time gear to UP at 115 KIAS secs

13. GEAR WARNING

During descent with engine at idle, extend flaps to 10 degrees

Confirm GEAR WARNING red caption and audio warning SAT/UNSAT

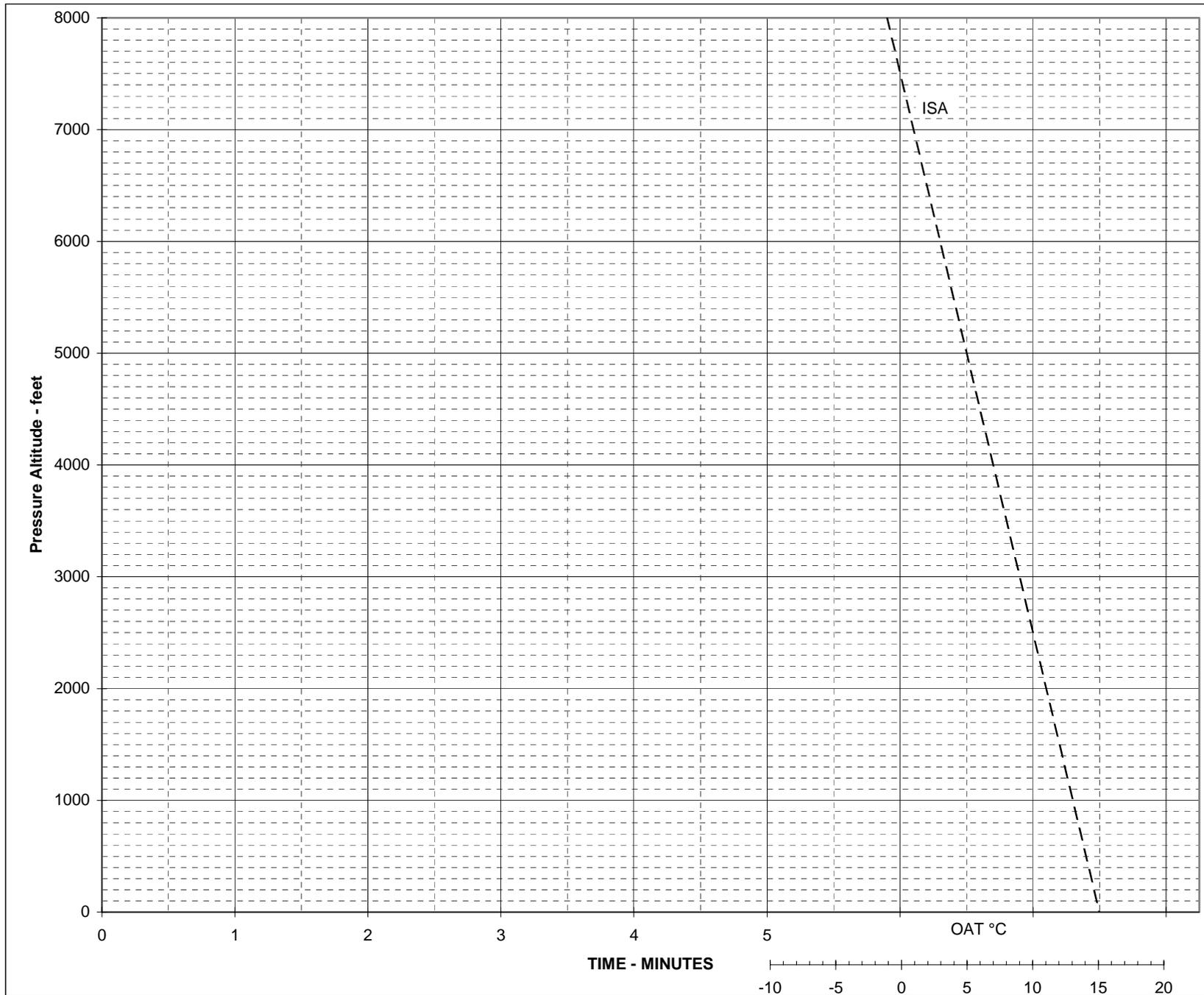
Increase power to cancel warning, the reduce power until warning sounds again

Torque when warning activated lb ft
(approx 340 lb ft)

14. DE-ICE Below FL100
- Check de-ice boots for correct operation SAT/UNSAT
 Check propellor de-ice for correct operation SAT/UNSAT
15. ENGINE MANUAL OVERRIDE Below FL100
- At about 150 KIAS with the power lever at idle and monitoring the ITT, slowly use the manual lever to control power SAT/UNSAT
- Restore normal power
16. EMERGENCY GEAR EXTENSION
- At any convenient altitude and at 100 KIAS
- Pull the Hydraulic Pump Power Circuit Breaker
(Pilot's forward breaker panel C4)
 Normal Landing Gear handle to down
- Pull the Emergency Gear Extension Control
- Confirm three greens SAT/UNSAT
- Reset the Emergency Gear Extension Control
- Reset the Hydraulic Pump Power Circuit Breaker
- Normal Landing Gear handle to UP
17. NORMAL LANDING
- Using high level of reverse power. SAT/UNSAT

PART - 3 POST FLIGHT ACTIONS

Complete the statement of defects and sign the Check Flight Certificate and state whether or not the aeroplane needs to be re-flown.



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

Mean Weight	_____ Kg/lb
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Mean Altitude	_____ feet
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Mean OAT	_____ °C
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SCHEDULED ROC	
Basic	_____ ft/min
Correction	_____ ft/min
Correction	_____ ft/min
Final SROC	_____ ft/min

Observed ROC	_____ ft/min
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Difference from Scheduled	_____ ft/min
<small>(Observed ROC minus Final SROC)</small>	