CHECK FLIGHT CERTIFICATE

Jetstream 3100 (Garrett Airesearch TPE 331-10 500 series engines)

CFS 225 issue 1

Date:	Crew:	Observer:	Registration:

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	-70	-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 check flight 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 Test 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 check flights 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 check flight 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

Jetstream 3100 (Garrett Airesearch TPE 331-10 500 series engines) **CFS 225 issue 1**

Registration	
Flight Date	

INTRODUCTION

This schedule is applicable only to Jetstream 3100 series aircraft.

The schedule is based on the assumption that the everyday operation of the aircraft serves as a continuous check on the functioning of all normal services. On these test flights, however, the crew are expected generally to monitor the behaviour of all equipment and to report any unserviceable items. In addition to completing all the required tests in the schedule, any characteristics which are considered unsafe or undesirable must be recorded.

MINIMUM CREW

The minimum flight crew shall be increased by one observer to record the results of the tests.
The pilot conducting the tests shall be acceptable to the CAA(SRG) for carrying out check flights on Jetstream aircraft.

PASSENGERS

Commanders are reminded that it is illegal to carry passengers on a check flight made under 'A' or 'B' Conditions, except where they are required to perform duties in the aircraft in connection with the flight. While it is legal to carry passengers on a flight test 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. Oxygen shall be available to all persons on board.

TABLE 1

Climb and Stall Speeds in KIAS for Jetstream 3100

Weight	Take-Off	En-Route	Stall flap up/gear up			Stall flap 20/gear dn			Stall flap 35/gear dn			Stall flap 50/gear dn		
Kg	**Climb**	**Climb**	**Trim**	**Shake**	**Push**	**Trim**	**Shake**	**Push**	**Trim**	**Shake**	**Push**	**Trim**	**Shake**	**Push**
7000	114	120	139	112	99	127	100	91	123	95	88	120	92	86
6500	110	116	134	107	96	125	97	89	120	92	86	116	89	83
6000	106	111	130	103	93	120	94	86	116	89	83	113	87	81
5500	102	107	126	99	90	118	91	84	112	86	80	109	84	78
5000	101	102	120	94	86	113	87	81	106	82	76	104	81	74

TAKE-OFF (IN FLIGHT) TORQUE SETTING CHART

900 SHP

AMBIENT TEMPERATURE - °C	PRESSURE ALTITUDE - FT																	
	SL	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	
-12																	100.0	-12
-10																	99.7	-10
-8																100.0	98.1	-8
-6															100.0	98.5	96.5	-6
-4			TORQUE IS 100% IN THIS AREA											100.0	98.8	96.9	94.9	-4
-2													100.0	99.2	97.2	93.3	93.4	-2
0												100.0	99.4	97.5	95.5	93.6	91.8	0
2												99.8	97.8	95.9	94.0	92.2	90.3	2
4											100.0	98.2	96.3	94.4	92.5	90.7	88.9	4
6										100.0	98.6	96.6	94.7	92.8	91.0	89.2	87.4	6
8									100.0	98.9	96.9	95.0	93.1	91.3	89.5	87.7	86.0	8
10								100.0	99.2	97.2	95.3	93.4	91.5	89.8	88.0	86.2	84.5	10
12							100.0	99.5	97.5	95.6	93.7	91.8	90.0	88.2	86.5	84.8	83.1	12
14							99.8	97.8	95.9	94.0	92.1	90.3	88.5	86.7	85.0	83.3	81.6	14
16						100.0	98.1	96.1	94.2	92.3	90.5	88.7	86.9	85.2	83.5	81.9	80.2	16
18					100.0	98.4	96.3	94.3	92.6	90.7	88.9	87.1	85.4	83.7	82.0	80.4	78.8	18
20				100.0	98.6	96.6	94.6	92.6	90.9	89.1	87.3	85.6	83.9	82.2	80.5	78.9	77.3	20
22			100.0	98.8	96.8	94.8	92.9	91.0	89.2	87.5	85.7	84.0	82.3	80.7	79.0	77.5	75.9	22
24		100.0	99.0	97.0	95.0	93.1	91.2	89.3	87.6	85.8	84.1	82.4	80.8	79.1	77.5	76.0	74.5	24
26	100.0	99.2	97.2	95.2	93.2	91.3	89.5	87.6	85.9	84.2	82.4	80.8	79.2	77.6	76.0	74.5	73.0	26
28	99.3	97.3	95.3	93.4	91.4	89.6	87.7	86.0	84.3	82.5	80.8	79.2	77.6	76.1	74.6	73.1	71.6	28
30	97.4	95.4	93.5	91.5	89.6	87.8	86.0	84.3	82.6	80.9	79.2	77.7	76.1	74.6	73.1	71.6	70.2	30
32	95.4	93.5	91.6	89.7	87.8	86.0	84.3	82.6	80.9	79.3	77.6	76.1	74.5	73.0	71.6	70.1	68.7	32
34	93.4	91.5	89.7	87.8	86.0	84.2	82.5	80.8	79.2	77.6	76.0	74.3	72.9	71.5	70.1	68.7	67.3	34
36	91.4	89.6	87.7	85.9	84.1	82.4	80.7	79.1	77.5	75.9	74.4	72.9	71.4	70.0	68.5	67.2		36
38	89.5	87.7	85.8	84.1	82.3	80.6	78.9	77.4	75.8	74.3	72.7	71.3	69.8	68.4				38
40	87.5	85.7	83.9	82.2	80.5	78.8	77.2	75.6	74.1	72.6	71.1	69.7						40
42	85.7	84.0	82.2	80.5	78.9	77.2	75.6	74.1	72.6	71.1								42
44	84.0	82.2	80.5	78.9	77.2	75.6	74.0	72.5										44
46	82.2	80.5	78.8	77.2	75.6	74.0												46
48	80.4	78.8	77.1	75.5									THIS AREA IS GREATER THAN ISA+35°C					48
50	78.7	77.0																50
	SL	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	

NOTES:
1. The power levers must be advanced to give the tabulated value of torque.
2. If engine anti icing is used the torque setting should be read at the ambient temperature increased by 5°C.

- pre-mod 7340 engines : torque red line at 100%.

TAKE-OFF (IN FLIGHT) TORQUE SETTING CHART

940 SHP AND STRAIN GAUGE TORQUE SENSING

- post-mod 7340 engines : torque red line at 104.5%.
- engine designations TPE 331 10UG or 10UGR.

AMBIENT TEMPERATURE - °C	PRESSURE ALTITUDE - FT																	
	SL	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	
-16																104.5	104.5	-16
-14															104.5	103.9	101.9	-14
-12															104.2	102.3	100.3	-12
-10														104.5	102.6	100.7	98.7	-10
-8													104.5	103.0	101.0	99.1	97.1	-8
-6				TORQUE IS 104.5%								104.5	103.2	101.4	99.4	97.5	95.5	-6
-4				IN THIS AREA							104.5	103.6	101.6	99.8	97.8	95.9	93.9	-4
-2											104.0	102.0	100.0	98.2	96.2	94.3	92.4	-2
0										104.5	102.4	100.4	98.4	96.5	94.5	92.6	90.8	0
2									104.5	103.0	100.8	98.8	96.8	94.9	93.0	91.2	89.3	2
4								104.5	103.3	101.3	99.2	97.2	95.3	93.4	91.5	89.7	87.9	4
6							104.5	103.6	101.6	99.6	97.6	95.6	93.7	91.8	90.0	88.2	86.4	6
8							103.9	101.9	99.9	97.9	95.9	94.0	92.1	90.3	88.5	86.7	85.0	8
10						104.5	102.2	100.2	98.2	96.2	94.3	92.4	90.5	88.8	87.0	85.2	83.5	10
12					104.5	102.8	100.5	98.5	96.5	94.6	92.7	90.8	89.0	87.2	85.5	83.8	82.1	12
14				104.5	103.0	101.0	98.8	96.8	94.9	93.0	91.1	89.3	87.5	85.7	84.0	82.3	80.6	14
16			104.5	103.2	101.2	99.2	97.1	95.1	93.2	91.3	89.5	87.7	85.9	84.2	82.5	80.9	79.2	16
18		104.5	103.5	101.4	99.4	97.4	95.3	93.3	91.6	89.7	87.9	86.1	84.4	82.7	81.0	79.4	77.8	18
20	104.5	103.9	101.7	99.6	97.6	95.6	93.6	91.6	89.9	88.1	86.3	84.6	82.9	81.2	79.5	77.9	76.3	20
22	104.0	102.0	99.9	97.8	95.8	93.8	91.9	90.0	88.2	86.5	84.7	83.0	81.3	79.7	78.0	76.5	74.9	22
24	102.1	100.1	98.0	96.0	94.0	92.1	90.2	88.3	86.6	84.8	83.1	81.4	89.8	78.1	76.5	75.0	73.5	24
26	100.2	98.2	96.2	94.2	92.2	90.3	88.5	86.6	84.9	83.2	81.4	79.8	78.2	76.6	75.0	73.5	72.0	26
28	98.3	96.3	94.3	92.4	90.4	88.6	86.7	85.0	83.3	81.5	79.8	78.2	76.6	75.1	73.6	72.1	70.6	28
30	96.4	94.4	92.5	90.5	88.6	86.8	85.0	83.3	81.6	79.9	78.2	76.7	75.1	73.6	72.1	70.6	69.2	30
32	94.4	92.5	90.6	88.7	86.8	85.0	83.3	81.6	79.9	78.3	76.6	75.1	73.5	72.0	70.6	69.1	67.7	32
34	92.4	90.5	88.7	86.8	85.0	83.2	81.5	79.8	78.2	76.6	75.0	73.3	71.9	70.5	69.1	67.7	66.3	34
36	90.4	88.6	86.7	84.9	83.1	81.4	79.7	78.1	76.5	74.9	73.4	71.9	70.4	69.0	67.5	66.2		36
38	88.5	86.7	84.8	83.1	81.3	79.6	77.9	76.4	74.8	73.3	71.7	70.3	68.8	67.4				38
40	86.5	84.7	82.9	81.2	79.5	77.8	76.2	74.6	73.1	71.6	70.1	68.7						40
42	84.7	83.0	81.2	79.5	77.9	76.2	74.6	73.1	71.6	70.1								42
44	83.0	81.2	79.5	77.9	76.2	74.6	73.0	71.5										44
46	81.2	79.5	77.8	76.2	74.6	73.0						THIS AREA IS GREATER THAN ISA +35°C						46
48	79.4	77.8	76.1	74.5														48
50	77.7	76.0																50
	SL	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	

NOTES:
1. The power levers must be advanced to give the tabulated value of torque.
2. If engine anti-icing is used the torque setting should be read at the ambient temperature increased by 5°C.

- post-mod 7340 engines : torque red line at 104.5%.
- engine designations TPE 331 10UF or 10UR.

JET 31/48 188.2

TAKE-OFF (IN FLIGHT) TORQUE SETTING CHART

940 SHP ANALOGUE TORQUE SENSING

AMBIENT TEMPERATURE - °C	PRESSURE ALTITUDE - FT																	
	SL	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	
-16																	104.5	-16
-14																104.5	102.9	-14
-12															104.5	103.3	101.3	-12
-10														104.5	103.6	101.7	99.7	-10
-8													104.5	104.0	102.0	100.1	98.1	-8
-6				TORQUE IS 104.5% IN THIS AREA									104.2	102.4	100.4	98.5	96.5	-6
-4												104.5	102.6	100.8	98.8	96.9	94.9	-4
-2											104.5	103.0	101.0	99.2	97.2	95.3	93.4	-2
0										104.5	103.4	101.4	99.4	97.5	95.5	93.6	91.8	0
2									104.5	104.0	101.8	99.8	97.8	95.9	94.0	92.2	90.3	2
4									104.3	102.3	100.2	98.2	96.3	94.4	92.5	90.7	88.9	4
6								104.5	102.6	100.6	98.6	96.6	94.7	92.8	91.0	89.2	87.4	6
8							104.5	102.9	100.9	98.9	96.9	95.0	93.1	91.3	89.5	87.7	86.0	8
10						104.5	103.2	101.2	99.2	97.2	95.3	93.4	91.5	89.8	88.0	86.2	84.5	10
12					104.5	103.8	101.5	99.5	97.5	95.6	93.7	91.8	90.0	88.2	86.5	84.8	83.1	12
14				104.5	104.0	102.0	99.8	97.8	95.9	94.0	92.1	90.3	88.5	86.7	85.0	83.3	81.6	14
16				104.2	102.2	100.2	98.1	96.1	94.2	92.3	90.5	88.7	86.9	85.2	83.5	81.9	80.2	16
18			104.5	102.4	100.4	98.4	96.3	94.3	92.6	90.7	88.9	87.1	85.4	83.7	82.0	80.4	78.8	18
20		104.5	102.7	100.6	98.6	96.6	94.6	92.6	90.9	89.1	87.3	85.6	83.9	82.2	80.5	78.9	77.3	20
22	104.5	103.0	100.9	98.8	96.8	94.8	92.9	91.0	89.2	87.5	85.7	84.0	82.3	80.7	79.0	77.5	75.9	22
24	103.1	101.1	99.0	97.0	95.0	93.1	91.2	89.3	87.6	85.8	84.1	82.4	80.8	79.1	77.5	76.0	74.5	24
26	101.2	99.2	97.2	95.2	93.2	91.3	89.5	87.6	85.9	84.2	82.4	80.8	79.2	77.6	76.0	74.5	73.0	26
28	99.3	97.3	95.3	93.4	91.4	89.6	87.7	86.0	84.3	82.5	80.8	79.2	77.6	76.1	74.6	73.1	71.6	28
30	97.4	95.4	93.5	91.5	89.6	87.8	86.0	84.3	82.6	80.9	79.2	77.7	76.1	74.6	73.1	71.6	70.2	30
32	95.4	93.5	91.6	89.7	87.8	86.0	84.3	82.6	80.9	79.3	77.6	76.1	74.5	73.0	71.6	70.1	68.7	32
34	93.4	91.5	89.7	87.8	86.0	84.2	82.5	80.8	79.2	77.6	76.0	74.3	72.9	71.5	70.1	68.7	67.3	34
36	91.4	89.6	87.7	85.9	84.1	82.4	80.7	79.1	77.5	75.9	74.4	72.9	71.4	70.0	68.5	67.2		36
38	89.5	87.7	85.8	84.1	82.3	80.6	78.9	77.4	75.8	74.3	72.7	71.3	69.8	68.4				38
40	87.5	85.7	83.9	82.2	80.5	78.8	77.2	75.6	74.1	72.6	71.1	69.7						40
42	85.7	84.0	82.2	80.5	78.9	77.2	75.6	74.1	72.6	71.1				THIS AREA IS GREATER THAN ISA+35°C				42
44	84.0	82.2	80.5	78.9	77.2	75.6	74.0	72.5										44
46	82.2	80.5	78.8	77.2	75.6	74.0												46
48	80.4	78.8	77.1	75.5														48
50	78.7	77.0																50
	SL	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	

NOTES:

1. The power levers must be advanced to give the tabulated value of torque.
2. If engine anti-icing is used the torque setting should be read at the ambient temperature increased by 5°C.

CHECK FLIGHT SCHEDULE

The pilot conducting the tests must be familiar with the contents of this schedule before flight.

The data contained in this schedule is correct at the time of writing, but might not be in agreement with subsequent Flight Manual amendments; in cases of conflict, the Flight Manual is overriding, and CAA (SRG) Flight Test Section must be informed. The altitude conditions in the schedule must be observed to ensure adequate safety and validity of the test results. The tests should, if possible, be carried out in the sequence as written.

LOADING AND CALCULATION OF WEIGHT

The aircraft is to be loaded with full fuel, with the C.G. within the Flight Manual limits.

Record:			
	- zero fuel weight		kg
	- aircraft weight		kg
	- cg		

PRE-FLIGHT INFORMATION

Record:		
	- total airframe hours	

Record:		Port	Starboard
- each engine serial	S/N		
and total hours run	Hrs		

Except where otherwise indicated the flight techniques are those associated with normal operation of the aircraft, for example yaw damper engaged. Fuel symmetry must be maintained, particularly during and after the engine-out climbs.

1. PRE-FLIGHT CHECKS

Carry out a comprehensive external and interal pre-flight check.

Check oxygen masks for flow and operation of microphones SAT/UNSAT

Normal engine start

Carry out a stall warning and stall protection test. SAT/UNSAT

Before take-off, set 8,000 ft on the Cabin Pressure Control in preparation for a later test.

2. TAKE-OFF

Carry out normal take-off using full power.

Record any unusual characteristics:

3. FUNCTIONING

Recommended FL 40; limits 3000 ft AGL to FL 50

Engine accelerations.

With:	Speed	110 KIAS
	Flaps	10
	Gear	UP
	RPM	100%
	Anti-ice	OFF
	Airflow	OFF

Take-off Climb | Recommended start at FL40; lims 3000 ft AGL to FL70

			TARGETS
START WEIGHT			
FUEL GONE		TORQUE	
START CLIMB WEIGHT		SPEED	

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

Trim Positions Stab [ ] Aileron [ ] Rudder [ ]

ENGINE PARAMETERS AFTER 3 MINUTES

TORQUE		OIL PRESSURE	
RPM		OIL TEMPERATURE	
EGT		FUEL FLOW	

START WEIGHT	
FUEL GONE	
CLIMB WEIGHT	

AVERAGE CLIMB WEIGHT [ ]

ASI COMPARISON AT ONE INSTANT

P1	P2

(max difference 4 kts)

Allow engine to idle for ten seconds.

Check and record :

Flight idle Torque for each engine, and acceleration times to in-flight take-off power (see pages at front of schedule).

	Port	Starboard
Flight Idle Torque		
Time (8 secs max)		

4. ALTERNATE STATIC SOURCES

Speed	110 KIAS
Flaps	10
Gear	UP
Airflows	Both OFF

	P1	
Select alternate static source on P1 ASI		(+/-4 kts max)
and altimeter, noting change		(+/-250 ft max)

5. RIGHT ENGINE SHUTDOWN

Caution - Do not operate below 3000 ft AGL single engine

Flaps	Up
Gear	Up
Speed	130 KIAS
RH Airflow	OFF

Shutdown the RH engine and observe correct operation of electrical bus tie. SAT/UNSAT

6. TAKE-OFF CLIMB

Limits 3000 ft AGL to FL70

Carry out an engine out take-off climb for 5 minutes, on a constant heading, clear of cloud and significant turbulence. Commence the climb from not below 3000 ft above terrain. Start recording when in a stabilised trimmed condition at the scheduled speed using not more than 5 degrees bank towards the operative engine. Aim to maintain IAS within 2 knots of the scheduled speed, and to adjust the operative engine as necessary to achieve the scheduled thrust setting.

Configuration	Flap	10
	Gear	UP
	Speed	V2 for weight (page at front of schedule)
	No.1 Engine	Maximum in-flight take-off power, 100% RPM
	No.2 Engine	Shut down, propeller feathered
	Air flow	OFF
	Anti-icing bleeds	OFF
	Captains Altimeter	Set to 1013 mb

Take-off Climb | Recommended start at FL40; lims 3000 ft AGL to FL70

			TARGETS
START WEIGHT			
FUEL GONE		TORQUE	
START CLIMB WEIGHT		SPEED	

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

Trim Positions Stab [ ] Aileron [ ] Rudder [ ]

ENGINE PARAMETERS AFTER 3 MINUTES

TORQUE		OIL PRESSURE	
RPM		OIL TEMPERATURE	
EGT		FUEL FLOW	

START WEIGHT	
FUEL GONE	
CLIMB WEIGHT	

AVERAGE CLIMB WEIGHT [ ]

ASI COMPARISON AT ONE INSTANT

P1	P2

(max difference 4 kts)

6.1 Single Engine Gear Retraction

Flap	10
Speed	V2
No.1 Engine	MTOP
No.2 Engine	feathered
Extend the gear	

Record time to retract gear [ ] (lims: 5 to 8 seconds)

6.2 Engine Relight

Speed	120 KIAS
SRL	ON
Flaps	As required

RECORD:

Time to EGT rise		secs (lim: 15 sec max)
Maximum EGT		degs C
Time to 60% RPM		secs (lim: 40 sec max)

Allow oil temperature to rise above 55°C before selecting power above flight idle.
Confirm satisfactory engine behaviour before carrying out the following check.

7. LEFT ENGINE SHUTDOWN AND RELIGHT

Lims: FL200 maximum

Caution - Do not operate below 3000 ft AGL single engine

Flaps	Up
Gear	Up
Speed	130 KIAS
LH Airflow	OFF

Shutdown the LH engine and observe correct operation of electrical bus tie. SAT/UNSAT
Allow the engine to cool for at least 2 minutes.

Relight at 160 KIAS using manual relight procedure

Altitude		ft
Time to EGT rise		sec (lims: 15 secs max)
Max EGT		dg C
Time to stabilised 60% RPM		sec (lims: 40 secs max)
Any abnormality during relight, spool up		

Allow oil temperature to rise above 55°C before selecting power above flight idle.

Check fuel crossfeed SAT/UNSAT

8. CRUISE CHECK

FL150

Flaps	Up
Gear	Up
RPM	97% Both Engines
EGT	650°C Both Engines
Airflows	Minimum to achieve zero cabin climb/descent

When the speed has stabilised, record the following:

Altitude ft			
Speed KIAS			
IOAT °C			
Torque %			
EGT °C			
Fuel Flow lbs/hr			
Trims			

(lim : aileron and rudder trims not more than 0.5 division from neutral).

8.1 Pressurisation

Lims: FL120 to FL180

Select both airflows off and slowly dump cabin pressure

Observe cabin altitude at warning [ ] Lims: 9500 to 10,500 ft

Recover cabin pressure to normal

8.2 Control Checks

Check elevator, aileron, rudder for weight, response backlash, breakout force	SAT/UNSAT
Check trimmers operation	SAT/UNSAT

9. HIGH IAS RUN

BELOW FL130

Note: Flying conditions must not be significantly turbulent for this test. Increase speed to V_{MO} + 15 trimming the aircraft in all axes up to V_{MO}; make small control inputs. Close the throttles to recover.

Placarded VMO [ ]

	P1	P2	
IAS at warning			KIAS (lims: VMO + 3 to VMO + 9)

Flying controls for weight and response (use only small control deflections)	SAT/UNSAT
Engine behaviour	SAT/UNSAT

10. FLIGHT IDLE TORQUE

FL90-FL30

Altitude	3000 to 9000 ft	
Flaps	Retracted	
Landing Gear	Up	
L&R Engine Speed	100%	
Airspeed	150 KIAS	
L&R Bleed	Air Systems	OFF
L&R power levers	Flight idle	

Record :

	L	R	Altitude
Torques	_____ %	_____ %	_____ ft

Limits : 5 - 9% between 3000 and 5000 ft
4 - 8% between 5001 and 9000 ft

Difference between L & R torques less than 2%

11. STALLING

FL50 to FL120

Prior to each stall, trim the aircraft with throttles closed at the trim speed given at table 1. Without trimming further, reduce speed at about 1 kt per second until the aircraft stalls.

THE STALL APPROACH MUST BE DISCONTINUED IF THERE IS EVIDENCE OF A MALFUNCTION OF THE STALL WARNING OR PROTECTION SYSTEMS, AND IN PARTICULAR IF ANY OF THE FOLLOWING CIRCUMSTANCES ARISE:

a) The stall warning has not operated at 3 kts below the appropriate stall warning speed.

b) The stick push has not operated at 4 kts below the appropriate push speed.

c) The stick push has not operated at 4 kts below or 4 seconds after the first STALL ident light comes on.

For each stall observe the correct functioning of the stall light, stick shake and stick push:

On each side, the stall warning audio and stick shake should occur simultaneously on reaching stall warning speed, and the stall light should illuminate on reaching the stall ident speed. Stick push will occur when the stall lights on both sides are illuminated, stick push should cease on increase above stall ident speed when the first stall light extinguishes (except landing flap where the push should also cease should 0.5 g be reached).

One stall is required per configuration (additional boxes are provided should more than one stall be necessary to demonstrate adequate results).

Propellers	100%
Air Flow	Adjust to ensure flight idle torques within 2% of each other

Check and record the following:

Aircraft start weight	
Fuel gone	
Aircraft weight for stalling	

11.1 Flaps up stall

Gear UP
Flaps 0

1.4 V_S				KIAS Scheduled
V shake				KIAS Scheduled
V stall				KIAS Scheduled
V man rec				KIAS Scheduled
El trim at 1.4 V_S				
P2 ASI at 1.4 V_S				KIAS
V shake				P1 KIAS
V stall				P1 KIAS
Characteristics				

Limits: Stall warning +/-3 kts, stall +/-3 kts, minimum margin warning to stall 7 kts.

11.2 Flaps 20 Stall

Gear DOWN
Flaps 20

1.4 V_S				KIAS Scheduled
V shake				KIAS Scheduled
V stall				KIAS Scheduled
V man rec				KIAS Scheduled
El trim at 1.4 V_S				
P2 ASI at 1.4 V_S				KIAS
V shake				P1 KIAS
V stall				P1 KIAS
Characteristics				

Limits: Stall warning +/-3 kts, stall +/-3 kts, minimum margin warning to stall 7 kts.

11.3 Flaps Landing Stall

Gear DOWN
Flaps LAND

1.4 V_S				KIAS Scheduled
V shake				KIAS Scheduled
V stall				KIAS Scheduled
V man rec				KIAS Scheduled
El trim at 1.4 V_S				
P2 ASI at 1.4 V_S				KIAS (Lims: +/-4 kts of P1)
V shake				P1 KIAS
V stall				P1 KIAS
Characteristics				

Limits: Stall warning +/-3 kts, stall +/-3 kts, minimum margin warning to stall 6 kts.

12. GEAR AND FLAP TIMING

Any convenient FL

Time the following functions:

Gear UP to DOWN at 164 KIAS		(lim: 4 to 9 secs)
Flap 0 to 20 at 164 KIAS		(lim: 6 sec max)
Flap 20 to FULL { flap 50 : 130 KIAS		(lim: 10 sec max)
Flap FULL to 20 { flap 35 : 153 KIAS		(lim: 10 sec max)
Flap 20 to UP at 164 KIAS		(lim: 5 sec max)
Gear DOWN to UP at 164 KIAS		(lim: 5 to 8 secs)

13. ICE PROTECTION SYSTEM

Any convenient FL

Check airframe de-ice boots in AUTO. SAT/UNSAT

Check airframe de-ice boots in MANUAL SAT/UNSAT

Check engine intake ice protection: torque drops & EGT rises SAT/UNSAT

Check propeller de-icing current with short and long cycles selected.

	LH	RH	
Current			Lims: 37 to 47 amps

14. LANDING

Carry out normal landing and record any unusual handling characteristics. SAT/UNSAT

15. FUNCTIONING

Check the operation of the emergency flap lowering on the handpump.

Flaps	RETD
Emergency hydraulics selector	FLAPS DOWN
Hand pump	Pump to achieve landing flap.

(Note (i) Normal hydraulics pressure need not be exhausted for this test, (ii) the emergency selector cannot be returned to NORMAL without maintenance action).

SAT/UNSAT

16. PLACARDS

Check presence and legibility of all placards, instrument and control markings. SAT/UNSAT

Annex No. 1

JETSTREAM 3100

Aircraft Fitted With McCauley Propellers

In order that any deterioration of McCauley propeller blades can be fully monitored and until further notice, complete the following:

	Port	Starboard
Serial Number		
Time Since New		

Insert before Item 6.2:

Carry out a second Take Off Climb on a reciprocal heading to that used for the first climb.

Configuration	Flap	10
	Gear	UP
	Speed	V2 for weight (page at front of schedule)
	No.1 Engine	Maximum in-flight take-off power, 100% RPM
	No.2 Engine	Shut down, propeller feathered
	Air flow	OFF
	Anti-icing bleeds	OFF
	Captains Altimeter	Set to 1013 mb

Take-off Climb | Recommended start at FL40; lims 3000 ft AGL to FL70

			TARGETS
START WEIGHT			
FUEL GONE		TORQUE	
START CLIMB WEIGHT		SPEED	

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

Trim Positions Stab [ ] Aileron [ ] Rudder [ ]

ENGINE PARAMETERS AFTER 3 MINUTES

TORQUE		OIL PRESSURE	
RPM		OIL TEMPERATURE	
EGT		FUEL FLOW	

START WEIGHT	
FUEL GONE	
CLIMB WEIGHT	

AVERAGE CLIMB WEIGHT	