CHECK FLIGHT CERTIFICATE

Eurocopter EC135T1 & T2 **TURBOMECA Arrius 2B1, 2B1A, 2B1A_1 or 2B2**	**CFS 299 Issue 1**	Registration:

Date:	Crew:	Observer:

Performance	Climb #1	Climb #2	
Average Weight			
Average Altitude			ft
Average Temp.			°C
Speed			KIAS
Achieved Rate			fpm
Scheduled Rate			fpm
Margin			fpm
Permitted Margin	-20	-20	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 Check Flight 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

Eurocopter EC135T1 & T2
TURBOMECA Arrius 2B1, 2B1A, 2B1A_1 or 2B2

CFS 299, Issue 1

Registration		Test Date	

1. INTRODUCTION

This schedule is applicable to Eurocopter EC135T1 and T2 helicopters. It is based on the assumption that the every day operation of the helicopter serves as a continuous check on the correct functioning of all normal services.

The Check Flight must be carried out by an experienced pilot acceptable to the Airworthiness Division of the CAA, in accordance with this schedule and the general guidance given in the CAA Check Flight Handbook. The crew are 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.

WARNING

1. Although it may be legal to carry passengers on a test flight with a Certification of Airworthiness in force, it is strongly recommended, for Check Flights and other tests entailing greater risk than normal flight, that:

   a) It is preferable to use ballast, and

   b) Before accepting any passengers on a test flight the pilot in command should inform them that the risk is greater than on an ordinary flight.

2. Under no circumstances are the limitations contained in the CAA approved Flight Manual to be exceeded.

3. If a clipboard or kneeboard is used to record the results there is a possibility of fouling the controls especially the duals, if fitted. To reduce this possibility, the pilot must have briefed the observer on the need to ensure that the clipboard is well clear of the controls especially during manoeuvres requiring large control deflections such as low speed envelope and autorotation. The pilot should monitor the position of the clipboard during the flight to ensure that it is not in a potentially hazardous position. Whenever possible, flexible, rather than rigid, clipboards should be used. Consideration should be given to removing the dual controls if flying with an inexperienced observer.

Should there be any query about the Flight Test or its results, the local CAA Surveyor or the Helicopter Flight Test Section at Airworthiness Division Flight Department, Aviation House, Gatwick must be consulted.

It is recommended that the tests are performed in the sequence given. The results are to be written in ink in the spaces provided.

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1. Pre-Flight Information

Aircraft Variant	Eurocopter EC135T1/T2	Engine	TM Arrius 2B1/2B1A/2B1A_1/2B2

Registration		Engine No		
Airframe No		Hours total		
Airframe Hrs		TSO		
Landing Gear				

Operator/Maint. Organisation	
Airfield	

Pilot(s)	
Observer	

2. Loading

Note: The helicopter shall be loaded to maximum all up weight if possible.
Any ballast must be securely installed

Take-off Weight		Kg
Fuel		Kg
CoG Position		

3. General Flight Information

Airfield Press. Alt.		ft	QFE/QNH	/	
Wind	/		OAT		°C
Weather					

Engine Start		Land	
Take-Off		Shut down	

4. Pre-Start Checks

		Satis.	Remarks
4.1	Carry out the normal external inspection		
	Check for correct functioning of external lighting		
4.2	Doors & windows : Condition & operation		
	Seats & harnesses		
	Placards : Legibility & accuracy		
4.3	If a standby horizon is installed, switch ON		
	Confirm Horizon powered and erecting		
4.4	Select main battery ON		
	Note:		
	Battery Voltage		
	Test warning lamps		
	Correct warning lamps for Int. or Ext. start as appropriate		
4.5	Select FADECs ON. Check legibility, general condition & accuracy of colour bands & marking of the following, where appropriate:		
	FLI		
	Torquemeter		
	Triple Tachometer		
	TOT		
	Engine Tachometer (N_1)		
	EOP		
	EOT		
	Voltmeter		
	Ammeter		
	Eng 1 & 2 OVSPD TEST (T2 only)		
	Eng Topping Switch (T2 only)		
4.6	Freedom & range of travel of :		
	Yaw control		
	Twistgrip throttles (FADEC switches ON)		
4.7	Complete pre-start checks as per FM		

5. Starting

5.1 During engine start, note and record :

	Eng 1	Eng 2	
Residual T4			°C
Max T4			°C
Ng at start of Rotor rotation			%

5.2 Carry out a hydraulic system check in accordance with FM procedures and confirm correct CDS or CAD indications

5.3 Carry out AFCS pre-flight checks in accordance with FM procedures

5.4 Carry out a Ground Engine Condition check and check heater valves and manual throttle thus:

With both engine switches at IDLE, select Eng 1 to FLIGHT

Deselect GEN 1, select all Bleeds OFF, and set 75% Tq

Note: If Delta N_1 > -1.5% or FLI > 10 as appropriate, use 60% Torque

Allow to stabilise and record results below :

Eng	P Alt	OAT	Tq	TOT	N_1	FLI or Diff N_1	N_R	Target N_1
1								

Note: On CDS aircraft, Tq and N_1 are read from CDS and TOT from gauge

Select Cabin Heat to EMERG		
Switch Heater ON and note Eng 1 TOT rise		°C
Switch Heater OFF and Note Eng 1 TOT fall		°C

Note: The heater is only operative at cabin temperatures less than +24°C. Alt higher temperatures, no TOT change will be apparent but the CDS/CAD Bleed Air caption will still illuminate.

Lower collective and reselect GEN 1

Select Cabin Heat to NORMAL

Select Eng 1 Mode Switch to MAN

Confirm CDS or CAD annunciation

Move Eng 1 Twistgrip to idle stop.

Confirm satisfactory idle and no flame out N_1 [ ] %

Return twistgrip to neutral detent and continue opening throttle gently to increase Nr to 100% approx. for T1 or 102% for T2

Select Eng 1 mode switch to AUTO

Confirm Nr reduces to 98% approx, (T1) or 100% (T2) [ ]

Return Eng 1 twistgrip to neutral detent.

Select Eng 1 to IDLE and repeat the above for engine 2, noting :

Eng 2 TOT rise with heater selected		°C
Eng 2 TOT fall with heater deselected		°C
Eng 2 N_1 with twistgrip at idle stop		%

Note: On CDS aircraft, Tq and N_1 are read from CDS and TOT from gauge

Eng	P Alt	OAT	Tq	TOT	N_1	FLI or Diff N_1	N_R	Target N_1
2								

Engine Condition data is to be analysed and noted in Section 14

5.5 N_2 Matching

With both engines selected to FLIGHT, set approx 30/30% Tq without becoming airborne

	1	2	Nr	
Trim ENG TRIM Switch fully left and record Torques and Nr				%
Trim ENG TRIM Switch fully right and record Torques and Nr				%

Confirm Torque mismatch and Nr is approximately equal in each case.

Re-match torque using trim switch.

5.6 Cat A N_R (T2 only)

Press Cat A Rotor Speed selector

Confirm switch lamp and indicator on instrument panel illuminate	
Confirm rotorspeed increases by 3% approx	

Press selector again

Confirm indications extinguish and rotor speed decreases by 3%	

5.7 Training Mode (T2 only)

Raise guard and select training switch to ARM	
Confirm correct CAD indications	
Select Eng 1 to IDLE	
Confirm correct training mode annunciations	
Confirm FLI indicates an OEI condition, but that the engine parameters remain approximately matched	
Select Eng 1 to FLIGHT	
Confirm Training mode is deselected	
Select Eng 1 to IDLE	
Confirm training mode is ***not*** reselected and Eng 1 remains in a FLIGHT condition	
Confirm engines remain in training mode	
Select training mode to NORMAL and close guard	
Confirm Eng 1 remains in a FLIGHT condition	
Reselect Eng 1 to FLIGHT	

5.8 Check for correct functioning :

- Intercomm	
- Radio	
- Cockpit lighting	

5.9 Complete pre take-off checks as per FM

6. <u>Low Speed Envelope</u>

Take off time	

6.1 Lift to a low hover, with autopilot engaged where appropriate, and assess the vibration level, control response and position (adequate control margin) during the following manoeuvres :
(See Appendix 1 for test method)

Axial turns	Right		
	Left		

Sideways flight left & right up to an estimated 17 kt (20 mph)		

Rearwards flight up to an estimated 17 kt (20 mph)		

6.2	Carry out gentle hover manoeuvres with SAS/AFCS disengaged.		

6.3 If the aircraft is equipped with the SPIFR autopilot, refer to Appendix 2 for hover AFCS checks

		MGB Oil	
6.4	Following the hover tests record the following	Temp	Press

7. Single engine en-route climbs

7.1 No. 1 Engine

WARNING On the T2 variant, to ensure no inadvertent usage of 30 sec ratings, reduce power to approx 30/30% torque before selecting an engine to idle.

With the altimeter set to 1013mb (29.91in hg), select ENG 2 to IDLE
Confirm an N_2 split of at least 10%
Carry out a climb for 4 min at single engine maximum continuous power.
The climb should be carried out in stable, non turbulent conditions away from cloud.

Associated conditions:

IAS	65kt
Diff N_1	0% or FLI 11
TOT	895°C (T1 variant) 942 °C (T2 variant)
Tq	86%
Bleeds	OFF (unless specifically required)

When a stable condition has been established on a steady heading, slip ball centered, and in as calm conditions as possible, record the following :

Fuel at start of climb [ ]

					FLI/				Eng	
Time	***Alt***	***OAT***	***IAS***	***Tq***	***Diff N_1***	***N_1***	***TOT***	***N_2/Nr***	***Temp***	***Press***
0										
0.30										
1.00										
1.30										
2.00										
2.30										
3.00										
3.30										
4.00										

Fuel at end of climb [ ]

Return Eng 2 to FLIGHT

After the climb, obtain an accurate OAT by flying at approx mid-climb altitude at climb speed for 1 min to allow OAT to stabilise.

Alt		ft
OAT		°C

NOTE The climb performance must be analysed and compared with the schedule performance. See Section 14 of this document.

7.2 No. 2 Engine

WARNING On the T2 variant, to ensure no inadvertent usage of 30 sec ratings, reduce power to approx 30/30% torque before selecting an engine to idle.

With the altimeter set to 1013mb (29.91in hg), select ENG 1 to IDLE
Confirm an N_2 split of at least 10%
Carry out a climb for 4 min at single engine maximum continuous power.
The climb should be carried out in stable, non turbulent conditions away from cloud.

Associated conditions:

IAS	65kt
Diff N_1	0% or FLI 11
TOT	895°C (T1 variant) 942 °C (T2 variant)
Tq	86%
Bleeds	OFF (unless specifically required)

When a stable condition has been established on a steady heading, slip ball centered, and in as calm conditions as possible, record the following :

Fuel at start of climb [ ]

									Eng	
Time	***Alt***	***OAT***	***IAS***	***Tq***	***FLI/ Diff N_1***	***N_1***	***TOT***	***N_2/Nr***	***Temp***	***Press***
0										
0.30										
1.00										
1.30										
2.00										
2.30										
3.00										
3.30										
4.00										

Fuel at end of climb [ ]

Return Eng 1 to FLIGHT

After the climb, obtain an accurate OAT by flying at approx mid-climb altitude at climb speed for 1 min to allow OAT to stabilise.

Alt		ft
OAT		°C

NOTE The climb performance must be analysed and compared with the schedule performance. See Section 14 of this document.

8. Cruise Checks

8.1 In Flight Engine Condition Check

Trim the aircraft in a cruise at 2 x 60% torque, IAS > 65kt

Deselect all bleeds and switch GEN 1 OFF

Allow to stabilise for 1 min and record Eng 1 data below

Switch Gen 1 ON and Gen 2 OFF

Allow to stabilise for 1 min and record Eng 2 data below

Switch Gen 2 ON

Note: On CDS aircraft, Tq and N_1 are read from CDS and TOT from gauge

Eng	***P. Alt***	***OAT***	***Tq***	***TOT***	***N_1***	***FLI/ Diff N_1***	***Nr***	***Target N_1***
1								
2								

8.2 Standby Static

If the aircraft is equipped with a standby Static source, close all windows and eyeball vents, and select bleeds and cabin vent fan OFF. Trim in level flight at 110 kt and record:

	Norm	Stby
P1 Alt		
P1 ASI		

Compare the altitude error with the placard and record in Section 14. Note that there is no declared correction for ASI error.

8.3 Cruise

At max. continuous power, check and record the following items :

8.3.1 Stabilised level flight.

Note:

P. Alt	OAT	IAS

Vibration level	
Control response	

8.3.2 Steep turns left & right (approx 45°)

Note:

Vibration level	
Control response	

8.4 Maximum speed test

8.4.1 Increase speed progressively to V_{NE} using max. continuous power

Note:						
P. Alt		ft	AUW		kg
OAT		°C	V_{NE} (Placard)		kt
Fuel		kg	V_{NE} (CDS or PFD)		kt

8.4.2 Carry out gentle turns (approx 10° AoB) left & right.

Note:		
	Vibration level	
	Control response	

9. Autorotation

Note: It is not possible, at any weight/density altitude combination to achieve a flat pitch autorotation in this type.

9.1 Perform a gentle entry to a steady autorotative descent at 75 kt.
Do not exceed power-off rotor rpm limitation (106%, 112% transient)

9.2 Carry out 30° banked turns left & right in autorotation

9.3 Carry out a rapid recovery from autorotation (N_R/N_F needles just joined to 60% Torque in not less than 3 sec)

Note:			
Engine response & absence of surge			
Transient rotor droop			%

10. SAS

Note: If the aircraft is equipped with the SPIFR autopilot, do not carry out the following, but instead refer to Appendix 2 for AFCS checks

10.1 Datum Holding

Trim the aircraft at max. continuous power, level flight, SAS engaged.

Note satisfactory rate damping of disturbances		
Apply a cyclic input to raise the nose through 5°. Release and note Satisfactory damping		
Repeat for 5° nose down		
Repeat for 10° left roll		
Repeat for 10° right roll		

10.2 YSAS

With YSAS and SAS engaged, trim the aircraft in an 80kt climb at 60% Tq. By means of a small collective input (±5% Tq), pedals fixed, disturb the aircraft in the yaw axis.

Note satisfactory stabilisation within 1 cycle		

Disengage YSAS and SAS. Repeat the collective input and re-engage YSAS.

Note any disturbance is damped within 1 cycle		

Re-engage YSAS and SAS as required.

10.3 Fly-Through

Confirm satisfactory fly-through by manoeuvring the aircraft without using beep or trim release.

Check for acceptable stick forces.		

10.4 Beep Trim

Confirm correct functioning of P1 & P2 Beep Trim		

11. Landing

Confirm no tendency to lateral padding or ground resonance during a smooth touchdown with a slow gentle collective lowering	

NOTE: Should any divergent oscillations be noted, lift off immediately, reposition the aircraft and carry out a normal landing.

Landing time	

12. Electrical System Checks

With both engine switches selected to FLIGHT:

Switch off both generators. Confirm that both Essential Bus 1 & 2 are retained and Shed Bus 1 & 2 are shed.	

Essential Bus 1 (e.g. Supply tank 1 contents)	
Essential Bus 2 (e.g. VHF Comms 2)	
Shed Bus 1 (e.g. Nav 1)	
Shed Bus 2 (e.g. Passenger Lights)	

Select Shed Bus switch to EMER. Confirm that Shed Buses are recovered. Reset Shed Bus switch to NORM	

Switch on both generators and complete pre-shut down checks

13. Shut down

Shut down the engines and confirm satisfactory rotor brake performance.		

14. Post-flight Analysis

14.1 Performance Climb (see para 7)

Plot the data on the analysis sheet provided and determine the achieved rate of climb. The scheduled performance must be obtained from the flight manual, compared with the achieved performance and results recorded on the front sheet.

14.2 Engine Condition Ground Check (see para 5.4)

Use the power check chart in the flight manual to analyse the engine condition.

	Eng 1	Eng 2	
Indicated N_1			%
Target N_1			%

14.3 Engine Condition in Flight Check (see para 8.1)

Use the power check chart in the flight manual to analyse the engine condition.

	Eng 1	Eng 2	
Indicated N_1			%
Target N_1			%

14.4 Standby Static Source (see para 8.2)

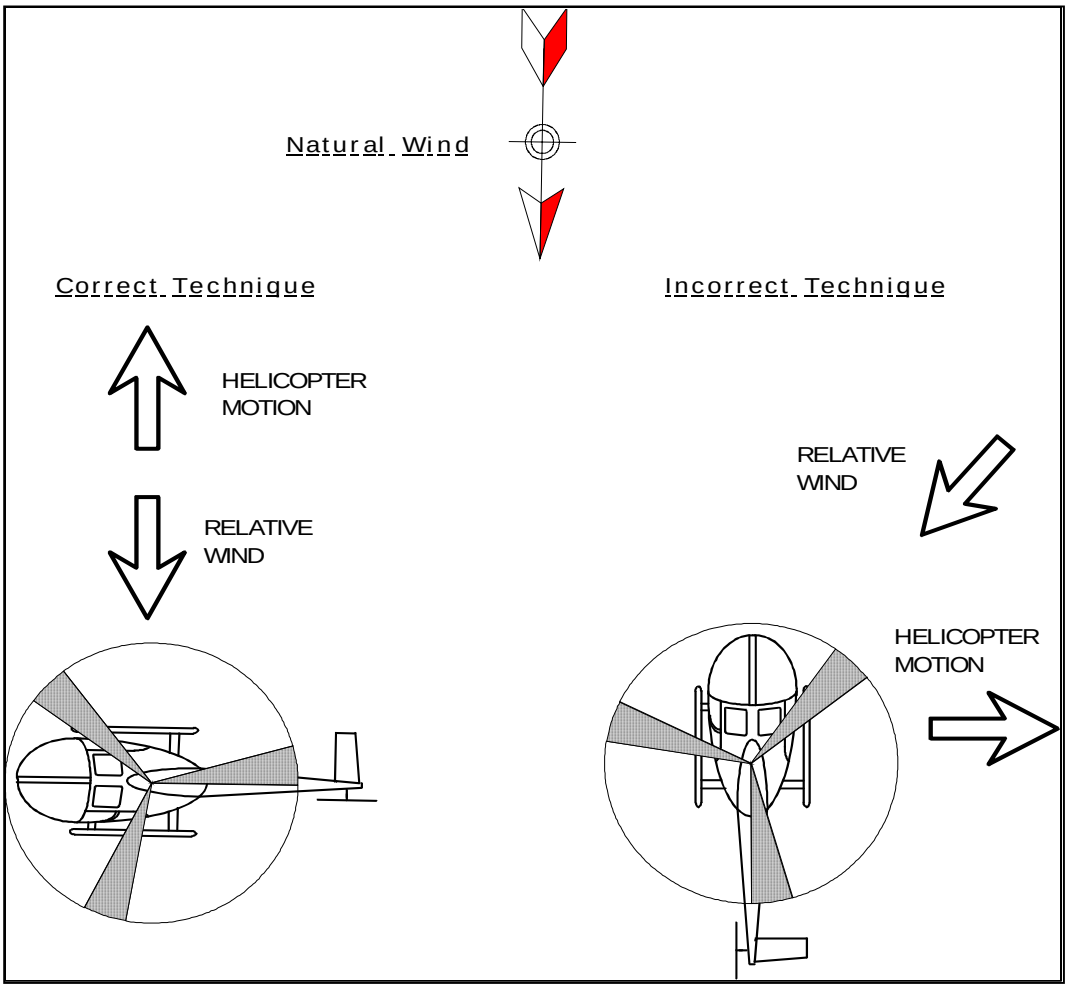
	NORM	STBY	Correction (placard)
Alt			
IAS			

Appendix 1

Sidewards & Rearwards Flight

For the sidewards flight tests the helicopter should be rotated so that the natural wind is on the side of the aircraft. The aircraft should then be gently accelerated into the wind and stabilised. The mean natural wind should be added to the estimated ground speed to give the required relative air speed.

For rearwards flight the helicopter should be aligned tail into wind and gently accelerated rearwards to achieve the required relative airspeed.



Appendix 2

AFCS Checks

A2.1 Hover

A2.1.1 Collective Decoupling

Engage P & R SAS, Pitch damper, YSAS in hover

Make 10% torque changes without moving pedals and confirm normal aircraft behaviour

Engage AP and AT

Make 10% torque changes without moving pedals and confirm heading is maintained ±5°.

A2.1.2 Follow Up Trim

Engage AP and AT in hover

From a stabilised hover, make a small forward cyclic input to change pitch attitude by approx 5°. Release cyclic. Confirm stick becomes force free and new attitude is maintained.

Recover the aircraft to a hover and repeat for 5° nose up

Recover the aircraft to a hover and repeat for 2° left

Recover the aircraft to a hover and repeat for 2° right

A2.2 Cruise Checks

A2.2.1 Basic Stabilisation (A. Trim model)

At V_{NE}-30 kt, level flight, engage AP and AT.

a) Without retrimming, displace the cyclic to alter pitch angle by 5° nose up. Release cyclic and check pitch attitude returns to datum ±1° with minimal overshoot.

b) Repeat a) for 5° nose-down.

c) Repeat a) for 10° left roll

d) Repeat a) for 10° right roll

A2.2.2 AP SAS Check

From the above condition, disengage AT.

a) Without retrimming, displace the cyclic to alter pitch angle by 5° nose-up. Release cyclic and confirm that pitch attitude behaviour is well damped.

b) Repeat a) for 10° right roll

A2.2.3 P & R SAS Check

From the above condition, disengage AP.

a) Without retrimming, displace the cyclic to alter pitch angle by 5° nose-down. Release cyclic and confirm that pitch attitude behaviour is well damped.

b) Repeat a) for 10° left roll

A2.2.4 Pitch Damper

From the above condition, disengage SAS and re-engage Pitch Damper and Yaw damper only.

Confirm that pitch axis activity is damped and that airspeed is maintained ±5 kt.

Note 1: It will be necessary to control the roll axis throughout in this test.

Note 2: It may be necessary to compare behaviour with and without pitch damper engaged to confirm pitch damper activity.

A2.2.5 YSAS

Re-engage P & R SAS. Confirm P&R SAS, YSAS and Pitch damper are engaged, AP and AT disengaged.

Stabilise the aircraft in a climb at 90kt, max continuous power

Disturb the aircraft in yaw by lowering the collective to reduce power by 5% Tq and raising it again, with pedals fixed.

Confirm that any yaw oscillation is well damped.

Engage AP and disengage AT.

Disturb the aircraft in yaw by lowering the collective to reduce power by 5% Tq and raising it again, with pedals fixed.

Confirm that the resultant yaw oscillation is well damped.

Disengage AT, AP. P&R SAS, Pitch damper and Yaw SAS. Re-engage P&R SAS, Pitch Damper and AP.

Disturb the aircraft in yaw by lowering the collective to reduce power by 5% Tq and raising it again, with pedals fixed.

Confirm that the resultant yaw oscillation is well damped.		

Re-engage Yaw SAS using cyclic switch. Re-engage AT as required.

A2.2.6 Alt Hold

Engage AP/AT at V_{NE} –30kt.
Engage ALT mode on the APMS
Reduce power by 10% Tq

Confirm height is maintained within ±50ft		

Increase power by 10% Tq

Confirm height is maintained within ±50ft		

Override Alt hold by aft cyclic input.		

Confirm excess deviation **>ALT<** on PFD at approx. +100ft.

Release cyclic and allow aircraft to recover to datum.

At 400ft deviation, carefully release cyclic		

and confirm satisfactory return to datum height ±50ft.

Override Alt hold by fwd cyclic input.		

Confirm excess deviation **>ALT<** on PFD at approx. -100ft.

Use cyclic beep trim to modify altitude reference		
Decrease power below that required for level flight at 65kt. Confirm that airspeed		

does not reduce below 60 kt and aircraft descends.

Increase power and note that aircraft first		

recovers to datum height, then airspeed increases.

A2.2.7 IAS Hold

Engage AP/AT
Engage IAS mode on the APMS

Confirm airspeed held ±5kt.		
Reduce reference airspeed by 30kt using beep trim		
Increase reference airspeed by 30kt using beep trim		
Override IAS hold by aft cyclic input.		

Confirm excess deviation **>IAS<** on PFD at approx –12kt.

Release cyclic to trim and confirm satisfactory return to datum IAS ± 10kt.		
Override IAS hold by fwd cyclic input.		

Confirm excess deviation **>IAS<** on PFD at approx +12kt.

WARNING: Do not exceed V_{NE}

Engage IAS hold at 60kt in level flight.
When stable, beep reference airspeed to minimum (40kt)

Confirm that IAS does not reduce below 40kt, and aircraft descends.		

A2.2.8 VS Mode (nb if the aircraft is equipped with Alt A, go to para A2.2.9)

With AT engaged, stabilise the aircraft in a climb at 1000fpm, 90kt.
Engage VS mode

Confirm VS engaged at 1000fpm		

When stable, change reference to 2000fpm RoC maintaining constant collective

Confirm that IAS does not reduce below 65kt, and RoC decreases		

Disengage VS mode
Stabilise aircraft in descent at 90kt, 1000fpm, and re-engage VS mode

When stable, override VS by fwd cyclic input to increase airspeed.

Confirm excess deviation **>VS<** on PFD at 500fpm deviation		
Release cyclic and confirm aircraft stabilises at 90kt, 1000fpm		

A2.2.9 Alt A Mode

In level flight at 90kt, AT engaged, preselect an altitude approx 1000 ft higher.
Engage Alt A mode

Confirm Alt A engaged and VS increases to 1000fpm		

When stable, change reference to 2000fpm RoC maintaining constant collective

Confirm that IAS does not reduce below 65kt, and RoC decreases		

Reduce reference VS to 1000 fpm Confirm airspeed recovers to 90 kt at 1000 fpm		

Confirm that target altitude is acquired and ALT engages automatically		

Preselect a target altitude approx 1000ft lower.
Engage Alt A mode

Confirm Alt A engaged and VS increases to -1000fpm		

When stable, override VS by fwd cyclic input to increase airspeed.

Confirm excess deviation **>ALT A<** on PFD at 500fpm deviation		

Release cyclic and confirm aircraft stabilises at 90kt, 1000fpm		

Confirm that target altitude is acquired with minimal undershoot and ALT engages automatically		

A2.2.10 Heading Hold

Engage ALT hold at V_{NE} –30kt. Keep feet just off the pedals
Turn heading bug to aircraft heading and engage HDG mode
Turn heading bug 90° right using selector on APMS

Confirm aircraft turns onto new heading ±4°		

Turn heading bug 90° left using beep trim

Confirm aircraft turns onto new heading ±4°		

With ALT and HDG engaged, change aircraft heading by approx 30° by cyclic input.

Release cyclic and confirm aircraft returns to original heading ±4°	
Confirm that during the above manoeuvres, no pedal drift occurs	

A2.2.11 Beep trim

Confirm satisfactory functioning of cyclic beep trim	

A2.2.12 Fly Through

With IAS > 65kt, engage AP and AT.	

Confirm satisfactory fly-through when manoeuvring without using beep trim or force trim release.

A2.2.13 Decouple

Engage AP/AT at 100kt in cruise.
Press SAS DCPL

Confirm AFCS, P&R SAS, YSAS and Pitch damper disengage.	

Press AP on APMS

Confirm AP/AT re-engage and P&R SAS, YSAS and Pitch Damper remain disengaged.	

Re-engage R&R SAS, YSAS and Pitch Damper

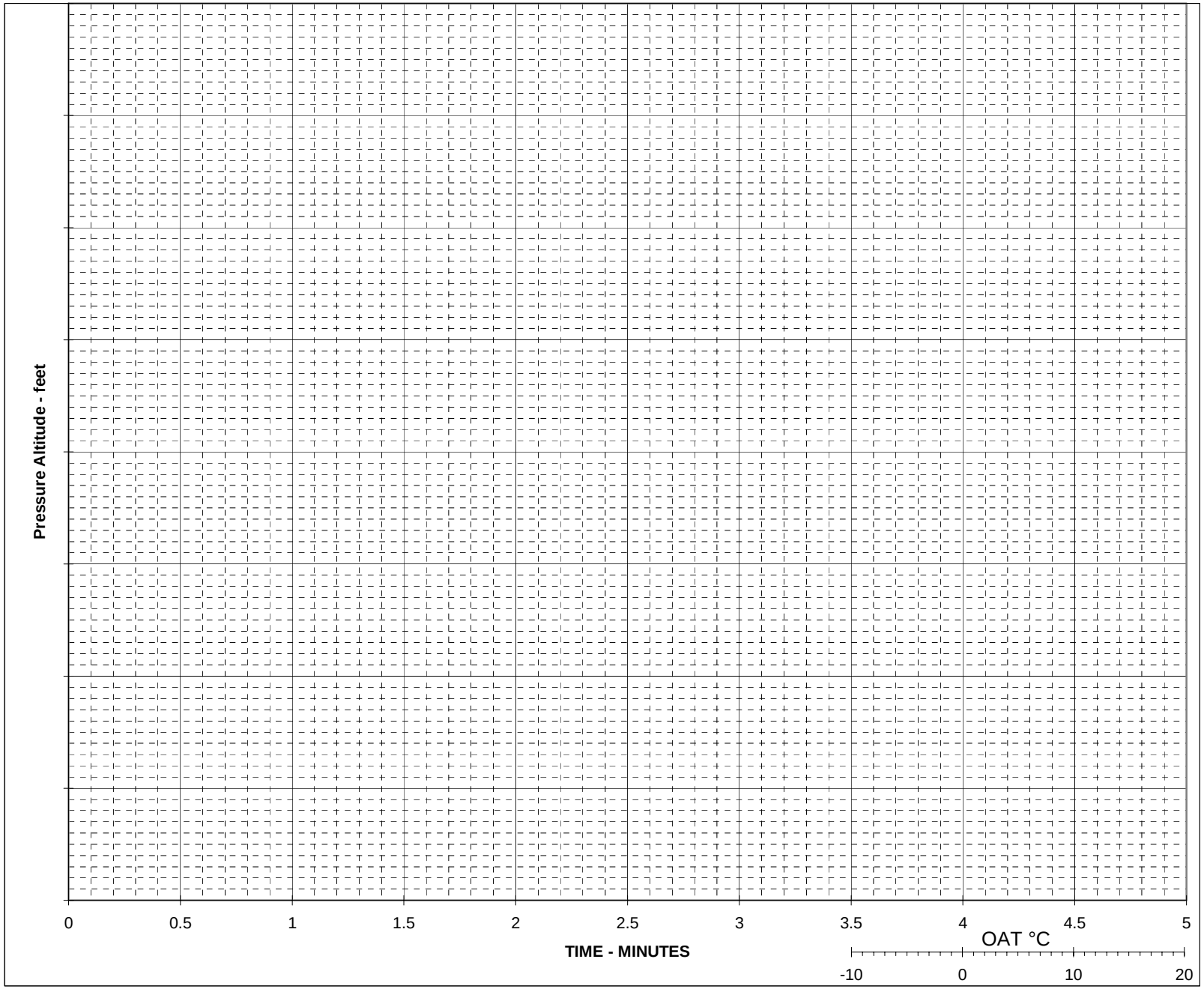
A2.2.14 Go around

Engage AP/AT, and trim the aircraft at 100kt, 300fpm RoD
Engage VS mode
When stabilised, press GA

Confirm the aircraft reverts to IAS mode with a commanded airspeed of 75kt.	

A2.2.15 ILS

If possible, an ILS approach should be performed.



AIRCRAFT TYPE
REGISTRATION
DATE OF TEST

Mean Weight		
No 1	_____	Kg
No 2	_____	Kg
Mean Altitude		
No 1	_____	feet
No 2	_____	feet
Mean OAT		
No 1	_____	°C
No 2	_____	°C
ACHIEVED ROC		
No 1	_____	ft/min
No 2	_____	ft/min
SCHEDULED ROC		
No 1	_____	ft/min
No 2	_____	ft/min
DELTA ROC		
No 1	_____	ft/min
No 2	_____	ft/min