CHECK FLIGHT CERTIFICATE

ATR 72	**CFS 279 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	-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.

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 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

ATR 72 (2 P&W 124 engines or 2 P&W 127 engines) **CFS 279, ISSUE 1**

Introduction

This schedule is applicable only to the ATR 72 aircraft.

The schedule is based on the assumption that the everyday operation of the aircraft serves as a continues 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 airworthiness flight testing of ATR 72.

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.

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 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.

Operator/Maintenance Organisation	
Engine type	

Loading and Calculation of Weight

The aircraft is to be loaded with about 2000 kg fuel, with the C.G. within the Flight Manual limits.

RECORD :	AIRCRAFT WEIGHT :	
	CG :	

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. **Functioning - Part One - Pre-Flight Checks**

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

The following checks may be done before engine start: using the test button, check the TAKE-OFF CONFIGURATION WARNING for correct operation with :-

a) Pitch trim outside green band SAT/UNSAT
b) Flaps not at Take-off SAT/UNSAT
c) TLU fault (select hi-speed on overhead panel) SAT/UNSAT
d) Power not set to T/O SAT/UNSAT

The following check must be done with both engines running:

With the park brake set, check the TAKE-OFF CONFIGURATION WARNING by advancing both power levers and record the torque at which the warning occurs: % Torque

2. **Take-Off**

Carry out normal take-off.
Record any unusual characteristics :

3. Performance Climb

3.1 Climb After Take-off

(Start above 3000 feet AGL and below FL 70)

Shut down and feather the LEFT engine

Note any unusual characteristics

Carry out an engine out take-off climb for 3 minutes on a constant heading, clear of cloud, turbulence, wave effects and inversions using not more than 5° of bank towards the operative engine with :

Flaps 15
Gear up
Left engine inoperative, propeller feathered, fuel off
Right engine go-around power (Table 2 or 6)
Maximum RPM
Bleeds off
Anti-icing off
Airspeed V2 = 1.13 V_{S1G} (Tables 1 or 5) KNOTS
Altimeter set to 1013 mb

Record : Aircraft weight at start of climb.

Zero fuel weight		Start weight	
Fuel contents		Fuel gone	
Aircraft weight		Aircraft weight	

and

TIME	ALTIMETER	IAS	SAT/TAT	TORQUE
(minutes)	(feet)	(knots)	(°C)	%
0				
½				
1				
1½				
2				
2½				
3				

TRIMMER SETTINGS

ELEVATOR	
RUDDER	
AILERON	

ASI COMPARISON

CAPTAIN	
CO-PILOT	

ENGINE READINGS AT 2 MINS

	1	2
TQ		
N_P		
ITT		
N_H		

ZERO FUEL WEIGHT	
FUEL CONTENTS	
AIRCRAFT WEIGHT	

4. **Relight**

At 160 knots relight the left engine using normal procedures.

RECORD:

Initial N_H	%
Start ITT	°C

Time to 60% N_H	secs	
Time to flight idle	secs	(< 60 secs)
Maximum ITT	°C	

5. **Performance En-Route Climb**

Shut down and feather the right engine.

Note any unusual characteristics. [ ]

Carry out a single engine en-route climb for 5 minutes on a constant heading, clear of cloud, turbulence, wave effects and inversions using not more than 5° bank towards the operative engine with :

Flaps up
Gear Up
Right engine inoperative and propeller feathered
Maximum RPM
Left engine maximum continuous power. (See Tables 3,4 or 7)
Anti-icing off
Bleeds off
En-route climb speed (1.18 V_{S1G}). (See Table 1 or 5)
Altimeter set to 1013 mb

Record:

Zero fuel weight		Start weight	
Fuel contents		Fuel gone	
Aircraft weight		Aircraft weight	

Record:

TIME	ALTIMETER	IAS	SAT/TAT	TORQUE
(minutes)	(feet	(knots)	(°C)	%
0				
½				
1				
1½				
2				
2½				
3				
3½				
4				
4½				
5				

TRIMMER SETTINGS

ELEVATOR	
RUDDER	
AILERON	

ASI COMPARISON

CAPTAIN	
CO-PILOT	

ENGINE READINGS AT 2 MINUTES

	L
TQ	
N_p	
ITT	
N_H	

Record:

Zero fuel weight		Start weight	
Fuel contents		Fuel gone	
Aircraft weight		Aircraft weight	

6. **Relight**

At 160 knots relight the right engine using normal procedures.

RECORD:

Feathered N_H	%
Start ITT	°C

Time to 60% N_h	secs
Time to flight idle	secs
Maximum ITT	°C

7. **Pressurisation (About FL 180)**

In manual, select maximum increase on the manual rate knob. Record :

CABIN ALTITUDE AT AUDIO WARNING	feet (9500-10500 feet)

DUTCH ROLL

At 160 knots, select yaw damper off, by applying a force greater than 66 lbs to the rudder pedals, excite the Dutch roll with a small rudder input, check the motion is damped, and check the yaw damper by selecting it on.

SATISFACTORY/UNSATISFACTORY

Select MANUAL control and maximum decrease on the manual rate knob.

Record:

MAXIMUM DIFFERENTIAL PRESSURE	PSI (6.15 - 6.55 PSI) Do not exceed 7 PSI

Select NORMAL rate on the manual knob, then select AUTO pressurisation.

8. **High IAS**

In the clean configuration accelerate to the V_{MO} warning (not greater than 260 knots).

Record:

V_{MO} needle	(247-253 Knots)
High speed warning	

(>Vmo needle & < V_{MO} needle + 5 knots)

9. **Stalling** (not below FL 80)

With flap and gear up, idle power, synchrophaser off, 100% RPM, carry out a stall from a 1.3 V_{S1G} trim speed, decelerating at 1 knot/second. Scheduled speeds are given in Table 1 or 4.

Record:

Zero fuel weight	
Fuel contents	
Aircraft weight	

Trim speed	knots	Trim setting	
Scheduled warning	knots	Achieved warning	knots
Scheduled push	knots	Achieved push	knots

Time flaps from up to 15°	secs (2-7 seconds)

Carry out a 15 flap, gear up, idle power stall from a 1.3 V_S trim speed decelerating at 1 knot/second.

Record

Zero fuel weight	
Fuel contents	
Aircraft weight	

Trim speed	knots	Trim setting	
Scheduled warning	knots	Achieved warning	knots
Scheduled push	knots	Achieved push	knots

PUT horn heat on, then OFF, and repeat stall to stick push.

Trim speed	knots	Trim setting	
Scheduled warning	knots	Achieved warning	knots
		Achieved push	knots

AOA Switchlight OFF.

Time flaps from 15° to 30°	secs (4-9 seconds)
Time gear down at 120 knots	(10-16 secs)

Carry out a 30 flap, gear down, idle power stall from a 1.3 V_S trim speed decelerating at 1 knot/second.

Record :

Zero fuel weight	
Fuel contents	
Aircraft weight	

Trim speed	knots	Trim setting	
Scheduled warning	knots	Achieved warning	knots
Scheduled push	knots	Achieved push	knots

Time flaps from 30° to 15° at 130 knots secs (3-8 secs)

Time gear up at 130 knots secs (9-15 secs)

Time flaps from 15 to up at 140 knots secs (4-9 secs)

10. **Emergency Gear Extension**

At 140 knots, gear and flap up, select the green hydraulic pump off and operate the brakes until the green system pressure is zero. Select the normal gear lever down. Pull the emergency gear handle. Record time to a 3 greens indication.

secs (< 15 secs)

Push in the emergency gear handle, select the green hydraulic pump on and select the gear up.

SAT/UNSAT

11. **Fuel Crossfeed and Power Levers**

At any convenient time, check the fuel crossfeed system as follows:

Select fuel crossfeed open, check both pump RUN lights illuminate. Switch the left pump OFF and check that engine operation is normal and that the fuel low pressure caption does not illuminate. Switch the pump back ON and check all indications normal.

Repeat for the right pump. Finally check both pumps ON and close the crossfeed.

SATISFACTORY/UNSATISFACTORY

With condition levers at cruise setting, advance power levers and check that Condition Levers advance to Maximum.

SAT/UNSAT

12. **Normal Landing**

Using high level of reverse power.	SATISFACTORY/UNSATISFACTORY

13. **After Landing**

During taxy check emergency brakes (not beyond the notch).	SATISFACTORY/UNSATISFACTORY

HYDRAULIC CROSS-FEED

In a suitable area free of obstacles, switch off green system hydraulic pump and reduce pressure. Open crossfeed and confirm green system pressure recovers.	SATISFACTORY/UNSATISFACTORY
Close cross-feed, select green pump on, confirm green pressure normal then select blue hydraulic pump and AUX pump off. Reduce pressure then open cross-feed and confirm blue system pressure recovers.	SATISFACTORY/UNSATISFACTORY

Close cross-feed, select AUX pump on and confirm pressure normal. Select blue pump on.

NOTE: With green pressure low - only emergency brakes available
With blue pressure low - nose-wheel steering NOT available

14. After engine shut-down.

Before the Check Flight certificate is completed (first page) both climbs should be checked to ensure that the achieved rate-of-climb is within the allowable tolerance. Results worse than the allowable tolerance should be investigated before the Check Flight is signed off as being successfully completed.

TABLE 1 - SPEEDS - P & W 124 ENGINES

CATO $V_2 = 1.13\ V_{S1G}$
ERC $V = 1.18\ V_{S1G}$

WEIGHT KGS	15 Flap KTS-IAS V2	KTS-IAS ERC	Clean			15 Flap			30 Flap		
			Trim	Warn	Stall	Trim	Warn	Stall	Trim	Warn	Stall
23000	117		164	128	125	135	107	104	122	97	94
22500	116		161	127	124	134	106	103	121	96	93
22000	114	141	160	126	123	133	104	102	120	95	92
21500	113	140	157	124	121	131	103	101	118	94	91
21000	111	139	156	123	120	130	102	100	117	93	90
20500	110	138	153	122	118	128	101	98	116	92	89
20000	109	137	152	121	117	126	100	97	114	91	88
19500	107	135	150	119	115	125	99	96	113	89	87
19000	105	133	148	118	114	124	98	95	112	88	86
18500	104	131	147	117	113	122	96	94	109	87	84
18000	103	129	144	115	111	121	95	93	108	86	83
17500	102	128	142	113	109	120	94	92	107	85	82
17000	101	126	140	112	108	117	92	90	105	84	81
16500	101	124	139	110	107	114	91	88	103	83	79
16000	101	122	137	108	105	113	90	87	101	82	78
15500	101	120	135	107	104	112	89	86	100	80	77
15000	101	118	133	105	102	107	87	84	99	78	76
14500	101	116	130	104	100	108	86	83	98	77	75
14000	101	114	128	102	98	107	84	82	95	76	73

Tolerances ± 3 knots (Warning + Push)

TABLE 2 - GO-AROUND POWER - P & W 124 ENGINES

R

R

GO AROUND TORQUE COMPUTED FOR VC = 100. KT

TAT (°C)			PROPELLER SPEED 100 %										
			PRESSURE ALTITUDE (FT)										
AIR COND OFF	NORMAL AIR COND ON	HIGH AIR COND ON	–1000.	0.	1000.	2000.	3000.	4000.	5000.	6000.	7000.	8000.	8500.
– 40.	– 63.	– 71.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
– 10.	– 27.	– 35.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
– 8.	– 24.	– 32.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.3
– 6.	– 22.	– 30.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.2
– 4.	– 19.	– 27.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.2	97.1
– 2.	– 17.	– 25.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.0	96.0
0.	– 14.	– 22.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.9	94.8
2.	– 12.	– 19.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	95.7	93.7
4.	– 10.	– 17.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.6	94.6	92.6
6.	– 7.	– 14.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.4	93.4	91.4
8.	– 5.	– 12.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.2	92.2	90.3
10.	– 2.	– 9.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.0	95.0	91.1	89.2
12.	0.	– 7.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.8	93.8	89.9	88.0
14.	3.	– 4.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.4	92.5	88.7	86.8
16.	5.	– 1.	100.0	100.0	100.0	100.0	100.0	100.0	99.0	95.0	91.1	87.4	85.5
18.	8.	2.	100.0	100.0	100.0	100.0	100.0	100.0	97.5	93.5	89.7	86.0	84.2
20.	10.	4.	100.0	100.0	100.0	100.0	100.0	99.8	95.7	91.8	88.1	84.5	82.7
22.	13.	7.	100.0	100.0	100.0	100.0	100.0	97.9	94.0	90.1	86.4	82.9	81.2
24.	15.	10.	100.0	100.0	100.0	100.0	100.0	96.1	92.2	88.4	84.8	81.3	79.6
26.	18.	13.	100.0	100.0	100.0	100.0	98.2	94.2	90.4	86.7	83.2	79.7	78.1
28.	20.	16.	100.0	100.0	100.0	100.0	96.3	92.4	88.6	85.0	81.5	78.2	76.6
30.	23.	18.	100.0	100.0	100.0	98.4	94.4	90.6	87.0	83.4	80.0	76.7	75.1
32.	25.	21.	100.0	100.0	100.0	96.5	92.6	88.9	85.3	81.8	78.5	75.2	73.7
34.	28.	24.	100.0	100.0	98.5	94.6	90.8	87.1	83.6	80.2	76.9	73.8	72.2
36.	30.	27.	100.0	100.0	96.5	92.7	89.0	85.4	81.9	78.6	75.4	72.3	70.8
38.	33.	30.	100.0	98.5	94.6	90.8	87.2	83.7	80.3	77.0	73.8	70.8	69.3
40.	36.	32.	100.0	96.5	92.6	89.0	85.4	81.9	78.6	75.4	72.3	69.4	67.9
42.	38	35.	98.3	94.5	90.7	87.1	83.6	80.2	77.0	73.9	70.8		
44.	41.	38.	96.3	92.5	88.8	85.3	81.8	78.5	75.4	72.3			
46.	43.	41.	94.2	90.5	86.9	83.4	80.1	76.8	73.7				
48.	46.	43.	92.1	88.5	84.9	81.6	78.3	75.1					
50.	48.	46.	90.0	86.5	83.0	79.7	76.5						
52.	51.	49.	87.9	84.5	81.1	77.9							
54.	53.	52.	85.9	82.5	79.2								
56.	54.	54.	83.8	80.5									

R

Note : Applicable for Vc ≤ 125 kt
Add 0.8 % for each 10 kt above 125 kt without exceeding 100 % torque.

Mod : – Eng : PW 124 Model : ALL

TABLE 3 - MAXIMUM CONTINUOUS POWER - P & W 124 ENGINES

R

R

MAXIMUM CONTINUOUS TORQUE COMPUTED FOR VC = 120. KT

TAT (°C)			PROPELLER SPEED 100 %													
			PRESSURE ALTITUDE (FT)													
AIR COND OFF	NORMAL AIR COND ON	HIGH AIR COND ON	0.	2000.	4000.	6000.	8000.	10000.	12000.	14000.	16000.	18000.	20000.	22000.	24000.	25000.
– 43.	– 56.	– 67.	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	87.3	80.4	74.2	68.2	62.6	60.0
– 40.	– 52.	– 63.	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	85.9	79.0	73.0	67.1	61.6	59.0
– 37.	– 48.	– 59.	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	84.4	77.7	71.7	66.0	60.6	58.0
– 33.	– 44.	– 55.	89.6	89.6	89.6	89.6	89.6	89.6	89.6	89.6	83.0	76.4	70.5	64.9	59.5	57.0
– 29.	– 40.	– 50.	89.6	89.6	89.6	89.6	89.6	89.6	89.6	88.5	81.4	74.9	69.2	63.6	58.4	55.9
– 25.	– 36.	– 46.	89.6	89.6	89.6	89.6	89.6	89.6	89.6	86.6	79.7	73.3	67.7	62.3	57.1	54.7
– 21.	– 32.	– 42.	89.6	89.6	89.6	89.6	89.6	89.6	89.6	84.7	77.9	71.7	66.2	60.9	55.9	53.5
– 17.	– 28.	– 38.	89.6	89.6	89.6	89.6	89.6	89.6	89.6	83.1	76.5	70.4	65.0	59.8	54.9	52.6
– 13.	– 24.	– 33.	89.6	89.6	89.6	89.6	89.6	89.6	88.6	81.6	75.1	69.1	63.8	58.7	53.9	51.6
– 10.	– 20.	– 29.	89.6	89.6	89.6	89.6	89.6	89.6	86.9	80.1	73.7	67.8	62.6	57.6	52.9	50.6
– 5.	– 16.	– 24.	89.6	89.6	89.6	89.6	89.6	89.6	85.3	78.6	72.3	66.5	61.4	56.5	51.8	49.7
– 2.	– 12.	– 20.	89.6	89.6	89.6	89.6	89.6	89.6	83.6	77.0	70.9	65.2	60.2	55.4	50.8	48.7
1.	– 8.	– 16.	89.6	89.6	89.6	89.6	89.6	89.0	82.1	75.6	69.6	64.0	59.1	54.4	49.9	47.8
4.	– 4.	– 11.	89.6	89.6	89.6	89.6	89.6	87.1	80.3	74.0	68.1	62.7	57.9	53.2	48.9	46.8
8.	0.	– 7.	89.6	89.6	89.6	89.6	89.6	84.7	78.1	72.0	66.2	61.0	56.3	51.8	47.5	45.5
11.	4.	– 2.	89.6	89.6	89.6	89.6	89.6	82.9	76.4	70.4	64.8	59.6	55.0	50.6	46.5	44.5
15.	8.	2.	89.6	89.6	89.6	89.6	87.8	81.1	74.8	68.9	63.4	58.4	53.9	49.6	45.5	43.6
18.	12.	7.	89.6	89.6	89.6	89.6	86.0	79.4	73.2	67.4	62.0	57.1	52.7	48.5	44.5	
22.	16.	12.	89.6	89.6	89.6	89.6	84.1	77.6	71.6	66.0	60.7	55.9	51.6			
25.	20.	16.	89.6	89.6	89.6	87.8	81.2	75.0	69.1	63.7	58.6	53.9				
29.	24.	21.	89.6	89.6	89.6	84.4	78.1	72.1	66.5	61.3	56.4					
33.	28.	25.	89.6	89.6	87.5	81.1	75.0	69.3	63.9	58.8						
37.	32.	29.	89.6	89.6	84.2	78.0	72.2	66.6	61.5							
41.	36.	33.	89.6	87.9	81.7	75.8	70.1	64.7								
44.	40.	38.	89.6	85.3	79.2	73.5	68.0									
48.	44.	42.	88.9	82.6	76.8	71.2										
52.	48.	46.	86.0	80.0	74.3											
56.	52.	50.	83.2	77.3												
60.	56.	54.	81.6													
64.	60.	58.														

R

Note : Applicable for Vc ≤ 125 kt.
Add 0.8 % for each 10 kt above 125 kt without exceeding 89.6 % torque.

Mod : – Eng : PW124 Model : ALL

TABLE 4 - MAXIMUM CONTINUOUS POWER - P & W 124 ENGINES WITH MOD 2735 FITTED

R

R

MAXIMUM CONTINUOUS TORQUE COMPUTED FOR VC = 120. KT

TAT (°C)			PROPELLER SPEED 100 %													
			PRESSURE ALTITUDE (FT)													
AIR COND OFF	NORMAL AIR COND ON	HIGH AIR COND ON	0.	2000.	4000.	6000.	8000.	10000.	12000.	14000.	16000.	18000.	20000.	22000.	24000.	25000.
-43.	-56.	-67.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	94.9	87.3	80.4	74.2	68.2	62.6	60.0
-40.	-52.	-63.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	93.3	85.9	79.0	73.0	67.1	61.6	59.0
-37.	-48.	-59.	100.0	100.0	100.0	100.0	100.0	100.0	99.6	91.8	84.4	77.7	71.7	66.0	60.6	58.0
-33.	-44.	-55.	100.0	100.0	100.0	100.0	100.0	100.0	97.9	90.2	83.0	76.4	70.5	64.9	59.5	57.0
-29.	-40.	-50.	100.0	100.0	100.0	100.0	100.0	100.0	96.0	88.5	81.4	74.9	69.2	63.6	58.4	55.9
-25.	-36.	-46.	100.0	100.0	100.0	100.0	100.0	100.0	94.0	86.6	79.7	73.3	67.7	62.3	57.1	54.7
-21.	-32.	-42.	100.0	100.0	100.0	100.0	100.0	99.7	91.9	84.7	77.9	71.7	66.2	60.9	55.9	53.5
-17.	-28.	-38.	100.0	100.0	100.0	100.0	100.0	97.9	90.2	83.1	76.5	70.4	65.0	59.8	54.9	52.6
-13.	-24.	-33.	100.0	100.0	100.0	100.0	100.0	96.1	88.6	81.6	75.1	69.1	63.8	58.7	53.9	51.6
-10.	-20.	-29.	100.0	100.0	100.0	100.0	100.0	94.3	86.9	80.1	73.7	67.8	62.6	57.6	52.9	50.6
-5.	-16.	-24.	100.0	100.0	100.0	100.0	100.0	92.5	85.3	78.6	72.3	66.5	61.4	56.5	51.8	49.7
-2.	-12.	-20.	100.0	100.0	100.0	100.0	98.2	90.7	83.6	77.0	70.9	65.2	60.2	55.4	50.8	48.7
1.	-8.	-16.	100.0	100.0	100.0	100.0	96.4	89.0	82.1	75.6	69.6	64.0	59.1	54.4	49.9	47.8
4.	-4.	-11.	100.0	100.0	100.0	100.0	94.4	87.1	80.3	74.0	68.1	62.7	57.9	53.2	48.9	46.8
8.	0.	-7.	100.0	100.0	100.0	99.2	91.8	84.7	78.1	72.0	66.2	61.0	56.3	51.8	47.5	45.5
11.	4.	-2.	100.0	100.0	100.0	97.0	89.7	82.9	76.4	70.4	64.8	59.6	55.0	50.6	46.5	44.5
15.	8.	2.	100.0	100.0	100.0	95.0	87.8	81.1	74.8	68.9	63.4	58.4	53.9	49.6	45.5	43.6
18.	12.	7.	100.0	100.0	100.0	92.9	86.0	79.4	73.2	67.4	62.0	57.1	52.7	48.5	44.5	
22.	16.	12.	100.0	100.0	98.0	90.9	84.1	77.6	71.6	66.0	60.7	55.9	51.6			
25.	20.	16.	100.0	100.0	94.7	87.8	81.2	75.0	69.1	63.7	58.6	53.9				
29.	24.	21.	100.0	98.0	91.0	84.4	78.1	72.1	66.5	61.3	56.4					
33.	28.	25.	100.0	94.1	87.5	81.1	75.0	69.3	63.9	58.8						
37.	32.	29.	97.4	90.6	84.2	78.0	72.2	66.6	61.5							
41.	36.	33.	94.6	87.9	81.7	75.8	70.1	64.7								
44.	40.	38.	91.7	85.3	79.2	73.5	68.0									
48.	44.	42.	88.9	82.6	76.8	71.2										
52.	48.	46.	86.0	80.0	74.3											
56.	52.	50.	83.2	77.3												
60.	56.	54.	81.6													
64.	60.	58.														

R

Note : Applicable for Vc ≤ 125 kt.
Add 0.8 % for each 10 kt above 125 kt without exceeding 100.0 % torque.

Mod : 2735 Eng : PW124 Model : ALL

TABLE 5 - SPEEDS - P & W 127 ENGINES

CATO $V_2 = 1.13\ V_{S1G}$
ERC $V = 1.18\ V_{S1G}$

WEIGHT KGS	15 Flap KTS-IAS V2	KTS-IAS ERC	Clean			15 Flap			30 Flap		
			Trim	Warn	Stall	Trim	Warn	Stall	Trim	Warn	Stall
22000	112	140									
21500	111	139									
21000	110	137	148	120	114	126	103	97	114	92	88
20500	108	135	147	118	113	125	102	96	113	91	87
20000	108	134	146	117	112	122	100	94	112	90	86
19500	108	132	144	116	111	121	99	93	111	88	85
19000	108	131	140	114	108	120	98	92	109	87	84
18500	108	129	139	113	107	118	97	91	108	86	83
18000	108	127	138	112	106	117	95	90	107	85	82
17500	108	126	135	110	104	114	94	88	105	84	81
17000	108	124	134	108	103	113	93	87	104	83	80
16500	108	122	133	107	102	112	92	86	103	82	79
16000	108	120	130	105	100	111	90	85	101	81	78
15500	108	118	127	104	98	109	88	84	100	80	77
15000	108	116	126	101	97	107	87	82	99	78	76
14500	108	115	124	100	95	105	86	81	96	77	74
14000	108	113	122	98	94	103	84	79	95	76	73

Tolerances ± 3 knots (Warning + Push)

TABLE 6 - GO-AROUND POWER - P & W 127 ENGINES

GO AROUND TORQUE COMPUTED FOR VC = 100. KT

TAT (°C)			PROPELLER SPEED 100 %										
			PRESSURE ALTITUDE (FT)										
AIR COND OFF	NORMAL AIR COND ON	HIGH AIR COND ON	–1000.	0.	1000.	2000.	3000.	4000.	5000.	6000.	7000.	8000.	8500.
– 40.	– 63.	– 71.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
– 10.	– 27.	– 35.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.2
– 8.	– 24.	– 32.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.2	97.1
– 6.	– 22.	– 30.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.0	96.0
– 4.	– 19.	– 27.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.9	94.9
– 2.	– 17.	– 25.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	95.8	93.8
0.	– 14.	– 22.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.7	94.7	92.7
2.	– 12.	– 19.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.6	93.6	91.6
4.	– 10.	– 17.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.4	92.4	90.5
6.	– 7.	– 14.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.3	95.2	91.3	89.4
8.	– 5.	– 12.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.0	94.0	90.2	88.3
10.	– 2.	– 9.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.8	92.8	89.0	87.2
12.	0.	– 7.	100.0	100.0	100.0	100.0	100.0	100.0	99.6	95.6	91.7	87.9	86.1
14.	3.	– 4.	100.0	100.0	100.0	100.0	100.0	100.0	98.2	94.2	90.4	86.7	84.9
16.	5.	– 1.	100.0	100.0	100.0	100.0	100.0	100.0	96.8	92.9	89.1	85.4	83.6
18.	8.	2.	100.0	100.0	100.0	100.0	100.0	99.3	95.3	91.4	87.7	84.1	82.3
20.	10.	4.	100.0	100.0	100.0	100.0	100.0	97.5	93.6	89.8	86.1	82.5	80.8
22.	13.	7.	100.0	100.0	100.0	100.0	99.7	95.7	91.8	88.1	84.5	81.0	79.3
24.	15.	10.	100.0	100.0	100.0	100.0	97.8	93.9	90.1	86.4	82.9	79.5	77.8
26.	18.	13.	100.0	100.0	100.0	100.0	96.0	92.1	88.4	84.8	81.3	77.9	76.3
28.	20.	16.	100.0	100.0	100.0	98.0	94.1	90.3	86.6	83.1	79.7	76.4	74.8
30.	23.	18.	100.0	100.0	100.0	96.2	92.3	88.6	85.0	81.5	78.2	75.0	73.4
32.	25.	21.	100.0	100.0	98.2	94.3	90.5	86.9	83.4	80.0	76.7	73.5	72.0
34.	28.	24.	100.0	100.0	96.3	92.5	88.7	85.2	81.7	78.4	75.2	72.1	70.6
36.	30.	27.	100.0	98.3	94.4	90.6	87.0	83.5	80.1	76.8	73.7	70.6	69.2
38.	33.	30.	100.0	96.3	92.4	88.8	85.2	81.8	78.5	75.3	72.2	69.2	67.8
40.	36.	32.	98.2	94.3	90.6	86.9	83.5	80.1	76.9	73.7	70.7	67.8	66.4
42.	38	35.	96.1	92.3	88.7	85.1	81.7	78.4	75.3	72.2	69.2		
44.	41.	38.	94.1	90.4	86.8	83.3	80.0	76.8	73.7	70.7			
46.	43.	41.	92.1	88.4	84.9	81.5	78.3	75.1	72.1				
48.	46.	43.	90.0	86.5	83.0	79.7	76.5	73.4					
50.	48.	46.	88.0	84.5	81.2	77.9	74.8						
52.	51.	49.	86.0	82.6	79.3	76.1							
54.	53.	52.	83.9	80.6	77.4								
56.	54.	54.	81.9	78.7									

Note : Applicable for Vc ≤ 125 kt
Add 0.8 % for each 10 kt above 125 kt without exceeding 100 % torque.

Mod : – Eng : PW 127 Model : ALL

TABLE 7 - MAXIMUM CONTINUOUS POWER - P & W 127 ENGINES

MAXIMUM CONTINUOUS TORQUE COMPUTED FOR VC = 120. KT

TAT (°C)			PROPELLER SPEED 100 %													
			PRESSURE ALTITUDE (FT)													
AIR COND OFF	NORMAL AIR COND ON	HIGH AIR COND ON	0.	2000.	4000.	6000.	8000.	10000.	12000.	14000.	16000.	18000.	20000.	22000.	24000.	25000.
– 43.	– 56.	– 67.	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	85.3	78.6	72.5	66.7	61.2	58.6
– 40.	– 52.	– 63.	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	83.9	77.3	71.3	65.6	60.2	57.7
– 37.	– 48.	– 59.	90.9	90.9	90.9	90.9	90.9	90.9	90.9	89.7	82.5	76.0	70.1	64.5	59.2	56.7
– 33.	– 44.	– 55.	90.9	90.9	90.9	90.9	90.9	90.9	90.9	88.2	81.1	74.7	68.9	63.4	58.2	55.8
– 29.	– 40.	– 50.	90.9	90.9	90.9	90.9	90.9	90.9	90.9	86.5	79.6	73.3	67.6	62.2	57.1	54.7
– 25.	– 36.	– 46.	90.9	90.9	90.9	90.9	90.9	90.9	90.9	84.6	77.9	71.7	66.2	60.9	55.9	53.5
– 21.	– 32.	– 42.	90.9	90.9	90.9	90.9	90.9	90.9	89.8	82.8	76.2	70.1	64.7	59.5	54.6	52.3
– 17.	– 28.	– 38.	90.9	90.9	90.9	90.9	90.9	90.9	88.2	81.3	74.8	68.8	63.5	58.5	53.6	51.4
– 13.	– 24.	– 33.	90.9	90.9	90.9	90.9	90.9	90.9	86.6	79.8	73.4	67.6	62.4	57.4	52.7	50.4
– 10.	– 20.	– 29.	90.9	90.9	90.9	90.9	90.9	90.9	85.0	78.3	72.0	66.3	61.2	56.3	51.7	49.5
– 5.	– 16.	– 24.	90.9	90.9	90.9	90.9	90.9	90.4	83.3	76.8	70.7	65.0	60.0	55.2	50.7	48.5
– 2.	– 12.	– 20.	90.9	90.9	90.9	90.9	90.9	88.6	81.7	75.3	69.3	63.8	58.9	54.2	49.7	47.6
1.	– 8.	– 16.	90.9	90.9	90.9	90.9	90.9	87.0	80.2	73.9	68.0	62.6	57.8	53.2	48.8	46.7
4.	– 4.	– 11.	90.9	90.9	90.9	90.9	90.9	85.2	78.5	72.4	66.6	61.3	56.6	52.0	47.8	45.7
8.	0.	– 7.	90.9	90.9	90.9	90.9	89.7	82.8	76.4	70.4	64.7	59.6	55.0	50.6	46.5	44.5
11.	4.	– 2.	90.9	90.9	90.9	90.9	87.7	81.0	74.7	68.8	63.3	58.3	53.8	49.5	45.4	43.5
15.	8.	2.	90.9	90.9	90.9	90.9	85.9	79.3	73.1	67.4	62.0	57.1	52.7	48.5	44.5	42.6
18.	12.	7.	90.9	90.9	90.9	90.8	84.0	77.6	71.5	65.9	60.7	55.8	51.5	47.4	43.5	
22.	16.	12.	90.9	90.9	90.9	88.8	82.2	75.9	70.0	64.5	59.3	54.6	50.4			
25.	20.	16.	90.9	90.9	90.9	85.8	79.4	73.3	67.6	62.3	57.3	52.7				
29.	24.	21.	90.9	90.9	89.0	82.5	76.3	70.5	65.0	59.9	55.1					
33.	28.	25.	90.9	90.9	85.5	79.3	73.3	67.7	62.4	57.5						
37.	32.	29.	90.9	88.5	82.2	76.3	70.6	65.1	60.1							
41.	36.	33.	90.9	85.9	79.8	74.0	68.5	63.2								
44.	40.	38.	89.6	83.3	77.4	71.8	66.4									
48.	44.	42.	86.9	80.8	75.0	69.6										
52.	48.	46.	84.1	78.2	72.6											
56.	52.	50.	81.3	75.6												
60.	56.	54.	79.7													
64.	60.	58.														

Note : Applicable for Vc ≤ 125 kt.
Add 0.8 % for each 10 kt above 125 kt without exceeding 90.9 % torque.

Mod : – Eng : PW 127 Model : ALL