SECTION 3

NORMAL FLIGHT PLANNING AND CRUISE CONTROL

Introduction

1. This section of the manual contains data for normal detailed flight planning. Tables are provided for:

(a) Climb

(b) Cruise

(c) Descent

(d) Holding

(e) Diversion

(f) Low level

(g) Plotting distances for Critical Point and Point of No Return

(h) Cruise control

(j) Re-flight planning at low level.

Climb, Tables 5 and 6

2. These tables show the normal four-engined climb performance at the maximum recommended climb H.P.R.P.M. of 92.5%. The speed used is 290 knots I.A.S. up to about 34,000 ft. and Mach 0.84 indicated thereafter.

Table 5 is a graph which enables the mean T.A.S. to be obtained when climbing from altitudes other than sea level. The example shown on the graph describes the method of its use.

Tables 6A-J show the climb fuel, time and mean T.A.S. for the following conditions:

(a) Take-off weights: 323,000 lb., and 320 to 180,000 lb., in 10,000 lb. intervals.

(b) Altitudes: 1,000 feet intervals from sea level to 43,000 feet or the maximum altitude which allows approximately 200 feet per minute rate of climb at the climb R.P.M.

(c) Temperatures: from J.S.A. - 10°C to J.S.A. + 30°C in 5°C intervals.

3. It should be noted that a take-off and acceleration allowances of two minutes and 2,000 lb. of fuel is included in these tables. To calculate distance the mean T.A.S. should be multiplied by the climb time less two minutes.

For high level airfields the following procedure should be used:-

(a) Extract mean T.A.S. from Table 5, and multiply by time difference to obtain distance.

(b) Fuel is difference between airfield and cruise altitude + 2,000 lb.

(c) Time is difference between airfield and cruise altitude + 2 minutes.

Normal Cruise, Tables 7 to 10

4. Tables 7A - 7E show maximum cruise envelopes for variations in temperature and weight for three speeds of 0.88 M_{IND}, 0.86 M_{IND}, and 0.84M_{IND}. The envelope for the chosen cruise Mach. No. may be restricted by any one of four considerations:-

(a) The maximum certificated ceiling which is 43,000 ft.

(b) The limit of thrust at the maximum recommended cruise H.P.R.P.M. of 91.5%. This altitude varies with ambient temperature and Mach No. The possible flight envelope for a given Mach No. is indicated by the area enclosed by, and to the right of, the temperature line. If conditions of weight and altitude fall to the left of this line, then due to the differing rates of change of thrust and drag, the Mach IND at the top of the graph will not be attainable, and a lower cruise speed will be necessary.

(c) The onset of buffet: Tables 7D and 7E illustrate the operating band for the VC10 with respect to the 1.2 and 1.35 g buffet margins respectively. Rough air and maximum operating speeds are also shown. The margin of .2 and .35 g excess corresponds to turns in smooth air of 34° and 42° bank at cruising altitude. At 0.88M_{IND} and 0.86M_{IND} the high and low speed boundaries are practically equidistant. An example is given on the graphs.

(d) The altitude at which the cruising speed is equal to the minimum drag speed, V_{MD}. This condition is never met in the VC 10 provided the speed is in excess of $0.82M_{IND}$ at the maximum altitudes given. At the lowest cruising speed of $0.84M_{IND}$, the margin above V_{MD} is .03 or approximately 8 knots at the optimum cruising height. However, due to the presence of drag rise it will not be difficult to trim the aircraft accurately, although if speed is inadvertently allowed to fall below $0.82M_{IND}$ immediate action must be taken to avoid a deceleration towards the buffet boundary.

5. Tables 8A-H, 9A-J and 10A-J present the cruise performance giving fuel flow and T.A.S. against altitude for indicated cruise Mach Nos. of 0.88, 0.86 and 0.84 respectively. The following conditions are tabulated:

(a) Instantaneous weight: 310,000 lb. to 180,000 lb. in 10,000 lb. intervals.

(b) Altitudes: every 1,000 ft. from 30,000 ft. to 43,000 ft.

(c) Temperature: from J.S.A. - 10°C to J.S.A. + 30°C in 5° intervals (to J.S.A. + 27°C in Table 8).

The underlined fuel flows shown in the tables correspond to the cruising altitude for best range. Fuel flows are tabulated for altitudes up to those corresponding to the 1.2 g buffet boundary. In certain circumstances, e.g. if a subsequent A.T.C. clearance to climb to a higher cruising level is unlikely, it may be advantageous to begin the cruise at an altitude above the best range altitude, so that a single reasonably economical altitude can be maintained throughout the flight. This initial cruise at or near the 1.2 g buffet margin may be affected by forecast turbulent conditions.

Descent, Table 11

6. Table 11 shows the descent performance at the normal speed of $0.84M_{IND}$ 290 knots I.A.S., whichever is the higher: the changeover occurs at about 34,000 ft.

This table is independent of aircraft weight and temperature. Correction factors are shown on this table for descent at a speed of M_{MO}/V_{MO}.

Holding, Table 12

7. Table 12A shows the holding performance at the normal holding speed of 230 knots I.A.S. at or below 20,000 feet, 250 knots I.A.S. above. The aircraft is at a mean weight of 230,000 lb. and is in the clean condition, i.e. with flaps, slats and undercarriage retracted.

Table 12B shows holding performance at certain other speeds and flap settings and includes correction factors to be applied to the fuel flow with anti-icing operative.

Diversion, Table 13

8. Tables 13A and B show the fuel, time and climb height attained for diversion distances of up to 500 nautical miles. The tables assume a diversion from 1,000 feet to 1,000 feet at a constant start-of-climb weight of 220,000 lb. The optimum fuel procedure is followed, i.e. a climb to the height shown followed directly by a descent. Where 43,000 feet is reached there is an intermediate period of cruise at 0.84 M_{IND}.

The table includes a 5% contingency fuel and assumes J.S.A. + 10°C conditions.

Table 13C shows the corrections that can be applied for changes in the following parameters:

(i) Start height
(ii) End height
(iii) Start height
(iv) Cruise height.

Low Level Cruise, Table 14

9. Table 14A gives the T.A.S. and fuel flow in lb./hour for flights below 30,000 feet at an indicated air speed of 300 knots. The table assumes a mean weight of 250,000 lb; however, correction factors for other weights are shown.

Table 14B is an abbreviated table giving the fuel flow and T.A.S. when cruising at the maximum operating speed, V_{MO} at 15, 20 and 28,000 feet.

Cruise with Undercarriage Down, Table 15

10. Information for this flight condition is not yet available.

Critical Point and Point of No Return, Table 16

Table 16 gives plotting figures for the calculation of C.P. and P.N.R. Two sets of figures are given, one for flights of less than six hours and the other for flights of more than six hours.

Cruise Control, Tables 17 to 19

12. Tables 17A and B show for the high speed cruise at 0.88 M_{IND} the percent **H.P.R.P.M. and** the fuel flow in lb./minute/engine at various altitudes and weights. Also shown are the indicated outside air temperature and the corresponding T.A.S. for each altitude. Incorporated in the altitude column is the I.A.S. in knots.

Tables 18A and B and 19A and B present similar data for the 0.86 M_{IND} and 0.84 M_{IND} cruises respectively.

Re-Flight Planning at Low Level, Table 20

13. These tables **permit a rapid** assessment of the fuel required to complete a flight in the event of a total or partial pressurisation failure.

Table 20A shows the fuel and time for a 300 knot I.A.S. level cruise at 30,000 feet and descent to sea level for a range of initial weights and wind components. The fuel is obtained from the table at the intersection of the vertical initial weight column with the horizontal distance column.

Example:

Distance to go = 1826 **n.ms.**

Mean wind component = - 60 kts.

Initial weight = 270,000 lb.

Hence Table 20A gives:-

Fuel = 61,000 lb.

Time = 4 hr. 34 min. in J.S.A. + 10°C.

Tables 20B, C, D and E show similar data with cruising altitude of 25, 20, 15 and 10,000 feet respectively.

TABLE 5

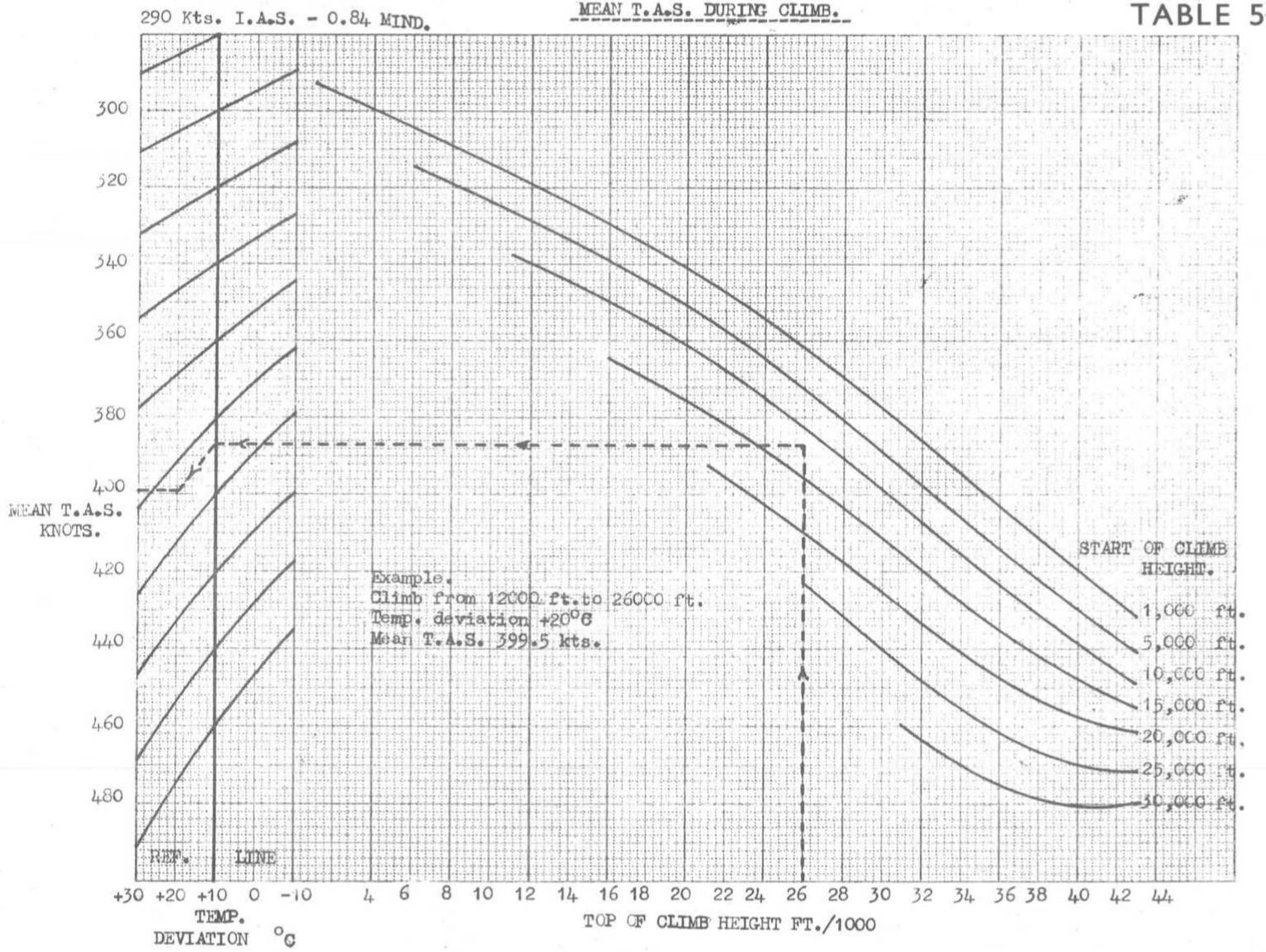

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TABLE 6A
J.S.A.—12°C TO —8°C

4 ENGINE CLIMB

PRESSURE HEIGHT FEET	MEAN T.A.S. KTS.	TAKE-OFF WEIGHT - LB./1000																														MEAN T.A.S. KTS.	PRESSURE HEIGHT FEET
		323000		320000		310000		300000		290000		280000		270000		260000		250000		240000		230000		220000		210000		200000		190000		180000			
		FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.		
43000	410																			9600	19	9100	18	8700	17	8200	16	7800	15	7400	14	7100	13	410	43000
42000	406																	9800	19	9300	18	8800	17	8400	16	8000	15	7600	14	7300	14	6900	13	406	42000
41000	402															10100	20	9500	18	9100	17	8600	16	8200	15	7800	14	7500	14	7100	13	6800	12	402	41000
40000	398													10400	20	9800	19	9300	18	8800	17	8400	16	8000	15	7700	14	7300	13	7000	13	6600	12	398	40000
39000	394									11200	23	10600	20	10000	19	9500	18	9000	17	8600	16	8200	15	7900	14	7500	14	7200	13	6800	12	6500	12	394	39000
38000	391							11600	25	10800	22	10200	19	9700	18	9300	17	8800	16	8400	15	8000	15	7700	14	7400	13	7000	12	6700	12	6400	11	391	38000
37000	387					11700	23	11100	22	10400	21	9900	18	9400	17	9000	16	8600	16	8200	15	7900	14	7500	13	7200	13	6900	12	6600	11	6300	11	387	37000
36000	384	12100	24	11800	22	11200	21	10600	20	10100	19	9600	18	9200	17	8800	16	8400	15	8000	14	7700	14	7400	13	7100	12	6700	12	6400	11	6200	10	384	36000
35000	380	11700	22	11400	21	10800	20	10300	19	9800	18	9300	17	9000	16	8600	15	8200	14	7800	14	7500	14	7200	12	7000	12	6600	11	6300	10	6100	10	380	35000
34000	377	11300	21	11000	20	10500	19	10000	18	9500	17	9100	16	8800	15	8400	15	8000	14	7600	13	7300	13	7000	12	6800	11	6500	11	6200	10	6000	10	377	34000
33000	373	10900	20	10700	19	10100	18	9700	17	9300	16	8800	15	8500	15	8100	14	7800	13	7400	13	7100	13	6800	12	6500	11	6300	10	6000	10	5800	9	373	33000
32000	369	10500	19	10300	18	9800	17	9400	16	9000	16	8600	15	8300	14	7900	14	7600	13	7300	12	7000	12	6700	11	6500	11	6200	10	5900	9	5700	9	369	32000
31000	366	10200	18	10000	17	9500	16	9100	15	8800	15	8400	14	8100	14	7700	13	7400	12	7200	12	6900	12	6600	11	6400	10	6100	10	5800	9	5600	9	366	31000
30000	362	9800	17	9600	16	9200	15	8800	15	8400	14	8100	13	7800	13	7500	12	7200	12	7000	11	6700	11	6400	11	6200	10	5900	9	5600	9	5400	9	362	30000
29000	358	9500	16	9300	15	8900	15	8500	14	8200	14	7900	13	7600	13	7300	12	7000	11	6800	11	6500	11	6300	10	6000	10	5800	9	5500	8	5300	8	358	29000
28000	354	9100	16	9000	15	8600	14	8300	14	7900	13	7600	12	7300	12	7000	11	6800	11	6500	10	6300	10	6100	10	5800	9	5600	9	5400	8	5200	8	354	28000
27000	350	8800	15	8700	14	8300	14	8000	13	7700	13	7300	12	7100	12	6900	11	6600	10	6400	10	6100	10	5900	10	5600	9	5400	8	5300	8	5100	8	350	27000
26000	346	8500	14	8400	13	8000	13	7700	12	7500	12	7100	11	6900	11	6700	11	6400	10	6200	10	5900	9	5700	9	5500	8	5300	8	5100	8	4900	8	346	26000
25000	343	8200	13	8100	13	7800	13	7400	12	7300	12	6900	11	6700	11	6500	10	6200	10	6000	9	5800	9	5600	9	5300	8	5100	8	5000	7	4800	7	343	25000
24000	340	7900	13	7800	12	7500	12	7200	11	7000	11	6700	10	6500	10	6300	10	6000	9	5800	9	5600	8	5400	8	5200	8	5000	7	4900	7	4700	7	340	24000
23000	337	7600	12	7500	12	7200	12	6900	11	6700	11	6500	10	6300	10	6100	10	5900	9	5700	8	5500	8	5300	8	5100	7	4900	7	4800	7	4600	7	337	23000
22000	334	7300	11	7200	11	7000	11	6700	10	6500	10	6300	10	6100	9	5900	9	5700	8	5500	8	5300	7	5100	7	5000	7	4800	7	4700	7	4500	7	334	22000
21000	331	7100	10	7000	11	6800	11	6500	10	6300	10	6100	9	5900	9	5700	8	5500	8	5300	7	5100	7	5000	7	4800	7	4700	7	4600	6	4400	6	331	21000
20000	327	6900	10	6700	10	6500	10	6300	9	6100	9	5900	9	5700	8	5500	8	5300	8	5100	7	5000	7	4800	7	4700	7	4500	6	4400	6	4200	6	327	20000
19000	325	6700	9	6500	10	6300	10	6100	9	5900	9	5700	9	5500	8	5300	8	5100	7	5000	6	4900	6	4700	6	4600	6	4400	6	4300	5	4100	6	325	19000
18000	322	6500	9	6200	9	6000	9	5800	8	5700	8	5500	8	5300	7	5100	7	5000	7	4800	6	4700	6	4500	6	4500	6	4300	6	4200	6	4000	6	322	18000
17000	320	6300	8	6000	9	5700	9	5600	8	5400	8	5300	8	5100	7	5000	7	4800	6	4700	6	4500	6	4400	6	4300	6	4100	6	4000	5	3900	5	320	17000
16000	317	6100	8	5900	8	5600	8	5400	8	5200	7	5000	7	4900	7	4800	7	4600	6	4500	6	4400	6	4300	6	4100	6	4000	5	3900	5	3800	5	317	16000
15000	315	5900	8	5800	8	5500	8	5300	8	5200	7	5000	7	4900	7	4800	6	4700	6	4500	6	4400	5	4300	5	4200	5	4000	5	3900	5	3800	5	3700	5	315	15000
14000	312	5700	7	5600	7	5400	7	5200	7	5000	6	4900	6	4800	6	4600	6	4500	6	4400	5	4300	5	4200	5	4100	5	4000	5	3900	5	3800	5	3700	5	3600	5	312	14000
13000	310	5500	7	5400	7	5200	7	5000	6	4900	6	4800	6	4600	6	4500	6	4300	6	4200	5	4100	5	4000	5	3900	5	3800	5	3700	5	3600	4	3500	4	3400	4	310	13000
12000	308	5300	7	5200	6	5000	6	4900	6	4800	6	4600	6	4500	6	4400	6	4300	6	4200	5	4100	5	4000	5	3900	5	3800	5	3700	4	3600	4	3500	4	3400	4	308	12000
11000	305	5100	6	5000	6	4800	6	4700	6	4600	6	4500	6	4400	5	4300	5	4200	5	4100	5	4000	5	3900	5	3800	5	3700	4	3600	4	3500	4	3400	4	3300	4	305	11000
10000	303	4900	6	4800	6	4600	6	4500	6	4400	6	4300	6	4200	5	4100	5	4000	5	3900	5	3800	5	3700	4	3700	4	3600	4	3500	4	3400	4	3300	4	3200	4	303	10000
9000	301	4700	5	4600	5	4500	5	4400	5	4300	5	4200	5	4100	5	4000	5	3900	5	3800	4	3700	4	3600	4	3500	4	3500	4	3400	4	3300	4	3200	4	3100	4	301	9000
8000	299	4500	5	4400	5	4300	5	4200	5	4100	5	4000	5	3900	5	3800	5	3700	4	3700	4	3600	4	3500	4	3400	4	3400	4	3300	4	3200	4	3100	4	3000	3	299	8000
7000	297	4300	4	4200	4	4100	4	4000	4	3900	4	3800	4	3800	4	3700	4	3600	4	3600	4	3500	4	3400	4	3300	4	3300	4	3200	4	3100	4	3000	3	2900	3	297	7000
6000	295	4100	4	4000	4	3900	4	3800	4	3700	4	3700	4	3600	4	3500	4	3500	4	3400	4	3300	4	3300	4	3200	4	3100	4	3100	3	3000	3	2900	3	2800	3	295	6000
5000	292	3900	3	3900	3	3800	3	3700	3	3600	3	3600	3	3500	3	3500	3	3400	3	3400	3	3300	3	3200	3	3200	3	3100	3	3000	3	2900	3	2900	3	2800	3	292	5000
4000	291	3700	3	3700	3	3600	3	3600	3	3500	3	3500	3	3400	3	3400	3	3300	3	3300	3	3200	3	3200	3	3100	3	3100	3	3000	3	2900	3	2900	3	2800	3	291	4000
3000	289	3600	3	3500	3	3500	3	3400	3	3400	3	3400	3	3300	3	3300	3	3200	3	3200	3	3100	3	3100	3	3000	3	3000	3	2900	3	2900	3	2800	3	2800	3	289	3000
2000	287	3500	3	3400	3	3400	3	3300	3	3300	3	3300	3	3200	3	3200	3	3100	3	3100	3	3000	3	3000	3	2900	3	2900	3	2900	3	2800	3	2800	3	2700	3	287	2000
1000	286	3400	3	3300	3	3300	3	3200	3	3200	3	3200	3	3100	3	3100	3	3000	3	3000	3	2900	3	2900	3	2900	3	2800	3	2800	3	2800	3	2700	3	2700	3	286	1000
0	284	3300	3	3300	3	3200	3	3200	3	3100	3	3100	3	3000	3	3000	3	3000	3	2900	3	2900	3	2800	3	2800	3	2800	3	2700	3	2700	3	2700	3	2600	3	284	0

NOTE
1. Fuel and time include 2000 lb. and 2 minute take-off allowance
2. To obtain distance multiply T.A.S. by climb time less 2 minutes
3. High level airfields - a) Extract mean T.A.S. from Table 5 distance = mean T.A.S. x time difference
   b) Fuel is difference between airfield and cruise altitude + 2000 lb.
   c) Time is difference between airfield and cruise altitude + 2 minutes

J.S.A. temperature at 15,000 feet:- 15°C
J.S.A. temperature at 20,000 feet:- 25°C

TABLE 6B
J.S.A.—7°C TO —3°C

PRESSURE HEIGHT FEET	MEAN T.A.S KTS	TAKE-OFF WEIGHT - LB																														MEAN T.A.S KTS	PRESSURE HEIGHT FEET
		323000		320000		310000		300000		290000		280000		270000		260000		250000		240000		230000		220000		210000		200000		190000		180000			
		FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN		
43000	416																					9400	20	8800	18	8400	18	7900	16	7500	16	7100	15	416	43000
42000	411																			9600	20	9100	19	8600	17	8200	17	7800	15	7300	15	7000	14	411	42000
41000	407																	10400	21	9800	20	9300	19	8800	18	8400	16	8000	16	7600	15	7200	14	6800	13	407	41000
40000	403													10700	22	10000	20	9500	19	9000	18	8600	17	8200	16	7800	15	7400	14	7000	14	6700	13	403	40000
39000	399											10700	23	10300	21	9700	20	9200	19	8800	17	8300	17	8000	16	7600	15	7200	14	6900	14	6500	13	399	39000
38000	395							11600	24	10900	23	10300	21	9900	20	9400	19	8900	18	8500	16	8100	16	7800	15	7400	14	7100	13	6800	13	6400	12	395	38000
37000	392					11800	24	11300	23	10500	22	10000	20	9500	19	9100	18	8700	17	8300	16	7900	15	7600	15	7200	14	6900	13	6600	12	6300	11	392	37000
36000	388	12500	26	11900	25	11400	22	11000	22	10300	21	9800	19	9400	18	9000	17	8500	16	8100	15	7800	14	7500	14	7100	13	6800	12	6500	11	6200	11	388	36000
35000	384	12100	24	11500	23	11000	21	10700	21	10000	20	9600	19	9200	18	8800	16	8400	15	8000	14	7700	13	7400	13	7000	12	6700	12	6400	11	6100	11	384	35000
34000	381	11700	23	11200	22	10700	20	10400	20	9700	19	9300	18	8900	17	8600	16	8200	15	7900	14	7500	13	7200	13	6800	12	6600	11	6300	11	6000	10	381	34000
33000	377	11300	22	10900	21	10400	19	10100	19	9400	18	9000	17	8700	16	8400	15	8000	14	7800	13	7400	12	7000	12	6700	11	6500	11	6200	11	5900	10	377	33000
32000	373	10900	21	10600	20	10100	18	9700	18	9200	17	8800	16	8400	15	8100	15	7800	14	7600	13	7200	12	6800	12	6500	11	6300	11	6000	10	5600	10	373	32000
31000	370	10600	20	10300	19	9800	18	9400	18	9000	17	8600	16	8200	15	7900	14	7600	13	7400	12	7000	11	6700	11	6400	11	6200	10	5900	10	5700	9	370	31000
30000	365	10200	19	10000	18	9500	17	9100	17	8700	16	8300	15	7900	14	7700	13	7400	12	7200	12	6800	11	6500	11	6200	10	6000	10	5800	9	5600	9	365	30000
29000	361	9800	18	9700	17	9200	16	8800	16	8400	15	8000	14	7700	13	7500	12	7200	12	7000	11	6600	10	6400	10	6100	10	5900	9	5700	9	5500	9	361	29000
28000	357	9500	17	9300	16	8900	15	8500	15	8100	14	7700	13	7400	12	7200	12	6900	11	6700	11	6400	10	6200	10	5900	9	5700	9	5500	8	5300	8	357	28000
27000	353	9100	16	9000	16	8600	15	8300	15	7900	14	7500	13	7200	12	7000	11	6700	11	6500	11	6300	10	6100	9	5800	9	5600	9	5400	8	5200	8	353	27000
26000	350	8800	15	8700	15	8300	14	8000	14	7600	13	7300	12	7000	11	6800	11	6500	11	6300	10	6100	9	5900	9	5600	9	5400	8	5200	8	5100	8	350	26000
25000	346	8500	14	8400	14	8000	14	7700	14	7400	13	7100	12	6800	11	6600	10	6300	10	6100	10	5900	9	5700	9	5500	8	5300	8	5100	8	5000	7	346	25000
24000	343	8200	14	8000	13	7700	13	7400	13	7100	12	6800	11	6600	11	6400	10	6100	10	5900	10	5700	9	5500	8	5300	8	5100	8	4900	7	4800	7	343	24000
23000	340	7900	13	7800	13	7500	13	7200	13	6900	12	6600	11	6400	11	6200	9	6000	10	5800	9	5600	8	5400	8	5200	8	5000	8	4800	7	4700	7	340	23000
22000	336	7600	12	7500	12	7200	12	6900	12	6700	11	6400	10	6200	10	6000	9	5800	9	5600	9	5400	8	5200	8	5000	8	4900	7	4700	7	4600	7	336	22000
21000	334	7300	12	7200	12	6900	12	6700	12	6500	11	6200	10	6000	10	5800	9	5600	9	5400	8	5200	8	5100	8	4900	7	4800	7	4600	7	4500	6	334	21000
20000	330	7000	11	6900	11	6600	11	6400	11	6200	10	6000	9	5800	9	5600	8	5400	8	5200	8	5000	8	4900	7	4700	7	4600	7	4400	6	4300	6	338	20000
19000	328	6800	11	6700	11	6400	11	6200	11	6000	10	5800	9	5600	8	5500	8	5300	8	5100	8	4900	7	4800	7	4600	7	4500	7	4300	6	4200	6	328	19000
18000	325	6500	10	6400	10	6100	10	6000	10	5800	9	5600	8	5400	8	5300	8	5100	7	4900	7	4700	7	4600	7	4400	7	4300	6	4200	6	4100	6	325	18000
17000	322	6200	9	6100	10	5900	10	5800	10	5600	9	5400	8	5200	8	5100	7	4900	7	4700	7	4600	7	4500	7	4300	6	4200	6	4100	5	4000	5	322	17000
16000	320	6000	9	5800	9	5600	9	5500	9	5300	8	5100	7	5000	7	4900	7	4700	7	4500	6	4400	6	4300	6	4100	6	4000	6	3900	5	3800	5	320	16000
15000	317	5700	9	5600	9	5400	9	5300	9	5100	8	5000	7	4800	7	4700	7	4600	6	4400	6	4300	6	4200	6	4000	6	3900	6	3800	5	3700	5	317	15000
14000	315	5400	8	5400	8	5200	8	5100	8	4900	7	4800	7	4600	7	4500	6	4400	6	4200	6	4100	6	4000	6	3900	6	3800	5	3700	5	3600	4	315	14000
13000	313	5200	8	5200	7	5000	7	4900	7	4700	7	4600	7	4400	6	4300	6	4100	6	4000	6	3900	5	3800	5	3700	5	3600	5	3500	4	3500	4	313	13000
12000	310	4900	7	4900	6	4700	6	4600	6	4500	6	4400	6	4200	6	4100	6	4000	5	3900	5	3800	5	3700	5	3600	5	3500	5	3400	4	3400	4	310	12000
11000	308	4600	7	4700	6	4500	6	4400	6	4300	6	4200	6	4100	6	4000	5	3900	5	3800	5	3700	5	3600	5	3500	5	3400	5	3300	4	3300	4	308	11000
10000	306	4400	6	4400	5	4300	5	4200	5	4100	5	4000	5	3900	5	3800	5	3700	5	3600	5	3500	5	3400	5	3400	5	3300	4	3200	4	3200	4	306	10000
9000	303	4100	6	4200	5	4100	5	4000	5	3900	5	3800	5	3700	5	3600	5	3600	5	3500	5	3400	5	3300	4	3300	4	3200	4	3100	3	3100	3	303	9000
8000	301	3900	5	3900	4	3800	4	3700	4	3600	4	3500	4	3500	4	3400	4	3400	4	3300	4	3200	4	3100	4	3100	4	3000	4	3000	3	3000	3	301	8000
7000	299	3700	5	3700	4	3600	4	3500	4	3400	4	3400	4	3300	4	3300	4	3300	4	3200	4	3100	4	3000	4	3000	4	2900	4	2900	3	2900	3	299	7000
6000	297	3500	5	3400	4	3400	4	3300	4	3200	4	3200	4	3100	4	3100	4	3100	4	3000	4	2900	4	2900	4	2800	4	2800	3	2800	3	2800	3	297	6000
5000	295	3300	4	3200	4	3200	4	3100	4	3000	4	3000	4	2900	4	2900	4	2900	4	2800	4	2800	4	2800	3	2700	3	2700	3	2700	3	2700	3	295	5000
4000	293	3000	4	2900	3	2900	3	2800	3	2800	3	2800	3	2700	3	2700	3	2700	3	2600	3	2600	3	2600	3	2500	3	2500	3	2500	3	2500	3	293	4000
3000	291	2700	4	2700	3	2700	3	2600	3	2600	3	2600	3	2600	3	2600	3	2500	3	2500	3	2500	3	2500	3	2400	3	2400	3	2400	3	2400	3	291	3000
2000	289	2500	3	2500	2	2500	2	2400	2	2400	2	2400	2	2400	2	2400	2	2400	2	2300	2	2300	2	2300	2	2300	2	2300	2	2300	2	2300	2	289	2000
1000	288	2300	3	2300	2	2300	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	288	1000
0	286	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	286	0

NOTE
1. Fuel and time include 2000 lb. and 2 minute take-off allowances.
2. To obtain distance multiply T.A.S. by climb time less 2 minutes
3. High level airfields - a) Extract mean T.A.S. from Table 5 Distance = mean T.A.S. x time difference
   b) Fuel is difference between airfield and cruise altitude + 2000 lb.
   c) Time is difference between airfield and cruise altitude + 2 minutes

J.S.A. temperature at 15,000 feet - 15°C
J.S.A. temperature at 20,000 feet - 25°C

RESTRICTED

4 ENGINE CLIMB

TABLE 6C
J.S.A.—2°C TO +2°C

PRESSURE HEIGHT FEET	MEAN T.A.S. KTS.	TAKE-OFF WEIGHT LB. 323000 FUEL LB.	TIME MIN.	320000 FUEL LB.	TIME MIN.	310000 FUEL LB.	TIME MIN.	300000 FUEL LB.	TIME MIN.	290000 FUEL LB.	TIME MIN.	280000 FUEL LB.	T/D/E MIN	270000 FUEL L.D.	TIME MIN	260000 FUEL LB.	TIME MIN	250000 FUEL LB.	TIME MIN	240000 FUEL LB.	TIME MIN	230000 FUEL LB.	TIME MIN	220000 FUEL LB.	TIME MIN	210000 FUEL LB.	TIME MIN	200000 FUEL LB.	TIME MIN	190000 FUEL LB.	TIME MIN	180000 FUEL LB.	TIME MIN	MEAN T.A.S. KTS.	PRESSURE HEIGHT FEET
43000	424																			10200	22	9600	21	9100	19	8600	18	8100	17	7700	16	7200	15	424	43000
42000	418																	10500	23	9900	21	9300	20	8800	18	8400	17	7900	16	7500	15	7100	14	418	42000
41000	412															10800	23	10100	21	9600	20	9100	19	8600	18	8200	17	7700	16	7300	15	7000	14	412	41000
40000	408													11100	24	10400	22	9800	20	9300	19	8800	18	8400	17	8000	16	7600	15	7200	14	6800	13	408	40000
39000	404											11500	24	10700	23	10100	21	9500	20	9100	18	8600	17	8200	16	7800	15	7400	15	7100	14	6700	13	404	39000
38000	400									11700	25	11000	23	10300	22	9600	20	9300	19	8800	18	8400	17	8000	16	7600	15	7300	14	6900	13	6600	13	400	38000
37000	396							11900	25	11300	23	10600	22	10000	21	9500	19	9100	18	8600	17	8200	16	7800	15	7500	14	7100	14	6800	13	6400	12	396	37000
36000	393	13300	28	13100	28	12200	26	11500	24	10900	22	10200	21	9700	20	9300	19	8800	17	8400	16	8000	16	7700	15	7300	14	7000	13	6700	12	6300	12	393	36000
35000	389	12700	27	12500	27	11700	24	11100	22	10500	21	9900	20	9400	19	9000	19	8600	17	8200	16	7800	16	7500	15	7100	14	6900	13	6600	12	6200	12	389	35000
34000	385	12200	25	12000	25	11300	23	10700	21	10200	20	9600	19	9200	18	8800	18	8400	16	8000	15	7600	15	7300	14	7000	13	6700	12	6400	12	6100	11	385	34000
33000	381	11700	23	11500	23	10900	21	10300	20	9900	19	9300	18	8900	17	8500	17	8200	16	7800	15	7500	14	7200	14	6800	13	6600	12	6300	12	6000	11	381	33000
32000	377	11300	22	11100	22	10500	20	10000	19	9600	18	9100	17	8700	16	8300	16	8000	15	7600	14	7300	13	7000	13	6700	12	6400	11	6100	11	5900	10	377	32000
31000	373	10900	21	10700	21	10100	20	9700	19	9300	18	8800	17	8400	16	8000	16	7800	15	7400	14	7100	13	6800	13	6500	12	6300	11	6000	11	5800	10	373	31000
30000	369	10500	20	10300	20	9800	19	9400	18	9000	17	8500	16	8200	15	7800	15	7500	14	7200	13	6900	12	6600	12	6400	11	6100	11	5900	10	5600	10	369	30000
29000	364	10100	19	9900	19	9500	18	9100	17	8700	16	8200	15	7900	15	7600	14	7300	13	7000	13	6800	12	6400	12	6200	11	6000	11	5700	10	5500	10	364	29000
28000	360	9600	18	9600	18	9200	17	8800	16	8400	15	8000	14	7700	14	7400	13	7100	12	6800	12	6600	11	6300	11	6000	10	5800	10	5600	9	5300	9	360	28000
27000	356	9400	17	9200	17	8800	17	8500	16	8100	15	7700	14	7400	14	7100	13	6900	12	6600	12	6400	11	6100	11	5800	10	5700	10	5500	9	5200	9	356	27000
26000	353	9100	16	8900	16	8500	16	8200	15	7800	14	7500	13	7200	13	6900	12	6700	11	6400	11	6200	10	5900	10	5700	10	5500	9	5300	9	5100	9	353	26000
25000	349	8700	15	8600	15	8200	15	7900	14	7500	13	7200	13	7000	12	6700	12	6500	11	6300	11	6000	10	5900	10	5500	10	5400	9	5200	9	4900	9	349	25000
24000	346	8400	14	8300	14	7900	14	7600	13	7300	12	7000	12	6800	11	6500	11	6300	10	6100	10	5900	9	5600	9	5400	9	5200	8	5000	8	4800	8	346	24000
23000	343	8100	14	8000	14	7600	14	7300	13	7000	12	6700	12	6500	11	6300	11	6100	10	5900	10	5700	9	5400	9	5200	9	5100	8	4900	8	4700	8	343	23000
22000	340	7800	13	7700	13	7300	13	7100	12	6800	11	6500	11	6300	10	6100	10	5900	10	5700	9	5500	9	5300	9	5100	8	5000	8	4800	8	4600	7	340	22000
21000	337	7500	13	7400	13	7000	12	6800	12	6600	11	6300	11	6100	10	5900	10	5700	10	5500	9	5400	9	5200	9	5000	8	4800	8	4600	8	4500	7	337	21000
20000	334	7200	12	7100	12	6800	11	6600	11	6400	10	6100	10	5900	9	5700	9	5500	9	5400	8	5200	8	5000	8	4800	7	4700	7	4500	7	4400	6	334	20000
19000	331	6900	12	6800	12	6500	11	6300	11	6100	10	5900	10	5700	9	5500	9	5300	9	5200	8	5000	8	4800	8	4700	7	4600	7	4400	7	4300	6	331	19000
18000	328	6600	11	6500	11	6300	10	6100	10	5900	9	5700	9	5500	9	5300	8	5100	8	5000	8	4800	8	4700	7	4600	7	4400	7	4300	7	4200	6	328	18000
17000	326	6300	10	6200	10	6000	10	5800	10	5700	9	5500	9	5300	9	5100	8	4900	8	4800	8	4700	8	4600	7	4500	7	4300	7	4100	7	4000	6	326	17000
16000	323	6100	9	6000	9	5800	9	5600	9	5500	8	5300	8	5100	8	5000	7	4800	7	4700	7	4500	7	4400	6	4300	6	4100	6	4000	6	3900	5	323	16000
15000	321	5800	9	5700	9	5500	9	5300	9	5200	8	5100	8	4900	8	4800	7	4600	7	4500	7	4400	7	4200	6	4100	6	4000	6	3900	6	3800	5	321	15000
14000	318	5500	8	5500	8	5300	8	5100	8	5000	8	4900	7	4700	7	4600	7	4400	7	4300	7	4200	6	4100	6	4000	6	3900	6	3800	6	3700	5	318	14000
13000	316	5200	8	5200	8	5100	8	4900	8	4800	8	4700	7	4500	7	4400	7	4300	7	4200	7	4100	6	3900	6	3800	6	3700	6	3600	6	3500	5	316	13000
12000	313	5000	7	5000	7	4900	7	4700	7	4600	7	4500	6	4300	6	4200	6	4100	6	4000	6	3900	5	3800	5	3700	5	3600	5	3500	5	3400	4	313	12000
11000	311	4700	7	4700	7	4600	7	4400	7	4300	7	4200	5	4100	6	4000	5	3900	6	3800	6	3700	5	3600	5	3500	5	3400	5	3300	4	3200	4	311	11000
10000	308	4500	6	4500	6	4400	6	4200	6	4100	6	4000	6	3900	6	3800	6	3700	5	3600	5	3600	5	3500	5	3400	5	3400	5	3300	5	3200	4	308	10000
9000	306	4200	6	4200	6	4100	6	4000	6	3900	6	3800	6	3700	6	3600	6	3500	5	3500	5	3500	5	3400	5	3300	5	3200	5	3100	5	3100	4	306	9000
8000	304	4000	5	4000	5	3900	5	3800	5	3700	5	3600	5	3600	5	3500	5	3400	4	3300	4	3300	4	3200	4	3100	4	3100	4	3000	4	3000	4	304	8000
7000	302	3700	5	3700	5	3600	5	3500	5	3500	5	3400	5	3400	5	3300	5	3200	4	3200	4	3100	4	3000	4	3000	4	2900	4	2900	4	2900	4	302	7000
6000	300	3500	5	3500	5	3400	5	3300	5	3300	4	3200	4	3200	4	3100	4	3000	4	3000	4	2900	4	2900	4	2900	4	2800	4	2800	4	2800	4	300	6000
5000	298	3300	5	3300	5	3200	5	3100	5	3100	4	3000	4	3000	4	2900	4	2900	4	2800	4	2800	4	2800	4	2800	4	2800	4	2700	4	2600	4	298	5000
4000	296	3000	4	3000	4	3000	4	2900	4	2900	3	2800	3	2800	3	2700	3	2700	3	2700	3	2600	3	2600	3	2600	3	2500	3	2500	3	2500	3	296	4000
3000	294	2700	4	2700	4	2700	4	2600	4	2600	3	2600	3	2600	3	2500	3	2500	3	2500	3	2500	3	2500	3	2500	3	2400	3	2400	3	2400	3	294	3000
2000	293	2500	3	2500	3	2500	3	2400	3	2400	3	2400	3	2400	3	2300	3	2300	3	2300	3	2300	3	2300	3	2300	3	2300	3	2300	3	2300	3	293	2000
1000	291	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2100	3	2100	3	291	1000
0	290	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	290	0

NOTE
1. Fuel and time include 2000 lb. and 2 minute take-off allowances.
2. To obtain distance multiply T.A.S. by climb time less 2 minutes.
3. High level airfields - a) Extract mean T.A.S. from Table 5 Distance = mean T.A.S. x time difference.
   b) Fuel is difference between airfield and cruise altitude + 2000 lb.
   c) Time is difference between airfield and cruise altitude + 2minutes.

J.S.A. temperature at 15,000 feet - 15°C
J.S.A. temperature at 20,000 feet - 25°C

4. ENGINE CLIMB

TABLE 6D
J.S.A.+3°C TO +7°C

PRESSURE HEIGHT	M.A.S.	TAKE-OFF WEIGHT - LB. 323000		320000		310000		300000		290000		280000		270000		260000		250000		240000		230000		220000		210000		200000		190000		180000		MEAN T.A.S.	PRESSURE HEIGHT
FEET	KTS.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	KTS.	FEET
43000	430																			10200	24	9900	23	9300	22	8800	21	8300	18	7800	18	7400	17	430	43000
42000	424																			9600	22	9100	20	8600	20	8100	18	7600	17	7200	16	424	42000
41000	419															11300	25	10600	24	9900	22	9400	21	8900	20	8400	19	8000	17	7500	17	7100	15	419	41000
40000	414													11700	25	10900	24	10200	23	9600	21	9100	20	8700	19	8200	18	7800	17	7400	16	7000	15	414	40000
39000	409											12000	27	11200	24	10500	23	9900	22	9400	20	8900	19	8500	18	8000	17	7600	16	7200	15	6800	15	409	39000
38000	405									12200	27	11500	25	10800	23	10200	22	9600	21	9100	19	8700	19	8300	18	7900	17	7500	16	7100	15	6700	14	405	38000
37000	401							12400	28	11700	25	11100	24	10400	22	9900	21	9300	20	8900	18	8500	18	8100	17	7700	16	7300	15	7000	14	6600	13	401	37000
36000	397					12700	30	12100	27	11400	25	10800	23	10200	22	9600	20	9100	19	8700	18	8300	17	7900	16	7500	15	7200	14	6800	14	6500	13	397	36000
35000	393	13300	31	13200	30	12300	28	11700	26	11000	24	10400	22	9900	21	9300	20	8800	19	8500	18	8100	17	7700	16	7300	15	7000	14	6600	14	6300	13	393	35000
34000	390	12900	28	12700	28	11900	26	11300	24	10700	23	10100	21	9600	20	9100	19	8600	18	8300	17	7900	16	7500	15	7200	14	6900	13	6500	13	6200	12	390	34000
33000	385	12500	27	12200	26	11500	24	10900	23	10300	22	9800	20	9300	19	8800	19	8400	18	8100	17	7700	16	7300	15	7000	14	6700	13	6400	13	6100	12	385	33000
32000	381	12100	26	11700	25	11100	23	10500	21	10000	20	9500	18	9000	18	8600	18	8200	17	7900	16	7500	15	7200	14	6900	13	6600	12	6300	12	6000	11	381	32000
31000	377	11700	24	11200	24	10700	22	10100	20	9600	19	9200	18	8700	18	8300	17	7900	17	7600	16	7300	15	7000	14	6700	13	6400	12	6100	12	5800	11	377	31000
30000	373	11200	23	10800	23	10300	21	9800	19	9300	18	8900	17	8500	17	8100	16	7700	16	7400	14	7100	14	6800	13	6500	12	6200	11	5900	11	5700	10	373	30000
29000	369	10800	22	10400	22	9900	20	9400	18	9000	17	8600	16	8200	16	7900	15	7500	15	7200	14	6900	14	6600	13	6300	12	6000	11	5700	11	5500	10	369	29000
28000	364	10400	20	10000	20	9500	19	9100	17	8700	16	8300	15	8000	15	7700	14	7300	14	7000	13	6700	13	6500	12	6200	11	5900	10	5600	10	5400	9	364	28000
27000	360	10000	19	9600	19	9100	18	8800	17	8400	16	8000	15	7700	15	7400	14	7000	14	6800	13	6500	13	6300	12	6000	11	5700	10	5400	10	5200	9	360	27000
26000	357	9600	18	9300	18	8800	17	8500	16	8100	15	7700	14	7400	14	7200	13	6800	13	6600	12	6300	12	6100	11	5800	11	5600	10	5300	10	5100	9	357	26000
25000	353	9200	17	8900	17	8500	16	8200	16	7800	15	7400	14	7100	14	6900	13	6600	13	6400	12	6100	12	5900	11	5600	11	5400	10	5200	10	5000	9	353	25000
24000	350	8800	16	8600	15	8200	15	7900	15	7500	14	7200	13	6900	13	6700	12	6400	12	6200	11	5900	11	5700	10	5500	10	5300	9	5100	9	4900	8	350	24000
23000	346	8500	15	8300	15	7900	15	7600	15	7200	14	6900	13	6700	13	6500	12	6200	12	6000	11	5700	11	5500	10	5300	10	5100	9	4900	9	4700	8	346	23000
22000	343	8200	14	8000	14	7600	14	7300	14	7000	13	6700	12	6500	12	6300	11	6000	11	5800	10	5500	10	5400	9	5200	9	5000	8	4800	8	4600	7	343	22000
21000	340	7800	14	7700	13	7300	13	7000	13	6700	12	6500	11	6300	11	6100	11	5800	11	5600	10	5300	10	5200	9	5000	9	4900	8	4700	8	4500	7	340	21000
20000	337	7500	13	7400	12	7100	12	6800	12	6500	11	6300	10	6100	10	5900	10	5600	10	5400	9	5200	9	5100	8	4900	8	4800	7	4600	7	4400	7	337	20000
19000	334	7200	13	7100	12	6800	12	6500	12	6200	11	6000	10	5800	10	5600	10	5400	10	5200	9	5000	9	4900	8	4700	8	4600	7	4400	7	4200	7	334	19000
18000	331	6900	12	6800	11	6500	11	6300	11	6000	10	5800	9	5600	9	5400	9	5200	9	5000	8	4900	8	4800	8	4600	8	4500	7	4300	7	4100	7	331	18000
17000	328	6600	11	6500	10	6200	10	6000	10	5800	10	5600	9	5400	9	5200	9	5000	9	4800	8	4700	8	4600	8	4400	8	4300	7	4100	7	4000	7	328	17000
16000	326	6400	10	6300	9	6000	9	5800	9	5600	9	5400	8	5200	8	5000	8	4800	8	4700	7	4600	7	4500	7	4300	7	4200	6	4000	6	3900	6	326	16000
15000	323	6100	10	6000	9	5700	9	5500	9	5300	9	5200	8	5000	8	4800	8	4600	8	4500	7	4400	7	4300	7	4100	7	4000	6	3900	6	3700	6	323	15000
14000	321	5800	9	5700	8	5400	8	5300	8	5100	8	5000	7	4800	7	4600	7	4500	7	4400	7	4200	7	4100	7	4000	7	3900	6	3700	5	3600	6	321	14000
13000	318	5500	9	5400	8	5100	8	5000	8	4900	8	4800	7	4600	7	4400	7	4300	7	4200	7	4000	7	3900	7	3800	7	3700	6	3600	6	3500	6	318	13000
12000	316	5200	8	5100	7	4900	7	4800	7	4700	7	4600	6	4400	6	4300	6	4100	6	4000	6	3900	6	3800	6	3700	6	3600	6	3500	5	3400	5	316	12000
11000	313	4900	8	4800	7	4600	7	4500	7	4400	7	4300	6	4200	6	4100	6	4000	6	3900	6	3700	6	3600	6	3500	6	3400	5	3300	5	3300	5	313	11000
10000	311	4700	7	4600	6	4400	6	4300	6	4200	6	4100	5	4000	5	3900	5	3800	5	3700	5	3500	5	3500	5	3400	5	3300	5	3200	5	3200	5	311	10000
9000	309	4400	7	4300	6	4200	6	4100	6	4000	6	3900	5	3800	5	3700	5	3600	5	3500	5	3300	5	3300	5	3200	5	3200	5	3100	5	3100	5	309	9000
8000	306	4100	6	4100	5	4000	5	3900	5	3800	5	3700	5	3600	5	3500	5	3400	5	3300	4	3200	4	3200	4	3100	4	3100	4	3000	4	3000	4	306	8000
7000	304	3800	6	3800	5	3700	5	3600	5	3500	5	3400	5	3400	5	3300	5	3200	5	3100	4	3000	4	3000	4	2900	4	2900	4	2800	4	2800	4	304	7000
6000	302	3600	5	3500	4	3400	4	3400	4	3300	4	3200	4	3200	4	3100	4	3000	4	3000	4	2900	4	2900	4	2800	4	2800	4	2700	4	2700	4	302	6000
5000	300	3400	5	3200	4	3100	4	3100	4	3000	4	3000	4	3000	4	2900	4	2800	4	2800	4	2700	4	2700	4	2700	4	2600	4	2600	4	2600	4	300	5000
4000	298	3100	4	3000	3	2900	3	2900	3	2800	3	2800	3	2800	3	2700	3	2700	3	2700	3	2600	3	2600	3	2600	3	2500	3	2500	3	2500	3	298	4000
3000	296	2700	4	2700	3	2600	3	2600	3	2600	3	2600	3	2600	3	2500	3	2500	3	2500	3	2400	3	2400	3	2400	3	2300	3	2300	3	2300	3	296	3000
2000	294	2500	3	2500	3	2400	3	2400	3	2400	3	2400	3	2400	3	2300	3	2300	3	2300	3	2300	3	2300	3	2200	3	2200	3	2200	3	2200	3	294	2000
1000	293	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2100	3	2100	3	2100	3	2100	3	2100	3	2100	3	2100	3	2100	3	2100	3	293	1000
0	291	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	291	0

J.S.A. temperature at 15,000 feet - 15°C
J.S.A. temperature at 20,000 feet - 25°C

NOTE
1. Fuel and time include 2000 lb. and 2 minute take-off allowances.
2. To obtain distance multiply T.A.S. by climb time less 2 minutes.
3. High level airfields - a) Extract mean T.A.S. from Table 5 distance = mean T.A.S. x time difference
   b) Fuel is difference between airfield and cruise altitude + 2000 lb.
   c) Time is difference between airfield and cruise altitude + 2 minutes.

RESTRICTED

4 ENGINE CLIMB

TABLE 6E
J.S.A.+8°C TO +12°C

PRESSURE HEIGHT	MEAN T.A.S	TAKE - OFF WEIGHT - LB																												MEAN T.A.S	PRESSURE HEIGHT
		323000		320000		310000		300000		290000		280000		270000		260000		250000		240000		230000		220000		210000		200000		190000		180000			
		FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME	FUEL	TIME		
FT.	KTS.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	LB.	MIN.	KTS.	LB.
43000	434																			10800	26	10400	25	9800	23	9200	22	8700	20	8100	19	7700	17	434	43000
42000	429																			10100	24	9500	22	8900	21	8500	19	8000	18	7500	17	429	42000
41000	424																	11200	27	10400	25	9800	23	9200	21	8700	20	8300	18	7800	17	7400	16	424	41000
40000	420													12400	29	11600	27	10800	25	10100	23	9500	22	9000	20	8500	19	8100	18	7700	17	7300	15	420	40000
39000	415											12800	30	12000	27	11200	26	10500	24	9900	22	9300	21	8800	20	8300	18	7900	17	7500	16	7100	15	415	39000
38000	410									13300	31	12300	28	11500	26	10800	25	10200	23	9600	21	9100	20	8600	19	8200	18	7800	17	7400	16	7000	15	410	38000
37000	407							13900	34	12700	29	11900	27	11200	25	10500	24	9900	22	9400	21	8900	19	8400	18	8000	17	7600	16	7200	15	6800	14	407	37000
36000	403					14100	33	13100	30	12200	28	11500	26	10800	24	10200	22	9700	21	9100	20	8700	19	8200	18	7800	17	7500	16	7100	15	6700	14	403	36000
35000	398	15200	36	14700	34	13500	31	12600	28	11800	26	11100	24	10400	23	9900	21	9400	20	8800	20	8500	18	8000	17	7600	16	7300	15	6900	14	6600	13	398	35000
34000	393	14200	33	13900	32	12900	29	12100	27	11400	25	10700	23	10100	22	9600	20	9100	19	8600	19	8200	17	7800	16	7400	15	7100	14	6800	14	6500	13	393	34000
33000	389	13600	31	13200	30	12400	28	11700	26	11000	24	10300	22	9800	21	9300	19	8800	18	8400	18	8000	16	7700	15	7300	15	7000	14	6700	13	6300	12	389	33000
32000	385	12900	29	12600	28	11900	26	11200	24	10600	23	10000	21	9500	20	9100	19	8600	18	8200	17	7800	16	7500	15	7100	14	6800	13	6500	13	6200	12	385	32000
31000	381	12400	27	12100	26	11400	24	10800	22	10200	21	9700	20	9200	19	8800	18	8400	17	8000	17	7600	15	7300	14	7000	14	6600	13	6300	13	6000	12	381	31000
30000	377	11800	25	11600	24	11000	23	10400	21	9900	20	9400	19	8900	18	8500	17	8100	17	7800	16	7400	15	7100	14	6800	13	6500	12	6200	12	5900	11	377	30000
29000	372	11400	24	11100	23	10500	22	10000	20	9600	19	9000	18	8600	17	8200	16	7900	16	7500	15	7200	14	6900	13	6600	13	6300	12	6100	12	5800	11	372	29000
28000	368	10900	22	10700	22	10100	20	9600	19	9200	18	8700	17	8300	16	8000	16	7600	15	7300	14	7000	13	6700	13	6400	12	6100	11	5900	11	5600	10	368	28000
27000	364	10500	21	10300	21	9800	19	9300	18	8800	17	8400	16	8000	15	7800	15	7400	14	7000	14	6800	13	6500	12	6200	12	6000	11	5800	11	5500	10	364	27000
26000	361	10000	20	9900	20	9400	18	9000	17	8500	16	8100	15	7800	14	7500	14	7100	13	6800	13	6600	12	6300	11	6000	11	5800	10	5600	10	5300	9	361	26000
25000	357	9600	19	9500	19	9000	17	8600	16	8200	15	7900	15	7500	14	7200	14	6900	13	6600	13	6400	12	6100	11	5900	11	5600	10	5400	10	5100	9	357	25000
24000	353	9200	17	9100	17	8600	16	8300	16	7900	15	7600	14	7300	13	7000	13	6700	12	6400	12	6200	11	5900	10	5700	10	5500	9	5300	9	5000	9	353	24000
23000	350	8800	16	8700	16	8300	15	8000	15	7600	14	7300	14	7000	13	6700	13	6400	12	6200	12	6000	11	5700	10	5500	10	5300	9	5100	9	4900	8	350	23000
22000	346	8500	15	8400	15	8000	14	7700	14	7300	13	7000	13	6800	12	6500	12	6200	11	6000	11	5800	10	5500	10	5300	9	5200	9	5000	8	4700	8	346	22000
21000	343	8100	14	8000	14	7700	14	7400	13	7000	13	6700	12	6500	12	6300	11	6000	11	5800	11	5600	10	5300	9	5100	9	5000	8	4800	8	4600	8	343	21000
20000	340	7800	14	7700	14	7400	13	7100	13	6800	12	6500	11	6300	11	6100	10	5800	10	5600	10	5400	9	5200	9	5000	8	4900	8	4700	8	4500	7	340	20000
19000	337	7500	13	7400	13	7100	12	6900	12	6500	12	6300	11	6000	11	5800	10	5700	10	5500	10	5300	9	5100	8	4900	8	4800	7	4600	7	4400	7	337	19000
18000	334	7200	12	7100	12	6800	11	6700	11	6300	11	6000	10	5800	10	5600	9	5500	9	5300	9	5100	8	4900	8	4700	8	4600	7	4400	7	4300	7	334	18000
17000	331	6900	12	6800	12	6500	11	6400	11	6100	11	5800	10	5600	10	5400	9	5300	9	5100	9	4900	8	4800	8	4600	7	4400	7	4300	7	4100	6	331	17000
16000	329	6600	11	6500	11	6200	10	6000	10	5800	10	5600	9	5400	9	5200	8	5100	8	4900	8	4700	7	4600	7	4400	7	4300	7	4100	6	4000	6	329	16000
15000	326	6300	11	6200	11	5900	10	5800	10	5600	10	5400	9	5200	9	5000	8	4900	8	4800	8	4600	7	4500	7	4300	7	4200	6	4000	6	3900	6	326	15000
14000	324	6000	10	5900	10	5600	9	5500	9	5300	9	5200	8	5000	8	4800	8	4700	7	4600	7	4400	7	4300	7	4100	6	4000	6	3900	6	3700	6	324	14000
13000	321	5700	9	5600	9	5300	9	5200	9	5100	9	5000	8	4800	8	4600	7	4500	7	4400	7	4200	6	4100	6	4000	6	3900	6	3800	6	3600	5	321	13000
12000	319	5400	8	5300	8	5100	8	5000	8	4830	8	4700	7	4500	7	4400	7	4300	6	4200	6	4000	6	3900	6	3800	6	3700	5	3600	5	3500	5	319	12000
11000	316	5100	8	5100	8	4800	8	4700	8	4630	8	4500	7	4300	7	4200	7	4100	6	4000	6	3900	6	3800	6	3700	5	3600	5	3500	5	3400	5	316	11000
10000	314	4800	7	4800	7	4600	7	4500	7	4300	7	4200	6	4100	6	4000	6	3900	6	3800	6	3700	5	3600	5	3500	5	3400	5	3300	5	3300	5	314	10000
9000	312	4500	7	4500	7	4300	7	4200	7	4100	7	4000	6	3900	6	3800	6	3700	5	3600	5	3500	5	3400	5	3300	5	3200	5	3200	5	3100	4	312	9000
8000	309	4200	6	4200	6	4100	6	4000	6	3900	6	3800	5	3700	5	3600	5	3500	5	3400	5	3400	5	3300	4	3200	4	3100	4	3000	4	3000	4	309	8000
7000	307	3900	6	3900	6	3800	6	3700	6	3600	6	3600	5	3500	5	3400	5	3300	4	3200	4	3200	4	3100	4	3100	4	3000	4	3000	4	2900	4	307	7000
6000	305	3700	5	3600	5	3500	5	3500	5	3400	5	3400	4	3300	4	3200	4	3100	4	3100	4	3000	4	2900	4	2900	4	2900	4	2800	4	2800	4	305	6000
5000	303	3400	5	3300	5	3200	5	3200	5	3100	5	3100	4	3000	4	3000	4	2900	3	2900	3	2800	3	2800	3	2700	3	2700	3	2600	3	2600	3	303	5000
4000	301	3100	4	3100	4	3000	4	3000	4	2900	4	2900	4	2800	4	2800	3	2800	3	2700	3	2700	3	2600	3	2600	3	2600	3	2500	3	2500	3	301	4000
3000	299	2700	4	2700	4	2700	4	2700	3	2600	3	2600	3	2600	3	2600	3	2600	3	2500	3	2500	3	2400	3	2400	3	2400	3	2400	3	2400	3	299	3000
2000	296	2500	3	2500	3	2500	3	2500	3	2400	3	2400	3	2400	3	2400	3	2400	3	2400	3	2300	3	2300	3	2300	3	2300	3	2300	3	2300	3	296	2000
1000	294	2200	3	2200	3	2200	3	2200	3	2200	3	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2100	2	2100	2	294	1000
0	292	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	292	0

NOTE

1. Fuel and time include 2000 lb. and 2 minute take-off allowances.
2. To obtain distance multiply T.A.S. by climb time less 2 minutes.
3. High level airfields - a) Extract mean T.A.S. from Table 5 distance = mean T.A.S. x time difference
   b) Fuel is difference between airfield and cruise altitude + 2000 lb.
   c) Time is difference between airfield and cruise altitude + 2 minutes.

J.S.A. temperature at 15,000 feet -15°C
J.S.A. temperature at 20,000 feet -25°C

(RESTRICTED)

4 ENGINE CLIMB

TABLE 6F
J.S.A.+13°C TO +17°C

PRESSURE HEIGHT FEET	MEAN T.A.S. KTS.	TAKE-OF WEIGHT - LB. 323000 FUEL LB	323000 TIME MIN	320000 FUEL LB	320000 TIME MIN	310000 FUEL LB	310000 TIME MIN	300000 FUEL LB	300000 TIME MIN	290000 FUEL LB	290000 TIME MIN	280000 FUEL LB	280000 TIME MIN	270000 FUEL LB	270000 TIME MIN	260000 FUEL LB	260000 TIME MIN	250000 FUEL LB	250000 TIME MIN	240000 FUEL LB	240000 TIME MIN	230000 FUEL LB	230000 TIME MIN	220000 FUEL LB	220000 TIME MIN	210000 FUEL LB	210000 TIME MIN	200000 FUEL LB	200000 TIME MIN	190000 FUEL LB	190000 TIME MIN	180000 FUEL LB	180000 TIME MIN	MEAN T.A.S. KTS.	PRESSURE HEIGHT FEET
43000	438																			11200	29	10400	27	9800	25	9200	22	8600	22	8100	20	438	43000
42000	433																			11600	30	10800	27	10200	25	9600	24	9000	22	8400	21	7900	19	433	42000
41000	429																	12000	30	11200	28	10500	26	9900	24	9400	23	8800	21	8200	20	7800	18	429	41000
40000	424															12500	31	11600	29	10900	26	10200	26	9700	24	9100	22	8600	20	8100	19	7600	17	424	40000
39000	420													13000	32	12000	30	11300	28	10600	25	9900	25	9400	23	8900	21	8400	20	7900	18	7500	17	420	39000
38000	416											13400	33	12500	31	11600	29	11000	27	10300	24	9700	24	9200	22	8700	20	8200	19	7700	17	7300	16	416	38000
37000	412									13900	34	12900	31	12100	29	11300	28	10700	26	10100	24	9500	23	9000	21	8500	19	8100	18	7600	16	7200	15	412	37000
36000	409							14500	37	13500	34	12500	30	11700	28	11000	26	10300	25	9700	23	9200	22	8700	20	8300	19	7900	17	7500	16	7000	15	409	36000
35000	404					14900	39	13900	35	13000	32	12000	29	11300	27	10600	25	10000	24	9400	22	8900	21	8500	19	8100	19	7700	17	7300	16	6900	15	404	35000
34000	400	16300	40	15100	40	14300	36	13400	33	12500	30	11600	27	10900	26	10300	24	9700	23	9200	21	8700	20	8300	18	7900	18	7500	16	7100	15	6800	14	400	34000
33000	396	15600	37	14500	36	13700	33	12800	31	12000	28	11200	26	10500	25	10000	23	9500	22	8900	20	8500	19	8100	17	7700	17	7300	16	7000	15	6700	14	396	33000
32000	391	14900	36	13900	33	13100	31	12300	28	11500	26	10800	24	10200	23	9700	22	9200	21	8700	19	8300	18	7900	16	7500	16	7100	15	6800	14	6500	13	391	32000
31000	386	14100	33	13300	31	12500	29	11800	27	11000	25	10400	23	9800	22	9400	21	8900	20	8400	19	8000	18	7700	16	7300	16	6900	15	6600	14	6300	13	386	31000
30000	382	13300	31	12700	28	12000	27	11300	25	10600	24	10000	22	9500	21	9100	20	8600	19	8200	18	7800	17	7400	15	7100	15	6700	14	6400	13	6200	12	382	30000
29000	377	12800	29	12100	25	11400	25	10800	24	10200	23	9600	21	9200	20	8800	19	8400	18	7900	17	7500	16	7200	15	6900	14	6500	13	6200	13	6000	12	377	29000
28000	373	12600	27	11600	22	10900	22	10300	22	9800	21	9300	19	8900	18	8500	17	8100	17	7700	16	7300	15	7000	14	6700	13	6400	12	6100	12	5800	11	373	28000
27000	368	11600	25	11100	21	10500	21	9900	21	9400	20	9000	19	8600	18	8200	17	7800	17	7500	16	7000	15	6800	14	6500	13	6200	12	5900	12	5600	11	368	27000
26000	365	11100	24	10700	20	10100	20	9500	20	9100	19	8600	18	8300	17	7900	16	7500	16	7200	15	6800	14	6600	13	6300	12	6000	11	5700	11	5500	10	365	26000
25000	361	10600	23	10200	19	9800	19	9100	19	8700	18	8300	17	8000	16	7600	15	7200	15	6900	14	6600	14	6400	13	6100	12	5800	11	5500	11	5300	10	361	25000
24000	357	10100	21	9800	17	9300	17	8800	17	8400	17	8000	16	7600	15	7300	14	7000	14	6700	13	6400	13	6200	12	5900	11	5700	10	5400	10	5200	9	357	24000
23000	353	9600	19	9400	17	8900	17	8400	17	8100	17	7800	16	7300	15	7000	14	6800	14	6500	13	6200	13	6000	12	5700	11	5500	10	5200	10	5000	9	353	23000
22000	350	9300	18	9000	16	8500	16	8100	16	7800	16	7500	15	7100	14	6800	13	6500	13	6300	12	6000	12	5800	11	5500	11	5300	10	5100	10	4900	9	350	22000
21000	347	8800	17	8600	15	8100	15	7800	15	7500	15	7200	14	6800	14	6500	13	6300	12	6100	11	5800	11	5600	11	5300	11	5200	10	5000	10	4800	9	347	21000
20000	343	8500	16	8200	14	7800	14	7500	14	7200	14	6900	13	6600	13	6300	12	6100	11	5900	10	5600	10	5400	10	5200	10	5000	9	4800	9	4600	8	343	20000
19000	340	8100	15	7900	14	7400	14	7200	14	6900	14	6700	13	6300	13	6000	12	5800	11	5700	10	5400	10	5200	10	5000	10	4900	9	4700	9	4500	8	340	19000
18000	337	7700	14	7500	13	7100	13	6900	13	6600	13	6400	12	6100	12	5800	11	5600	10	5500	9	5200	9	5000	9	4800	9	4700	8	4500	8	4300	7	337	18000
17000	335	7400	14	7100	12	6800	12	6600	12	6400	12	6100	11	5800	11	5600	10	5400	10	5300	9	5000	9	4800	9	4600	9	4500	8	4300	8	4200	7	335	17000
16000	332	7000	13	6800	11	6500	11	6300	11	6100	11	5900	10	5600	10	5400	9	5200	9	5100	8	4900	8	4700	8	4500	8	4400	7	4200	7	4100	6	332	16000
15000	329	6700	12	6400	11	6200	11	6000	11	5800	11	5600	10	5300	10	5200	9	5000	9	4900	8	4700	8	4500	8	4300	8	4200	7	4000	7	4000	6	329	15000
14000	327	6400	11	6100	10	5900	10	5700	10	5500	10	5400	9	5100	9	5000	8	4800	8	4700	7	4500	7	4300	7	4200	7	4100	7	3900	7	3800	6	327	14000
13000	324	6100	10	5800	9	5600	9	5400	9	5200	9	5100	8	4900	8	4800	8	4600	8	4500	7	4300	7	4100	7	4000	7	3900	7	3800	7	3700	6	324	13000
12000	322	5700	9	5500	8	5300	8	5200	8	5000	8	4900	7	4700	7	4600	7	4400	7	4300	6	4100	6	4000	6	3900	6	3800	6	3700	6	3600	5	322	12000
11000	319	5400	9	5200	8	5000	8	4900	8	4700	8	4600	7	4400	7	4300	7	4200	7	4100	6	4000	6	3900	6	3800	6	3700	6	3600	6	3500	5	319	11000
10000	316	5100	8	4900	7	4700	7	4600	7	4500	7	4400	6	4200	6	4100	6	4000	6	3900	6	3800	6	3700	6	3600	6	3500	5	3400	5	3300	5	316	10000
9000	314	4800	8	4600	7	4400	7	4300	7	4200	7	4100	6	4000	6	3900	6	3800	6	3700	6	3600	6	3500	6	3400	6	3300	5	3200	5	3100	5	314	9000
8000	312	4400	7	4400	6	4200	6	4100	6	4000	6	3900	5	3800	5	3700	5	3600	5	3500	5	3400	5	3400	5	3300	5	3200	4	3100	4	3000	4	312	8000
7000	309	4100	6	4000	6	3900	6	3800	6	3700	6	3600	5	3500	5	3400	5	3400	5	3300	5	3200	5	3200	5	3100	5	3100	4	3000	4	2900	4	309	7000
6000	307	3900	6	3700	5	3600	5	3500	5	3400	5	3400	4	3300	4	3200	4	3200	4	3100	4	3000	4	3000	4	2900	4	2900	4	2900	4	2800	4	307	6000
5000	305	3500	5	3400	5	3300	5	3200	5	3200	5	3100	4	3100	4	3000	4	3000	4	2900	4	2800	4	2800	4	2700	4	2700	4	2700	4	2600	4	305	5000
4000	303	3200	5	3100	4	3000	4	3000	4	2900	4	2900	3	2900	3	2800	3	2800	3	2700	3	2700	3	2600	3	2600	3	2600	3	2500	3	2500	3	303	4000
3000	301	2900	4	2800	4	2700	4	2700	4	2700	4	2600	3	2600	3	2600	3	2600	3	2500	3	2500	3	2500	3	2400	3	2400	3	2400	3	2400	3	301	3000
2000	299	2600	3	2500	3	2500	3	2500	3	2500	3	2400	3	2400	3	2400	3	2400	3	2300	3	2300	3	2300	3	2300	3	2300	3	2300	3	2300	3	299	2000
1000	297	2300	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	297	1000
0	295	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	295	0

NOTES

1. Fuel and time include 2000 lb and 2 minutes take-off allowances
2. To obtain distance multiply T.A.S. by climb time less 2 minutes
3. High level airfields - a) Extract mean T.A.S. from Table 5 distance = mean T.A.S. x time difference
   b) Fuel is difference between airfield and cruise altitude + 2000 lb.
   c) Time is difference between airfield and cruise altitude + 2 minutes

J.S.A. temperature at 15,000 feet - 15°C
J.S.A. temperature at 20,000 feet - 25°C

RESTRICTED

TABLE 6G
J.S.A.+18°C TO +22°C

4 ENGINE CLIMB

PRESSURE HEIGHT	MEAN T.A.S	TAKE - OFF WEIGHT - LB																												MEAN T.A.S	PRESSURE HEIGHT
		323000		320000		310000		300000		290000		280000		270000		260000		250000		240000		230000		220000		210000		200000		190000		180000			
FT.	KTS	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	FUEL LB.	TIME MIN.	KTS	LB.
43000	446																							11400	31	10600	28	9900	26	9200	24	8500	22	446	43000
42000	440																					11900	33	11000	29	10300	27	9600	25	9000	23	8400	21	440	42000
41000	435																			12400	36	11500	31	10600	28	10000	26	9400	24	8800	22	8300	20	435	41000
40000	431																	12900	35	11900	31	11100	29	10400	27	9700	25	9200	23	8600	21	8100	19	431	40000
39000	426															13400	36	12500	33	11500	30	10800	28	10100	26	9500	24	8900	22	8400	20	8000	19	426	39000
38000	422													14000	37	13000	34	12100	31	11200	28	10500	26	9900	25	9300	23	8800	21	8300	20	7800	18	422	38000
37000	418											14600	39	13500	36	12600	32	11700	30	10900	27	10300	25	9600	24	9100	22	8600	20	8100	19	7600	17	418	37000
36000	414									15600	41	14200	37	13100	34	12200	31	11400	28	10600	26	10000	24	9400	23	8900	21	8400	20	7900	18	7500	17	414	36000
35000	410							16400	43	14900	39	13600	35	12700	32	11800	29	11000	27	10300	25	9700	23	9200	22	8700	20	8200	19	7800	18	7300	16	410	35000
34000	406					17000	44	15400	40	14100	36	13100	33	12200	30	11400	28	10700	26	10000	24	9400	22	8900	21	8400	20	8000	18	7600	17	7200	16	406	34000
33000	402			17600	45	16000	40	14600	37	13400	33	12500	31	11700	28	11000	26	10300	24	9700	22	9100	21	8600	20	8200	19	7800	18	7400	17	7000	15	402	33000
32000	397	16900	43	16400	41	15000	37	13800	34	12800	31	12000	29	11200	27	10600	25	10000	23	9400	21	8900	20	8400	19	8000	18	7600	17	7200	16	6800	15	397	32000
31000	392	16300	39	15400	38	14100	34	13200	32	12300	29	11400	27	10800	25	10200	23	9600	21	9100	20	8600	19	8100	18	7700	17	7400	16	7000	15	6600	14	392	31000
30000	386	15300	36	14500	35	13400	32	12500	29	11700	27	11000	25	10300	24	9800	22	9300	20	8800	19	8300	18	7900	17	7500	16	7200	15	6800	15	6400	14	386	30000
29000	382	14100	33	13700	33	12800	30	12000	27	11200	25	10600	23	9900	22	9400	21	8900	19	8500	18	8000	17	7600	16	7300	16	6900	15	6600	14	6300	13	382	29000
28000	387	13300	31	13000	30	12100	28	11400	26	10700	24	10100	22	9600	21	9100	20	8600	18	8200	17	7800	16	7400	15	7000	15	6700	14	6400	13	6100	12	387	28000
27000	373	12700	29	12400	28	11600	26	10900	24	10200	22	9700	21	9200	20	8800	19	8300	17	7900	16	7500	15	7200	14	6800	14	6500	13	6200	12	5900	11	373	27000
26000	369	12100	27	11800	26	11000	24	10400	23	9800	21	9300	20	8800	19	8400	18	8000	16	7600	15	7300	14	6900	14	6600	14	6300	12	6000	12	5700	11	369	26000
25000	365	11500	26	11200	24	10600	23	10000	21	9500	20	8900	19	8500	18	8100	17	7700	16	7400	15	7100	14	6700	13	6400	13	6100	12	5900	11	5600	10	365	25000
24000	360	10900	24	10700	23	10100	21	9500	20	9100	19	8600	18	8200	17	7800	16	7500	15	7100	14	6800	13	6500	13	6200	12	5900	11	5700	11	5400	10	360	24000
23000	357	10400	22	10200	22	9600	20	9100	19	8700	18	8200	17	7800	16	7500	15	7200	14	6900	13	6600	13	6300	12	6000	12	5800	11	5500	10	5200	10	357	23000
22000	353	10000	21	9800	20	9200	19	8700	18	8400	17	7900	16	7600	15	7200	14	6900	13	6600	13	6300	12	6100	11	5800	11	5600	10	5300	10	5100	9	353	22000
21000	350	9500	19	9300	19	8800	18	8400	17	8000	16	7600	15	7300	14	6900	13	6600	13	6400	12	6100	12	5900	11	5700	11	5400	10	5100	9	4900	9	350	21000
20000	347	9100	18	8900	18	8500	17	8000	16	7700	15	7300	14	7000	13	6700	13	6400	12	6200	12	5900	11	5700	10	5500	10	5200	9	5000	9	4800	8	347	20000
19000	343	8600	17	8400	17	8000	16	7700	15	7400	14	7000	13	6700	13	6400	12	6200	12	6000	11	5700	10	5500	10	5300	10	5000	9	4900	8	4700	8	343	19000
18000	341	8200	16	8000	16	7700	15	7300	14	7000	13	6700	12	6400	12	6200	11	6000	11	5800	10	5500	10	5300	9	5100	9	4900	8	4700	8	4500	7	341	18000
17000	338	7800	15	7600	15	7300	14	7000	13	6700	13	6500	12	6100	11	5900	11	5700	10	5500	10	5300	9	5100	9	4900	9	4700	8	4500	7	4400	7	338	17000
16000	335	7400	14	7300	14	7000	13	6700	12	6400	12	6200	11	5900	11	5700	10	5500	10	5300	9	5100	9	4900	8	4700	8	4600	8	4400	7	4300	7	335	16000
15000	332	7100	13	7000	13	6600	12	6400	11	6100	11	5900	10	5600	10	5500	10	5300	9	5100	9	4900	9	4700	8	4500	8	4400	7	4200	7	4100	6	332	15000
14000	329	6700	12	6600	12	6300	11	6100	10	5800	10	5600	10	5300	9	5200	9	5100	9	4900	8	4700	8	4500	8	4400	8	4200	7	4100	6	4000	6	329	14000
13000	327	6400	11	6200	11	6000	11	5800	10	5600	10	5400	9	5100	9	5000	8	4800	8	4700	8	4500	8	4300	7	4200	7	4000	6	3900	6	3800	6	327	13000
12000	324	6000	10	5900	10	5700	10	5500	9	5300	9	5100	9	4900	8	4800	8	4600	8	4500	7	4300	7	4200	7	4000	6	3900	6	3800	6	3700	6	324	12000
11000	322	5600	9	5600	9	5300	9	5200	8	5000	8	4900	8	4800	8	4600	8	4500	7	4400	7	4300	7	4100	7	4000	7	3900	6	3700	6	3600	6	3500	5	322	11000
10000	320	5300	8	5200	8	5000	8	4900	8	4700	8	4600	7	4400	7	4300	7	4100	7	4000	6	3900	6	3800	6	3700	5	3600	5	3500	5	3400	5	320	10000
9000	317	5000	8	4900	8	4700	8	4600	7	4500	7	4300	7	4100	7	4100	6	3900	6	3800	6	3700	6	3600	6	3500	5	3400	5	3300	5	3200	4	317	9000
8000	315	4600	7	4600	7	4400	7	4300	7	4200	6	4100	6	3900	6	3800	6	3700	6	3600	5	3500	5	3500	5	3400	5	3300	5	3200	5	3100	4	315	8000
7000	313	4300	6	4300	6	4100	6	4000	6	3900	6	3800	6	3600	6	3600	5	3500	5	3400	5	3300	5	3300	5	3200	4	3100	4	3000	4	3000	4	313	7000
6000	310	4000	6	4000	5	3800	5	3700	5	3600	5	3500	5	3400	5	3400	5	3300	5	3200	5	3100	4	3100	4	3000	4	2900	4	2900	4	2800	3	310	6000
5000	308	3600	5	3600	5	3500	5	3400	5	3400	5	3300	5	3200	5	3200	5	3100	4	3000	4	3000	4	3000	4	2900	4	2800	3	2800	3	2700	3	308	5000
4000	306	3300	5	3300	5	3200	4	3100	4	3100	4	3000	4	3000	4	3000	4	2900	4	2800	4	2800	4	2800	4	2700	3	2600	3	2600	3	2500	3	306	4000
3000	304	3000	4	3000	4	2900	4	2800	4	2800	4	2700	4	2700	4	2700	4	2700	3	2600	3	2600	3	2600	3	2500	3	2400	3	2400	3	2400	3	304	3000
2000	302	2700	3	2700	3	2600	3	2500	3	2500	3	2500	3	2500	3	2500	3	2500	3	2400	3	2400	3	2300	3	2300	3	2300	3	2300	3	2300	2	302	2000
1000	300	2300	3	2300	3	2300	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	2	2200	2	2200	2	2200	2	2100	2	2100	2	2100	2	300	1000
0	298	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	298	0

NOTE

1. Fuel and time include 2000 lb. and 2 minute take-off allowances
2. To obtain distance multiply T.A.S. by climb time less 2 minutes
3. High level airfields - a) Extract mean T.A.S. from table 3 distance = mean T.A.S. x time difference
   b) Fuel is difference between airfield and cruise altitude + 2000 lb.
   c) Time is difference between airfield and cruise altitude + 2 minutes

J.S.A. temperature at 15,000 feet - 15°C
J.S.A. temperature at 20,000 feet - 25°C

4 ENGINE CLIMB

TABLE 6H
J.S.A.+23°C TO +27°C

PRESSURE MEAN HEIGHT	T.A.S	TAKE-OFF WEIGHT - LB. 323000		320000		310000		300000		290000		280000		270000		260000		250000		240000		230000		220000		210000		200000		190000		180000		MEAN T.A.S	PRESSURE HEIGHT
FEET	KTS.	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	FUEL LB	TIME MIN	KTS.	FEET
43000	450																							12700	40	11800	37	10900	33	10100	30	9300	24	450	43000
42000	445																					13300	40	12300	37	11400	34	10500	31	9800	28	9100	23	445	42000
41000	441																			14000	40	12900	38	11900	34	11100	32	10200	30	9600	26	8900	22	441	41000
40000	437																			14800	43	13500	36	12400	36	11500	32	10700	30	9900	28	9300	25	8700	21	437	40000
39000	434																	15500	47	14200	40	13000	35	12000	33	11100	31	10400	28	9600	26	9100	23	8500	21	434	39000
38000	430													16900	46	14800	42	13700	37	12500	33	11600	32	10800	30	10100	27	9400	24	8900	22	8300	20	430	38000
37000	426													16200	43	14300	39	13200	35	12100	32	11200	30	10500	28	9800	26	9200	23	8700	21	8200	19	426	37000
36000	425											17000	52	15500	41	13800	37	12800	34	11800	31	11000	29	10300	26	9700	24	9100	22	8600	21	8100	19	425	36000
35000	420									17600	49	16100	48	14800	38	13200	35	12200	32	11400	30	10700	28	10000	25	9400	23	8900	22	8300	21	7900	19	420	35000
34000	415									16700	44	15200	44	14100	36	12700	33	11700	30	11000	28	10300	26	9700	24	9100	22	8700	21	8100	20	7700	18	415	34000
33000	409							16600	49	15800	40	14400	41	13400	33	12200	30	11300	28	10600	26	10000	25	9400	23	8800	21	8400	20	7900	19	7500	17	409	33000
32000	404					16700	48	15800	44	14900	37	13700	38	12700	27	11700	27	10900	26	10300	24	9700	23	9100	21	8600	20	8200	19	7700	18	7300	16	404	32000
31000	399					15900	43	15100	40	14100	35	13100	34	12100	27	11200	26	10500	25	9800	23	9300	22	8800	20	8300	19	7900	18	7400	17	7000	16	399	31000
30000	393					15200	41	14400	37	13300	33	12500	31	11600	26	10800	25	10100	24	9500	22	9000	21	8500	19	8000	18	7700	17	7200	16	6800	15	393	30000
29000	388	16700	44	15400	43	14500	38	13700	34	12700	31	11900	28	11100	25	10300	24	9700	23	9100	21	8700	20	8200	18	7800	17	7400	16	7000	15	6600	14	388	29000
28000	382	15900	40	14700	39	13800	35	13000	31	12100	29	11300	26	10600	24	9900	22	9300	21	8800	20	8300	19	7900	17	7500	16	7200	15	6800	14	6400	13	382	28000
27000	378	15100	38	14000	37	13100	33	12400	29	11500	28	10800	25	9100	23	9500	21	8900	20	8500	19	8000	18	7600	17	7200	16	6900	15	6600	14	6200	13	378	27000
26000	373	14300	35	13300	33	12500	30	11800	27	11000	26	10300	24	9700	22	9100	20	8600	19	8200	18	7700	17	7400	16	7000	15	6700	14	6400	13	6000	12	373	26000
25000	369	13500	32	12600	31	11900	27	11200	25	10500	24	9800	23	9300	21	8700	19	8300	18	7900	17	7400	16	7100	15	6800	15	6500	14	6200	13	5800	12	369	25000
24000	365	12700	31	11900	28	11300	25	10600	23	10000	22	9400	21	8900	20	8400	18	8000	17	7600	16	7200	15	6900	14	6600	14	6300	13	6000	12	5700	11	365	24000
23000	361	12000	28	11300	26	10700	24	10100	22	9500	21	9000	20	8500	19	8000	17	7700	17	7300	16	6900	15	6600	14	6300	14	6100	13	5800	12	5500	11	361	23000
22000	357	11400	26	10800	24	10200	23	9600	21	9100	20	8600	19	8100	18	7700	16	7400	16	7100	15	6700	14	6400	13	6100	13	5900	12	5600	11	5300	10	357	22000
21000	354	10800	24	10300	23	9700	22	9100	20	8600	19	8200	18	7700	17	7400	15	7100	15	6800	14	6500	14	6200	13	5900	12	5700	11	5400	11	5100	10	354	21000
20000	350	10200	22	9800	21	9200	20	8700	18	8200	17	7800	16	7400	15	7100	14	6800	14	6600	13	6300	13	6000	12	5700	11	5500	10	5200	10	5000	9	350	20000
19000	347	9700	21	9300	20	8700	19	8300	17	7800	17	7500	16	7100	15	6800	14	6500	14	6300	13	6000	13	5700	12	5500	11	5300	10	5000	10	4800	9	347	19000
18000	344	9200	19	8800	19	8300	18	7900	16	7500	16	7200	15	6800	14	6600	13	6300	13	6100	12	5800	12	5500	11	5300	10	5100	9	4900	9	4700	8	344	18000
17000	341	8700	18	8300	18	7900	17	7500	15	7100	15	6900	14	6500	13	6300	12	6000	12	5800	11	5500	11	5300	11	5100	10	4900	9	4700	9	4500	8	341	17000
16000	338	8300	17	7900	16	7500	15	7100	14	6800	14	6600	13	6300	12	6100	11	5800	11	5600	10	5300	10	5100	10	5000	9	4800	8	4600	8	4400	7	338	16000
15000	335	7800	15	7500	15	7100	15	6700	14	6500	13	6300	12	6000	12	5800	11	5500	11	5300	10	5100	10	4900	10	4800	9	4600	8	4400	8	4200	7	335	15000
14000	332	7300	14	7100	14	6700	14	6400	13	6200	12	6000	11	5700	11	5500	10	5300	10	5100	9	4900	9	4700	9	4600	8	4400	8	4300	8	4100	7	332	14000
13000	330	6900	13	6700	13	6300	13	6100	12	5900	11	5700	10	5400	10	5200	9	5000	9	4900	9	4700	9	4500	8	4400	8	4200	8	4100	8	3900	7	330	13000
12000	328	6500	12	6300	12	6000	12	5800	11	5600	10	5400	9	5200	9	5000	8	4800	8	4700	8	4500	6	4300	7	4200	7	4100	7	4000	7	3800	6	328	12000
11000	325	6100	11	5900	11	5600	11	5400	10	5200	10	5100	9	4900	9	4700	8	4500	8	4400	8	4200	8	4100	7	4000	7	3900	7	3800	7	3600	6	325	11000
10000	322	5700	10	5500	10	5300	10	5100	9	4900	9	4800	8	4600	8	4500	7	4300	7	4200	7	4000	7	3900	6	3800	6	3700	6	3600	6	3500	6	322	10000
9000	319	5300	9	5100	9	4900	9	4800	8	4600	8	4500	6	4300	8	4200	7	4000	7	3900	7	3800	7	3700	6	3600	6	3500	6	3400	6	3300	6	319	9000
8000	317	4900	8	4800	8	4600	8	4500	7	4300	7	4200	7	4100	7	4000	6	3800	6	3700	6	3600	6	3600	5	3400	5	3300	5	3200	5	3200	5	317	8000
7000	315	4600	7	4400	8	4300	8	4100	7	4000	7	3900	7	3800	7	3700	6	3500	6	3400	6	3400	6	3300	5	3200	5	3100	5	3000	5	3000	5	315	7000
6000	313	4200	7	4100	7	3900	7	3800	6	3700	6	3600	6	3600	6	3500	5	3300	5	3200	5	3200	5	3100	4	3000	4	3000	4	2900	4	2900	4	313	6000
5000	311	3800	6	3700	6	3600	6	3500	5	3400	5	3300	5	3300	5	3200	5	3100	5	3000	5	3000	5	2900	4	2800	4	2800	4	2700	4	2700	4	311	5000
4000	309	3500	6	3400	5	3300	5	3200	4	3200	4	3100	4	3100	4	3000	4	2900	4	2800	4	2800	4	2700	3	2700	3	2700	3	2600	3	2600	3	309	4000
3000	307	3100	5	3000	5	2900	5	2900	4	2900	4	2800	4	2800	4	2700	4	2600	4	2600	4	2600	4	2500	3	2500	3	2500	3	2400	3	2400	3	307	3000
2000	305	2800	4	2700	4	2600	4	2600	3	2500	3	2500	3	2500	3	2400	3	2400	3	2400	3	2400	3	2300	3	2300	3	2300	3	2300	3	2300	3	305	2000
1000	303	2400	3	2300	3	2300	3	2300	3	2300	3	2200	3	2200	3	2200	3	2200	3	2200	3	2200	3	2100	3	2100	3	2100	3	2100	3	2100	3	303	1000
0	302	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	302	0

J.S.A. temperature at 15,000 - 15°C
J.S.A. temperature at 20,000 - 25°C

NOTE

1. Fuel and time include 2000 lb. and 2 minute take-off allowances.
2. To obtain distance multiply T.A.S. by climb time less 2 minutes.
3. High level airfields - a) Extract mean T.A.S. from table distance = mean T.A.S. x time difference
   b) Fuel is difference between airfield and cruise altitude + 2000 lb.
   c) Time is difference between airfield and cruise altitude + 2 minutes

RESTRICTED

4 ENGINE CLIMB

TABLE 6J
J.S.A.+28°C TO 32°C

PRESSURE HEIGHT FEET	MEAN T.A.S KTS.	TAKE OFF WEIGHT LB. 323000 FUEL LB.	323000 TIME MIN.	320000 FUEL LB.	320000 TIME MIN.	310000 FUEL LB.	310000 TIME MIN	300000 FUEL LB.	300000 TIME MIN	290000 FUEL LB.	290000 TIME MIN.	280000 FUEL LB.	280000 TIME MIN.	270000 FUEL LB.	270000 TIME MIN	260000 FUEL LB.	260000 TIME MIN.	250000 FUEL LB.	250000 TIME MIN.	240000 FUEL LB.	240000 TIME MIN.	230000 FUEL LB.	230000 TIME MIN.	220000 FUEL LB.	220000 TIME MIN.	210000 FUEL LB.	210000 TIME MIN.	200000 FUEL LB.	200000 TIME MIN.	190000 FUEL LB.	190000 TIME MIN	180000 FUEL LB.	180000 TIME MIN	MEAN T.A.S. KTS.	PRESSURE HEIGHT FEET
43000	460																									13600	46	12400	41	11400	37	10500	32	460	43000
42000	455																							14400	49	13200	43	12000	39	11100	35	10200	30	455	42000
41000	451																					15600	51	13900	46	12800	41	11800	37	10800	33	10000	29	451	41000
40000	446																			16800	54	15100	48	13500	43	12400	38	11400	35	10700	31	9700	28	446	40000
39000	442																	17600	58	16100	50	14500	45	13000	40	12000	36	11100	33	10400	30	9500	27	442	39000
38000	439															19300	63	17000	54	15400	47	14000	42	12600	38	11600	34	10800	31	10100	28	9300	25	439	38000
37000	435													21400	69	18400	58	16300	50	14700	44	13400	39	12200	35	11300	32	10400	29	9800	27	9000	24	435	37000
36000	431													20200	63	17600	53	15600	46	14400	41	12900	35	11800	33	10900	30	10100	28	9500	25	8900	23	431	36000
35000	427											22200	69	19000	57	16600	49	14900	43	13600	38	12400	33	11400	31	10600	28	9800	26	9200	24	8600	22	427	35000
34000	423											20100	61	17500	52	15600	35	14400	40	12900	36	11900	32	11000	30	10200	27	9500	25	8900	23	8400	21	423	34000
33000	418											18500	55	16200	47	14700	41	13400	37	12300	34	11400	31	10600	28	9800	26	9200	24	8600	22	8100	20	418	33000
32000	414									19200	56	16900	48	15200	43	13800	38	12700	34	11700	31	10900	29	10200	26	9500	24	8900	23	8400	21	7900	19	414	32000
31000	406									17500	50	15700	44	14100	39	13000	35	12100	32	11200	29	10400	27	9800	25	9100	23	8600	21	8000	20	7600	18	406	31000
30000	400							18100	51	16200	45	14600	39	13400	36	12400	32	11500	30	10600	27	10000	25	9300	24	8800	22	8300	20	7800	19	7400	17	400	30000
29000	394					18500	52	16600	45	15000	40	13700	36	12500	33	11700	30	11000	28	10200	26	9600	24	9000	22	8400	21	8000	19	7600	18	7100	17	394	29000
28000	388			19200	53	17000	46	15400	41	14000	37	12900	33	12000	30	11100	28	10400	26	9800	24	9200	22	8600	21	8100	20	7700	18	7300	17	6900	16	388	28000
27000	384	18500	49	17600	47	15800	41	14400	37	13100	34	12200	31	11300	28	10600	26	10000	24	9400	23	8800	21	8300	20	7800	19	7400	17	7000	16	6700	15	384	27000
26000	378	16800	44	16200	43	14700	38	13500	34	12400	31	11600	28	10800	26	10100	25	9500	23	9000	21	8400	20	8000	19	7500	18	7200	16	6800	15	6500	14	378	26000
25000	374	15700	40	15000	39	13900	35	12700	32	11800	29	11000	26	10300	25	9700	23	9100	22	8600	20	8200	19	7700	18	7300	17	7000	15	6600	14	6300	14	374	25000
24000	369	14600	37	14100	35	13000	32	12000	29	11200	27	10600	25	9800	23	9200	22	8700	20	8200	19	7800	18	7400	17	7000	16	6700	15	6300	14	6000	13	369	24000
23000	365	13600	34	13200	33	12200	30	11300	27	10600	25	10000	23	9300	22	8800	20	8300	19	8000	18	7500	17	7100	16	6800	15	6400	14	6100	13	5800	12	365	23000
22000	361	12800	36	12500	30	11600	27	10800	25	10100	23	9500	22	8900	20	8500	19	8100	18	7900	18	7600	17	7200	16	6900	15	6500	15	6200	13	5900	12	361	22000
21000	358	12000	30	11800	28	10900	25	10200	23	9600	22	9100	20	8500	19	8100	18	7600	17	7300	16	7000	15	6600	14	6300	14	6000	12	5700	12	5400	11	358	21000
20000	354	11300	26	11100	25	10300	23	9700	22	9100	20	8600	19	8200	18	7700	17	7300	16	7000	15	6700	14	6300	13	6100	13	5800	12	5500	11	5300	10	354	20000
19000	351	10700	24	10400	24	9800	22	9200	20	8700	19	8200	18	7800	17	7400	16	7000	15	6800	14	6400	13	6100	12	5800	12	5600	11	5300	10	5100	10	351	19000
18000	348	10100	22	9900	22	9300	20	8700	19	8200	18	7800	17	7400	16	7100	15	6700	14	6500	13	6200	12	5900	12	5600	11	5400	10	5100	10	4900	10	348	18000
17000	344	9600	20	9300	20	8800	19	8200	18	7900	17	7500	16	7100	15	6800	14	6400	13	6200	12	5900	12	5600	11	5400	11	5200	10	4900	9	4700	9	344	17000
16000	341	9100	19	8800	19	8300	18	7800	17	7500	15	7100	15	6800	14	6500	13	6200	12	5900	12	5600	11	5400	10	5200	10	5000	9	4800	9	4600	8	341	16000
15000	339	8400	17	8300	18	7800	16	7400	15	7000	14	6800	14	6400	13	6200	12	5900	12	5600	11	5400	10	5200	10	5000	9	4800	9	4600	8	4400	8	339	15000
14000	336	7900	16	7800	16	7400	15	7000	14	6600	13	6400	13	6200	12	5800	11	5600	11	5400	10	5200	10	5000	9	4800	9	4600	8	4400	8	4200	8	336	14000
13000	333	7400	15	7400	15	6900	14	6600	13	6300	12	6000	12	5800	11	5500	10	5300	10	5200	9	5000	9	4700	8	4600	8	4400	8	4200	7	4100	7	333	13000
12000	330	7000	14	6900	13	6500	13	6200	12	6000	12	5700	11	5500	10	5300	10	5100	9	4900	9	4700	9	4500	8	4400	8	4200	7	4100	7	3900	7	330	12000
11000	328	6500	12	6500	12	6100	12	5800	11	5600	11	5400	10	5200	10	4900	9	4800	9	4600	8	4500	8	4300	7	4200	7	4000	7	3900	6	3700	6	328	11000
10000	325	6100	11	6000	11	5700	11	5500	10	5200	10	5100	9	4900	9	4700	8	4500	8	4400	8	4200	8	4100	7	4000	7	3800	6	3700	6	3600	6	325	10000
9000	323	5600	10	5600	10	5300	10	5100	9	4900	9	4800	8	4600	8	4400	8	4300	7	4200	7	4000	7	3900	6	3800	6	3600	6	3500	5	3400	5	323	9000
8000	320	5100	9	5200	9	4900	9	4700	8	4600	8	4400	8	4300	7	4200	7	4000	7	3900	6	3800	6	3700	6	3600	6	3400	5	3400	5	3200	5	320	8000
7000	317	4800	8	4800	8	4600	8	4400	7	4300	7	4100	7	4000	7	3800	6	3700	6	3700	6	3600	6	3500	5	3400	5	3200	5	3200	5	3100	5	317	7000
6000	315	4400	7	4400	7	4200	7	4000	6	4000	6	3800	6	3700	6	3600	6	3500	5	3400	5	3400	5	3300	5	3200	5	3000	4	3000	4	3000	4	315	6000
5000	313	4000	6	4000	6	3800	6	3700	6	3600	6	3500	5	3400	5	3300	5	3300	5	3200	5	3100	5	3100	4	3000	4	2800	4	2800	4	2800	4	313	5000
4000	311	3600	6	3600	5	3400	5	3300	5	3300	5	3200	5	3100	5	3100	4	3000	4	2900	4	2900	4	2800	4	2800	4	2700	4	2600	3	2600	3	311	4000
3000	309	3200	5	3200	4	3100	4	3000	4	3000	4	2800	4	2800	4	2800	4	2700	4	2600	4	2600	3	2600	3	2500	3	2500	3	2500	3	2500	3	309	3000
2000	307	2800	4	2800	3	2700	3	2700	3	2600	3	2600	3	2500	3	2500	3	2400	3	2400	3	2400	3	2400	3	2400	3	2300	3	2300	3	2300	2	307	2000
1000	305	2400	3	2400	3	2400	3	2300	3	2300	3	2300	3	2200	3	2200	3	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2200	2	2100	2	305	1000
0	303	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	2000	2	303	0

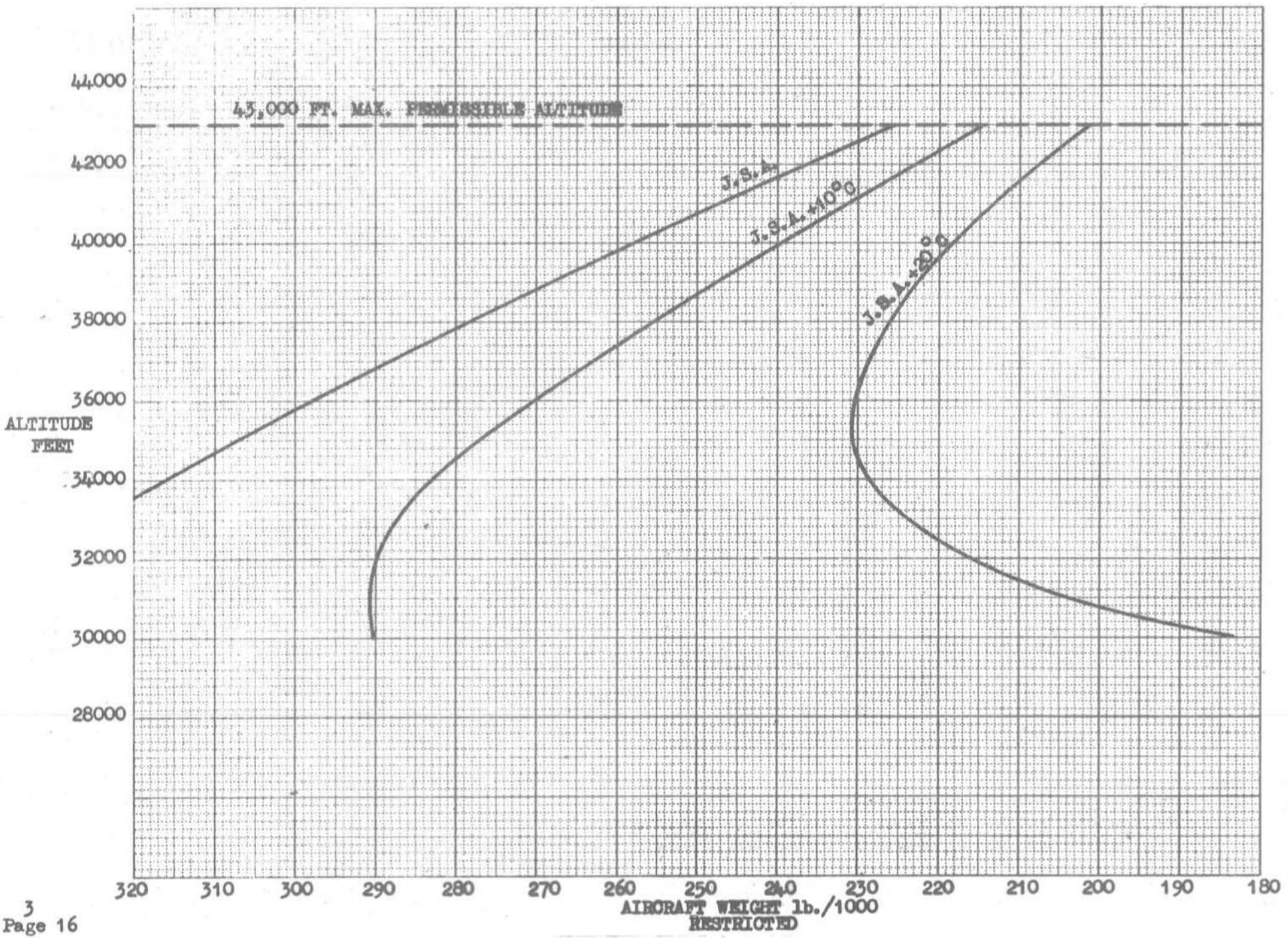
NOTE

1. Fuel and time include 2000 lb. and 2 minute take-off allowance
2. To obtain distance multiply T.A.S. by climb time less 2 minutes
3. High level airfields - a) Extract mean T.A.S. from table distance = mean T.A.S. x time difference
   b) Fuel is difference between airfield and cruise altitude + 2000 lb.
   c) Time is difference between airfield and cruise altitude + 2 minutes.

J.S.A. temperature at 15,000 feet - 15°C
J.S.A. temperature at 20,000 feet - 25°C

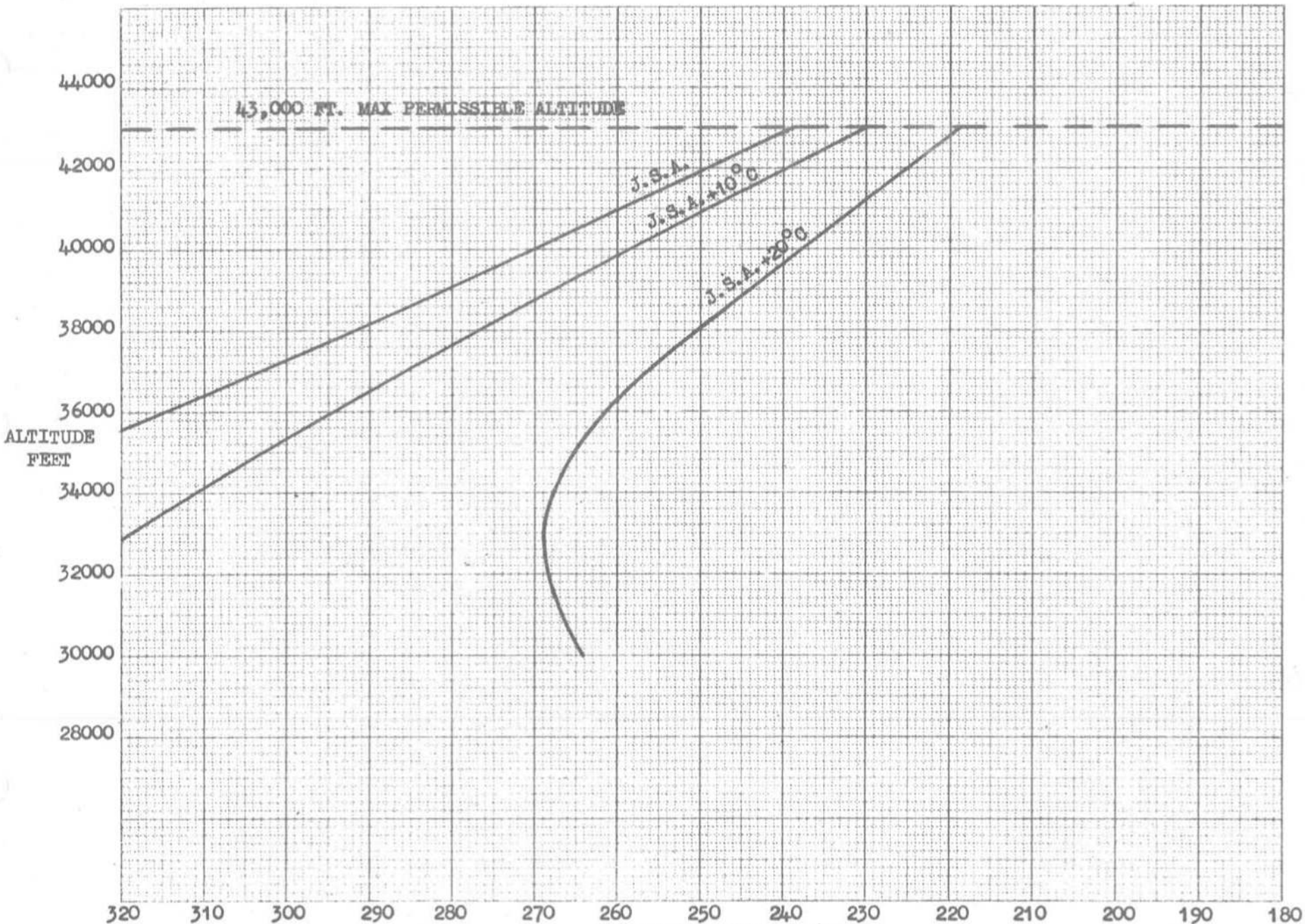
TABLE 7A

4 ENGINE MAX. ALTITUDE M.88 IND



WP.6443

4 ENGINE MAX. ALTITUDE M.86 IND



4 ENGINE MAX. ALTITUDE M.84 IND

TABLE 7C

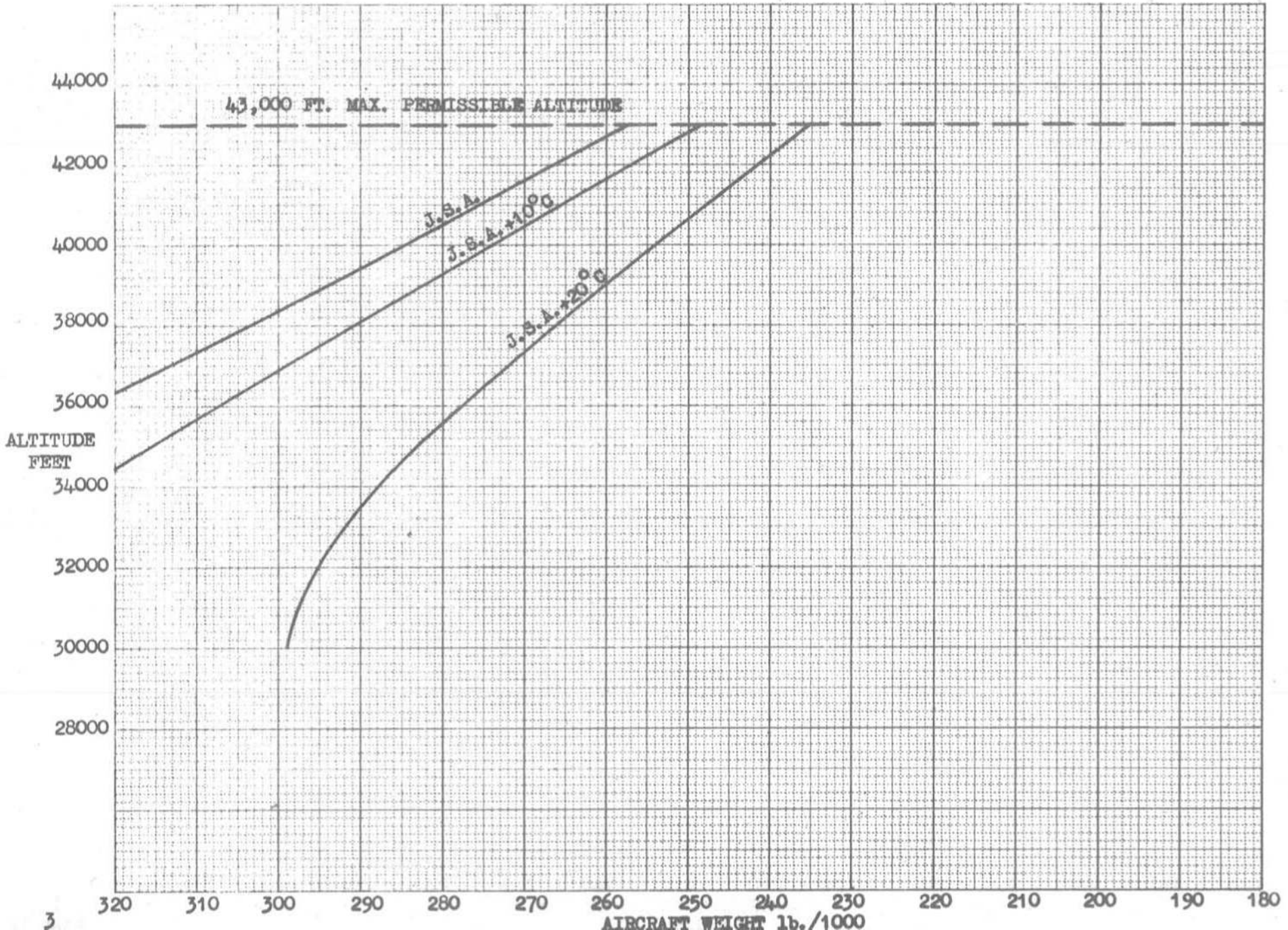
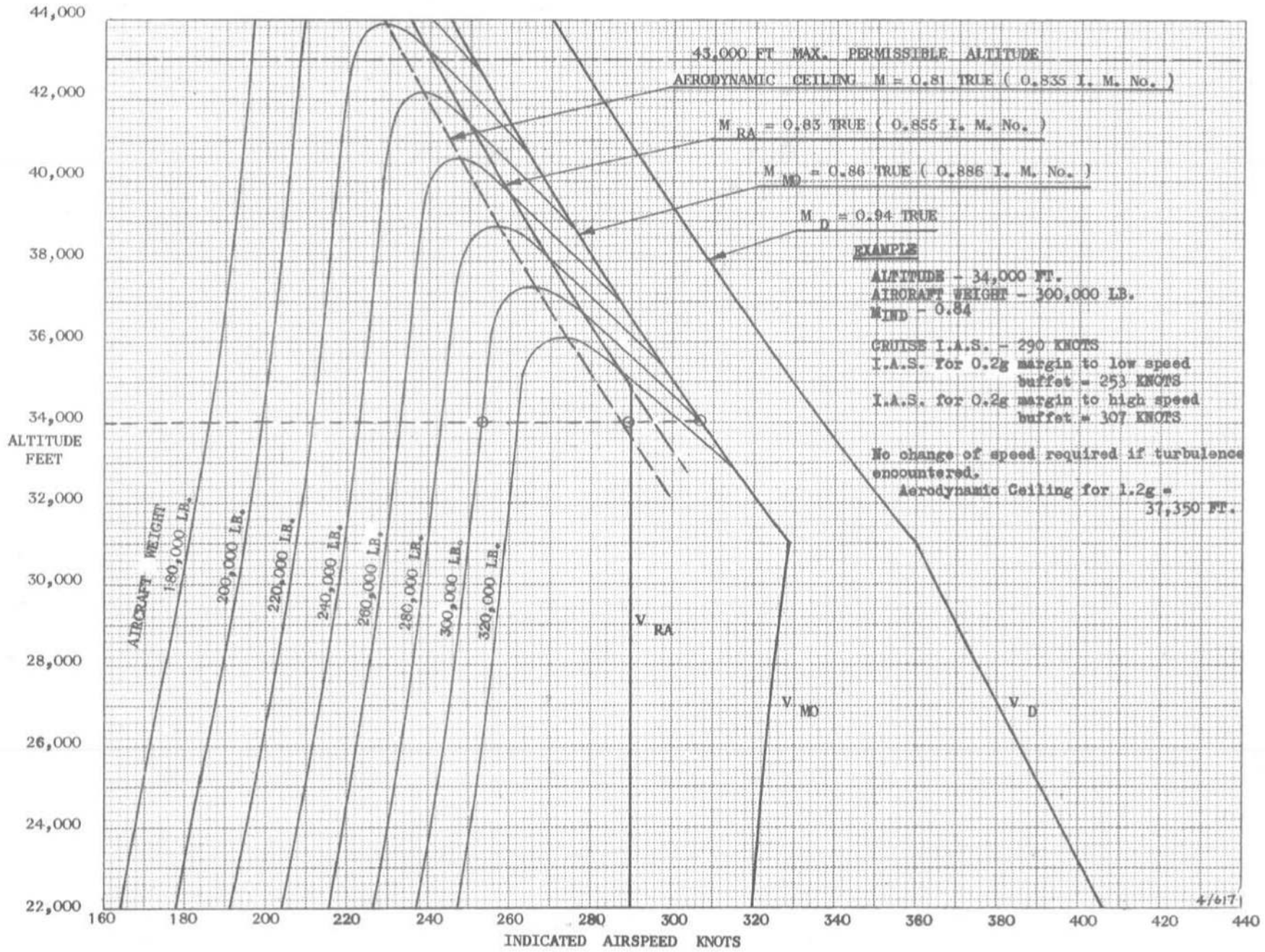
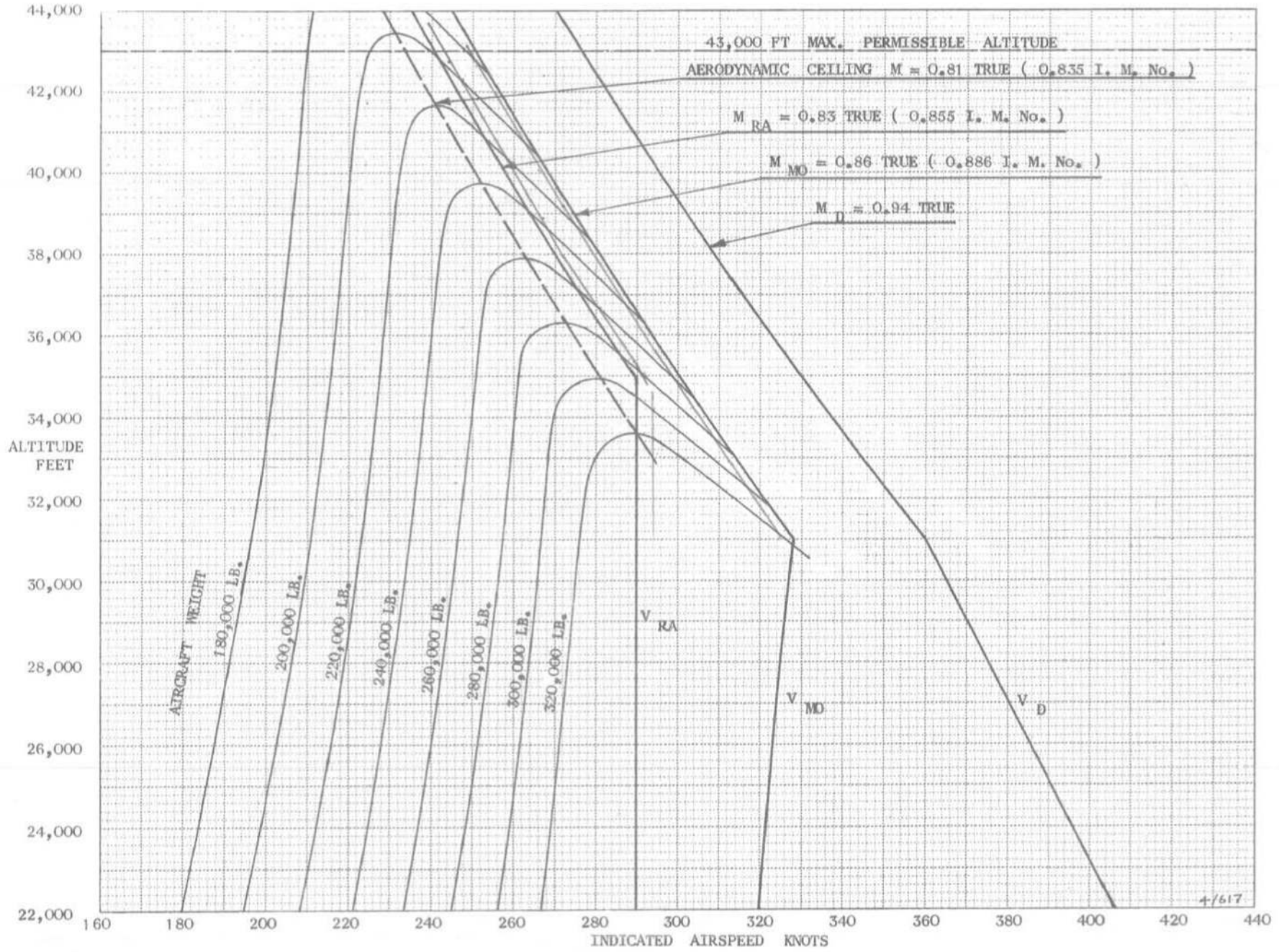


TABLE 7D

INDICATED AIRSPEED TO BUFFET AT 1.2 g



INDICATED AIRSPEED TO BUFFET AT 1.35 g



4 ENGINE HIGH SPEED CRUISE AT 0.88 M_{IND}

TABLE 8A
J.S.A.—12°C TO —8°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT 1b/1000 AND FUEL FLOW 1b/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180	
43,000	462												11000	10400	10000	462	43,000
42,000	464												11000	10500	10100	464	42,000
41,000	467											11600	11200	10700	10400	467	41,000
40,000	469										12200	11800	11400	11000	10700	469	40,000
39,000	471									12900	12400	12000	11600	11300	11000	471	39,000
38,000	474							14100	13500	13000	12600	12300	11900	11600	11400	474	38,000
37,000	476						14700	14100	13700	13300	12900	12600	12300	12000	11800	476	37,000
36,000	478					15300	14800	14300	13900	13600	13300	13000	12700	12500	12200	478	36,000
35,000	481			16600	16000	15500	15000	14600	14300	14000	13700	13400	13200	12900	12700	481	35,000
34,000	483		17200	16600	16200	15700	15300	15000	14700	14700	14100	13900	13600	13400	13300	483	34,000
33,000	485	17800	17300	16800	16400	16000	15700	15400	15100	14800	14600	14400	14200	14000	13800	485	33,000
32,000	487	18000	17500	17100	16800	16400	16100	15800	15600	15300	15100	14900	14700	14500	14400	487	32,000
31,000	490	18300	17900	17600	17200	16900	16700	16400	16100	15900	15700	15500	15300	15200	15100	490	31,000
30,000	492	18700	18400	18000	17700	17500	17200	16900	16700	16500	16300	16100	16000	15800	15700	492	30,000

4 ENGINE HIGH SPEED CRUISE AT 0.88 M_{IND}

TABLE 8B

J.S.A.—7°C TO —3°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT 1b/1000 AND FUEL FLOW 1b/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180	
43,000	468												11100	10500	10100	468	43,000
42,000	470												11100	10700	10300	470	42,000
41,000	472											11800	11300	10900	10500	472	41,000
40,000	475										12400	11900	11500	11100	10800	475	40,000
39,000	477									13000	12500	12100	11800	11400	11100	477	39,000
38,000	479							14200	13600	13200	12700	12400	12100	11800	11500	479	38,000
37,000	482						14900	14300	13800	13400	13100	12700	12500	12200	11900	482	37,000
36,000	484					15500	15000	14500	14100	13800	13400	13100	12900	12600	12400	484	36,000
35,000	486			16700	16100	15600	15200	14800	14400	14100	13800	13500	13300	13100	12900	486	35,000
34,000	489		17400	16800	16400	15900	15500	15200	14900	14600	14300	14000	13800	13600	13400	489	34,000
33,000	491	18100	17500	17000	16600	16200	15900	15600	15300	15000	14800	14500	14300	14100	14000	491	33,000
32,000	493	18200	17800	17400	17000	16600	16300	16000	15800	15500	15300	15100	14900	14700	14500	493	32,000
31,000	495	18500	18100	17700	17400	17100	16800	16500	16300	16100	15900	15700	15500	15300	15200	495	31,000
30,000	498	18900	18600	18300	18000	17700	17400	17200	16900	16700	16500	16300	16200	16000	15900	498	30,000

4 ENGINE HIGH SPEED CRUISE AT 0.88 M_{IND}

TABLE 8C
J.S.A.—2°C TO +2°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	474												11300	10700	10200	474	43,000
42,000	476												11300	10800	10400	476	42,000
41,000	478											11900	11400	11000	10600	478	41,000
40,000	481										12600	12100	11600	11300	11000	481	40,000
39,000	483									13200	12700	12300	11900	11600	11300	483	39,000
38,000	485							14400	13800	13300	12900	12500	12200	11900	11600	485	38,000
37,000	487						15000	14500	14000	13600	13200	12900	12600	12300	12100	487	37,000
36,000	490					15700	15100	14700	14300	13900	13600	13300	13000	12800	12500	490	36,000
35,000	492			16900	16300	15800	15400	15000	14600	14300	14000	13700	13500	13200	13000	492	35,000
34,000	494		17600	17900	16500	16100	15700	15300	15000	14700	14400	14200	14000	13800	13600	494	34,000
33,000	497	18300	17700	17300	16800	16400	16100	15800	15500	15200	14900	14700	14500	14300	14100	497	33,000
32,000	499	18400	18000	17600	17200	16800	16500	16200	16000	15700	15500	15300	15100	14900	14700	499	32,000
31,000	501	18700	18300	18000	17600	17300	17000	16800	16500	16300	16100	15900	15700	15500	15400	501	31,000
30,000	503	19100	18800	18400	18100	17800	17600	17300	17100	16900	16700	16500	16300	16200	16000	503	30,000

4 ENGINE HIGH SPEED CRUISE AT 0.88 M_{IND}

TABLE 8D
J.S.A.+3°C TO +7°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180	
43,000	479												11400	10800	10300	479	43,000
42,000	482												11400	10900	10500	482	42,000
41,000	484											12100	11600	11100	10800	484	41,000
40,000	486										12700	12200	11800	11400	11100	486	40,000
39,000	489									13300	12800	12400	12000	11700	11400	489	39,000
38,000	491							14600	14000	13500	13100	12700	12400	12100	11800	491	38,000
37,000	493						15200	14600	14200	13700	13400	13000	12700	12500	12200	493	37,000
36,000	495					15900	15300	14800	14400	14100	13700	13400	13200	12900	12700	495	36,000
35,000	498			17100	16500	16000	15600	15200	14800	14500	14200	13900	13600	13400	13200	498	35,000
34,000	500		17800	17200	16700	16300	15900	15500	15200	14900	14600	14400	14100	13900	13700	500	34,000
33,000	502	18500	17900	17400	17000	16600	16300	15900	15600	15400	15100	14900	14600	14500	14300	502	33,000
32,000	504	18600	18200	17700	17400	17000	16700	16400	16100	15900	15600	15400	15200	15000	14900	504	32,000
31,000	506	18900	18500	18100	17800	17500	17200	16900	16700	16400	16200	16000	15800	15700	15500	506	31,000
30,000	509	19300	19000	18700	18400	18100	17800	17500	17300	17100	16900	16700	16500	16400	16200	509	30,000

4 ENGINE HIGH SPEED CRUISE AT 0.88 M_{IND}

TABLE 8E
J.S.A.+8°C TO +12°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR. 310	300	290	280	270	260	250	240	230	220	210	200	190	180	TAS KTS	PRESS. HEIGHT FEET
43,000	485												11500	10900	10500	485	43,000
42,000	487												11600	11100	10600	487	42,000
41,000	490											12200	11700	11300	10900	490	41,000
40,000	492										12800	12300	11900	11500	11200	492	40,000
39,000	494									13500	13000	12500	12200	11800	11500	494	39,000
38,000	497							14700	14200	13700	13200	12900	12500	12200	11900	497	38,000
37,000	499						15400	14800	14300	13900	13500	13200	12900	12600	12400	499	37,000
36,000	501					16000	15500	15000	14600	14200	13900	13600	13300	13100	12800	501	36,000
35,000	503					16200	15700	15300	14900	14600	14300	14000	13800	13500	13300	503	35,000
34,000	505				16900	16400	16000	15700	15400	15000	14800	14500	14300	14100	13900	505	34,000
33,000	508				17200	16800	16500	16100	15700	15400	15200	15000	14800	14600	14400	508	33,000
32,000	510			18000	17600	17200	16900	16600	16300	16100	15800	15600	15400	15200	15000	510	32,000
31,000	512			18400	18000	17700	17400	17100	16900	16600	16400	16200	16000	15800	15700	512	31,000
30,000	514			18800	18500	18200	18000	17700	17500	17200	17000	16900	16700	16500	16400	514	30,000

4 ENGINE HIGH SPEED CRUISE AT 0.88 M_{IND}

TABLE 8F
J.S.A.+13°C TO +17°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	491												11700	11100	10600	491	43,000
42,000	493												11700	11200	10800	493	42,000
41,000	495											12300	11800	11400	11000	495	41,000
40,000	498										13000	12500	12100	11700	11300	498	40,000
39,000	500									13600	13100	12700	12300	12000	11700	500	39,000
38,000	502								14300	13800	13400	13000	12600	12300	12100	502	38,000
37,000	504								14500	14000	13700	13300	13000	12700	12500	504	37,000
36,000	506							15200	14700	14400	14000	13700	13400	13200	13000	506	36,000
35,000	509							15500	15100	14800	14500	14200	13900	13700	13500	509	35,000
34,000	511						16200	15900	15500	15200	14900	14700	14400	14200	14000	511	34,000
33,000	513						16600	16300	16000	15700	15400	15200	15000	14800	14600	513	33,000
32,000	515							16800	16500	16200	16000	15700	15600	15400	15200	515	32,000
31,000	517							17300	17000	16800	16600	16400	16200	16000	15800	517	31,000
30,000	519								17600	17400	17200	17000	16800	16700	16500	519	30,000

TABLE 8G
J.S.A.+18°C TO +22°C

4 ENGINE HIGH SPEED CRUISE AT 0.88 M_{IND}

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	497												11800	11200	10700	497	43,000
42,000	499												11800	11300	10900	499	42,000
41,000	501											12500	12000	11500	11200	501	41,000
40,000	503											12600	12200	11800	11500	503	40,000
39,000	505										13300	12800	12400	12100	11800	505	39,000
38,000	508										13500	13100	12800	12500	12200	508	38,000
37,000	510										13800	13500	13200	12900	12600	510	37,000
36,000	512									14500	14200	13900	13600	13300	13100	512	36,000
35,000	514										14600	14300	14100	13800	13600	514	35,000
34,000	516										15100	14800	14600	14400	14200	516	34,000
33,000	518										15600	15300	15100	14900	14700	518	33,000
32,000	521											15900	15700	15500	15400	521	32,000
31,000	523												16400	16200	16000	523	31,000
30,000	525													16900	16700	525	30,000

4 ENGINE HIGH SPEED CRUISE AT 0.88 M_{IND}

TABLE 8H
I.S.A.+23°C TO +27°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	502													11300	10800	502	43,000
42,000	504													11400	11000	504	42,000
41,000	506													11600	11300	506	41,000
40,000	509												12300	11900	11600	509	40,000
39,000	511												12600	12200	11900	511	39,000
38,000	513												12900	12600	12300	513	38,000
37,000	515												13300	13000	12800	515	37,000
36,000	517													13500	13200	517	36,000
35,000	519													14000	13700	519	35,000
34,000	522														14300	522	34,000
33,000	524															524	33,000
32,000	526															526	32,000
31,000	528															528	31,000
30,000	530															530	30,000

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4 ENGINE INTERMEDIATE SPEED CRUISE AT 0.86 M_{IND}

TABLE 9A
J.S.A.—12°C TO —8°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	451											10500	9900	9400	9000	451	43,000
42,000	453										11100	10400	9900	9500	9200	453	42,000
41,000	456								12600	11700	11000	10500	10100	9700	9400	456	41,000
40,000	458							13000	12200	11500	11000	10600	10300	10000	9700	458	40,000
39,000	460						13500	12700	12100	11600	11200	10800	10500	10200	10000	460	39,000
38,000	463					14000	13300	12700	12200	11800	11400	11100	10800	10600	10300	463	38,000
37,000	465			15400	14500	13800	13200	12800	12400	12000	11700	11400	11200	10900	10700	465	37,000
36,000	467		15800	15000	14300	13800	13400	13000	12600	12300	12000	11800	11500	11300	11100	467	36,000
35,000	469	16200	15500	14900	14400	14000	13600	13300	13000	12700	12400	12200	11900	11700	11500	469	35,000
34,000	472	16100	15500	15000	14600	14300	13900	13600	13300	13100	12800	12600	12400	12200	12000	472	34,000
33,000	474	16100	15600	15300	14900	14600	14300	14000	13700	13500	13200	13000	12800	12600	12400	474	33,000
32,000	476	16300	15900	15600	15300	14900	14700	14400	14200	13900	13700	13500	13300	13100	12900	476	32,000
31,000	478	16600	16300	15900	15600	15400	15100	14900	14600	14400	14200	14000	13800	13600	13500	478	31,000
30,000	481	17000	16700	16400	16100	15900	15600	15400	15200	15000	14800	14600	14400	14200	14100	481	30,000

TABLE 9B
J.S.A.—7°C TO —3°C

4 ENGINE INTERMEDIATE SPEED CRUISE AT 0.86 M_{IND}

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT 1b/1000 AND FUEL FLOW 1b/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	457											10700	10000	9500	9100	457	43,000
42,000	459										11200	10600	10100	9700	9300	459	42,000
41,000	461								12600	11800	11100	10600	10200	9900	9500	461	41,000
40,000	464							13200	12300	11700	11200	10800	10400	10100	9800	464	40,000
39,000	466						13700	12900	12200	11800	11300	11000	10700	10400	10100	466	39,000
38,000	468					14200	13400	12800	12300	11900	11600	11300	11000	10700	10400	468	38,000
37,000	470			15500	14700	13900	13400	12900	12500	12200	11900	11600	11300	11000	10800	470	37,000
36,000	473		16000	15200	14500	14000	13500	13200	12800	12500	12200	11900	11700	11500	11200	473	36,000
35,000	475	16400	15700	15100	14500	14100	13800	13400	13100	12800	12600	12300	12100	11900	11700	475	35,000
34,000	477	16200	15700	15200	14800	14400	14100	13800	13500	13200	13000	12800	12500	12300	12100	477	34,000
33,000	479	16300	15800	15400	15100	14700	14400	14100	13900	13600	13400	13200	12900	12800	12600	479	33,000
32,000	482	16500	16100	15800	15400	15100	14800	14600	14300	14100	13900	13700	13500	13300	13100	482	32,000
31,000	484	16800	16500	16100	15800	15500	15300	15000	14800	14600	14400	14200	14000	13800	13700	484	31,000
30,000	486	17200	16900	16600	16300	16000	15800	15500	15300	15100	14900	14700	14600	14400	14300	486	30,000

4 ENGINE INTERMEDIATE SPEED CRUISE AT 0.86 M_{IND}

TABLE 9C
J.S.A.—2°C TO +2°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT 1b/1000 AND FUEL FLOW 1b/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	463											10800	10200	9600	9300	463	43,000
42,000	465										11400	10700	10200	9800	9400	465	42,000
41,000	467								12800	11900	11300	10700	10300	10000	9700	467	41,000
40,000	469							13300	12500	11800	11300	10900	10500	10200	9900	469	40,000
39,000	472						13900	13000	12400	11900	11500	11100	10800	10500	10200	472	39,000
38,000	474					14400	13600	13000	12500	12100	11700	11400	11100	10800	10600	474	38,000
37,000	476			15700	14800	14100	13500	13100	12700	12300	12000	11700	11400	11200	10900	476	37,000
36,000	478		16200	15300	14700	14100	13700	13300	12900	12600	12300	12100	11800	11600	11300	478	36,000
35,000	481	16600	15900	15300	14800	14300	14000	13600	13300	13000	12700	12500	12200	12000	11800	481	35,000
34,000	483	16400	15900	15400	15000	14600	14300	13900	13600	13400	13100	12900	12700	12500	12300	483	34,000
33,000	485	16500	16000	15600	15200	14900	14600	14300	14000	13800	13500	13300	13100	12900	12700	485	33,000
32,000	487	16700	16300	15900	15600	15300	15000	14700	14500	14200	14000	13800	13600	13400	13200	487	32,000
31,000	489	17000	16600	16300	16000	15700	15400	15200	15000	14700	14500	14300	14100	14000	13800	489	31,000
30,000	491	17400	17000	16700	16400	16200	15900	15700	15400	15300	15100	14900	14700	14500	14400	491	30,000

4 ENGINE INTERMEDIATE SPEED CRUISE AT 0.86 M_{IND}

TABLE 9D
J.S.A.+3°C TO +7°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT 1b/1000 AND FUEL FLOW 1b/HR. 310	300	290	280	270	260	250	240	230	220	210	200	190	180	TAS KTS	PRESS. HEIGHT FEET
43,000	468											10900	10300	9800	9400	468	43,000
42,000	470										11500	10800	10300	9900	9500	470	42,000
41,000	473								13000	12100	11400	10900	10500	10100	9800	473	41,000
40,000	475							13500	12600	12000	11500	11000	10700	10400	10100	475	40,000
39,000	477						14000	13200	12500	12000	11600	11200	10900	10600	10400	477	39,000
38,000	479					14500	13700	13100	12600	12200	11800	11500	11200	10900	10700	479	38,000
37,000	482			15900	15000	14300	13700	13200	12800	12500	12200	11800	11600	11300	11100	482	37,000
36,000	484		16400	15500	14900	14300	13900	13500	13100	12800	12500	12200	12000	11700	11500	484	36,000
35,000	486	16800	16100	15400	14900	14500	14100	13800	13400	13100	12900	12600	12400	12100	11900	486	35,000
34,000	488	16600	16000	15500	15100	14700	14400	14100	13800	13500	13300	13000	12800	12600	12400	488	34,000
33,000	490	16600	16200	15800	15400	15100	14800	14500	14200	13900	13700	13500	13200	13000	12900	490	33,000
32,000	492	16800	16400	16100	15800	15400	15100	14900	14600	14400	14100	13900	13700	13600	13400	492	32,000
31,000	495	17200	16800	16500	16200	15900	15600	15400	15100	14900	14700	14500	14300	14100	14000	495	31,000
30,000	497	17600	17200	16900	16600	16400	16100	15900	15700	15400	15300	15100	14900	14700	14600	497	30,000

4 ENGINE INTERMEDIATE SPEED CRUISE AT 0.86 M_{IND}

TABLE 9E
J.S.A.+8°C TO +12°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	474											11100	10400	9900	9500	474	43,000
42,000	476										11700	11000	10400	10000	9700	476	42,000
41,000	478								13100	12200	11500	11000	10600	10200	9900	478	41,000
40,000	481							13700	12800	12100	11600	11200	10800	10500	10200	481	40,000
39,000	483						14200	13300	12700	12200	11800	11400	11100	10800	10500	483	39,000
38,000	485					14700	13900	13300	12800	12400	12000	11700	11400	11100	10800	485	38,000
37,000	487				15200	14500	13900	13400	13000	12600	12300	12000	11700	11400	11200	487	37,000
36,000	489			15700	15000	14500	14000	13600	13200	12900	12600	12300	12100	11800	11600	489	36,000
35,000	491		16200	15600	15100	14600	14200	13900	13600	13300	13000	12700	12500	12200	12000	491	35,000
34,000	494	16800	16200	15700	15300	14900	14600	14300	14000	13700	13400	13200	12900	12700	12500	494	34,000
33,000	496	16800	16400	16000	15600	15300	14900	14600	14400	14100	13900	13600	13400	13200	13000	496	33,000
32,000	498	17000	16600	16300	16000	15600	15300	15100	14800	14600	14300	14100	13900	13700	13500	498	32,000
31,000	500	17400	17000	16700	16400	16100	15800	15500	15300	15100	14800	14600	14500	14300	14100	500	31,000
30,000	502	17700	17400	17100	16800	16600	16300	16100	15800	15600	15400	15200	15000	14900	14700	502	30,000

TABLE 9F

J.S.A.+13°C TO +17°C

4 ENGINE INTERMEDIATE SPEED CRUISE AT 0.86 M_{IND}

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	479											11200	10500	10000	9600	479	43,000
42,000	482										11800	11100	10600	10100	9800	482	42,000
41,000	484									12400	11700	11100	10700	10300	10000	484	41,000
40,000	486								12900	12200	11700	11300	10900	10600	10300	486	40,000
39,000	488							13500	12800	12300	11900	11500	11200	10900	10600	488	39,000
38,000	490						14000	13400	12900	12500	12100	11800	11500	11200	10900	490	38,000
37,000	492					14600	14000	13500	13100	12700	12400	12100	11800	11600	11300	492	37,000
36,000	495				15200	14600	14200	13800	13400	13100	12800	12500	12200	12000	11800	495	36,000
35,000	497				15300	14800	14400	14100	13700	13400	13100	12900	12600	12400	12200	497	35,000
34,000	499			15900	15500	15100	14700	14400	14100	13800	13600	13300	13100	12900	12700	499	34,000
33,000	501		16500	16100	15800	15400	15100	14800	14500	14200	14000	13800	13500	13300	13200	501	33,000
32,000	503	16800	16400	16100	15800	15500	15200	15000	14700	14500	14200	14100	13900	13700		503	32,000
31,000	505	17200	16800	16500	16200	16000	15700	15400	15200	15000	14800	14600	14400	14200		505	31,000
30,000	507	17600	17300	17000	16700	16500	16200	16000	15800	15600	15400	15200	15000	14900		507	30,000

4 ENGINE INTERMEDIATE SPEED CRUISE AT 0.86 M_{IND} TABLE 9G

J.S.A.+18°C TO +22°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	485											11300	10600	10100	9700	485	43,000
42,000	487										11900	11200	10700	10200	9900	487	42,000
41,000	489									12500	11800	11300	10800	10500	10100	489	41,000
40,000	491								13100	12400	11800	11400	11000	10700	10400	491	40,000
39,000	494								13000	12500	12000	11700	11300	11000	10700	494	39,000
38,000	496							13600	13100	12600	12300	11900	11600	11300	11100	496	38,000
37,000	498							13700	13300	12900	12600	12200	12000	11700	11400	498	37,000
36,000	500						14300	13900	13500	13200	12900	12600	12400	12100	11900	500	36,000
35,000	502						14600	14200	13900	13600	13300	13000	12800	12500	12300	502	35,000
34,000	504						14900	14600	14200	14000	13700	13400	13200	13000	12800	504	34,000
33,000	506					15600	15200	14900	14600	14400	14100	13900	13700	13500	13300	506	33,000
32,000	508						15600	15400	15100	14900	14600	14400	14200	14000	13800	508	32,000
31,000	510						16100	15900	15600	15400	15100	14900	14700	14600	14400	510	31,000
30,000	513						16700	16400	16200	15900	15700	15500	15400	15200	15000	513	30,000

TABLE 9H

J.S.A.+23°C TO +27°C

4 ENGINE INTERMEDIATE SPEED CRUISE AT 0.86 M_{IND}

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	490											11500	10700	10200	9800	490	43,000
42,000	492											11300	10800	10400	10000	492	42,000
41,000	495										11900	11400	11000	10600	10200	495	41,000
40,000	497										12000	11500	11200	10800	10500	497	40,000
39,000	499									12600	12200	11800	11400	11100	10800	499	39,000
38,000	501									12800	12400	12000	11700	11400	11200	501	38,000
37,000	503									13000	12700	12400	12100	11800	11600	503	37,000
36,000	505									13300	13000	12700	12500	12200	12000	505	36,000
35,000	507								14000	13700	13400	13100	12900	12700	12400	507	35,000
34,000	509									14100	13800	13600	13300	13100	12900	509	34,000
33,000	511									14500	14300	14000	13800	13600	13400	511	33,000
32,000	514									15000	14800	14600	14400	14200	14000	514	32,000
31,000	516										15300	15100	14900	14700	14600	516	31,000
30,000	518											15700	15500	15300	15200	518	30,000

4 ENGINE INTERMEDIATE SPEED CRUISE AT 0.86 M_{IND}

TABLE 9J
J.S.A.+28°C TO +32°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT 1b/1000 AND FUEL FLOW 1b/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	496													10300	9900	496	43,000
42,000	498												10900	10500	10100	498	42,000
41,000	500												11100	10700	10400	500	41,000
40,000	502											11700	11300	10900	10600	502	40,000
39,000	504											11900	11500	11200	10900	504	39,000
38,000	506											12200	11800	11600	11300	506	38,000
37,000	508											12500	12200	11900	11700	508	37,000
36,000	510											12900	12600	12300	12100	510	36,000
35,000	513											13300	13000	12800	12600	513	35,000
34,000	515												13500	13300	13100	515	34,000
33,000	517													13800	13600	517	33,000
32,000	519														14100	519	32,000
31,000	521															521	31,000
30,000	523															523	30,000

TABLE 10A
J.S.A.—12°C TO —8°C

4 ENGINE LONG RANGE CRUISE AT 0.84 M_{IND}

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	440										10600	9900	9300	8800	8500	440	43,000
42,000	442								12000	11100	10400	9800	9400	9000	8700	442	42,000
41,000	445							12500	11600	11000	10400	9900	9500	9200	8900	445	41,000
40,000	447						12900	12100	11500	10900	10400	10000	9700	9400	9100	447	40,000
39,000	449					13400	12600	12000	11400	10900	10600	10200	9900	9600	9400	449	39,000
38,000	451			14700	13800	13100	12500	11900	11500	11100	10800	10500	10200	9900	9700	451	38,000
37,000	454		15100	14300	13600	13000	12500	12000	11700	11400	11100	10800	10500	10200	10000	454	37,000
36,000	456	15500	14800	14100	13500	13000	12600	12300	11900	11600	11300	11100	10800	10600	10300	456	36,000
35,000	458	15200	14600	14000	13600	13200	12800	12500	12200	11900	11700	11400	11200	10900	10700	458	35,000
34,000	460	15100	14600	14100	13800	13400	13100	12800	12500	12300	12000	11800	11500	11300	11100	460	34,000
33,000	462	15100	14700	14400	14000	13700	13400	13100	12900	12600	12400	12100	11900	11700	11500	462	33,000
32,000	465	15400	15000	14700	14400	14100	13800	13500	13300	13000	12800	12600	12400	12200	12000	465	32,000
31,000	467	15700	15300	15000	14700	14500	14200	13900	13700	13500	13200	13000	12800	12700	12500	467	31,000
30,000	469	16000	15700	15400	15100	14900	14600	14400	14100	13900	13700	13500	13300	13200	13100	469	30,000

4 ENGINE LONG RANGE CRUISE AT 0.84 M_{IND}

TABLE 10B
J.S.A.—7°C TO —3°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	446										10700	10000	9400	9000	8600	446	43,000
42,000	448								12100	11300	10600	10000	9500	9100	8800	448	42,000
41,000	450							12600	11800	11100	10500	10000	9600	9300	9000	450	41,000
40,000	453						13100	12300	11600	11000	10500	10200	9800	9500	9300	453	40,000
39,000	455					13600	12800	12100	11600	11100	10700	10400	10100	9800	9500	455	39,000
38,000	457			14900	14000	13300	12600	12100	11600	11200	10900	10600	10300	10000	9800	457	38,000
37,000	459		15300	14500	13800	13100	12600	12200	11800	11500	11200	10900	10600	10400	10100	459	37,000
36,000	461	15700	14900	14300	13700	13200	12700	12400	12100	11800	11500	11200	10900	10700	10500	461	36,000
35,000	464	15400	14800	14200	13700	13300	13000	12700	12400	12100	11800	11500	11300	11100	10900	464	35,000
34,000	466	15300	14800	14300	14000	13600	13300	13000	12700	12400	12200	11900	11700	11500	11300	466	34,000
33,000	468	15300	14900	14600	14200	13900	13600	13300	13000	12800	12500	12300	12100	11900	11700	468	33,000
32,000	470	15500	15200	14900	14600	14200	14000	13700	13400	13200	12900	12700	12500	12300	12100	470	32,000
31,000	472	15800	15500	15200	14900	14600	14300	14100	13800	13600	13400	13200	13000	12800	12600	472	31,000
30,000	474	16200	15900	15600	15300	15000	14800	14500	14300	14100	13900	13700	13500	13300	13200	474	30,000

TABLE 10C

J.S.A.—2°C TO +2°C

4 ENGINE LONG RANGE CRUISE AT 0.84 M_{IND}

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	451										10800	10100	9500	9100	8700	451	43,000
42,000	454								12300	11400	10700	10100	9600	9200	8900	454	42,000
41,000	456							12800	11900	11200	10600	10100	9700	9400	)100	456	41,000
40,000	458						13200	12400	11700	11100	10700	10300	9900	9600	9400	458	40,000
39,000	460					13700	12900	12300	11700	11200	10800	10500	10200	9900	9600	460	39,000
38,000	462			15100	14200	13400	12800	12200	11700	11400	11000	10700	10400	10200	9900	462	38,000
37,000	465		15500	14700	14000	13300	12800	12300	12000	11600	11300	11000	10800	10500	10200	465	37,000
36,000	467	15900	15100	14400	13800	13300	12900	12600	12200	11900	11600	11300	11100	10800	10600	467	36,000
35,000	469	15600	14900	14400	13900	13500	13100	12800	12500	12200	11900	11700	11400	11200	11000	469	35,000
34,000	471	15500	14900	14500	14100	13800	13400	13100	12800	12600	12300	12000	11800	11600	11400	471	34,000
33,000	473	15500	15100	14700	14400	14100	13800	13400	13200	12900	12700	12400	12200	12000	11800	473	33,000
32,000	475	15700	15300	15000	14700	14400	14100	13800	13600	13300	13100	12800	12600	12400	12300	475	32,000
31,000	478	16000	15700	15400	15100	14800	14500	14300	14000	13800	13500	13300	13100	13000	12800	478	31,000
30,000	480	16400	16100	15800	15500	15200	15000	14700	14500	14200	14000	13800	13700	13500	13400	480	30,000

4 ENGINE LONG RANGE CRUISE AT 0.84 M_{IND}

TABLE 10D
J.S.A.+3°C TO +7°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	457										11000	10300	9700	9200	8800	457	43,000
42,000	459								12400	11500	10800	10200	9700	9300	9000	459	42,000
41,000	461							12900	12100	11300	10700	10200	9900	9500	9200	461	41,000
40,000	464						13400	12600	11900	11300	10800	10400	10100	9800	9500	464	40,000
39,000	466					13900	13100	12400	11800	11300	11000	10600	10300	10000	9700	466	39,000
38,000	468			15300	14400	13600	12900	12400	11900	11500	11200	10900	10600	10300	10000	468	38,000
37,000	470		15700	14800	14100	13500	12900	12500	12100	11800	11500	11100	10900	10600	10400	470	37,000
36,000	472	16100	15300	14600	14000	13500	13000	12700	12400	12000	11700	11500	11200	10900	10700	472	36,000
35,000	474	15800	15100	14500	14000	13600	13300	13000	12600	12300	12100	11800	11500	11300	11100	474	35,000
34,000	476	15600	15100	14600	14300	13900	13600	13300	13000	12700	12400	12200	11900	11700	11500	476	34,000
33,000	479	15700	15300	14900	14600	14200	13900	13600	13300	13100	12800	12600	12400	12100	12000	479	33,000
32,000	481	15900	15500	15200	14900	14600	14300	14000	13700	13500	13200	13000	12800	12600	12400	481	32,000
31,000	483	16200	15900	15600	15300	15000	14700	14400	14200	13900	13700	13500	13300	13100	12900	483	31,000
30,000	485	16600	16200	15900	15700	15400	15100	14900	14600	14400	14200	14000	13800	13600	13500	485	30,000

4 ENGINE LONG RANGE CRUISE AT 0.84 MIND

TABLE 10E
J.S.A.+8°C TO +12°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.													TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180	
43,000	462										11100	10400	9800	9300	8900	462	43,000
42,000	465								12600	11700	11000	10300	9800	9500	9100	465	42,000
41,000	467							13100	12200	11500	10900	10400	10000	9600	9300	467	41,000
40,000	469						13600	12700	12000	11400	10900	10500	10200	9900	9600	469	40,000
39,000	471					14000	13200	12600	12000	11500	11100	10700	10400	10100	9800	471	39,000
38,000	473				14500	13800	13100	12500	12000	11600	11300	11000	10700	10400	10100	473	38,000
37,000	475			15000	14300	13600	13100	12600	12200	11900	11600	11300	11000	10700	10500	475	37,000
36,000	478		15500	14800	14200	13600	13200	12800	12500	12200	11900	11600	11300	11100	10900	478	36,000
35,000	480	16000	15300	14700	14200	13800	13500	13100	12800	12500	12200	11900	11700	11500	11200	480	35,000
34,000	482	15800	15300	14800	14400	14100	13800	13400	13100	12800	12600	12300	12100	11900	11600	482	34,000
33,000	484	15900	15400	15100	14700	14400	14100	13800	13500	13200	13000	12700	12500	12300	12100	484	33,000
32,000	486	16100	15700	15400	15000	14700	14400	14100	13900	13600	13400	13100	12900	12700	12600	486	32,000
31,000	488	16400	16000	15700	15400	15100	14800	14600	14300	14100	13800	13600	13400	13200	13100	488	31,000
30,000	490	16700	16400	16100	15800	15500	15300	15000	14800	14500	14300	14100	13900	13800	13600	490	30,000

4 ENGINE LONG RANGE CRUISE AT 0.84 M_{IND}

TABLE 10F
J.S.A.+13°C TO +17°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT 1b/1000 AND FUEL FLOW 1b/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	468										11300	10500	9900	9400	9000	468	43,000
42,000	470								12700	11800	11100	10500	9900	9600	9200	470	42,000
41,000	472								12300	11600	11000	10500	10100	9700	9400	472	41,000
40,000	474							12900	12200	11500	11000	10600	10300	10000	9700	474	40,000
39,000	476						13400	12700	12100	11600	11200	10800	10500	10200	9900	476	39,000
38,000	479					13900	13200	12700	12200	11800	11400	11100	10800	10500	10300	479	38,000
37,000	481				14400	13800	13200	12800	12400	12000	11700	11400	11100	10800	10600	481	37,000
36,000	483			14900	14300	13800	13300	13000	12600	12300	12000	11700	11500	11200	11000	483	36,000
35,000	485		15500	14900	14400	14000	13600	13300	12900	12600	12300	12000	11800	11600	11300	485	35,000
34,000	487	16000	15400	15000	14600	14200	13900	13600	13300	13000	12700	12500	12200	12000	11800	487	34,000
33,000	489	16000	15600	15200	14900	14500	14200	13900	13600	13300	13100	12800	12600	12400	12200	489	33,000
32,000	491	16200	15900	15500	15200	14900	14600	14300	14000	13800	13500	13300	13100	12900	12700	491	32,000
31,000	493	16500	16200	15900	15600	15300	15000	14700	14400	14200	14000	13800	13600	13400	13200	493	31,000
30,000	495	16900	16600	16300	16000	15700	15400	15200	14900	14700	14500	14300	14100	13900	13800	495	30,000

4 ENGINE LONG RANGE CRUISE AT 0.84 M_{IND}

TABLE 10G
J.S.A.+18°C TO +22°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR. 310	300	290	280	270	260	250	240	230	220	210	200	190	180	TAS KTS	PRESS. HEIGHT FEET
43,000	473										11400	10600	10000	9500	9100	473	43,000
42,000	475									11900	11200	10600	10100	9700	9300	475	42,000
41,000	478								12500	11800	11100	10600	10200	9900	9600	478	41,000
40,000	480								12300	11700	11200	10800	10400	10100	9800	480	40,000
39,000	482							12800	12200	11700	11300	11000	10700	10400	10100	482	39,000
38,000	484						13400	12800	12300	11900	11600	11200	10900	10600	10400	484	38,000
37,000	486					13900	13400	12900	12500	12200	11800	11500	11200	11000	10700	486	37,000
36,000	488					13900	13500	13100	12800	12500	12100	11900	11600	11300	11100	488	36,000
35,000	490				14500	14100	13700	13400	13100	12800	12500	12200	11900	11700	11500	490	35,000
34,000	492			15100	14700	14400	14000	13700	13400	13100	12800	12600	12300	12100	11900	492	34,000
33,000	494			15400	15000	14700	14400	14100	13800	13500	13200	13000	12700	12500	12300	494	33,000
32,000	496			15700	15400	15000	14700	14400	14200	13900	13600	13400	13200	13000	12800	496	32,000
31,000	498			16000	15700	15400	15100	14900	14600	14300	14100	13900	13700	13500	13300	498	31,000
30,000	500			16400	16100	15900	15600	15300	15100	14800	14600	14400	14200	14100	13900	500	30,000

4 ENGINE LONG RANGE CRUISE AT 0.84 M_{IND}

TABLE 10H

J.S.A.+23°C TO +27°C

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT 1b/1000 AND FUEL FLOW 1b/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	479											10800	10100	9600	9300	479	43,000
42,000	481										11300	10700	10200	9800	9400	481	42,000
41,000	483									11900	11200	10700	10300	10000	9700	483	41,000
40,000	485									11800	11300	10900	10500	10200	9900	485	40,000
39,000	487								12400	11900	11500	11100	10800	10500	10200	487	39,000
38,000	489								12400	12000	11700	11400	11000	10800	10500	489	38,000
37,000	491							13000	12600	12300	12000	11600	11400	11100	10800	491	37,000
36,000	493						13600	13200	12900	12600	12300	12000	11700	11400	11200	493	36,000
35,000	495						13900	13500	13200	12900	12600	12300	12100	11800	11600	495	35,000
34,000	497						14200	13900	13500	13200	13000	12700	12500	12200	12000	497	34,000
33,000	499						14500	14200	13900	13600	13400	13100	12900	12700	12500	499	33,000
32,000	501						14900	14600	14300	14000	13800	13600	13300	13100	12900	501	32,000
31,000	503						15300	15000	14700	14500	14300	14000	13800	13600	13500	503	31,000
30,000	505							15500	15200	15000	14800	14600	14400	14200	14100	505	30,000

TABLE 10J
J.S.A.+28°C TO +32°C

4 ENGINE LONG RANGE CRUISE AT 0.84 M_{IND}

PRESS. HEIGHT FEET	TAS KTS	INSTANTANEOUS WEIGHT lb/1000 AND FUEL FLOW lb/HR.														TAS KTS	PRESS. HEIGHT FEET
		310	300	290	280	270	260	250	240	230	220	210	200	190	180		
43,000	484												10200	9700	9300	484	43,000
42,000	486											10800	10300	9900	9500	486	42,000
41,000	488											10800	10400	10100	9800	488	41,000
40,000	490										11400	11000	10600	10300	10000	490	40,000
39,000	492										11600	11200	10900	10600	10300	492	39,000
38,000	494									12200	11800	11500	11200	10900	10600	494	38,000
37,000	496									12400	12100	11800	11500	11200	10900	496	37,000
36,000	498									12700	12400	12100	11800	11600	11300	498	36,000
35,000	500									13000	12700	12400	12200	11900	11700	500	35,000
34,000	502									13400	13100	12800	12600	12300	12100	502	34,000
33,000	504									13800	13500	13200	13000	12800	12600	504	33,000
32,000	506										13900	13700	13500	13300	13100	506	32,000
31,000	508										14400	14200	14000	13800	13600	508	31,000
30,000	510											14700	14500	14300	14200	510	30,000

DESCENT

TABLE II

RESTRICTED

PRESSURE HEIGHT FEET	MEAN T.A.S. KTS	FUEL USED LB	TIME MINS.	DISTANCE - N.ML. 50 KT. HEAD	ZERO WIND	50 KT. TAIL
43000	368	1300	22	117	135	153
42000	366	1300	22	114	131	149
41000	364	1300	21	111	129	147
40000	362	1300	21	109	126	143
39000	360	1300	20	106	123	140
38000	358	1300	20	103	120	137
37000	356	1300	20	101	117	133
36000	355	1200	19	98	114	130
35000	353	1200	19	95	111	127
34000	351	1200	18	92	107	123
33000	349	1200	18	89	104	119
32000	347	1200	17	86	101	116
31000	346	1100	17	84	98	112
30000	344	1100	17	81	95	109
29000	343	1100	16	79	92	105
28000	342	1100	16	76	89	102
27000	340	1000	15	73	85	98
26000	339	1000	15	70	82	94
25000	338	1000	14	67	79	91
24000	337	900	13	65	76	87
23000	336	900	13	62	73	84
22000	335	900	12	59	69	80
21000	333	800	12	56	66	76
20000	332	800	11	54	63	72
19000	330	800	11	51	60	69
18000	327	700	10	48	57	66
17000	325	700	10	45	53	62
16000	322	700	9	42	50	58
15000	320	600	8	40	47	54
14000	318	600	8	37	43	50
13000	316	600	7	34	40	46
12000	314	500	7	31	37	43
11000	312	500	6	28	33	39
10000	309	400	6	25	30	35
9000	307	400	5	23	27	31
8000	305	400	4	19	23	27
7000	303	300	4	17	20	23
6000	300	300	3	14	17	20
5000	298	200	3	11	13	16
4000	296	200	2	8	10	12
3000	294	100	1	5	7	8
2000	292	100	1	2	3	4
1000	290	0	0	0	0	0

NOTE

1. To find the mean T.A.S. between two altitudes, add the mean T.A.S. for the altitudes and subtract 290.

2. DESCENT AT VMO
   Reduce normal descent time by one half.
   Reduce normal descent fuel by one half.
   Increase mean T.A.S. by 40 Knots.

TABLE 12A

4 ENGINE HOLDING

230 KTS. I.A.S. BELOW 20,000 FT. 250 KTS. I.A.S. ABOVE

MEAN WEIGHT 230,000 LB

ALTITUDE	FUEL FLOW LB/HR.					ALTITUDE
ft.	J.S.A. -10°C	J.S.A.	J.S.A. +10°C	J.S.A. +20°C	J.S.A. +30°C	ft.
30,000	10,500	10,700	11,000	11,200	11,400	30,000
28,000	10,600	10,800	11,100	11,300	11,500	28,000
26,000	10,700	10,900	11,200	11,400	11,600	26,000
24,000	10,800	11,000	11,200	11,500	11,700	24,000
22,000	10,800	11,100	11,300	11,500	11,700	22,000
20,000	10,400	10,600	10,900	11,000	11,300	20,000
18,000	10,500	10,700	10,900	11,100	11,300	18,000
16,000	10,600	10,800	11,000	11,200	11,400	16,000
14,000	10,700	10,900	11,100	11,300	11,500	14,000
12,000	10,800	11,000	11,200	11,400	11,600	12,000
10,000	10,900	11,100	11,300	11,500	11,700	10,000
8,000	11,100	11,300	11,500	11,700	11,900	8,000
6,000	11,300	11,500	11,700	11,900	12,000	6,000
4,000	11,400	11,700	11,800	12,000	12,200	4,000
2,000	11,600	11,800	12,000	12,200	12,400	2,000
S.L.	11,800	12,000	12,200	12,400	12,600	S.L.

NOTE: FUEL FLOW IS INCREASED (OR DECREASED) BY 1½% PER 10,000 lb. INCREASE (OR DECREASE) IN MEAN WEIGHT FROM 230,000 lb.

MISCELLANEOUS HOLDING

PRESSURE HEIGHT FT.	FLAPS AND SLATS AT 20°		SEVERE TURBULENCE A.U.W.'s LESS THAN 240,000 lb.		SEVERE TURBULENCE A.U.W.'s MORE THAN 240,000 lb.		PRESSURE HEIGHT FT.
	I.A.S. (KTS.) AND FUEL FLOW (LB./HOUR)						
30,000			265	11,500	290	13,300	30,000
25,000			265	11,700	290	13,500	25,000
20,000	180	20,700	240	11,100	290	13,700	20,000
15,000	180	21,000	240	11,300	290	14,000	15,000
10,000	180	21,500	240	11,600	290	14,300	10,000
5,000	180	22,300	240	12,000	290	14,700	5,000
S.L.	180	23,200	240	12,500	290	15,200	S.L.
MEAN WEIGHT	230,000 lb.		230,000 lb.		250,000 lb.		MEAN WEIGHT

NOTE 1. For weight's other than the mean weight increase (or decrease) fuel flow by 1½% per 10000 lb. increase (or decrease) in weight.

2. The values are for J.S.A. + 10 C conditions. Fuel flows are increased (or reduced) by 1% per 5°C increase (or reduction) in temperature.

ANTI-ICING: With full anti-icing operative during holding the fuel flows are increase by :- 800 lb/hour flaps up
1200 lb/hour flaps and and slats 20°.

This table will be verified at a later date.

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4 ENGINE DIVERSION

TABLE 13A

HEADWIND - KNOTS

SECT. DIST.	-100			-90			-80			-70			-60			-50		
NAUT. MILES	FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000	FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000	FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000	FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000	FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000	FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000
20	1500	6	7	1500	6	7	1400	5	6	1400	5	6	1300	5	6	1300	5	6
40	2600	11	12	2500	10	11	2500	10	11	2400	10	11	2300	9	10	2200	9	10
60	3700	16	17	3600	15	16	3500	15	16	3400	14	15	3300	14	15	3200	13	14
80	4700	20	21	4600	20	21	4400	19	20	4300	18	19	4200	18	19	4000	17	18
100	5600	24	25	5500	24	25	5300	23	24	5100	22	23	5000	22	23	4800	21	22
120	6500	28	29	6300	27	28	6100	27	28	5900	26	27	5800	25	26	5600	25	26
140	7200	32	33	7000	31	32	6800	30	31	6600	29	30	6500	28	29	6300	28	29
160	7900	35	36	7700	34	35	7500	33	34	7300	32	33	7100	32	33	7000	31	32
180	8600	38	38	8400	37	37	8200	36	36	8000	35	36	7800	35	36	7600	34	35
200	9300	42	41	9100	40	40	8800	39	39	8600	38	38	8400	37	37	8200	36	36
220	10000	45	43	9700	43	42	9500	42	41	9300	41	41	9100	40	40	8900	39	39
240	10600	48		10400	47	43	10100	45	43	9900	44	43	9700	43	42	9500	42	41
260	11200	51		11000	50		10700	49		10500	47		10300	46	43	10100	45	43
280	11800	55		11600	53		11300	52		11000	50		10800	49		10600	48	
300	12400	58		12200	56		11900	55		11600	53		11500	52		11200	51	
320	13000	61		12700	60		12500	58		12200	57		11900	55		11700	54	
340	13600	65		13300	63		13000	61		12700	60		12500	58		12200	57	
360	14200	68		13900	66		13600	64		13300	63		13000	61		12800	60	
380	14800	71		14500	69		14100	67		13800	66		13500	64		13300	63	
400	15400	75		15000	73		14700	71		14400	69		14100	67		13800	66	
420	16000	78		15600	76		15200	74		14900	72		14600	70		14300	68	
440	16500	81		16200	79		15800	77		15500	75		15100	73		14800	71	
460	17100	85		16700	82		16300	80		16000	78		15700	76		15300	74	
480	17600	88		17300	85		16900	83		16500	81		16300	79		15900	77	
500	18200	91		17800	88		17400	86		17000	84		16700	82		16400	80	

-40			-30			-20			-10			0			SECT. DIST.
FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000	FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000	FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000	FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000	FUEL lb.	TIME mins	CLIMB HEIGHT ft/1000	NAUT MILES
1300	5	6	1200	4	5	1200	4	5	1100	4	5	1100	4	5	20
2200	9	10	2100	8	9	2000	8	9	2000	8	9	1900	8	9	40
3200	12	13	3000	12	13	2900	12	13	2800	11	12	2700	11	12	60
3900	16	17	3800	16	17	3700	15	16	3600	15	16	3500	15	16	80
4700	20	21	4600	20	21	4500	19	20	4300	19	20	4200	18	19	100
5500	24	25	5300	23	24	5200	23	24	5100	22	23	4900	21	22	120
6100	27	28	6000	26	27	5900	26	27	5700	25	26	5600	24	25	140
6800	30	31	6600	29	30	6500	29	30	6300	28	29	6200	27	28	160
7400	33	34	7300	32	33	7100	32	33	7000	31	32	6800	30	31	180
8000	36	36	7900	35	36	7700	34	35	7500	34	35	7400	33	34	200
8600	39	39	8500	38	38	8300	37	37	8100	36	36	8000	35	36	220
9200	41	41	9100	40	40	8900	40	40	8700	39	39	8500	38	38	240
9800	44	43	9600	43	42	9400	42	41	9200	41	41	9000	40	40	260
10400	47		10200	46	43	10000	45	43	9800	44	43	9600	43	42	280
10900	50		10700	49		10500	47		10300	46		10100	45	43	300
11400	53		11200	51		11000	50		10800	49		10600	48		320
12000	55		11800	54		11500	53		11300	52		11100	51		340
12500	58		12300	57		12000	56		11800	54		11600	53		360
13000	61		12800	60		12500	58		12300	57		12000	56		380
13500	64		13300	62		13000	61		12800	60		12500	58		400
14000	67		13700	65		13500	64		13200	62		13000	61		420
14500	70		14300	68		14000	66		13700	65		13500	64		440
15000	73		14700	71		14500	69		14200	68		13900	66		460
15500	75		15200	73		15000	72		14700	70		14400	69		480
16000	78		15700	76		15400	75		15100	73		14800	71		500

NOTE

1. Fuel includes 5 percent contingency allowance
2. 1000 feet start and finish altitude
3. Start weight 220,000 lb.
4. Corrections are shown on Table for changes in i) Start Height
ii) End Height
iii) Start Weight
iv) Cruise Height

4 ENGINE DIVERSION

TAILWIND - KNOTS

SECT. DIST. NAUT. MILES	0 FUEL lb.	0 TIME mins	0 CLIMB HEIGHT ft/1000	+10 FUEL lb.	+10 TIME mins	+10 CLIMB HEIGHT ft/1000	+20 FUEL lb.	+20 TIME mins	+20 CLIMB HEIGHT ft/1000	+30 FUEL lb.	+30 TIME mins	+30 CLIMB HEIGHT ft/1000	+40 FUEL lb.	+40 TIME mins	+40 CLIMB HEIGHT ft/1000
20	1100	4	5	1100	4	5	1100	4	5	1000	4	5	1000	3	4
40	1900	8	9	1900	7	8	1800	7	8	1800	7	8	1700	7	8
60	2700	11	12	2600	11	12	2600	10	11	2500	10	11	2400	10	11
80	3500	15	16	3400	14	15	3300	14	15	3200	13	14	3100	13	14
100	4200	18	19	4100	18	19	4000	17	18	3900	17	18	3800	16	17
120	4900	21	22	4800	21	22	4700	20	21	4600	20	21	4500	19	20
140	5600	24	25	5500	24	25	5300	23	24	5200	23	24	5000	22	23
160	6200	27	28	6000	27	28	5900	26	27	5800	25	26	5700	25	26
180	6800	30	31	6700	29	30	6500	29	30	6400	28	29	5200	27	28
200	7400	33	34	7200	32	33	7100	31	32	6900	31	32	6800	30	31
220	8000	35	36	7800	35	36	7600	34	35	7500	33	34	7300	33	34
240	8500	38	38	8300	37	37	8200	36	36	8000	36	36	7900	35	36
260	9000	40	40	8900	40	40	8700	39	39	8500	38	38	8400	37	37
280	9600	43	42	9400	42	41	9200	41	41	9000	40	40	8900	40	40
300	10100	45	43	9900	44	43	9700	44	43	9600	43	42	9400	42	41
320	10600	48		10400	47		10200	46		10000	45	43	9800	44	43
340	11100	51		10900	50		10700	49		10500	48		10300	47	
360	11600	53		11400	52		11200	51		11000	50		10800	49	
380	12000	56		11800	55		11600	53		11400	52		11200	51	
400	12500	58		12300	57		12100	56		11900	55		11600	54	
420	13000	61		12800	60		12500	58		12300	57		12100	56	
440	13500	64		13200	62		13000	61		12800	60		12500	59	
460	13900	66		13700	65		13400	63		13200	62		13000	61	
480	14400	69		14100	67		13900	66		13600	65		13400	63	
500	14800	71		14600	70		14300	68		14100	67		13800	66	

SECT. DIST. NAUT. MILES	+50 FUEL lb.	+50 TIME mins	+50 CLIMB HEIGHT ft/1000	+60 FUEL lb.	+60 TIME mins	+60 CLIMB HEIGHT ft/1000	+70 FUEL lb.	+70 TIME mins	+70 CLIMB HEIGHT ft/1000	+80 FUEL lb.	+80 TIME mins	+80 CLIMB HEIGHT ft/1000	+90 FUEL lb.	+90 TIME mins	+90 CLIMB HEIGHT ft/1000	+100 FUEL lb.	+100 TIME mins	+100 CLIMB HEIGHT ft/1000
20	1000	3	4	1000	3	4	1000	3	4	900	3	4	900	3	4	900	3	4
40	1700	7	8	1700	6	7	1600	6	7	1600	6	7	1600	6	7	1500	6	7
60	2400	9	10	2300	9	10	2300	9	10	2200	9	10	2200	9	10	2100	9	10
80	3000	13	14	3000	12	13	2900	12	13	2800	12	13	2800	12	13	2800	11	12
100	3700	16	17	3600	15	16	3500	15	16	3500	15	16	3400	14	15	3300	14	15
120	4400	19	20	4300	18	19	4200	18	19	4100	17	18	4000	17	18	3900	17	18
140	5000	21	22	4900	21	22	4800	20	21	4700	20	21	4600	20	21	4500	19	20
160	5600	24	25	5400	24	25	5300	23	24	5200	23	24	5100	22	23	5000	22	23
180	6100	27	28	6000	26	27	5900	26	27	5800	25	26	5700	25	26	5600	24	25
200	6700	29	30	6500	29	30	6400	28	29	6300	28	29	6200	27	28	6000	27	28
220	7200	32	33	7000	31	32	6900	31	32	6800	30	31	6700	30	31	6600	29	30
240	7700	34	35	7600	34	35	7400	33	34	7300	32	33	7200	32	33	7000	31	32
260	8200	37	37	8000	36	36	7900	35	36	7800	35	36	7600	34	35	7500	33	34
280	8700	39	39	8600	38	38	8400	37	37	8300	37	37	8100	36	36	7900	35	36
300	9300	41	41	9000	40	40	8900	40	40	8700	39	39	8600	38	38	8400	37	37
320	9700	43	42	9500	43	42	9400	42	41	9200	41	41	9000	40	40	8900	40	40
340	10200	46	43	10000	45	43	9800	44	43	9700	43	42	9500	42	41	9300	42	41
360	10600	48		10400	47		10300	46		10100	45	43	9900	45	43	9800	44	43
380	11000	50		10800	49		10700	48		10500	48		10300	47		10200	46	
400	11500	53		11300	52		11100	51		10900	50		10800	49		10600	48	
420	11900	55		11700	54		11500	53		11300	52		11200	51		11000	50	
440	12300	57		12100	56		11900	55		11700	54		11600	53		11400	52	
460	12800	60		12500	59		12300	58		12100	56		12000	55		11800	54	
480	13200	62		13000	61		12700	60		12500	59		12400	58		12200	56	
500	13600	64		13400	63		13200	62		13000	61		12800	60		12600	59	

NOTE

1. Fuel includes 5 percent contingency allowance
2. 1000 feet start and finish altitude
3. Start weight 220,000 lb.
4. Corrections are shown on Table for changes in i) Start Height ii) End Height iii) Start Weight iv) Cruise Height

6200

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DIVERSION

TABLE 13C

CORRECTIONS TO TABLE

1. START DIVERSION HEIGHT ft. 5,000 10,000 15,000 20,000 25,000 30,000

   SUBTRACT FUEL. lb. 500 1,000 1,500 2,000 2,500 3,000

2. END DIVERSION HEIGHT ft. 10,000 20,000 30,000 40,000

   ADD FUEL. lb. 200 500 900 1,400

3. START DIVERSION WEIGHT - For each 2,000 lb. by which this exceeds or is less than 220,000 lbs., add or subtract 1% of fuel.

4. DIVERSION CRUISE HEIGHT ft.

TABULATED DIVERSION TIME MINUTES	FUEL CORRECTION LB.						
	36,000	34,000	32,000	30,000	28,000	26,000	24,000
30	0	0	0	0	0	100	100
40	0	0	0	100	100	400	500
50	0	100	300	600	600	1000	1200
60	200	400	700	1200	1200	1600	1900
70	400	800	1100	1700	1800	2300	2700
80	700	1100	1600	2200	2400	3000	3500
90	900	1300	2000	2900	3000	3700	4200
100	1300	1700	2500	3600	3800	4600	5200

LOW LEVEL CRUISE AT 300 KTS I.A.S.

MEAN WEIGHT 250,000 LB

TABLE 14A

ALTITUDE	J.S.A. -10°C		J.S.A.		J.S.A. +10°C		J.S.A. +20°C		J.S.A. +30°C		ALTITUDE
	T.A.S.	FUEL FLOW	T.A.S.	FUEL FLOW	T.A.S.	FUEL FLOW	T.A.S.	FUEL FLOW	T.A.S.	FUEL FLOW	
ft.	Kts.	lb/hr.	Kts.	lb/hr.	Kts.	lb/hr.	Kts.	lb/hr.	Kts.	lb/hr.	ft.
28,000	434	13,400	444	13,600	453	13,900	462	14,200	471	14,500	28,000
26,000	421	13,400	430	13,700	439	14,000	448	14,300	457	14,600	26,000
24,000	409	13,500	418	13,800	426	14,100	435	14,400	443	14,600	24,000
22,000	397	13,600	406	13,900	414	14,200	422	14,500	430	14,700	22,000
20,000	386	13,700	394	14,000	402	14,300	409	14,500	417	14,800	20,000
18,000	375	13,800	382	14,100	390	14,400	397	14,600	405	14,900	18,000
16,000	364	13,900	371	14,200	379	14,500	386	14,700	392	15,000	16,000
14,000	354	14,000	361	14,300	368	14,600	374	14,800	381	15,100	14,000
12,000	344	14,100	350	14,400	358	14,700	364	14,900	370	15,200	12,000
10,000	334	14,300	340	14,500	347	14,800	353	15,100	359	15,300	10,000
8,000	325	14,400	331	14,700	337	15,000	343	15,200	348	15,500	8,000
6,000	317	14,600	321	14,800	327	15,100	333	15,400	338	15,600	6,000
4,000	307	14,800	312	15,000	318	15,300	324	15,600	329	15,800	4,000
2,000	299	15,000	304	15,200	309	15,500	314	15,800	320	16,000	2,000
S.L.	290	15,200	296	15,500	301	15,700	306	16,000	311	16,200	S.L.

NOTE: Fuel flow is increased (or decreased) by 1½% per 10,000 lb. increase (or decrease) in mean weight from 250,000 lb.

TABLE 14B

LOW LEVEL CRUISE AT VMO

MEAN WEIGHT 250,000 lb.

PRESSURE HEIGHT	I.A.S.	0		JSA + 10°C		JSA + 20°C	
		T.A.S.	FUEL FLOW	T.A.S.	FUEL FLOW	T.A.S.	FUEL FLOW
FEET	KNOTS	KNOTS	LB./HOUR	KNOTS	LB./HOUR	KNOTS	LB./HOUR
28,000	325	478	15,800	488	16,100	498	16,400
25,000	322	453	14,900	462	15,200	471	15,500
20,000	317	415	14,900	423	15,200	431	15,500
15,000	322	392	15,700	399	16,000	406	16,300

NOTE: Fuel Flow is increased (or decreased) by 1½% per 10,000 lb. Increase (or decrease) in mean weight from 250,000 lb.

CRUISE WITH UNDERCARRIAGE DOWN

TABLE 15

INFORMATION NOT YET AVAILABLE.

CRITIICAL POINT AND POINT OF NO RETURN

TABLE 16

1) FLIGHTS UNDER 6 HOURS PLOTTING WT. 36000 LBS.

WIND COMP	0	10	20	30	40	50	60	70	80	90	100
HEAD	950	930	910	890	870	850	830	810	790	770	750
TAIL	950	970	990	1010	1030	1050	1070	1090	1110	1130	1150

2) FLIGHTS OVER 6 HOURS PLOTTING WT. 60000 LBS.

WIND COMP	0	10	20	30	40	50	60	70	80	90	100
HEAD	1900	1860	1820	1780	1740	1700	1660	1620	1580	1540	1500
TAIL	1900	1940	1980	2020	2060	2100	2140	2180	2220	2260	2300

NOTE: Plotting Weights

1. 36,000 = 2 x fuel flow after 3 hours + 11,000 lb.
2. 60,000 = 4 x fuel flow after 6 hours + 11,000 lb.

4 ENGINE HIGH SPEED CRUISE CONTROL AT 0.88 M_{IND}

TABLE 17A

Press. Ht. Ft. IAS Knots	Temp. Deviation J.S.A	Ind. Air Temp. °C	T.A.S Kts.	WEIGHT - 1000 LB 310	300	290	280	270	260	250	240	230	220	210	200	190	180	T.A.S Kts.	Ind. Air Temp °C	Temp. Deviation J.S.A	Press. Ht. Ft. IAS Knots
				% H.P.M. AND FUEL FLOW LB/MIN/ENGINE																	
43000 245	+30	-15	508															508	-15	+30	43000 245
	+20	-26	497												91.0 49.3	90.2 46.7	89.6 44.6	497	-26	+20	
	+10	-37	485												88.8 48.1	88.1 45.6	87.5 43.6	485	-37	+10	
	0	-48	474												86.7 47.0	86.0 44.5	35.4 42.6	474	-48	0	
	-10	-59	462												84.5 45.8	83.8 43.4	33.2 41.5	462	-59	-10	
42000 252	+30	-13	510														91.5 46.4	510	-13	+30	42000 252
	+20	-24	499												90.7 49.3	90.1 47.2	89.5 45.4	499	-24	+20	
	+10	-35	487												88.6 48.1	88.0 46.1	87.4 44.3	487	-35	+10	
	0	-46	476												86.5 47.1	85.9 45.0	85.3 43.3	476	-46	0	
	-10	-57	464												84.3 45.9	83.7 43.9	83.2 42.2	464	-57	-10	
41000 258	+30	-11	512														91.4 47.5	512	-11	+30	41000 258
	+20	-22	501											91.1 52.0	90.5 49.8	90.0 48.0	89.4 46.5	501	-22	+20	
	+10	-33	490											89.1 50.9	88.5 48.7	87.9 47.0	87.4 45.5	490	-33	+10	
	0	-44	478											86.9 49.6	86.4 47.6	85.8 45.8	85.3 44.3	478	-44	0	
	-10	-55	467											84.8 48.5	84.2 46.5	83.7 44.8	83.1 43.3	467	-55	-10	
40000 264	+30	-8	514														91.5 48.8	514	-8	+30	40000 264
	+20	-20	503											90.9 52.6	90.4 50.7	89.8 49.1	89.5 47.8	503	-20	+20	
	+10	-31	492										89.4 53.5	88.9 51.4	88.3 49.6	87.8 48.1	87.5 46.7	492	-31	+10	
	0	-42	481										87.3 52.3	86.8 50.3	86.3 48.5	85.7 47.0	85.4 45.7	481	-42	0	
	-10	-53	469										85.2 51.0	84.6 49.0	84.1 47.3	83.6 45.8	83.3 44.5	469	-53	-10	
39000 270	+30	-6	516															516	-6	+30	39000 270
	+20	-17	505										91.3 55.3	90.8 53.4	90.3 51.8	89.9 50.4	89.6 49.2	505	-17	+20	
	+10	-28	494									89.8 56.2	89.3 54.1	88.8 52.3	88.3 50.7	87.9 49.3	87.6 48.1	494	-28	+10	
	0	-39	483									87.7 54.9	87.2 52.9	86.7 51.1	86.2 49.6	85.9 48.2	85.6 47.0	483	-39	0	
	-10	-50	471									85.6 53.5	85.1 51.6	84.6 49.8	84.1 48.3	83.8 47.0	83.5 45.9	471	-50	-10	
38000 277	+30	-4	518															518	-4	+30	38000 277
	+20	-15	508										91.2 56.3	90.7 54.7	90.4 53.3	90.1 52.0	89.8 50.8	508	-15	+20	
	+10	-26	497							90.7 61.4	90.2 59.0	89.7 56.9	89.2 55.1	88.7 53.5	88.4 52.2	88.1 50.9	87.8 49.7	497	-26	+10	
	0	-37	485						89.6 63.2	88.6 60.0	88.1 57.6	87.6 55.5	87.1 53.8	86.6 52.3	86.3 50.9	86.0 49.7	85.7 48.5	485	-37	0	
	-10	-48	474						87.4 61.8	86.4 58.6	86.0 56.3	85.5 54.3	85.0 52.6	84.5 51.1	84.2 49.7	83.9 48.5	83.7 47.4	474	-48	-10	
37000 283	+30	-2	521															521	-2	+30	37000 283
	+20	-13	510										91.1 57.6	90.8 56.2	90.5 54.9	90.2 53.7	89.9 52.6	510	-13	+20	
	+10	-24	499						90.9 64.1	90.5 61.7	90.0 59.7	89.5 57.9	89.1 56.4	88.8 55.0	88.5 53.7	88.2 52.5	87.9 51.5	499	-24	+10	
	0	-35	487					89.7 65.6	88.8 62.5	88.4 60.2	87.9 58.3	87.5 56.5	87.0 55.0	86.7 53.7	86.5 52.4	86.2 51.3	85.9 50.3	487	-35	0	
	-10	-46	476					87.5 64.1	86.7 61.1	86.3 58.9	85.8 57.0	85.4 55.3	84.9 53.8	84.6 52.5	84.4 51.2	84.1 50.1	83.8 49.1	476	-46	-10	

TABLE 17B

4 ENGINE HIGH SPEED CRUISE CONTROL AT 0.88 M_{IND}

Press. Ht. Ft. IAS Knots	Temp. Deviation I.S.A	Ind. Air Temp. °C	T.A.S. Kts.	WEIGHT - 1000 LB: 310	300	290	280	270	260	250	240	230	220	210	200	190	180	T.A.S Kts.	Ind. Air Temp. °C	Temp. Deviation I.S.A.	Press. Ht. Ft. IAS Knots
				% R.P.M. AND FUEL FLOW LB/MIN/ENGINE																	
36000	+30	0	523															523	0	+30	36000
290	+20	-11	512									91.4 60.6	91.1 59.2	90.9 57.9	90.6 56.7	90.3 55.6	90.0 54.6	512	-11	+20	290
	+10	-22	501					91.3 66.5	90.8 64.5	90.3 62.6	89.9 60.8	89.4 59.3	89.2 57.9	88.9 56.7	88.6 55.5	88.3 54.4	88.1 53.4	501	-22	+10	
	0	-33	490					89.2 65.4	88.7 63.1	88.3 61.2	87.8 59.5	87.4 58.0	87.1 56.7	86.9 55.4	86.6 54.3	86.3 53.2	86.1 52.3	490	-33	0	
	-10	-44	478					87.1 63.8	86.6 61.6	86.2 59.7	85.7 58.1	85.3 56.6	85.0 55.3	84.8 54.1	84.5 52.9	84.3 51.9	84.0 51.0	478	-44	-10	
35000	+30	+3	525															525	+3	+30	35000
297	+20	-8	514										91.2 60.9	91.0 59.7	90.7 58.6	90.4 57.6	90.3 56.7	514	-8	+20	297
	+10	-19	503					91.0 67.4	90.6 65.5	90.2 63.8	89.8 62.3	89.5 60.9	89.3 59.6	89.0 58.4	88.7 57.4	88.5 56.4	88.3 55.5	503	-19	+10	
	0	-30	492			89.9 70.6	89.5 68.1	89.0 65.9	88.6 64.1	88.1 62.4	87.8 60.9	87.5 59.6	87.3 58.3	87.0 57.2	86.7 56.1	86.5 55.1	86.3 54.3	492	-30	0	
	-10	-41	481			87.8 69.0	87.3 66.6	86.9 64.4	86.5 62.6	86.0 61.0	85.7 59.5	85.4 58.2	85.2 57.0	84.9 55.9	84.7 54.9	84.5 53.9	84.3 53.1	481	-41	-10	
34000	+30	+5	527															527	+5	+30	34000
304	+20	-6	516										91.4 62.8	91.1 61.8	90.8 60.7	90.7 59.8	90.5 59.0	516	-6	+20	304
	+10	-17	505				91.3 70.4	90.9 68.5	90.5 66.8	90.1 65.3	89.9 64.0	89.6 62.7	89.4 61.5	89.1 60.4	88.9 59.5	88.7 58.6	88.6 57.8	505	-17	+10	
	0	-28	494		92.0 73.2	89.7 70.9	89.3 68.8	88.9 67.0	88.4 65.4	88.1 63.9	87.9 62.6	87.6 61.3	87.4 60.2	87.2 59.1	86.9 58.2	86.8 57.3	86.6 56.5	494	-28	0	
	-10	-39	483		87.9 71.5	87.6 69.3	87.2 67.3	86.8 65.5	86.4 63.9	86.0 62.5	85.8 61.2	85.6 60.0	85.4 58.8	85.1 57.8	84.9 56.9	84.7 56.0	84.5 55.2	483	-39	-10	
33000	+30	+7	529															529	+7	+30	33000
310	+20	-4	518										91.5 64.9	91.2 63.9	91.0 63.0	90.9 62.1	90.6 61.4	518	-4	+20	310
	+10	-15	508				91.2 71.7	90.8 70.0	90.5 68.5	90.3 67.2	90.0 65.9	89.8 64.7	89.5 63.7	89.3 62.7	89.1 61.8	89.0 60.9	88.7 60.2	508	-15	+10	
	0	-26	497	90.4 76.1	90.0 73.8	89.6 71.9	89.2 70.1	88.8 68.5	88.5 67.1	88.3 65.7	88.0 64.5	87.8 63.3	87.6 62.3	87.3 61.3	87.1 60.4	87.0 59.6	86.7 58.9	497	-26	0	
	-10	-37	485	88.3 74.3	87.9 72.1	87.5 70.2	87.1 68.4	86.7 66.9	86.4 65.4	86.2 64.2	86.0 62.9	85.8 61.8	85.5 60.8	85.3 59.8	85.1 59.0	85.0 58.2	84.7 57.4	485	-37	-10	
32000	+30	+9	531															531	+9	+30	32000
317	+20	-2	521											91.4 66.4	91.3 65.5	91.1 64.8	90.8 64.0	521	-2	+20	317
	+10	-13	510			91.5 74.8	91.1 73.2	90.8 71.7	90.6 70.4	90.4 69.2	90.2 68.0	89.9 66.9	89.7 65.9	89.5 65.0	89.4 64.2	89.2 63.4	88.9 62.7	510	-13	+10	
	0	-24	499	90.2 76.8	89.9 74.9	89.5 73.2	89.1 71.6	88.8 70.2	88.6 68.9	88.4 67.7	88.2 66.5	88.0 65.5	87.7 64.5	87.5 63.6	87.4 62.8	87.2 62.0	87.0 61.3	499	-24	0	
	-10	-35	487	88.1 74.9	87.8 73.1	87.4 71.4	87.0 69.9	86.8 68.5	86.6 67.2	86.4 66.0	86.2 64.9	85.9 63.9	85.7 62.9	85.5 62.1	85.4 61.3	85.2 60.5	85.0 59.8	487	-35	-10	
31000	+30	+11	533															533	+11	+30	31000
324	+20	0	523												91.5 68.2	91.2 67.4	91.1 66.8	523	0	+20	324
	+10	-11	512			91.4 76.5	91.2 75.1	91.0 73.8	90.7 72.5	90.5 71.3	90.3 70.3	90.1 69.3	89.9 68.4	89.8 67.5	89.6 66.7	89.3 66.0	89.2 65.4	512	-11	+10	
	0	-22	501	90.1 78.0	89.7 76.4	89.4 74.9	89.2 73.5	89.0 72.2	88.8 70.9	88.5 69.8	88.3 68.8	88.1 67.8	87.9 66.9	87.8 66.1	87.6 65.3	87.4 64.6	87.3 64.0	501	-22	0	
	-10	-33	490	88.1 76.3	87.7 74.7	87.4 73.2	87.2 71.8	87.0 70.6	86.7 69.4	86.5 68.3	86.3 67.2	86.1 66.3	85.9 65.4	85.8 64.6	85.6 63.9	85.4 63.2	85.3 62.6	490	-33	-10	
30000	+30	+13	535															535	+13	+30	30000
331	+20	+2	525													91.5 70.3	91.5 69.7	525	+2	+20	331
	+10	-9	514			91.5 78.5	91.3 77.2	91.1 76.0	90.9 74.8	90.6 73.8	90.4 72.8	90.3 71.9	90.2 71.0	90.0 70.3	89.7 69.5	89.6 68.8	89.6 68.2	514	-9	+10	
	0	-20	503	90.0 79.7	89.7 78.2	89.5 76.8	89.3 75.6	89.1 74.3	88.9 73.2	88.7 72.2	88.5 71.2	88.3 70.3	88.2 69.5	88.0 68.7	87.8 68.0	87.7 67.4	87.6 66.8	503	-20	0	
	-10	-31	492	87.9 77.9	87.7 76.5	87.5 75.2	87.3 73.9	87.1 72.7	86.9 71.6	86.7 70.6	86.5 69.7	86.3 68.8	86.2 68.0	86.0 67.2	85.8 66.5	85.7 65.9	85.7 65.3	492	-31	-10	

4 ENGINE INTERMEDIATE SPEED CRUISE CONTROL AT 0.86 M_{IND}

TABLE 18A

Press. Ht. Ft. IAS Knots	Temp. Deviation J.S.A	Ind. Air Temp. °C	T.A.S Kts.	WEIGHT - 1000 LB														T.A.S Kts.	Ind. Air Temp. °C	Temp. Deviation T.A.S	Press. Ht. Ft IAS Knots
				310	300	290	280	270	260	250	240	230	220	210	200	190	180				
				% R.P.M. AND FUEL FLOW LB/MIN/ENGINE																	
43000	+30	-16	496												91.3 44.6	90.7 43.1	90.2 41.3	496	-16	+30	43000
240	+20	-27	485											90.4 47.2	89.5 44.3	88.7 42.1	88.2 40.4	485	-27	+20	240
	+10	-38	474											88.3 46.1	87.4 43.3	86.7 41.2	86.2 39.5	474	-38	+10	
	0	-49	463											86.2 45.1	85.3 42.3	84.6 40.2	84.1 38.6	463	-49	0	
	-10	-60	451											84.0 43.9	83.1 41.2	82.4 39.2	81.9 37.6	451	-60	-10	
42000	+30	-14	498												91.2 45.5	90.7 43.7	90.2 42.1	498	-14	+30	42000
246	+20	-25	487										90.9 49.7	90.0 46.7	89.2 44.5	88.7 42.7	88.2 41.2	487	-25	+20	246
	+10	-36	476										88.8 48.6	87.9 45.7	87.2 43.5	86.6 41.7	86.2 40.3	476	-36	+10	
	0	-47	465										86.6 47.4	85.8 44.6	85.1 42.5	84.6 40.8	84.1 39.3	465	-47	0	
	-10	-58	453										84.4 46.2	83.6 43.5	82.9 41.4	82.4 39.7	82.0 38.3	453	-58	-10	
41000	+30	-12	500												91.1 46.1	90.6 44.5	90.2 43.1	500	-12	+30	41000
252	+20	-23	489									91.2 52.1	90.3 49.2	89.6 46.9	89.1 45.1	88.7 43.5	88.2 42.2	489	-23	+20	252
	+10	-34	478								90.5 54.7	89.1 50.9	88.3 48.0	87.6 45.8	87.1 44.1	86.6 42.6	86.2 41.2	478	-34	+10	
	0	-45	467								88.3 53.4	87.0 49.7	86.2 46.9	85.5 44.8	85.0 43.1	84.6 41.6	84.1 40.3	467	-45	0	
	-10	-56	456								86.1 52.1	84.8 48.6	84.0 45.8	83.4 43.7	82.9 42.0	82.5 40.6	82.0 39.3	456	-56	-10	
40000	+30	-10	502											91.5 48.6	91.0 47.0	90.6 45.6	90.3 44.3	502	-10	+30	40000
258	+20	-21	491								91.4 54.4	90.7 51.6	90.0 49.3	89.5 47.5	89.1 46.0	88.6 44.6	88.3 43.3	491	-21	+20	258
	+10	-32	481							90.6 56.9	89.4 53.3	88.6 50.5	88.0 48.3	87.5 46.6	87.1 45.1	86.6 43.7	86.3 42.4	481	-32	+10	
	0	-43	469							88.4 55.5	87.3 52.0	86.5 49.3	85.9 47.1	85.4 45.4	85.0 43.9	84.6 42.6	84.3 41.4	469	-43	0	
	-10	-54	458							86.3 54.2	85.1 50.8	84.4 48.1	83.8 46.0	83.3 44.4	82.9 42.9	82.5 41.6	82.2 40.4	458	-54	-10	
39000	+30	-7	504											91.4 49.5	91.0 48.1	90.7 46.8	90.3 45.6	504	-7	+30	39000
264	+20	-18	494								91.0 54.1	90.4 51.9	89.9 50.1	89.5 48.5	89.1 47.2	88.8 45.8	88.4 44.7	494	-18	+20	264
	+10	-29	483						90.7 59.1	89.7 55.6	89.0 52.9	88.3 50.8	87.9 49.0	87.5 47.5	87.1 46.1	86.8 44.8	86.4 43.7	483	-29	+10	
	0	-40	472						88.6 57.7	87.6 54.4	86.9 51.7	86.3 49.6	85.8 47.9	85.4 46.4	85.0 45.1	84.7 43.8	84.4 42.7	472	-40	0	
	-10	-51	460						86.4 56.3	85.4 53.0	84.8 50.4	84.2 48.3	83.7 46.7	83.3 45.2	82.9 43.9	82.7 42.7	82.3 41.6	460	-51	-10	
38000	+30	-5	506											91.4 50.7	91.1 49.4	90.7 48.1	90.3 47.1	506	-5	+30	38000
270	+20	-16	496							91.3 56.6	90.7 54.4	90.3 52.7	89.9 51.1	89.5 49.7	89.2 48.4	88.8 47.2	88.4 46.1	496	-16	+20	270
	+10	-27	485					90.8 61.2	90.0 57.9	89.3 55.3	88.7 53.2	88.3 51.5	87.9 49.9	87.5 48.6	87.2 47.3	86.8 46.1	86.4 45.1	485	-27	+10	
	0	-38	474					88.7 59.8	87.9 56.6	87.2 54.1	86.6 52.0	86.2 50.3	83.8 48.8	85.4 47.5	85.2 46.2	84.8 45.1	84.4 44.1	474	-38	0	
	-10	-49	463					86.6 58.4	85.8 55.3	85.1 52.8	84.5 50.8	84.1 49.2	83.8 47.7	83.4 46.4	83.1 45.2	82.8 44.0	82.4 43.1	463	-49	-10	
37000	+30	-3	508											91.5 52.0	91.1 50.8	90.7 49.7	90.4 48.7	508	-3	+30	37000
276	+20	-14	498							91.0 57.0	90.6 55.3	90.2 53.7	89.8 52.3	89.6 51.0	89.2 49.8	88.8 48.8	88.5 47.7	498	-14	+20	276
	+10	-25	487				90.9 63.3	90.2 60.2	89.5 57.7	89.0 55.7	88.6 54.0	88.2 52.5	87.9 51.2	87.6 49.9	87.3 48.7	86.9 47.7	86.5 46.6	487	-25	+10	
	0	-36	476			89.9 65.6	88.8 61.8	88.1 58.9	87.5 56.4	86.9 54.5	86.6 52.8	86.2 51.3	85.8 50.0	85.6 48.8	85.3 47.6	84.9 46.6	84.6 45.6	476	-36	0	
	-10	-47	465			87.7 64.1	86.7 60.4	86.0 57.5	85.4 55.1	84.9 53.2	84.5 51.6	84.1 50.2	83.8 48.9	83.5 47.6	83.2 46.5	82.8 45.5	82.5 44.5	465	-47	-10	

TABLE 18B

4 ENGINE INTERMEDIATE SPEED CRUISE CONTROL AT 0.86 M_{IND}

Press. Ht. Ft. I.A.S Knots	Temp. Devi-ation I.S.A	Ind. Air Temp. °C	T.A.S Kts.	WEIGHT - 1000 LB														T.A.S Kts.	Ind. Air Temp. °C	Temp. Devi-ation I.S.A	Press. Ht. Ft. IAS Knots
				310	300	290	280	270	260	250	240	230	220	210	200	190	180				
				% R.P.M. AND FUEL FLOW LB/MIN/ENGINE																	
36000 283	+30	-1	510												91.1 52.5	90.8 51.4	90.5 50.5	510	-1	+30	36000 283
	+20	-12	500						91.3 59.6	90.9 57.9	90.5 56.4	90.2 55.0	89.9 53.7	89.6 52.5	89.2 51.5	88.9 50.4	88.6 49.5	500	-12	+20	
	+10	-23	489			90.9 65.4	90.3 62.6	89.7 60.3	89.3 58.3	88.9 56.7	88.6 55.2	88.2 53.8	88.0 52.5	87.6 51.4	87.3 50.3	87.0 49.3	86.7 48.4	489	-23	+10	
	0	-34	478		89.8 67.3	88.9 63.9	88.3 61.1	87.7 58.9	87.2 57.0	86.9 55.4	86.6 53.9	86.2 52.6	86.0 51.4	85.7 50.2	85.3 49.2	85.0 48.2	84.7 47.3	478	-34	0	
	-10	-45	467		87.6 65.8	86.8 62.4	86.2 59.7	85.6 57.5	85.2 55.7	84.8 54.1	84.5 52.7	84.2 51.4	83.9 50.2	83.6 49.1	83.2 48.1	83.0 47.1	82.7 46.2	467	-45	-10	
35000 289	+30	+1	513											91.5 55.4	91.2 54.3	90.9 53.3	90.8 52.4	513	+1	+30	35000 289
	+20	-10	502						91.2 60.7	90.9 59.2	90.5 57.8	90.3 56.5	90.0 55.3	89.6 54.2	89.3 53.2	89.1 52.2	88.9 51.3	502	-10	+20	
	+10	-21	491		91.1 67.6	90.5 65.0	90.0 62.8	89.6 60.9	89.3 59.3	88.9 57.9	88.6 56.5	88.3 55.2	88.0 54.1	87.7 53.0	87.4 52.0	87.1 51.0	87.0 50.2	491	-21	+10	
	0	-32	481	89.8 69.4	89.1 66.2	88.5 63.6	88.0 61.5	87.6 59.7	87.3 58.1	86.9 56.7	86.6 55.4	86.3 54.1	86.1 53.0	85.7 51.9	85.4 51.0	85.2 50.0	85.0 49.2	481	-32	0	
	-10	-43	469	87.6 67.6	8 .0 64.6	86.4 62.1	85.9 60.0	85.5 58.2	85.2 56.7	84.8 55.3	84.5 54.0	84.3 52.8	84.0 51.6	83.7 50.6	83.4 49.7	83.2 48.8	83.0 47.9	469	-43	-10	
34000 296	+30	+4	515												91.3 56.2	91.1 55.3	91.0 54.5	515	+4	+30	34000 296
	+20	-7	504						91.2 62.0	90.9 60.6	90.6 59.3	90.3 58.1	90.0 57.1	89.7 56.0	89.4 55.0	89.3 54.2	89.1 53.3	504	-7	+20	
	+10	-18	494	91.2 70.0	90.7 67.6	90.2 65.7	89.9 63.8	89.6 62.2	89.2 60.8	88.9 59.4	88.7 58.1	88.4 57.0	88.0 55.9	87.8 54.9	87.5 53.9	87.4 53.1	87.2 52.3	494	-18	+10	
	0	-29	483	89.2 68.5	88.7 66.1	88.2 64.2	87.9 62.4	87.6 60.8	87.2 59.4	86.9 58.1	86.7 56.8	86.4 55.7	86.1 54.7	85.8 53.7	85.6 52.7	85.4 51.9	85.2 51.1	483	-29	0	
	-10	-40	472	87.1 56.9	86.6 64.6	86.2 62.5	85.8 61.0	85.5 59.4	85.2 58.1	84.9 56.8	84.7 55.6	84.4 54.5	84.1 53.4	83.8 52.5	83.6 51.5	83.4 50.7	83.3 49.9	472	-40	-10	
33000 302	+30	+6	517													91.4 57.4	91.2 56.5	517	+6	+30	33000 302
	+20	-5	506					91.5 64.9	91.2 63.5	91.0 62.2	90.7 61.0	90.3 59.9	90.1 58.9	89.8 57.9	89.6 57.0	89.5 56.2	89.3 55.3	506	-5	+20	
	+10	-16	496	90.9 70.2	90.5 68.2	90.2 66.5	89.9 65.0	89.5 63.6	89.3 62.2	89.1 61.0	88.8 59.8	88.4 58.8	88.2 57.7	87.9 56.7	87.7 55.9	87.6 55.1	87.4 54.2	496	-16	+10	
	0	-27	485	88.9 68.6	88.5 66.7	88.2 65.1	87.9 63.5	87.6 62.2	87.3 60.9	87.1 59.6	86.8 58.5	86.5 57.5	86.2 56.4	86.0 55.5	85.8 54.6	85.7 53.8	85.5 53.0	485	-27	0	
	-10	-38	474	86.8 67.1	86.4 65.2	86.2 63.6	85.9 62.1	85.5 60.8	85.3 59.5	85.1 58.3	84.8 57.2	84.5 56.1	84.2 55.2	84.0 54.2	83.8 53.4	83.7 52.6	83.5 51.8	474	-38	-10	
32000 309	+30	+8	519														91.4 58.8	519	+8	+30	32000 309
	+20	-3	508						91.3 65.2	91.0 64.0	90.7 62.9	90.4 61.9	90.2 60.9	90.0 60.0	89.9 59.1	89.7 58.3	89.6 57.6	508	-3	+20	
	+10	-14	498	90.8 71.0	90.5 69.4	90.2 67.9	89.9 66.5	89.6 65.1	89.4 63.9	89.1 62.7	88.8 61.7	88.5 60.7	88.3 59.7	88.1 58.8	88.0 58.0	87.8 57.2	87.7 56.4	498	-14	+10	
	0	-25	487	88.8 69.4	88.5 67.8	88.2 66.4	87.9 65.0	87.6 63.7	87.4 62.5	87.2 61.4	86.8 60.3	86.6 59.3	86.4 58.4	86.2 57.5	86.1 56.7	85.9 55.9	85.8 55.2	487	-25	0	
	-10	-36	476	86.7 67.8	86.5 66.3	86.2 64.9	85.9 63.6	85.6 62.3	85.4 61.1	85.2 60.	84.8 59.0	84.6 58.0	84.4 57.0	84.2 56.2	84.1 55.4	83.9 54.7	83.8 53.9	476	-36	-10	
31000 316	+30	+10	521															521	+10	+30	31000 316
	+20	-1	510						91.3 67.1	91.0 65.0	90.8 65.0	90.6 64.0	90.4 63.1	90.3 62.2	90.1 61.4	90.0 60.7	89.8 60.0	510	-1	+20	
	+10	-12	500	90.7 72.3	90.4 70.9	90.2 69.5	90.0 68.1	89.7 66.9	89.4 65.8	89.1 64.8	88.9 63.7	88.7 62.7	88.5 61.8	88.4 61.0	88.2 60.2	88.1 59.5	87.9 58.8	500	-12	+10	
	0	-23	489	88.8 70.7	88.5 69.3	88.2 67.9	88.0 66.6	87.8 65.4	87.5 64.1	87.2 63.2	87.0 62.3	86.8 61.4	86.6 60.5	86.5 59.7	86.3 58.9	86.2 58.2	86.0 57.5	489	-23	0	
	-10	-34	478	86.8 69.1	86.5 67.7	86.2 66.4	86.0 65.1	85.8 64.0	85.5 62.9	85.2 61.9	85.0 60.9	84.8 60.0	84.6 59.1	84.5 58.3	84.4 57.6	84.2 56.9	84.1 56.2	478	-34	-10	
30000 323	+30	+12	523															523	+12	+30	30000 323
	+20	+1	513						91.4 69.4	91.1 68.3	90.9 67.4	90.8 66.4	90.6 65.6	90.5 64.8	90.4 64.0	90.2 63.3	90.1 62.7	513	+1	+20	
	+10	-10	502	90.7 73.9	90.5 72.6	90.3 71.3	90.0 70.1	89.7 69.0	89.5 67.9	89.2 66.9	89.1 65.9	88.9 65.0	88.8 64.2	88.6 63.4	88.5 62.6	88.3 61.9	88.2 61.3	502	-10	+10	
	0	-21	491	88.7 72.3	88.5 71.0	88.3 69.7	88.1 68.5	87.8 67.5	87.5 66.4	87.3 65.4	87.1 64.5	87.0 63.6	86.9 62.8	86.7 62.0	86.6 61.3	86.4 60.6	86.3 60.0	491	-21	0	
	-10	-32	481	86.7 70.8	86.5 69.5	86.3 68.3	86.1 67.1	85.8 66.1	85.6 65.1	85.3 64.1	85.2 63.1	85.0 62.3	84.9 61.5	84.8 60.7	84.6 60.0	84.5 59.4	84.4 58.8	481	-32	-10	

4 ENGINE LONG RANGE CRUISE CONTROL AT 0.84 M_{IND}

TABLE 19A

Press. Ht. Ft IAS Knots	Temp. Deviation J.S.A	Ind. Air Temp. °C	T.A.S Kts.	WEIGHT - 1000 LB. 310	300	290	280	270	260	250	240	230	220	210	200	190	180	T.A.S Kts.	Ind. Air Temp. °C	Temp. Deviation J.S.A	Press. Ht. Ft. IAS Knots
				% R.P.M. AND FUEL FLOW LB/MIN/ENGINE																	
43000	+30	-17	484												90.8 42.7	90.0 40.6	89.4 39.0	484	-17	+30	43000
234	+20	-28	473										90.6 47.4	89.6 44.3	88.7 41.7	88.0 39.7	87.5 38.1	473	-28	+20	234
	+10	-39	462										88.5 46.3	87.5 43.3	86.7 40.8	85.9 38.7	85.4 37.2	462	-39	+10	
	0	-50	451										86.3 45.2	85.4 42.3	84.6 39.8	83.8 37.8	83.4 36.3	451	-50	0	
	-10	-61	440										84.1 44.1	83.2 41.2	82.4 38.8	81.7 36.9	81.2 35.4	440	-61	-10	
42000	+30	-15	486											91.2 45.0	90.4 42.9	89.9 41.2	89.4 39.7	486	-15	+30	42000
240	+20	-26	475									91.0 49.7	90.0 46.6	89.2 44.0	88.5 41.9	87.9 40.0	87.4 38.8	475	-26	+20	240
	+10	-37	465								90.3 52.4	88.9 48.7	88.0 45.7	87.2 43.1	86.4 41.0	85.9 39.4	85.4 38.0	465	-37	+10	
	0	-48	454								88.2 51.2	86.8 47.5	85.8 44.6	85.1 42.1	84.3 40.0	83.8 38.5	83.4 37.1	454	-48	0	
	-10	-59	442								85.9 49.8	84.6 46.3	83.7 43.4	82.9 41.0	82.2 39.0	81.7 37.5	81.3 36.1	442	-59	-10	
41000	+30	-13	488										91.4 47.1	90.8 45.2	90.3 43.5	89.9 42.0	89.4 40.7	488	-13	+30	41000
246	+20	-24	478								91.3 52.1	90.4 49.0	89.6 46.4	88.9 44.3	88.4 42.6	87.9 41.1	87.4 39.8	478	-24	+20	246
	+10	-35	467							90.5 54.5	89.2 50.9	88.3 47.9	87.6 45.3	86.8 43.2	86.4 41.6	85.9 40.2	85.4 38.9	467	-35	+10	
	0	-46	456							88.3 53.2	87.1 49.7	86.2 46.8	85.5 44.3	84.8 42.2	84.3 40.6	83.9 39.2	83.4 38.0	456	-46	0	
	-10	-57	445							86.1 51.9	84.9 48.5	84.1 45.6	83.3 43.2	82.7 41.2	82.2 39.7	81.8 38.3	81.3 37.1	445	-57	-10	
40000	+30	-11	498										91.2 47.5	90.7 45.8	90.3 44.4	89.8 43.0	89.3 41.7	490	-11	+30	40000
252	+20	-22	480								93.7 51.3	89.9 48.7	89.2 46.6	88.8 44.9	88.3 43.4	87.9 42.1	87.4 40.9	480	-22	+20	252
	+10	-33	469						90.6 56.5	89.5 53.0	88.6 50.1	87.9 47.6	87.2 45.5	86.8 43.9	86.3 42.4	85.9 41.2	85.4 39.9	469	-33	+10	
	0	-44	458						88.4 55.2	87.4 51.8	86.5 48.9	85.8 46.4	85.2 44.4	84.7 42.8	84.3 41.4	83.9 40.2	83.4 39.0	458	-44	0	
	-10	-55	447						86.2 53.8	85.2 50.5	84.4 47.7	83.7 45.3	83.1 43.4	82.6 41.8	82.2 40.5	81.8 39.2	81.4 38.1	447	-55	-10	
39000	+30	-9	492										91.1 48.2	90.7 46.7	90.2 45.4	89.8 44.1	89.4 42.8	492	-9	+30	39000
258	+20	-20	482							90.9 53.5	90.3 51.0	89.6 48.9	89.2 47.2	88.7 45.8	88.3 44.4	87.9 43.2	87.5 42.0	482	-20	+20	258
	+10	-31	471					90.7 58.5	89.7 55.2	88.9 52.3	88.2 49.8	87.6 47.8	87.2 46.2	86.7 44.7	86.3 43.4	85.9 42.2	85.5 41.0	471	-31	+10	
	0	-42	460					88.5 57.1	87.6 53.9	86.8 51.1	86.2 48.7	85.6 46.7	85.1 45.1	84.7 43.7	84.3 42.4	83.9 41.2	83.5 40.1	460	-42	0	
	-10	-53	449					86.4 55.8	85.5 52.6	84.7 49.9	84.1 47.5	83.5 45.6	83.0 44.0	82.6 42.6	82.2 41.4	81.8 40.2	81.5 39.1	449	-53	-10	
38000	+30	-6	494									91.5 50.7	91.0 49.2	90.6 47.8	90.2 46.5	89.8 45.3	89.5 44.1	494	-6	+30	38000
263	+20	-17	484						91.2 55.7	90.5 53.3	89.9 51.3	89.5 49.6	89.1 48.2	88.7 46.8	88.3 45.6	87.9 44.4	87.6 43.2	484	-17	+20	263
	+10	-28	473				90.7 60.5	89.9 57.3	89.2 54.5	88.5 52.1	87.9 50.1	87.5 48.5	87.1 47.1	86.7 45.8	86.3 44.5	86.0 43.3	85.7 42.2	473	-28	+10	
	0	-39	462			89.8 62.8	88.6 59.1	87.8 56.0	87.1 53.2	86.5 50.9	85.9 49.0	85.5 47.4	85.1 46.0	84.7 44.7	84.3 43.5	84.0 42.3	83.7 41.3	462	-39	0	
	-10	-50	451			87.6 61.3	86.5 57.7	85.7 54.6	85.0 51.9	84.4 49.7	83.8 47.8	83.4 46.3	83.0 44.9	82.7 43.6	82.3 42.5	81.9 41.3	81.7 40.3	451	-50	-10	
37000	+30	-4	496									91.4 51.7	91.0 50.3	90.6 49.0	90.2 47.8	89.9 46.6	89.6 45.5	496	-4	+30	37000
270	+20	-15	486					91.4 58.0	90.8 55.7	90.2 53.7	89.8 52.1	89.5 50.6	89.1 49.3	88.7 48.0	88.3 46.8	88.0 45.7	87.7 44.6	486	-15	+20	270
	+10	-26	475			90.8 62.4	90.1 59.4	89.4 56.7	88.8 54.4	88.2 52.5	87.9 50.9	87.5 49.5	87.1 48.2	86.7 47.0	86.4 45.8	86.1 44.6	85.8 43.6	475	-26	+10	
	0	-37	465		89.7 64.6	88.8 61.1	88.0 58.1	87.3 55.5	86.7 53.3	86.2 51.4	85.9 49.9	85.5 48.5	85.1 47.2	84.7 46.0	84.4 44.8	84.1 43.7	83.8 42.7	465	-37	0	
	-10	-48	454		87.5 63.1	86.6 59.7	85.9 56.8	85.2 54.2	84.7 52.0	84.1 50.2	83.8 48.7	83.4 47.3	83.1 46.1	82.7 44.9	82.4 43.7	82.1 42.7	81.8 41.7	454	-48	-10	

TABLE 19B

4 ENGINE LONG RANGE CRUISE CONTROL AT 0.84 M_{MO}

Press. Ht. Ft. IAS Knots	Temp. Deviation J.S.A	Ind. Air Temp. °C	T.A.S. Kts.	WEIGHT - 1000 LB.														T.A.S Kts.	Ind. Air Temp. °C	Temp. Deviation J.S.A.	Press. Ht. Ft IAS Knots
				310	300	290	280	270	260	250	240	230	220	210	200	190	180				
				% R.P.M. AND FUEL FLOW LB/MIN/ENGINE																	
36000	+30	-2	498									91.3 53.0	90.9 51.6	90.6 50.4	90.3 49.2	90.0 48.1	89.7 47.1	498	-2	+30	36000
275	+20	-13	488					91.0 58.1	90.5 56.2	90.2 54.7	89.8 53.2	89.4 51.9	89.0 50.6	88.7 49.4	88.4 48.2	88.1 47.2	87.9 46.2	488	-13	+20	275
	+10	-24	478		90.9 64.5	90.2 61.6	89.6 59.0	89.0 56.9	88.5 55.0	88.2 53.5	87.8 52.1	87.5 50.8	87.1 49.6	86.8 48.4	86.5 47.2	86.2 46.2	86.0 45.2	478	-24	+10	
	0	-35	467	89.6 66.2	88.8 63.0	88.1 60.2	87.5 57.7	87.0 55.6	86.5 53.8	86.2 52.3	85.8 50.9	85.5 49.7	85.1 48.4	84.8 47.3	84.5 46.2	84.3 45.1	84.0 44.2	467	-35	0	
	-10	-46	456	87.4 64.7	86.7 61.6	86.0 58.8	85.4 56.3	84.9 54.2	84.5 52.5	84.1 51.1	83.8 49.7	83.4 48.5	83.1 47.3	82.8 46.2	82.5 45.1	82.3 44.1	82.0 43.1	456	-46	-10	
35000	+30	0	500									91.3 54.3	90.9 53.0	90.7 51.9	90.4 50.7	90.1 49.7	89.9 48.7	500	0	+30	35000
281	+20	-11	490				91.2 60.5	90.8 58.7	90.5 57.2	90.1 55.8	89.8 54.5	89.4 53.2	89.1 52.0	88.8 50.8	88.5 49.7	88.3 48.7	88.0 47.8	490	-11	+20	281
	+10	-22	480	91.0 66.6	90.3 63.7	89.8 61.3	89.2 59.3	88.8 57.5	88.5 56.1	88.2 54.7	87.8 53.4	87.4 52.1	87.1 50.9	86.9 49.8	86.6 48.7	86.4 47.7	86.1 46.8	480	-22	+10	
	0	-33	469	88.9 65.0	88.3 62.3	87.8 59.9	87.2 57.9	86.8 56.2	86.5 54.8	86.2 53.4	85.8 52.1	85.5 50.9	85.2 49.8	84.9 48.6	84.7 47.6	84.4 46.6	84.1 45.7	469	-33	0	
	-10	-44	458	86.8 63.5	86.2 60.8	85.7 58.5	85.2 56.6	84.8 54.9	84.5 53.5	84.1 52.2	83.8 50.9	83.5 49.7	83.2 48.6	82.9 47.5	82.7 46.5	82.4 45.5	82.2 44.7	458	-44	-10	
34000	+30	+3	502									91.3 55.8	91.1 54.6	90.8 53.5	90.5 52.4	90.3 51.4	90.0 50.6	502	+3	+30	34000
288	+20	-8	492			91.4 63.0	91.1 61.4	90.8 59.9	90.4 58.5	90.1 57.2	89.7 55.9	89.4 54.7	89.2 53.5	88.9 52.4	88.7 51.4	88.4 50.4	88.2 49.6	492	-8	+20	288
	+10	-19	482	90.5 66.0	90.0 63.7	89.5 61.7	89.1 60.1	88.8 58.7	88.5 57.3	88.1 56.0	87.8 54.7	87.5 53.5	87.3 52.4	87.0 51.4	86.8 50.3	86.5 49.4	86.3 48.5	482	-19	+10	
	0	-30	471	88.5 64.5	87.9 62.2	87.5 60.3	87.2 58.8	86.8 57.3	86.5 56.0	86.2 54.7	85.8 53.5	85.6 52.3	85.3 51.2	85.1 50.2	84.8 49.2	84.6 48.3	84.3 47.4	471	-30	0	
	-10	-41	460	86.4 63.0	85.9 60.8	85.4 58.9	85.1 57.4	84.8 56.0	84.5 54.7	84.2 53.4	83.8 52.2	83.6 51.1	83.3 50.0	83.1 49.0	82.8 48.0	82.6 47.1	82.4 46.3	460	-41	-10	
33000	+30	+5	504									91.4 57.3	91.2 56.2	90.9 55.2	90.7 54.2	90.4 53.3	90.2 52.4	504	+5	+30	33000
295	+20	-6	494			91.4 64.0	91.1 62.5	90.7 61.2	90.4 59.9	90.1 58.6	89.8 57.4	89.6 56.2	89.3 55.1	89.1 54.1	88.8 53.1	88.6 52.2	88.4 51.4	494	-6	+20	295
	+10	-17	484	90.1 66.1	89.7 64.3	89.4 62.7	89.1 61.3	88.8 59.9	88.5 58.6	88.1 57.4	87.9 56.2	87.7 55.1	87.4 54.0	87.2 53.0	86.9 52.0	86.7 51.2	86.5 50.3	484	-17	+10	
	0	-28	473	88.1 64.6	87.7 62.8	87.5 61.3	87.1 59.9	86.8 58.6	86.5 57.3	86.2 56.1	85.9 54.9	85.7 53.8	85.5 52.8	85.2 51.8	85.0 50.8	84.8 50.0	84.6 49.2	473	-28	0	
	-10	-39	462	86.1 63.1	85.7 61.4	85.4 59.9	85.1 58.5	84.8 57.2	84.5 56.0	84.2 54.8	83.9 53.6	83.7 52.6	83.5 51.5	83.3 50.6	83.0 49.7	82.8 48.8	82.7 48.0	462	-39	-10	
32000	+30	+7	506										91.3 58.0	91.0 57.0	90.8 56.1	90.6 55.3	90.5 54.5	506	+7	+30	32000
302	+20	-4	496			91.3 65.3	91.0 64.0	90.7 62.6	90.4 61.4	90.1 60.2	89.9 59.0	89.7 57.9	89.4 56.9	89.2 55.9	89.0 55.0	88.8 54.2	88.6 53.4	496	-4	+20	302
	+10	-15	486	90.0 66.9	89.7 65.4	89.4 64.0	89.1 62.7	88.8 61.4	88.5 60.1	88.2 58.9	88.0 57.8	87.8 56.7	87.6 55.7	87.3 54.8	87.1 53.9	86.9 53.1	86.8 52.3	486	-15	+10	
	0	-26	475	88.0 65.4	87.7 63.9	87.4 62.5	87.1 61.2	86.8 60.0	86.5 58.8	86.3 57.6	86.1 56.5	85.9 55.5	85.6 54.5	85.4 53.5	85.2 52.7	85.0 51.9	84.9 51.1	475	-26	0	
	-10	-37	465	86.0 64.0	85.7 62.6	85.4 61.2	85.1 60.0	84.8 58.7	84.6 57.5	84.3 56.4	84.1 55.3	83.9 54.3	83.7 53.3	83.4 52.4	83.2 51.6	83.0 50.8	82.9 50.1	465	-37	-10	
31000	+30	+9	508										91.4 60.0	91.2 59.0	91.0 58.2	90.9 57.4	90.7 56.7	508	+9	+30	31000
309	+20	-2	498			91.3 66.8	91.0 65.5	90.7 64.3	90.5 63.1	90.2 61.9	90.0 60.8	89.8 59.8	89.6 58.8	89.3 57.9	89.2 57.0	89.0 56.3	88.9 55.6	498	-2	+20	309
	+10	-13	488	90.0 68.2	89.7 66.8	89.4 65.5	89.1 64.2	88.8 63.0	88.6 61.8	88.4 60.7	88.1 59.6	87.9 58.6	87.7 57.6	87.5 56.7	87.3 55.9	87.2 55.1	87.0 54.5	488	-13	+10	
	0	-24	478	88.0 66.8	87.7 65.5	87.4 64.2	87.1 62.9	86.9 61.7	86.7 60.5	86.4 59.4	86.2 58.4	86.0 57.4	85.8 56.4	85.6 55.6	85.4 54.8	85.3 54.0	85.1 53.4	478	-24	0	
	-10	-35	467	86.0 65.3	85.7 63.9	85.5 62.7	85.2 61.4	84.9 60.3	84.7 59.1	84.5 58.1	84.3 57.0	84.0 56.1	83.8 55.1	83.6 54.3	83.5 53.5	83.3 52.8	83.2 52.1	467	-35	-10	
30000	+30	+11	510											91.4 61.3	91.2 60.5	91.1 59.8	90.9 59.2	510	+11	+30	30000
315	+20	0	500			91.3 68.5	91.0 67.2	90.8 66.0	90.6 64.9	90.4 63.8	90.1 62.8	89.9 61.8	89.7 60.9	89.5 60.1	89.4 59.3	89.3 58.6	89.1 58.0	500	0	+20	315
	+10	-11	490	89.9 69.7	89.7 68.4	89.4 67.1	89.1 65.9	88.9 64.7	88.7 63.6	88.5 62.5	88.3 61.5	88.1 60.6	87.9 59.7	87.7 58.9	87.6 58.1	87.4 57.4	87.3 56.8	490	-11	+10	
	0	-22	480	88.0 68.3	87.7 67.0	87.4 65.8	87.2 64.6	87.0 63.4	86.8 62.3	86.6 61.3	86.4 60.3	86.2 59.3	86.0 58.5	85.8 57.7	85.7 56.9	85.5 56.2	85.4 55.7	480	-22	0	
	-10	-33	469	86.0 66.7	85.7 65.5	85.5 64.2	85.2 63.1	85.0 61.9	84.8 60.9	84.6 59.9	84.4 58.9	84.2 58.0	84.0 57.1	83.9 56.3	83.7 55.6	83.6 55.0	83.5 54.4	469	-33	-10	

CRUISE AT 30,000 FEET AT 300 KTS I.A.S. (467 KTS T.A.S.) AND DESCENT

TABLE 20A

DISTANCE - N.M.'s											TIME	INITIAL WEIGHT -lb/1000											
TAILWIND - KTS.						HEADWIND - KTS.																	
+100	+80	+60	+40	+20	0	-20	-40	-60	-80	-100	hr. mins	310	300	290	280	270	260	250	240	230	220	210	200
614	591	568	546	523	500	477	454	432	409	386	1 : 08								14.1	14.0	13.9	13.7	13.6
736	709	682	654	627	600	573	546	518	491	464	1 : 22							17.3	16.9	16.8	16.6	16.4	16.2
857	826	794	763	731	700	669	637	606	574	543	1 : 34		FUEL					20.0	19.7	19.5	19.3	19.0	
978	942	907	871	836	800	764	729	693	658	622	1 : 47		lb/1000					23.1	22.6	22.3	22.0	21.7	
1100	1060	1020	980	940	900	860	820	780	740	700	2 : 00						26.5	26.0	25.4	25.0	24.7	24.3	
1221	1177	1133	1088	1044	1000	956	912	867	823	779	2 : 13						29.1	28.7	28.2	27.8	27.4	27.0	
1343	1294	1246	1197	1149	1100	1051	1003	954	906	857	2 : 26						32.0	31.5	31.0	30.5	30.0		
1464	1411	1358	1306	1253	1200	1147	1094	1042	989	936	2 : 38					35.8	34.9	34.3	33.7	33.2	32.7		
1585	1528	1471	1414	1357	1300	1243	1186	1129	1072	1015	2 : 51					38.2	37.8	37.2	36.5	35.9	36.0		
1707	1646	1585	1523	1461	1400	1339	1277	1216	1154	1093	3 : 04					41.2	40.7	40.0	39.2	38.6	38.8		
1828	1762	1697	1631	1566	1500	1434	1369	1303	1238	1172	3 : 17				45.5	44.4	43.6	42.8	42.0	41.3			
1950	1880	1810	1740	1670	1600	1530	1460	1390	1320	1250	3 : 30				48.2	47.2	46.3	45.5	44.9	44.6			
2071	1997	1923	1848	1774	1700	1626	1552	1477	1403	1329	3 : 43				51.0	50.0	49.1	48.2	47.8	47.2			
2192	2114	2035	1957	1878	1800	1722	1643	1565	1486	1408	3 : 55			55.5	53.7	52.7	51.8	51.0	50.2	50.0			
2314	2231	2148	2066	1982	1900	1817	1734	1652	1569	1486	4 : 08			57.6	56.5	55.5	54.6	53.7	53.0				
2435	2348	2261	2174	2087	2000	1913	1826	1739	1652	1565	4 : 21			60.5	59.2	58.3	57.3	56.4	55.7				
2557	2466	2374	2283	2191	2100	2009	1917	1826	1734	1643	4 : 34			63.3	62.0	61.0	60.0	59.1	58.2				
2678	2582	2487	2391	2296	2200	2104	2009	1913	1818	1722	4 : 47		67.8	66.1	64.8	63.8	62.8	61.8					
2799	2699	2599	2500	2400	2300	2200	2100	2001	1901	1801	4 : 59		70.2	68.9	67.5	66.5	65.5	64.5					
2921	2817	2713	2608	2504	2400	2296	2192	2087	1983	1879	5 : 13		73.2	71.7	70.3	69.3	68.3	67.2					
3042	2934	2825	2717	2608	2500	2392	2283	2175	2066	1958	5 : 25	77.6	76.0	74.5	73.1	72.0	71.0	69.9					
3162	3050	2937	2825	2712	2600	2488	2375	2263	2150	2038	5 : 38	80.5	78.8	77.2	75.9	74.7	73.7						
3285	3168	3051	2934	2817	2700	2583	2466	2349	2232	2115	5 : 51	83.4	81.6	80.0	78.6	77.3	76.0						
3406	3285	3164	3042	2921	2800	2679	2558	2436	2315	2194	6 : 04	86.2	84.5	82.7	81.4	80.0	79.0						
3528	3402	3277	3151	3026	2900	2774	2649	2523	2398	2272	6 : 17	89.1	87.3	85.5	84.1	82.6							
3649	3519	3389	3260	3130	3000	2870	2740	2611	2481	2351	6 : 29	92.0	90.1	88.2	86.9	85.3							

NOTE: TIME IS INCREASED (OR DECREASED) BY 1% PER 5°C DECREASE (OR INCREASE) IN TEMPERATURE FROM J.S.A. + 10°C

TABLE 20B

RE-FLIGHT PLANNING

CRUISE AT 25,000 FEET AT 300 KTS I.A.S. (432 KTS T.A.S.) AND DESCENT

DISTANCE - N.M.'s											TIME	INITIAL WEIGHT - lb/1000											
TAILWIND - KTS.						HEADWIND - KTS.																	
+100	+80	+60	+40	+20	0	-20	-40	-60	-80	-100	hr. mins	310	300	290	280	270	260	250	240	230	220	210	200
620	596	572	548	524	500	476	452	428	404	380	1 : 12							16.0	15.7	15.4	15.2	15.0	14.9
743	714	686	657	629	600	571	543	514	486	457	1 : 26							19.1	18.8	18.4	18.2	17.9	17.7
866	833	800	766	733	700	667	634	600	567	534	1 : 40		FUEL					22.2	21.8	21.4	21.1	20.8	
990	952	914	876	838	800	762	724	686	648	610	1 : 54		lb/1000				25.9	25.3	24.9	24.5	24.1	23.7	
1113	1070	1028	985	943	900	857	815	772	730	687	2 : 08						29.0	28.4	27.9	27.5	27.0	26.6	
1236	1189	1142	1094	1047	1000	953	906	858	811	764	2 : 22						31.9	31.5	31.0	30.5	30.0	29.5	
1359	1307	1255	1204	1152	1100	1048	996	945	893	841	2 : 34					35.9	35.0	34.5	34.0	33.4	33.0		
1482	1426	1369	1313	1256	1200	1144	1087	1031	974	918	2 : 49					39.0	38.1	37.5	37.0	36.3	36.1		
1605	1544	1483	1422	1361	1300	1239	1178	1117	1056	995	3 : 03					42.0	41.1	40.5	40.0	39.3	39.0		
1728	1662	1597	1531	1466	1400	1334	1269	1203	1138	1072	3 : 17				46.0	45.2	44.2	43.5	43.0	42.2			
1851	1781	1711	1640	1570	1500	1430	1360	1290	1219	1149	3 : 31				49.0	48.4	47.3	46.5	46.0	45.1			
1974	1899	1824	1750	1675	1600	1525	1450	1376	1301	1226	3 : 44				52.1	51.4	50.3	49.5	49.0	48.3			
2097	2018	1938	1859	1779	1700	1621	1541	1462	1382	1303	3 : 58			56.2	55.1	54.4	53.3	52.5	52.0				
2221	2137	2053	1968	1884	1800	1716	1632	1547	1463	1379	4 : 13			59.3	58.2	57.5	56.3	55.5	55.1				
2344	2255	2166	2078	1989	1900	1811	1722	1634	1545	1456	4 : 26			62.8	61.2	60.5	59.3	58.5	57.9				
2467	2374	2280	2187	2093	2000	1907	1813	1720	1626	1533	4 : 40		66.9	65.8	64.3	63.5	62.3	61.5					
2590	2492	2394	2296	2198	2100	2002	1904	1806	1708	1610	4 : 54		70.0	68.8	67.4	66.5	65.3	64.4					
2713	2610	2508	2405	2303	2200	2097	1995	1892	1790	1687	5 : 08		73.0	71.9	70.5	69.5	68.3	67.4					
2836	2729	2622	2514	2407	2300	2193	2086	1978	1871	1764	5 : 22	77.5	76.1	74.9	73.7	72.5	71.3						
2959	2847	2735	2624	2512	2400	2288	2176	2065	1953	1841	5 : 35	81.0	79.1	78.0	76.8	75.5	74.3						
3082	2966	2849	2733	2616	2500	2384	2267	2151	2034	1918	5 : 49	83.9	82.2	81.0	79.9	78.5	77.3						
3205	3084	2963	2842	2721	2600	2479	2358	2237	2116	1995	6 : 03	86.9	85.3	84.0	82.9	81.5							
3328	3202	3077	2951	2826	2700	2574	2449	2323	2198	2072	6 : 17	90.0	88.3	87.0	85.9	84.2							
3452	3322	3191	3061	2930	2800	2670	2540	2409	2278	2148	6 : 31	93.0	91.4	90.0	88.8	87.1							
3575	3440	3305	3170	3035	2900	2765	2630	2495	2360	2225	6 : 45	96.1	94.4	93.0	91.8								
3698	3558	3419	3279	3140	3000	2860	2721	2581	2442	2302	6 : 59	99.1	97.5	96.0	94.8								

NOTE: TIME IS INCREASED (OR DECREASED) BY 1% PER 5°C DECREASE (OR INCREASE) IN TEMPERATURE FROM J.S.A. + 10°C

RE-FLIGHT PLANNING

CRUISE AT 20,000 FEET AT 300 KTS I.A.S. (402 KTS T.A.S.) AND DESCENT

TABLE 20C

DISTANCE - N.M.'s											TIME	INITIAL WEIGHT -lb/1000											
TAILWIND - KTS.						HEADWIND - KTS.																	
+100	+80	+60	+40	+20	0	-20	-40	-60	-80	-100	hr. mins	310	300	290	280	270	260	250	240	230	220	210	200
627	602	576	551	525	500	475	449	424	398	373	1 : 16							17.5	17.1	16.8	16.6	16.5	16.2
752	722	691	661	630	600	570	539	509	478	448	1 : 31		FUEL					20.9	20.5	20.1	19.8	19.5	19.2
877	842	806	771	735	700	665	629	594	558	523	1 : 46		lb/1000					24.3	23.9	23.4	23.1	22.9	
1002	962	921	881	840	800	760	719	679	638	598	2 : 01						28.0	27.7	27.2	26.8	26.3	26.0	
1127	1082	1036	991	945	900	855	809	764	718	673	2 : 16						31.6	31.1	30.6	30.1	29.6	29.2	
1251	1201	1151	1100	1050	1000	950	900	849	799	749	2 : 31					35.6	35.1	34.5	34.0	33.4	32.8		
1376	1321	1266	1210	1155	1100	1045	990	934	879	824	2 : 46					39.0	38.5	37.8	37.2	36.6	35.9		
1501	1441	1381	1320	1260	1200	1140	1080	1019	959	899	3 : 01					42.4	41.8	41.1	40.5	39.8	39.0		
1626	1561	1496	1430	1365	1300	1235	1170	1104	1039	974	3 : 16				46.8	45.9	45.2	44.5	43.7	42.9			
1751	1681	1611	1540	1470	1400	1330	1260	1189	1119	1049	3 : 31				50.1	49.3	48.5	47.8	47.0	46.1			
1875	1800	1725	1650	1575	1500	1425	1350	1275	1200	1125	3 : 45				53.5	52.7	51.9	51.1	50.2	49.3			
2000	1920	1840	1760	1680	1600	1520	1440	1360	1280	1200	4 : 00			58.0	56.9	56.0	55.2	54.3	53.5				
2125	2040	1955	1870	1785	1700	1615	1530	1445	1360	1275	4 : 15			61.2	60.3	59.4	58.5	57.5	56.5				
2250	2160	2070	1980	1890	1800	1710	1620	1530	1440	1350	4 : 30		66.0	65.0	63.8	62.7	61.7	60.7	60.0				
2375	2280	2185	2090	1995	1900	1805	1710	1615	1520	1425	4 : 45		69.5	68.4	67.2	66.1	65.0	63.9					
2500	2400	2300	2200	2100	2000	1900	1800	1700	1600	1500	5 : 00		73.0	71.8	70.6	69.4	68.3	67.1					
2624	2519	2414	2310	2205	2100	1995	1890	1786	1681	1576	5 : 14	77.9	76.4	75.1	73.9	72.6	71.3						
2749	2639	2529	2420	2310	2200	2090	1980	1871	1761	1651	5 : 29	81.2	79.7	78.4	77.2	75.8	74.5						
2874	2759	2644	2530	2415	2300	2185	2070	1956	1841	1726	5 : 44	84.8	83.1	81.8	80.4	79.1	77.9						
2999	2879	2759	2640	2520	2400	2280	2160	2041	1921	1801	5 : 55	88.1	86.4	85.1	83.7	82.3							
3123	2998	2874	2749	2625	2500	2375	2251	2126	2002	1877	6 : 14	91.1	89.8	88.4	87.0	85.5							
3248	3118	2989	2859	2730	2600	2470	2341	2211	2082	1952	6 : 29	94.4	93.1	91.7	90.3	88.8							
3373	3238	3104	2969	2835	2700	2565	2431	2296	2162	2027	6 : 44	97.7	96.3	95.0	93.6								
3498	3358	3219	3079	2940	2800	2660	2521	2381	2242	2102	6 : 59	101.1	99.6	98.3	96.8								
3623	3478	3334	3189	3045	2900	2755	2611	2466	2322	2177	7 : 14	104.4	102.8	101.6									
3747	3598	3448	3299	3149	3000	2851	2701	2552	2402	2253	7 : 28	107.7	106.1	104.9									

NOTE: TIME IS INCREASED (OR DECREASED) BY 1% PER 5°C DECREASE (OR INCREASE) IN TEMPERATURE FROM J.S.A. + 10°C

RE-FLIGHT PLANNING

TABLE 20D

CRUISE AT 15,000 FEET AT 300 KTS I.A.S. (373 KTS T.A.S.) AND DESCENT

DISTANCE - N.M.'s											TIME	INITIAL WEIGHT - lb/1000											
TAILWIND - KTS.						HEADWIND - KTS																	
+100	+80	+60	+40	+20	0	-20	-40	-60	-80	-100	hr. mins	310	300	290	280	270	260	250	240	230	220	210	200
635	608	581	554	527	500	473	446	419	392	365	1 : 21							19.0	18.7	18.5	18.2	18.0	17.9
762	730	697	665	632	600	568	535	503	470	438	1 : 37							22.7	22.4	22.1	22.0	21.9	21.8
888	850	813	776	738	700	662	624	587	550	512	1 : 53		FUEL lb/1000				26.9	26.4	26.0	25.7	25.5	25.2	
1017	974	930	886	843	800	757	714	670	626	583	2 : 10						30.6	30.1	29.7	29.3	29.1	29.0	
1143	1094	1046	997	949	900	851	803	754	706	657	2 : 26					35.0	34.4	33.8	33.3	32.9	32.5		
1268	1214	1161	1108	1054	1000	946	892	839	786	732	2 : 41					38.6	38.1	37.5	37.0	36.5	36.0		
1397	1338	1278	1218	1159	1100	1041	982	922	862	803	2 : 58					42.3	41.7	41.1	40.5	40.0			
1523	1458	1394	1329	1265	1200	1135	1071	1006	942	877	3 : 14				47.0	46.0	45.4	44.7	44.2	43.8			
1650	1580	1510	1440	1370	1300	1230	1160	1090	1020	950	3 : 30				50.2	49.7	49.1	48.4	47.7	47.1			
1777	1702	1626	1551	1475	1400	1325	1249	1174	1098	1023	3 : 46			55.5	54.5	53.4	52.7	52.0	51.3				
1903	1822	1742	1662	1581	1500	1419	1338	1258	1178	1097	4 : 02			59.1	58.1	57.1	56.4	55.6	54.9				
2030	1944	1858	1772	1686	1600	1514	1428	1342	1256	1170	4 : 18			62.8	61.8	60.7	60.0	59.3	58.5				
2157	2066	1974	1883	1791	1700	1609	1517	1426	1334	1243	4 : 34		68.0	66.5	65.5	64.4	63.7	63.0					
2283	2186	2090	1994	1897	1800	1703	1606	1510	1414	1317	4 : 50		71.6	70.3	69.2	68.0	67.5	66.9					
2412	2310	2207	2104	2002	1900	1798	1696	1593	1490	1388	5 : 07	76.5	75.2	74.0	72.9	71.7	70.5						
2538	2430	2323	2215	2108	2000	1892	1785	1677	1570	1462	5 : 23	80.0	78.8	77.7	76.5	75.3	74.1						
2663	2550	2438	2326	2213	2100	1987	1874	1762	1650	1537	5 : 38	83.8	82.5	81.3	80.2	79.0	78.0						
2792	2674	2555	2436	2318	2200	2082	1964	1845	1726	1608	5 : 55	87.6	86.3	85.0	83.8	82.6							
2918	2794	2671	2547	2424	2300	2176	2053	1929	1806	1682	6 : 11	91.5	90.0	88.6	87.3	86.0							
3045	2916	2787	2658	2529	2400	2271	2142	2013	1884	1755	6 : 27	95.3	93.8	92.3	90.9	89.5							
3172	3038	2903	2769	2634	2500	2366	2231	2097	1962	1828	6 : 43	99.1	97.5	95.9	94.3								
3298	3158	3019	2879	2740	2600	2460	2321	2181	2042	1902	6 : 59	102.6	100.8	99.0	97.6								
3425	3280	3135	2990	2845	2700	2555	2410	2265	2120	1975	7 : 15	106.1	104.2	102.3									
3552	3402	3251	3101	2950	2800	2650	2500	2349	2198	2048	7 : 31	109.6	107.6	105.7									
3678	3522	3367	3212	3056	2900	2744	2588	2433	2278	2122	7 : 47	113.1	111.0	108.9									
3807	3646	3484	3322	3161	3000	2839	2679	2516	2354	2193	8 : 04	116.6	114.2										

NOTE: TIME IS INCREASED (OR DECREASED) BY 1% PER 5°C DECREASE (OR INCREASE) IN TEMPERATURE FROM J.S.A. + 10°C

TABLE 20E

CRUISE AT 10,000 FEET AT 300 KTS I.A.S. (347 KTS T.A.S.) AND DESCENT

DISTANCE - N.M.'s											TIME	INITIAL WEIGHT - lb/1000										
TAILWIND - KTS.						HEADWIND - KTS.																
+100	+80	+60	+40	+20	0	-20	-40	-60	-80	-100	hr. mins	310	300	290	280	270	260	250	240	230	220	210
645	616	587	558	529	500	471	442	413	384	355	1 : 27							21.0	20.6	20.2	20.0	19.9
773	738	704	669	635	600	565	531	496	462	427	1 : 44						25.0	25.1	24.7	24.3	24.0	23.9
902	862	821	781	740	700	660	619	579	538	498	2 : 01						29.3	29.2	28.8	28.3	28.0	27.9
1031	985	939	892	846	800	754	708	661	615	569	2 : 19						33.5	33.3	32.8	32.4	32.0	
1160	1108	1056	1004	952	900	848	796	744	692	640	2 : 36					38.1	37.8	37.4	36.9	36.4	36.0	
1289	1231	1173	1116	1058	1000	942	884	827	769	711	2 : 53					42.5	42.0	41.5	41.0	40.5	40.0	
1417	1354	1290	1227	1163	1100	1037	973	910	846	783	3 : 10				47.3	46.6	46.1	45.6	45.0	44.5		
1546	1477	1408	1338	1269	1200	1131	1062	992	923	854	3 : 28				51.4	50.7	50.2	49.6	48.9	48.6		
1675	1600	1525	1450	1375	1300	1225	1150	1075	1000	925	3 : 45			56.0	55.5	54.8	54.2	53.7	52.9			
1804	1723	1642	1562	1481	1400	1319	1238	1158	1077	996	4 : 02			60.3	59.6	58.9	58.3	57.7	56.8			
1933	1846	1760	1673	1587	1500	1413	1327	1240	1154	1067	4 : 20		65.3	64.6	63.7	63.0	62.4	61.8				
2061	1969	1877	1784	1692	1600	1508	1416	1323	1231	1139	4 : 37		69.5	68.7	67.8	67.0	66.5	65.8				
2190	2092	1994	1896	1798	1700	1602	1504	1406	1308	1210	4 : 54	75.0	73.7	72.8	71.8	71.0	70.5	69.9				
2319	2215	2111	2008	1904	1800	1696	1592	1489	1385	1281	5 : 11	79.1	77.8	76.8	75.9	75.0	74.6					
2448	2338	2229	2119	2010	1900	1790	1681	1571	1462	1352	5 : 29	83.3	82.0	80.9	79.9	79.0	78.6					
2577	2462	2346	2231	2115	2000	1885	1769	1654	1538	1423	5 : 46	87.4	86.2	85.0	84.0	83.0						
2705	2584	2463	2342	2221	2100	1979	1858	1737	1616	1495	6 : 03	91.4	90.2	89.0	88.0	87.2						
2834	2707	2580	2454	2327	2200	2073	1946	1820	1693	1566	6 : 20	95.5	94.3	93.1	92.0							
2963	2830	2698	2565	2433	2300	2167	2035	1902	1770	1637	6 : 38	99.5	98.3	97.1	96.0							
3092	2954	2815	2677	2538	2400	2262	2123	1985	1846	1708	6 : 55	103.6	102.4	101.2	100.0							
3221	3077	2933	2788	2644	2500	2356	2212	2067	1923	1779	7 : 13	107.6	106.4	105.2								
3349	3199	3049	2900	2750	2600	2450	2300	2151	2001	1851	7 : 29	111.5	110.3	108.9								
3478	3322	3167	3011	2856	2700	2544	2389	2233	2078	1922	7 : 47	115.4	114.1									
3607	3446	3284	3123	2961	2800	2639	2477	2316	2154	1993	8 : 04	119.4	118.0									
3736	3569	3402	3234	3067	2900	2733	2566	2398	2231	2064	8 : 22	123.3										
3865	3692	3519	3346	3173	3000	2827	2654	2481	2308	2135	8 : 39	127.2										

NOTE: TIME IS INCREASED (OR DECREASED) BY 1% PER 5°C DECREASE (OR INCREASE) IN TEMPERATURE FROM J.S.A. + 10 C