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	FLIGHT WITHOUT CAB PRESSURIZATION		SEQ 001	REV 10

GENERAL

The aircraft may fly without cabin pressurization because of an aircraft system deficiency (see MEL) or after a decompression in flight. The pilot's choice of flight level and airspeed depends on the cause of the depressurization, the distance to fly, the topographic conditions and the meteorological conditions.

OXYGEN REQUIREMENTS

CREW MEMBERS

See FAR 121.329 or JAR-OPS 1.770

PASSENGERS

For flight at cabin pressure altitudes above 10000 feet, up to and including 14000 feet, there must be enough oxygen to supply 10 % of the passengers for the flight at those altitudes that lasts more than 30 minutes.

For flight at cabin pressure altitudes above 14000 feet, up to and including 15000 feet, there must be enough oxygen for 30 % of the passengers.

For flight at cabin pressure altitudes above 15000 feet, there must be enough oxygen for all passengers.

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FLIGHT PLANNING AND EXECUTION

ALTITUDE

Flight route planning should consider the above-stated restriction in cabin altitude.

The EXCESS CAB ALT warning on the ECAM will be activated, if the cabin altitude exceeds:

- In climb or descent : The higher of both 9950 ($\pm$ 350) feet, or takeoff/landing field pressure altitude + 1000 feet, or
- In cruise : 9550 feet.

When above 14000 feet, the passenger oxygen masks will be automatically provided. Therefore, the recommended maximum altitude for prolonged flight is FL100. The minimum altitude should be selected by respecting :

- The Minimum Safe Altitude (MSA),
- Turbulence, which is uncomfortable for passengers and,
- Low Outside Air Temperature (OAT), which can be uncomfortable for passengers when the cabin is ventilated by ram air only.

AIRSPPEED

If decompression is due to structural damage, consider airspeed reduction. Use slats and flaps, as necessary, to establish low speed conditions. In addition, turbulent conditions are uncomfortable for passengers, and gust response should be minimized by reducing airspeed.

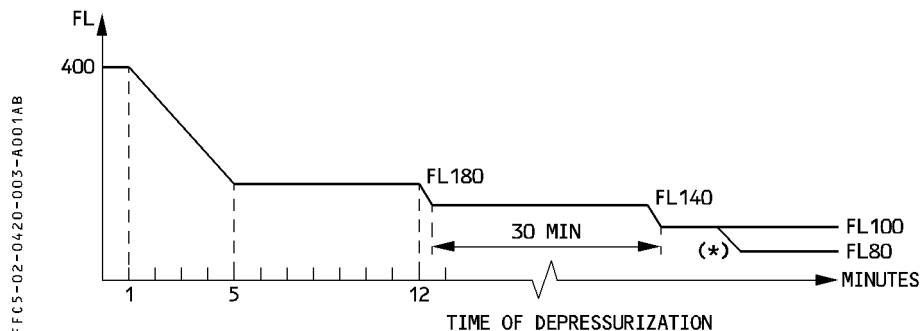
CLIMB AND DESCENT RATE

Takeoff must be performed normally, and the rate of climb must be limited to about 500 feet/minute, to ease the pressure change felt by passengers and crew.

Likewise, the rate of descent must be limited to about 1000 feet/minute, except for the final approach which must be performed normally. Notify the ATC of any performance deficiency by a remark in the flight plan.

EMERGENCY DESCENT IN CASE OF RAPID DEPRESSURIZATION

In case of depressurization, oxygen is supplied to passengers through individual modules, the capacity of which is so that the aircraft must descend and remain below the following profile.



- (*) : Between FL 80 and FL 100, oxygen must be provided for 2 % of the passengers. This is achieved by portable oxygen. When is no larger achievable, descend to FL 80.
For performance at FL 80/250 kt use data for FL 100/LRC given in 3.05.15, fuel consumption will be lower by several percent depending on the aircraft weight.

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SYSTEMS

FAILURE OCCURRING IN FLIGHT

Apply the abnormal and emergency procedures required by the ECAM.

FAILURE PRESENT AT DISPATCH

- If flight, with both packs inoperative :
 - PACK 1 and 2 OFF
 - RAM AIR ON
- If both CAB PRESS systems are inoperative, or if there is structural damage :
 - PACK 1 and 2 ON
 - MODE SEL MAN
 - MAN VALVE SEL BOTH
 - MAN V/S CTL AS RQRD
Use MAN V/S CTL to set the outflow valve opening to 50 %.
 - OUTFLOW VALVE HALF OPEN CHECK
The outflow valve opening is limited to 50%, to avoid cabin air suction effect.
 - MAX FL 100 or MSA

TAKEOFF

Limit the aircraft's rate of climb to about 500 feet/minute.

CLIMB

Note : The EXCESS CAB ALT warning may occur.
 Use the ECAM CLR pushbutton to clear the warning.

DESCENT

Limit the aircraft's rate of descent to about 1000 feet/minute. Perform the final approach normally.

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PERFORMANCE DATA

The following table enables the fuel consumption and the time needed from takeoff to landing to be determined in case of flight without cabin pressurization.

The table is established for :

- Takeoff
- Climb from 1500 feet at 250 knots
- Long range cruise speed at FL100
- Descent to 1500 feet at 250 knots
- Approach and landing : IMC procedure 330 kg or 730 lb (6 min)
- ISA temperature
- CG = 30 %
- Normal air conditioning
- Anti-ice OFF

The table on page 8 gives the conversion from ground distance to air distance.

Note : For each degree Celsius above ISA temperature apply a correction of 0.015 (kg/°C/NM) or 0.033 (lb/°C/NM).

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FLIGHT PLANNING FROM BRAKE RELEASE TO LANDING CLIMB : 250 KT - CRUISE : LONG RANGE - DESCENT : 250KT IMC PROCEDURE : 450 KG (6 MIN)FL 100								
NORMAL AIR CONDITIONING ANTI-ICING OFF				ISA CG = 30.0%		FUEL CONSUMED (KG) TIME (H.MIN)		
AIR DIST. (NM)	INITIAL WEIGHT (1000KG)							
	170	200	230	260	290	320	350	380
300	7671	8126	8582	9088	9640	10236	10890	11588
	1.10	1.09	1.08	1.06	1.02	1.02	1.02	1.02
400	9816	10413	11005	11655	12338	13032	13784	14583
	1.31	1.30	1.28	1.24	1.18	1.18	1.18	1.18
500	11951	12689	13416	14210	15028	15818	16668	17569
	1.52	1.50	1.48	1.43	1.34	1.34	1.34	1.34
600	14075	14955	15815	16752	17712	18595	19543	20544
	2.13	2.10	2.08	2.01	1.49	1.49	1.50	1.50
700	16189	17210	18202	19281	20388	21363	22408	23509
	2.35	2.30	2.27	2.20	2.05	2.05	2.05	2.06
800	18293	19456	20577	21800	23044	24121	25264	26463
	2.56	2.51	2.47	2.39	2.22	2.21	2.21	2.21
900	20388	21688	22941	24307	25684	26870	28110	29406
	3.18	3.11	3.08	2.58	2.38	2.37	2.37	2.37
1000	22473	23907	25294	26802	28312	29611	30947	32340
	3.41	3.32	3.28	3.18	2.55	2.53	2.53	2.53
1100	24548	26115	27636	29286	30928	32341	33775	35263
	4.03	3.52	3.48	3.37	3.12	3.09	3.09	3.09
1200	26615	28312	29969	31759	33531	35063	36593	38177
	4.26	4.13	4.08	3.57	3.30	3.24	3.25	3.25
1300	28672	30499	32294	34220	36123	37776	39402	41082
	4.49	4.34	4.28	4.17	3.47	3.40	3.40	3.41
1400		32675	34610	36671	38703	40480	42202	43977
		4.54	4.48	4.37	4.05	3.56	3.56	3.56
1500		34841	36915	39107	41272	43176	44992	46862
		5.15	5.08	4.57	4.23	4.12	4.12	4.12
1600		36997	39211	41530	43829	45864	47774	49736
		5.36	5.29	5.16	4.41	4.28	4.28	4.28
1700		39143	41497	43942	46376	48546	50547	52601
		5.57	5.49	5.36	4.59	4.44	4.44	4.44
1800		41279	43774	46342	48911	51219	53310	55456
		6.18	6.09	5.56	5.18	4.59	5.00	5.00
1900		43405	46041	48732	51437	53884	56065	58301
		6.39	6.29	6.16	5.37	5.15	5.15	5.15
2000		45521	48299	51111	53953	56540	58812	61137
		7.00	6.50	6.36	5.57	5.31	5.31	5.31
2100		47631	50548	53479	56458	59188	61550	63964
		7.21	7.10	6.56	6.17	5.47	5.47	5.47
2200		49732	52788	55837	58953	61828	64278	66782
		7.41	7.30	7.16	6.37	6.03	6.03	6.03
2300		51824	55017	58185	61437	64459	66994	69590
		8.02	7.51	7.36	6.57	6.19	6.19	6.19
2400		53907	57229	60522	63911	67083	69701	72391
		8.23	8.11	7.56	7.18	6.35	6.34	6.35
2500		55981	59432	62849	66376	69699	72400	75183
		8.44	8.32	8.16	7.39	6.50	6.50	6.50
2600		58047	61625	65158	68830	72307	75091	77966
		9.05	8.52	8.37	8.00	7.06	7.06	7.06
2700			63809	67455	71274	74907	77776	80741
			9.13	8.57	8.22	7.22	7.22	7.22
AIR CONDITIONING OFF ΔFUEL = - 1 %			ENGINE ANTI ICE ON ΔFUEL = + 4 %			TOTAL ANTI ICE ON ΔFUEL = + 6 %		

GROUND	AIR DISTANCE (NM)						
DIST.	TAIL WIND		WIND COMPONENTS (KT)			HEAD WIND	
(NM)	+ 90	+ 60	+ 30	0	-30	-60	-90
300	243	260	278	300	325	355	391
400	324	346	371	400	434	473	521
500	406	433	464	500	542	592	652
600	487	519	557	600	650	710	782
700	568	606	650	700	759	829	912
800	649	693	742	800	867	947	1043
900	730	779	835	900	976	1065	1173
1000	811	866	928	1000	1084	1184	1303
1100	892	952	1021	1100	1192	1302	1434
1200	973	1039	1114	1200	1301	1420	1564
1300	1055	1125	1206	1300	1409	1539	1694
1400	1136	1212	1299	1400	1518	1657	1825
1500	1217	1299	1392	1500	1626	1775	1955
1600	1298	1385	1485	1600	1735	1894	2085
1700	1379	1472	1578	1700	1843	2012	2216
1800	1460	1558	1670	1800	1951	2131	2346
1900	1541	1645	1763	1900	2060	2249	2476
2000	1622	1731	1856	2000	2168	2367	2607
2100	1704	1818	1949	2100	2277	2486	2737
2200	1785	1905	2042	2200	2385	2604	2867
2300	1866	1991	2134	2300	2493	2722	2998
2400	1947	2078	2227	2400	2602	2841	3128
2500	2028	2164	2320	2500	2710	2959	3258
2600	2109	2251	2413	2600	2819	3077	3388
2700	2190	2337	2506	2700	2927	3196	3519