# CHECK FLIGHT CERTIFICATE

| | |
|---|---|
| **AIRBUS A330-243 RR Trent 772B Engines** **CFS 307 issue 2** | 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 | -80 | -120 | 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

**AIRBUS A330-243 RR Trent 772B Engines** CFS 307, Issue 2

| | |
|---|---|
| Registration | |
| Flight Date | |
| Operator/Maintenance Organisation | |
| Aerodrome | |
| Pressure Altitude | Temperature |
| Pilots | |
| Observer | |

## INTRODUCTION

This schedule is applicable only to Airbus A330-243 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 specifically approved by the CAA(SRG) for carrying out Check Flights on Airbus A330 aircraft.

## PASSENGERS

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.

## OXYGEN

Oxygen shall be available to all persons on board. All Passenger Service Unit oxygen mask covers should be latched before flight.

## TEST SCHEDULE

The pilot conducting the tests must be familiar with the contents of this schedule before flight. All members of the required minimum crew must be provided with copies of the schedule for use in 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 Department 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

Load the aircraft to a ramp weight between 170,000 kg to 180,000 kg and a C.G. which will remain within Flight Manual Limitations at all times.

Record:

| | |
|---|---|
| Zero Fuel Weight | Kg |
| Ramp Weight | Kg |
| Ramp CG | % MAC |

## PRE-FLIGHT INFORMATION

Record: - Total airframe hours

| |
|---|
| |

Record:

-Engine serial nos.

| **No.1** | **No.2** |
|---|---|
| | |

Except where otherwise indicated, the flight techniques are those associated with normal operation of the aircraft. Fuel symmetry must be maintained, particularly when aircraft handling is being assessed.

## 1. BEFORE ENGINE START

### 1.1 Flight Deck Markings and Placards

Check for presence, accuracy and legibility of all flight deck markings and placards. Record any deficiencies. SAT/UNSAT

### 1.2 Pre Flight Checks

Carry out all normal pre-flight checks, record any abnormal items. Keep APU running.

### 1.3 Take-off Configuration Warning

Select all Electric (hydraulic) Pumps to ON

ECP RCL : press for about 3 sec

CLR ECAM to MEMO - DOOR

Pitch trim : 4 (Neutral)
FLAPS : 0
TO CONFIG : press and maintain

- T.O. CONFIG warning appears SAT/UNSAT

Successively select FLAP 1, 2, then 3.

- T.O. CONFIG warning does not appear. SAT/UNSAT

FLAP : FULL

- T.O. CONFIG warning appears. SAT/UNSAT

FLAP : 3

- T.O. CONFIG warning disappears. SAT/UNSAT

SPEED BRAKE : out of RET position

- T.O. CONFIG warning appears. SAT/UNSAT

SPEED BRAKE : RET

- T.O. CONFIG warning disappears. SAT/UNSAT

Incrementally move RUD TRIM LH until T.O. CONFIG warning appears.

- Record the indicated value ..... SAT/UNSAT
  3.5 +/-0.2

Slowly [incrementally] move RUD TRIM to neutral until T.O. CONFIG warning disappears.

- Record the indicated value ..... SAT/UNSAT
  3.5 +/-0.2

Slowly move PITCH TRIM nose up until T.O. CONFIG warning appears.

- Record the indicated value ..... SAT/UNSAT
  7.3 NU +/-0.2

Slowly move PITCH TRIM nose down until T.O. CONFIG warning disappears.

- Record the indicated value ..... SAT/UNSAT
  7.3 NU +/-0.2

Further move PITCH TRIM nose down until T.O. CONFIG warning appears.

- Record the indicated value ..... SAT/UNSAT
  0.2 ND +/-0.2

Slowly move PITCH TRIM nose up until T.O. CONFIG warning disappears.

- Record the indicated value ..... SAT/UNSAT
  0.2 ND +/-0.2

Reset configuration as required. [Trim & Config]

Electric Hydraulic Pumps - OFF

## 2. AFTER ENGINE START

### 2.1 Hydraulic Power

Set ECAM page HYD [and re-set with each switch selection in the test]

- Record the manifold pressure B ..... SAT/UNSAT

  Y ..... SAT/UNSAT
  3000 psi +/-200

GREEN ENG 1 PUMP : OFF

- Record the manifold pressure G2 ..... SAT/UNSAT
  3000 psi +/-200

GREEN ENG 2 PUMP : OFF

- The indicated pressure goes amber at about 1450 psi SAT/UNSAT

- The residual pressure must not exceed 200 psi. SAT/UNSAT

GREEN ENG 1 PUMP : normal

- Record the manifold pressure G1 ..... SAT/UNSAT
  3000 psi +/-200

GREEN ENG 2 PUMP : normal

BLUE ENG PUMP : OFF

- The indicated pressure goes amber at about 1450 psi SAT/UNSAT

- The residual pressure must not exceed 200 psi. SAT/UNSAT

BLUE ENG PUMP : normal

YELLOW ENG PUMP: OFF

- The indicated pressure goes amber at about 1450 psi. SAT/UNSAT

- The residual pressure must not exceed 200 psi. SAT/UNSAT

YELLOW ENG PUMP: normal

2.2 **Brakes**

At a taxi speed below 10 kt on a straight clear taxy way.

A/SKID + NWS OFF

Apply symmetric L/R brake pressure not above 1000 psi.

**Check:**

Aircraft braking without chatter from left and right seats. SAT/UNSAT

A/SKID + NWS ON

2.3 **Take-off Config Warning**

With PARK BRK set - ON

Enter into any MCDU a FLEX TO TEMP of 60°C.

Advance the engine throttles to obtain a moderate intermediate engine power setting.

Snap the ENG 1 throttle briefly into the FLX MCT gate then retard to the initial position.

- The MW and ECAM T.O. CONFIG message for PARKING BRAKE appears. SAT/UNSAT

ECP CLR: press for a few sec.

- The preceding T.O. CONFIG warning is cleared.

Snap the ENG 2 throttle briefly into the FLX MCT gate then retard to the initial position.

- The preceding T.O. CONFIG warnings and message appear.

Retard the engine throttles to the idle stop thereafter apply and firmly maintain the brake pedals to full brake.

PARK BRK : OFF

- The preceding T.O. CONFIG warning is cleared. SAT/UNSAT

PARK BRK : ON, then release the brake pedals.

**REMOVE the FLEX temp from the MCDU**

## 3. TAKE-OFF

Carry out normal TOGA take-off. (Bump Ratings need not be used).

Set power initially to the FLEX Gate, observe ECAM Power Caution: SAT/UNSAT
[the power caution message will vary by modification state]

Following the caution set TOGA Thrust

Record :

| ***Conf.*** | ***Ecam TOGA EPR*** | ***Stab. Setting*** | ***$V_1$*** | ***$V_R$*** | ***$V_2$*** |
|---|---|---|---|---|---|
| | | | | | |

Any unusual behaviour

| |
|---|
| |

Leave APU running.

## 4. PERFORMANCE AND ENGINE RELIGHTING

### 4.1 Second Segment Climb

Start Altitude not above FL100

Carry out a second segment climb on a constant heading clear of cloud and turbulence, recording data for 5 minutes. Recording shall not commence until the aircraft is stabilised at the test conditions with the ß target command satisfied and the rudder force trimmed out as far as possible.

| | | |
|---|---|---|
| Configuration | Slat/Flap | Configuration 2 |
| | Gear | UP |
| | No.1 Engine | TOGA |
| | No. 2 Engine | Flight Idle |
| | Air Conditioning | ON (Engine 1) |
| | APU Bleed | OFF |
| | Airframe and Engine Anti-Icing | OFF |
| | Captain's Altimeter | 1013 mb |
| | $V_2$ for Weight (1.23 $V_{s1g}$) (Fig. 1) | kts |

Record: Scheduled TOGA EPR and ECAM TOGA EPR when TOGA is first selected. (Max. difference ± 0.015)

| **ALTITUDE ft** | **TAT °C** | **IAS - KTS** | **ECAM TOGA EPR** | **Sched TOGA EPR** (Fig.2) |
|---|---|---|---|---|
| | | | | |

SAT/UNSAT

## Second segment climb

START WEIGHT | kg |

| TIME MINS | ALTITUDE - FT | IAS - KTS | SAT °C | EPR |
|---|---|---|---|---|
| 0 | | | | |
| 0.5 | | | | |
| 1.0 | | | | |
| 1.5 | | | | |
| 2.0 | | | | |
| 2.5 | | | | |
| 3.0 | | | | |
| 3.5 | | | | |
| 4.0 | | | | |
| 4.5 | | | | |
| 5.0 | | | | |

RUDDER TRIM

ENGINE DATA AT 3 MINUTES

| | 1 | 2 |
|---|---|---|
| EPR | | |
| EGT °C | | |
| FUEL FLOW kg/hr | | |
| $N_1$ % | | |
| $N_3$ % | | |

FINISH WEIGHT | kg |

MEAN WEIGHT | kg |

[Re-confiigure to Config 0 for the next test and re-set Bleeds ON and NORMAL]

## 4.2 **Engine Out En-Route Climb**

Start Altitude FL80-FL150

Idle No.1 engine for 5 minutes before shutting it down.

Carry out an engine out en-route climb for 5 minutes, on a constant heading, clear of cloud and significant turbulence. Recording shall not commence until the aircraft is stabilised at the test conditions with the rudder force trimmed out.

Configuration:

| | |
|---|---|
| Conf. | CLEAN |
| Gear | UP |
| No.1 Engine | Shutdown |
| No. 2 Engine | MCT |
| Airconditioning | ON [Follw ECAM Drill] |
| Airframe and Engine Anti-Icing | OFF |
| Captain's Altimeter | 1013 mb |

En-route Climb Speed for Weight (1.35 $V_{S1g}$) _____ kts
(Fig. 1)

## Engine Out En-route Climb

START WEIGHT kg

| TIME MINS | ALTITUDE - FT. | IAS - KTS | SAT °C | EPR |
|---|---|---|---|---|
| 0 | | | | |
| 0.5 | | | | |
| 1.0 | | | | |
| 1.5 | | | | |
| 2.0 | | | | |
| 2.5 | | | | |
| 3.0 | | | | |
| 3.5 | | | | |
| 4.0 | | | | |
| 4.5 | | | | |
| 5.0 | | | | |

RUDDER TRIM

ENGINE DATA AT 3 MINUTES

| | 1 | 2 |
|---|---|---|
| EPR | | |
| EGT °C | | |
| FUEL FLOW kg/hr | | |
| $N_1$ % | | |
| $N_3$ % | | |

FINISH WEIGHT kg

MEAN WEIGHT kg

4.3 **Restart No. 1 Engine [Starter Assist]**

Conf. Conf 1
EGT below 100°C
Relight the No. 1 engine at S Speed
Record:

| Altitude ft | IAS kt | W/M $N_1$% | W/M $N_3$% |
|---|---|---|---|
| | | | |

| Time to EGT Rise sec. | Max. EGT °C | Time to stable EPR [AVAIL] sec. |
|---|---|---|
| | | |

Idle No. 1 Engine for 5 minutes before advancing the thrust lever.

[Re-configure for normal cruise flight –Config 0]

SHUT DOWN APU

CLIMB to FL 350

5. **CABIN OVERPRESSURE** FL 350

5.1 **Excessive Pressure Relief** **FL350**

MAN PRESS ON
MAN V/S CTL DN

**Record:**

Delta P when ECAM SAFETY valve opens [ ] SAT/UNSAT
8.8 ± 0.4 psi

[ECAM MEMO CRZ or PRESS]

**CAUTION : DO NOT EXCEED 9.25 psi**

**Check:**

Delta P goes amber at/or above 8.9 psi SAT/UNSAT

Regain normal Delta P and restore the CABIN PRESS system to normal flight.

**Check:**

Delta P goes green when at/or below 8.8 psi. SAT/UNSAT

****** - SET LANDING FIELD ELEVATION to 7000 Ft - ***[For test point 10]**

## 6. APU RELIGHT AND ELECTRICAL POWER SUPPLY FL350

### 6.1 APU Relight

T/Tank Feed Isolation Valve AUTO
0.80 M
APU START

| | | |
|---|---|---|
| Record: SAT, TAT | °C | °C |
| Peak EGT | | °C |
| Time from 'Start ON' to 'AVAIL' | | Sec |

When APU is stable.

Record:
N [ ] %
(101 ± 1%)
EGT [ ] °C
(450°C Max)

SAT/UNSAT

### 6.2 Electrical Power Supply from APU Generator

All engine GEN : OFF/R
When the APU is thermally stabilized.

Record N ..... EGT ..... SAT/UNSAT
101% +/-1 max 663°C up to ISA + 35°C

Record APU GEN load ..... Voltage ..... Frequency..... SAT/UNSAT
115 V +/-5 400 Hz +/-5

All engine GEN : normal
APU : KEEP RUNNING for future test

## 7. HIGH MACH FL350-300

AP OFF
AT OFF

[set ECAM FCTL Page]

Set the A/C pitch attitude to about 5° ND and accelerate with moderate power.

When the MW and the ECAM message OVERSPEED appear:

Record PFD1 (MACH)..... PFD2 (MACH) ..... SAT/UNSAT
Between 0.860 and 0.870

**DO NOT EXCEED 0.88M**

SPEED BRAKE : FULL

- The A/C behaviour remains normal. SAT/UNSAT

SPEED BRAKE : RET

- All the speed brake panels retract within less than 10 sec SAT/UNSAT

8. **NO.2 ENGINE SHUT- DOWN & RESTART** **FL300**

**Ensure APU still rumning and satisfactory operation**

Idle No. 2 Engine for 5 minutes before shutting it down.

Confirm Eng 2 Bleed OFF

**Restart No. 2 engine.**

Conf. 0
EGT below 100 C°
Relight No. 2 engine at 250 kt.

Record:

| Altitude Ft | IAS kt | W/M $N_1$% | W/M $N_3$% |
|---|---|---|---|
| | | | |

| Time to EGT Rise sec. | Max. EGT °C | Time to stable EPR [AVAIL] sec. |
|---|---|---|
| | | |

Idle No. 2 Engine for 5 minutes before advancing the thrust lever.

APU SHUTDOWN

9. **HIGH IAS** **Below FL250**

AP OFF
AT OFF

[set ECAM FCTL Page]

With the A/C pitch attitude at about 5° ND, and accelerate the A/C with moderate engine power.

When the MW and ECAM message OVERSPEED appear:

Record PFD1 IAS ..... PFD2 IAS ..... SAT/UNSAT
Between 330 and 340 kt

**DO NOT EXCEED 345 kt.**

SPEED BRAKE : FULL

- The A/C behaviour remains normal. SAT/UNSAT

SPEED BRAKE : RET

- All the speed brake panels retract. SAT/UNSAT

## 10. PRESSURISATION FL170

### 10.1 Oxygen Masks

Check all flight deck oxygen masks for satisfactory flow and microphone operation. SAT/UNSAT

**Note:** (1) The CAB ALT figures are valid if the CABIN PRESS MODE SEL is at AUTO.
(2) with LFE having been set to 7000 ft, Cabin alt should now be at 7000 ft

CABIN SIGNS OFF

PACK 1-2 OFF

EXTRACT OVRD

CAB ALT ADV appears [ ] SAT/UNSAT
Above 8800 ft

CAB ALT when MW and ECAM 'AIR' appears [ ] SAT/UNSAT
9550 ± 350 ft

**Check:**

CAB ALT goes red SAT/UNSAT

Clear ECAM to MEMO-CRUISE

CAB ALT when ECAM MEMO cabin signs appears. [ ] SAT/UNSAT
11300 ± 500 ft

CAB ALT when PAX SYS ON illuminates [ ] SAT/UNSAT
+ 0
14000 - 500 ft

PACK 1-2 Normal Flight
EXTRACT Normal Flight

CAB ALT goes green at/below 9550 ft and the CAB ALT ADV reappears SAT/UNSAT

CAB ALT ADV disappears at/or below 8600 ft. SAT/UNSAT

OXYGEN TMR RESET ON

PAX SYS ON extinguishes SAT/UNSAT

**Record:** Positions of PSUs which have failed to drop.

[ ]

SET LANDING FIELD ELEVATION TO DESTINATION and AUTO

## 11. LOW SPEED PROTECTION - NORMAL LAW

FL135 ± 2000 ft

These tests are to be carried out clear of cloud and turbulence with normal control laws and protection functions operating.

In each required configuration the aircraft should be decelerated smoothly with idle thrust at around 1 knot/second until full back stick is achieved. No attempt should be made to maintain constant altitude; clearance should be obtained to operate in an altitude block of about 5000 ft. Once the operation of the alpha floor has been noted, it should be inhibited and the steady idle thrust deceleration resumed. Scheduled speeds are given in.Fig. 3.

The tests must be discontinued in the event of:

- airspeed reducing to $V_{MIN}$ -5 knots; or
- operation of aural stall warning; or
- abnormal aircraft behaviour.

### 11.1 Clean Configuration

Record:

| | | |
|---|---|---|
| Aircraft | wt | Kg |
| | cg | % |

Stabilise at Green Dot speed, with power for level flight.

After about 30 seconds, Record:

| Green Dot Speed | | VLS | |
|---|---|---|---|
| Scheduled | Indicated | Scheduled | Indicated |
| | | | |

SAT/UNSAT

Speedbrakes EXTEND [ECAM page FCTL]

Power Flt. Idle

Decelerate from $V_{MIN}$ + 30 kt until a stable full back stick speed is achieved.

Record:

| | **Scheduled** | **Achieved** |
|---|---|---|
| V Auto Trim Stop | ±5 | |
| V alpha Floor | - | |
| V alpha MAX | ±5 | |

Automatic speedbrake retraction during deceleration SAT/UNSAT

## 11.2 Slats Alpha Lock

Accelerate to $V_{LS}$
Flaps 1

Slow the aircraft with moderate engine power to get AoA above 9° or IAS below 148 kt.

Flaps 0

| | | |
|---|---|---|
| Check: | No slat Retraction | SAT/UNSAT |
| | A-LOCK pulsing message appears | SAT/UNSAT |

Select Conf 2, then accelerate and select conf. 1 + F GU

Confirm Speedbrake lever selected to STOW

## 11.3 Conf. 1 + F Gear Up

| Record: | Aircraft Wt. | Kg |
|---|---|---|
| | Cg | % |

Decelerate from $V_{LS}$, with power at Flight Idle until a stable full back stick speed is achieved. Record:

| | Scheduled | Achieved |
|---|---|---|
| V alpha Floor | - | |
| V alpha MAX | ±5 | |

SAT/UNSAT

## 11.4 Conf. FULL Gear Down

| Record: | Aircraft Wt. | |
|---|---|---|
| | Cg | |

| | Scheduled | Indicated |
|---|---|---|
| $V_{LS}$ | ±3 | |

SAT/UNSAT

Power Flight Idle

Decelerate until a stable full back stick speed is achieved. Record:

| | Scheduled | Achieved |
|---|---|---|
| V Auto Trim Stop | ±5 | |
| V alpha Floor | - | |
| V alpha MAX | ±5 | |

SAT/UNSAT

## 12. STALL WARNING

Limits 10000ft AGL to FL180

The following tests are to be carried out clear of any cloud and turbulence. Decelerations are to be performed at idle thrust (inhibit alpha floor) at around 1 knot/second until the onset of aural stall warning. Scheduled stall warning speeds ($V_{SW}$) are given in Figure 4.

The tests must be discontinued in the event of:-

- airspeed reducing to $V_{SW}$ -5 knots; or
- abnormal aircraft behaviour.

| | |
|---|---|
| ATC | TXPR 1 |
| ADR 3 | OFF |
| After 10 sec: | |
| ADR 2 | OFF |

***CAUTION: ALTERNATE CONTROL LAWS IN OPERATION. PROTECTION FUNCTIONS LOST***

Set F/O EFIS DMC to '1'

### 12.1 Conf. 3, Gear Down

Commence a deceleration from not less than $V_{SW}$ + 15 knots.

Record:

| | |
|---|---|
| - Aircraft Weight | kg |
| - cg | % |

| | Scheduled kts | Achieved kts |
|---|---|---|
| Vsw | | |

- any abnormal behaviour

SAT/UNSAT

Accelerate to Conf 0, then reconfigure for next test

### 12.2 Configuration 1, Gear Up

Commence a deceleration from not less than $V_{SW}$ + 15 knots.

| | |
|---|---|
| - Aircraft Weight | kg |
| - Cg | % |

| | Scheduled kts | Achieved kts |
|---|---|---|
| Vsw | | |

- any abnormal behaviour

SAT/UNSAT

ADR 3, 2 ON

Reset F/O EFIS DMC to 'Normal'. Accelerate and set Conf 0, GU

13. **FUEL JETTISON** **As convenient**

On MCDU 1 or 2 FMGEC FUEL PRED page select JETGW equal actual GW minus 5 tons.

Set ECAM page FUEL.

JETTISON ARM : ON

- The ON Lt illuminates SAT/UNSAT

JETTISON ACTIVE : ON

- The ON and the OPEN Lts illuminate. SAT/UNSAT
- The L/R JETTISON valve synoptics appear. SAT/UNSAT
- Verify from the cabin that the L/R JETTISON outlets dump fuel. SAT/UNSAT
- The FOB decreases by about 1000 kg/min SAT/UNSAT

Without delay select JETGW equal actual GW minus 200 kg.

When at the JETGW value:

- The OPEN Lt extinguishes. SAT/UNSAT
- The L/R JETTISON valves synoptics disappear. SAT/UNSAT

On MCDU 1 or 2 FMGEC FUEL PRED page CLEAR the JETGW

- The OPEN Lts illuminates. SAT/UNSAT
- The L/R JETTISON valves synoptics appear. SAT/UNSAT

JETTISON ARM and ACTIVE : normal.

- The ON Lts extinguish. SAT/UNSAT
- The L/R JETTISON valves synoptics disappear. SAT/UNSAT
- Verify from the cabin that the L/R JETTISON outlets clear of dumped fuel residuals. SAT/UNSAT

## 14. LANDING GEAR GRAVITY EXTENSION

When at or below 200 KIAS:

LDG GEAR GRVTY EXTENSION : DOWN

Record the landing gear extension time ..... SAT/UNSAT
max 25 sec

LDG GEAR LEVER : DOWN

LDG GEAR GRVTY EXTENSION : RESET

*Note: During reset manoeuvre a temporary unlocking of the landing gear with possible door closure and reopening may happen.*

Within less than 10 sec:

- The landing gear doors close. SAT/UNSAT

LDG GEAR GRVTY EXENSION : OFF [and CLOSED]
LDG GEAR LEVER : UP

*Note: The main landing gear door are pushed by the wheel during this manoeuvre, so rubber traces on the doors is not a sign of a system malfunction.*

## 15. ENGINE ACCELERATIONS

Below FL 100

Conditions:
- Conf. FULL, Gear Down
- Airspeed VLS
- Air Conditioning/Pressurisation ON
- All anti-ice off

On each engine in turn, close the thrust lever and allow the engine to stabilise at idle. Record the idle N2 and N3. Rapidly open the thrust lever to the TOGA position and record the acceleration time to go-around EPR.

TAT °C Altitude ft

Scheduled Go-Around EPR ECAM Go-Around EPR

| Engine | No.1 | No.2 |
|---|---|---|
| Idle N1 % | | |
| Idle N3 % | | |
| Acceleration Time sec | | |

(Limit acceleration time 8 seconds max.)

16. **RAT EXTENSION** **FL100**

GREEN ENG 1-2 EDP OFF
RAT MAN ON Press for a few seconds

- The RAT OUT MEMO indication appears. SAT/UNSAT

- The GREEN pressure is available. SAT/UNSAT

Slow the A/C to 140 kt:

Record the indicated GREEN collector pressure ..... and the RAT RPM ..... SAT/UNSAT
(2800 psi +/-100) Approx 5400 rpm

GREEN ENG 1-2 EDP ON

17. **LANDING**

Carry out a normal landing.

Note any unusual characteristics.

| |
|---|
| |

18. **POST-FLIGHT ACTIONS**

18.1 If conducted plot the result s of the performance climbs and compare the measured rates of climb with the gross data scheduled in the Flight Manual. Attach plots to report and summarise on the front sheet.

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

18.3 Pass the completed Check Flight Schedule and Certificate to the CAA.

Figure 1

## CLIMB SPEEDS

| ***Aircraft Weight Kg*** | ***Conf. 2 GU*** $V_2 = 1.23\ V_{S1G}$ ***Kt.*** | ***Conf. 0 GU*** $V_{E/R} = 1.35\ V_{S1G}$ ***Kt.*** |
|---|---|---|
| 140,000 | 123 | 177 |
| 145,000 | 129 | 181 |
| 150,000 | 131 | 184 |
| 155,000 | 132 | 187 |
| 160,000 | 135 | 190 |
| 165,000 | 138 | 194 |
| 170,000 | 139 | 196 |
| 175,000 | 141 | 200 |
| 180,000 | 144 | 204 |

Figure 2

**GA Thrust**

M = 0.225
Bleed and Air Cond: ON
A/F and Eng A/Ice: OFF

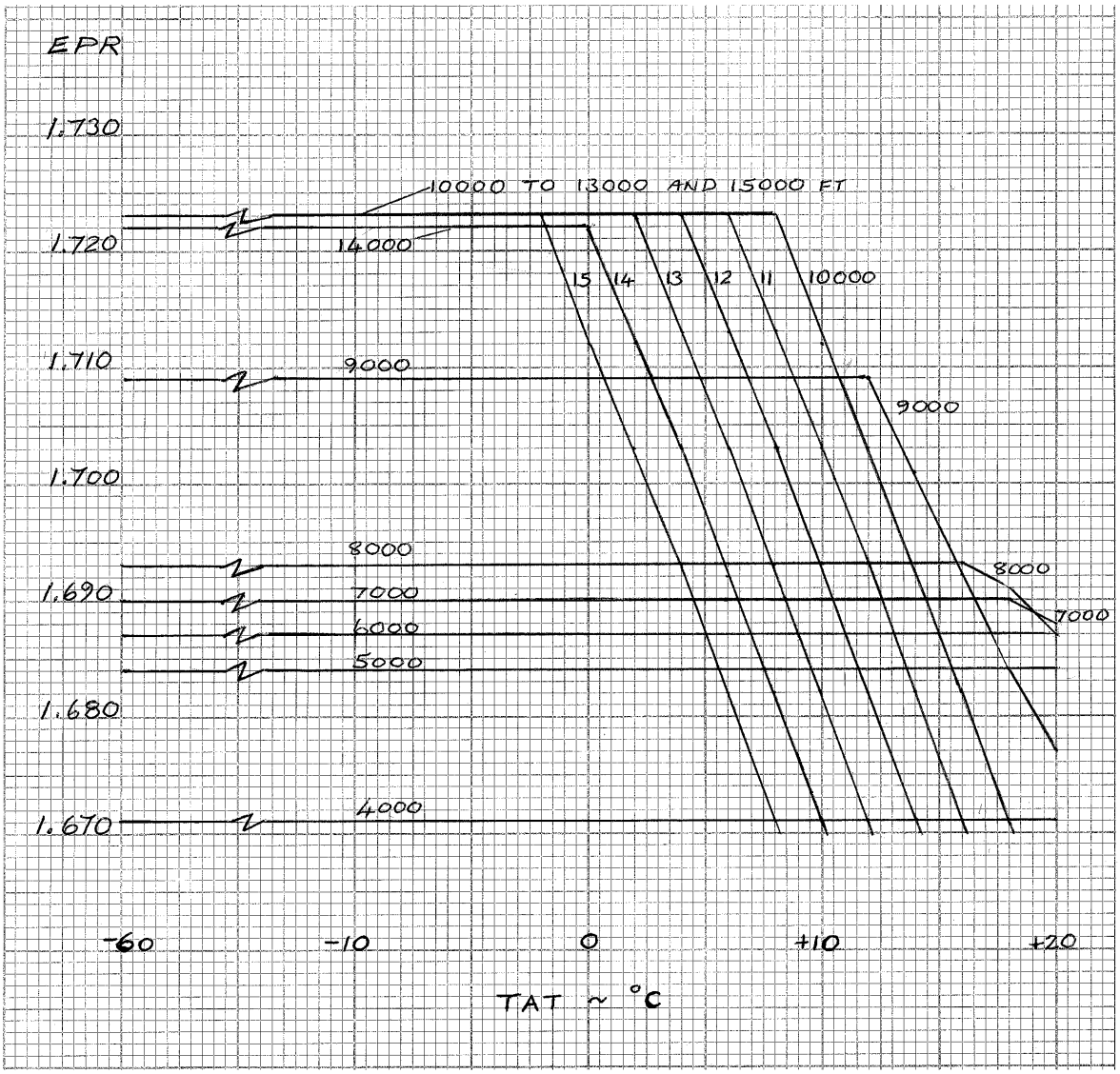

Figure 3

**($V_{LS}$, $V_{AUTO\ TRIM\ STOP}$, $V_{ALPHA\ MAX}$ for 30% cg)**

Conf. Clean GU

| ***Aircraft Weight Kg*** | ***Green Dot (± 5 kt.)*** | ***$V_{LS}$ (± 4 kt.)*** | ***$V_{AUTO\ TRIM\ STOP}$ (± 5 kt.)*** | ***$V_{ALPHA\ MAX}$ (± 5 kt.)*** |
|---|---|---|---|---|
| 140,000 | 190 | 162 | 148 | 136 |
| 145,000 | 193 | 165 | 151 | 140 |
| 150,000 | 196 | 169 | 155 | 143 |
| 155,000 | 199 | 172 | 158 | 146 |
| 160,000 | 202 | 175 | 162 | 149 |
| 165,000 | 204 | 178 | 165 | 152 |
| 170,000 | 208 | 182 | 168 | 156 |

[CG correction: 1 kt/± 5% cg (-1 for rear CG, +1 for fwd CG) ]

Conf. 1 + F GU

| ***Aircraft Weight Kg.*** | ***$V_{ALPHA\ MAX}$ (± 5 kt.)*** |
|---|---|
| 140,000 | 110 |
| 145,000 | 112 |
| 150,000 | 114 |
| 155,000 | 116 |
| 160,000 | 117 |
| 165,000 | 119 |
| 170,000 | 121 |

[CG correction: 1 kt/± 5% cg (-1 for rear CG, +1 for fwd CG) ]

Conf. Full GD 30% cg

| ***Aircraft Weight Kg*** | ***$V_{LS}$ (± 3 kt.)*** | ***$V_{AUTO\ TRIM\ STOP}$ (± 5 kt.)*** | ***$V_{ALPHA\ MAX}$ (± 5 kt.)*** |
|---|---|---|---|
| 140,000 | 126 | 109 | 98 |
| 145,000 | 126 | 111 | 99 |
| 150,000 | 126 | 113 | 101 |
| 155,000 | 127 | 115 | 102 |
| 160,000 | 128 | 117 | 104 |
| 165,000 | 129 | 119 | 105 |
| 170,000 | 131 | 121 | 107 |

[CG correction: 1 kt/± 5% cg (-1 for rear CG, +1 for fwd CG) ]

Figure 4

**Stall Warning Speeds**

| Aircraft Weight Kg | $V_{SW}$ (30% cg) | |
|---|---|---|
| | Conf. 1 GU | Conf. 3 GD |
| 140,000 | 123 | 108 |
| 145,000 | 126 | 110 |
| 150,000 | 128 | 112 |
| 155,000 | 130 | 114 |
| 160,000 | 133 | 116 |
| 165,000 | 135 | 117 |
| 170,000 | 138 | 119 |

[CG correction: 1 kt/± 5% cg (-1 for rear CG, +1 for fwd CG) ]