

PART 4 - CLIMB

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INTRODUCTION

This part presents information for all-engines-operating and one-engine-inoperative climb performance. Single-engine climb data assumes a feathered propeller in the inoperative engine. Data shown on graphs and tables were derived from flight tests and apply when flaps and landing gear are up, and doors are closed with the engine anti-ice turned off and environmental control system (ECS) turned on.

CLIMB POWER SETTINGS

Once takeoff has been achieved at normal takeoff power (TOGA), the crew must set maximum climb power (CLB) on both engines on PRS (Power Rating Selector), Max Auto position. Propeller revolutions are 95%.

In the event of a continued takeoff with engine failure and when five minutes have elapsed from start of takeoff (brakes release), the crew must set maximum continuous power (MCT) with Max Auto on the selector. In this position propeller revolutions are 100%.

MAXIMUM RATE OF CLIMB

The speed for best rate of climb is that at which the rate of climb is maximum for a given aircraft weight, pressure altitude and temperature, with maximum power.

ALL ENGINES OPERATING

The speed for best rate of climb with all engines operating is given in Figure 4-1 as a function of the pressure altitude, aircraft weight and ISA deviation. In Figure 4-2 the corresponding maximum rate of climb with engine anti-ice off, is given as a function of the ambient temperature, pressure altitude, aircraft weight and drag index.

ONE ENGINE INOPERATIVE

The speed for best rate of climb with one engine inoperative is given in Figure 4-3 as a function of the pressure altitude, aircraft weight and ISA deviation. In Figure 4-4 the corresponding maximum rate of climb with engine anti-ice off, is given as a function of the ambient temperature, pressure altitude, aircraft weight and drag index.

Effect of Engine Anti-Ice

In the C-295 the effect of engine anti-ice with all engines or one engine inoperative is negligible. The effect over the engine power (at CLB or MCT position) is insignificant.

Use of Graphs

Figure 4-1 and Figure 4-3. Enter the corresponding graph with the pressure altitude, move horizontally towards the right to the aircraft weight and then vertically downwards to the reference line. From the point of intersection move parallel to the guidelines to the actual temperature variation from ISA and then vertically downwards. Read the climb speed on the horizontal scale.

Figure 4-2 and Figure 4-4. Enter the corresponding graph with the ambient temperature, move horizontally towards the right to the pressure altitude and vertically downwards to the reference line. Move parallel to the guidelines to the aircraft weight and then vertically downwards to the next reference line. Move parallel to the guidelines until the applicable drag index for the actual aircraft configuration is reached and then vertically downwards. Read the rate of climb on the horizontal scale.

Example

Conditions:

1. Climb with 2 engines.
2. Pressure altitude: 15.000 ft
3. ISA deviation: +30°C
4. Aircraft weight: 19.000 Kg
5. Drag index: 60

Results:

- | | |
|--|----------|
| 1. Speed for best rate of climb (Figure 4-1) | 131 KIAS |
| 2. Maximum rate of climb (Figure 4-2) | 225 fpm |

SERVICE AND CRUISE CEILINGS

The cruise ceiling is the pressure altitude at which the rate of climb is 300 fpm. The service ceiling is the pressure altitude at which the rate of climb is 100 fpm.

The cruise and service ceilings shown on graphs are applicable for the best climb speed. The best climb speed is a speed that allows the pilot to fly easily and whose value is very close to the speed for best rate of climb.

The aircraft weight shown on graphs (Figure 4-6 and Figure 4-7) is the actual aircraft weight at some altitude. A conservative way is using the weight at the beginning of climb but the accuracy is higher taking into account the diminution of aircraft weight due to fuel burnt (obtain it in tables Figure 4-13).

ALL ENGINES OPERATING

The speed for maximum rate of climb is shown on Figure 4-1. For operation simplicity has been selected the speed schedule 140/130 KIAS given in Figure 4-5.

The cruise ceiling (Figure 4-6) and service ceiling (Figure 4-7) are given for all engines operating at maximum climb power (CLB), 95% N_p , engine anti-ice off, ECS on and climb speed schedule given in Figure 4-5 (140/130 KIAS).

INITIAL CRUISE ALTITUDE

This engine has a maximum cruise power (90% N_p) lower than maximum climb power (95% N_p). Figure 4-8 and Figure 4-9 show the values of cruise and service ceilings with all engines operating at maximum cruise power 90% N_p (CRZ1). These graphs indicate the initial cruise altitudes at which the remaining rate of climb are 300 and 100 fpm.

ONE ENGINE INOPERATIVE

The speed for maximum rate of climb is given in Figure 4-3. For operation simplicity has been selected rule depending on the aircraft weight close to the optimum 1.24 V_{SR} , shown on Figure 4-10.

Cruise ceiling (Figure 4-11) and service ceiling (Figure 4-12) are given with maximum continuous power on operative engine, 100% N_p , engine anti-ice off, ECS on and climb speed with one engine given on Figure 4-10 (1.24 V_{SR}).

The aircraft weight shown on graphs (Figure 4-11 and Figure 4-12) is the actual aircraft weight at some altitude. A conservative way is using the weight at the beginning of climb but the accuracy is higher taking into account the diminution of aircraft weight due to fuel burnt (obtain it in tables Figure 4-14).

The cruise and service ceiling with one engine if ECS is off are obtained (Figure 4-11 and Figure 4-12) entering in the figure reducing the aircraft weight in 5%.

Effect of Engine Anti-Ice

In the C-295 the effect of engine anti-ice with all engines or one engine inoperative is negligible.

Use of Graphs

Figure 4-6, Figure 4-7, Figure 4-8 and Figure 4-9. Enter the corresponding graph with the aircraft weight (takeoff weight subtracting fuel burnt on climb) and move parallel to the guidelines until the applicable drag index for the actual aircraft configuration is reached, line horizontally coming from vertical scale. Move vertically upwards to the ISA deviation curve and then horizontally towards the left. Read the corresponding ceiling on the vertical scale.

Example

Given:

1. Climb with 2 engines.
2. Aircraft weight: 21.600 Kg
3. ISA deviation: +10°C
4. Speed schedule 140/130 KIAS
5. Drag index: 85

Results:

1. Cruise ceiling with two engines (Figure 4-6)	15.500 ft
2. Service ceiling with two engines (Figure 4-7)	18.500 ft
3. Initial cruise altitude with R/C= 300 fpm (Figure 4-8)	13.750 ft
4. Initial cruise altitude with R/C= 100 fpm (Figure 4-9)	17.400 ft

TIME, DISTANCE AND FUEL TO CLIMB

ALL ENGINES OPERATING

A summary of two-engine climb data at the speed schedule 140/130 KIAS (optimum operational speed), maximum climb power (CLB), 95% N_P, engine anti-ice off and ECS on is given in Figure 4-13. The time to climb, horizontal distance in the climb, and total fuel burned to climb from sea level are given as a function of the aircraft weight (at takeoff), ambient temperature (ISA deviation) and the final flight level.

Climb from an initial altitude other than sea level

If the initial altitude is different to sea level use the corrections shown at the bottom of each table.

Climb data from brakes release

If time, distance and fuel data is required from the instant of brakes release, consider the takeoff and acceleration of the aircraft as follows:

- Distance: Zero distance is assumed for the acceleration.
- Time: 2 minutes are assumed.
- Fuel: Calculate the fuel used by 2 engines at takeoff power during 2 minutes.

Drag Index Correction

The correction due to drag index on the two-engine climb performance is as follows:

- Increase TIME, DISTANCE and FUEL by 12% per 50 units of drag index.

ONE ENGINE INOPERATIVE

A summary of one-engine inoperative climb data at the best climb speed ($1.24 V_{SR}$), maximum continuous power (MCT), 100% N_p, engine anti-ice off and ECS on is given in Figure 4-14. If the initial altitude is different to sea level use the corrections shown at the bottom of each table.

Drag Index Correction

The correction due to drag index on the single-engine climb performance data is as follows:

- Increase TIME, DISTANCE and FUEL by 12% per 50 units of drag index.

Effect of Engine Anti-Ice

In the C-295 the effect of engine anti-ice with all engines or one engine inoperative is negligible.

Example

Conditions:

1. Climb with 2 engines to 20.000 ft (Flight level: 200).
2. Runway Pressure altitude: 2.000 ft.
3. Aircraft weight at start of climb: 16.000 Kg.
4. Outside air temperature at 2.000 ft: ISA.
5. Engine anti-ice: off.

Climb Data for Climb from 2.000 ft to 20.000 ft (speed schedule 140/130 KIAS).

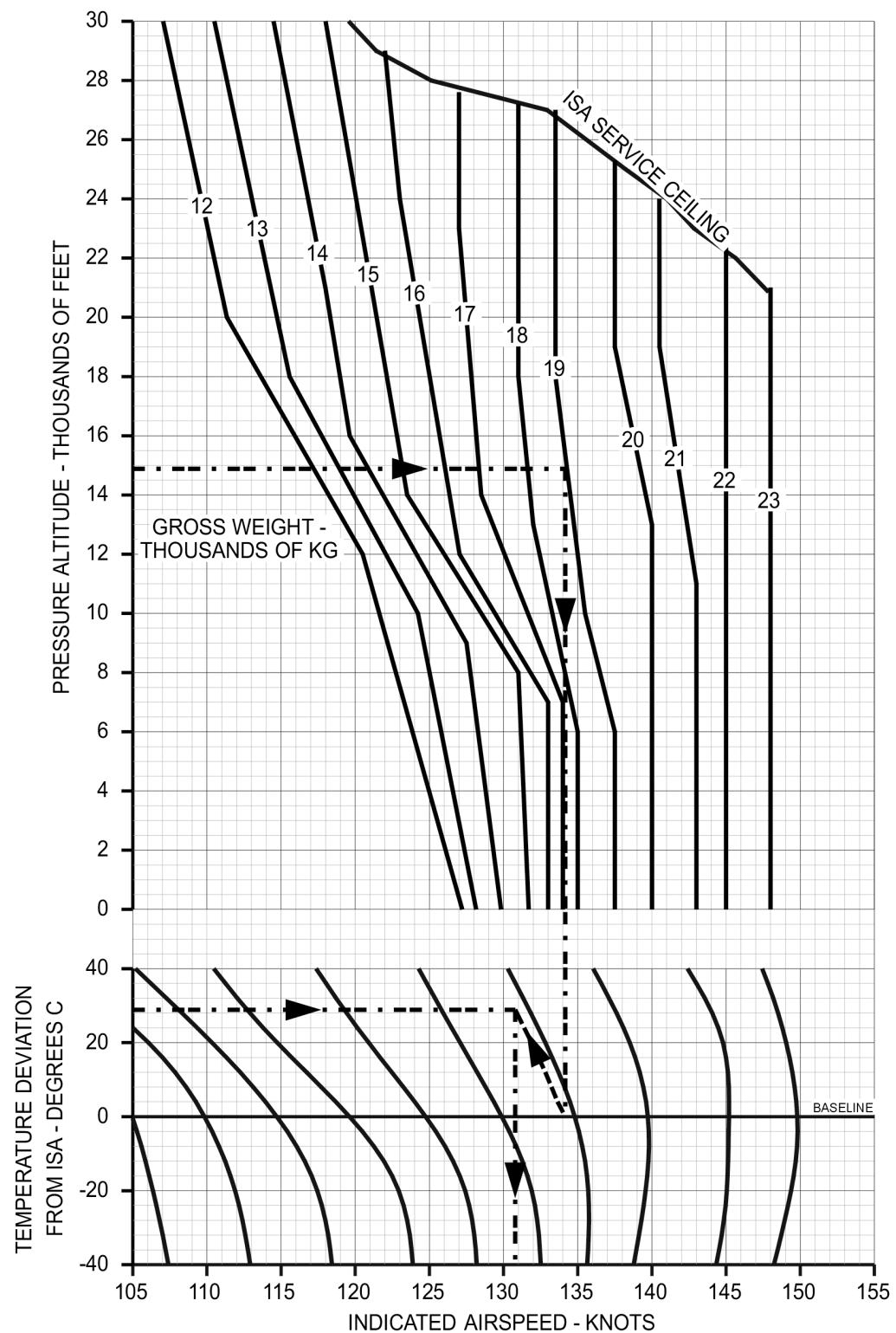
1. Time (Figure 4-12, (14-2×0.6 min))	12.8 min
2. Distance (Figure 4-12, (32-2×1.3 NM))	29.4 NM
3. Fuel (Figure 4-12, (207-2×9 kg))	189 kg

AIRSPEED FOR BEST RATE OF CLIMB 2 ENGINES

DATE: JUL. 2000
DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
ENGINES: PW 127-G
PROPELLERS: HS 568F-5

FLAPS: UP (0°)
ENGINE A/I: OFF



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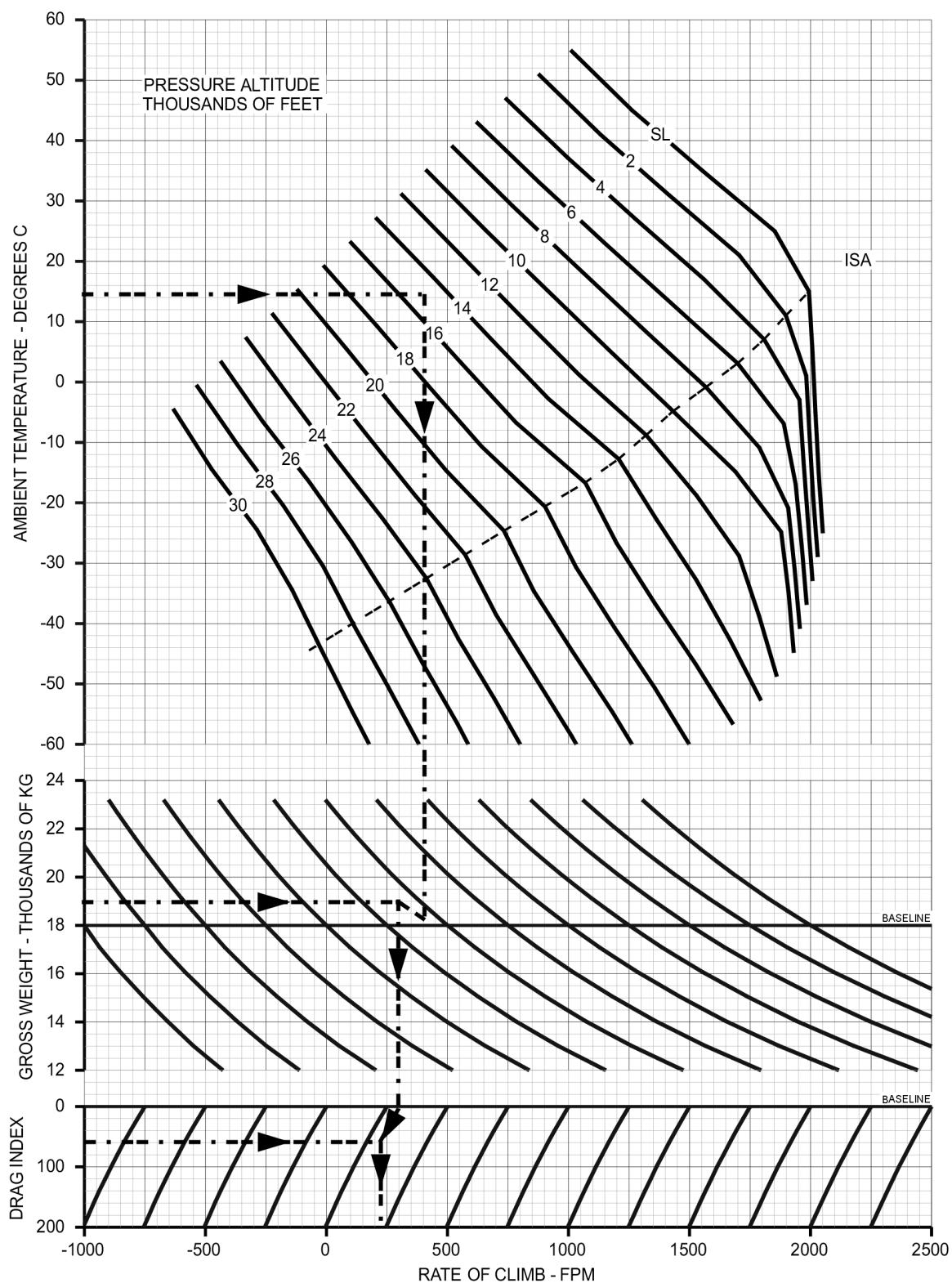
Figure 4-1 Airspeed for Best Rate of Climb. 2 Engines

MAXIMUM RATE OF CLIMB 2 ENGINES, MAXIMUM CLIMB POWER (CLB)

DATE: JUL. 2000
DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
ENGINES: PW 127-G
PROPELLERS: HS 568F-5

FLAPS: UP (0°)
ENGINE A/I: OFF
SPEED: FIGURE 4-1



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Figure 4-2 Maximum Rate of Climb. 2 Engines. Maximum Climb Power (CLB)

BEST RATE OF CLIMB AIRSPEED 1 ENGINE

DATE: JUL. 2000
DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
ENGINES: PW 127-G
PROPELLERS: HS 568F-5

FLAPS:
ENGINE A/I: UP (0°)
OFF

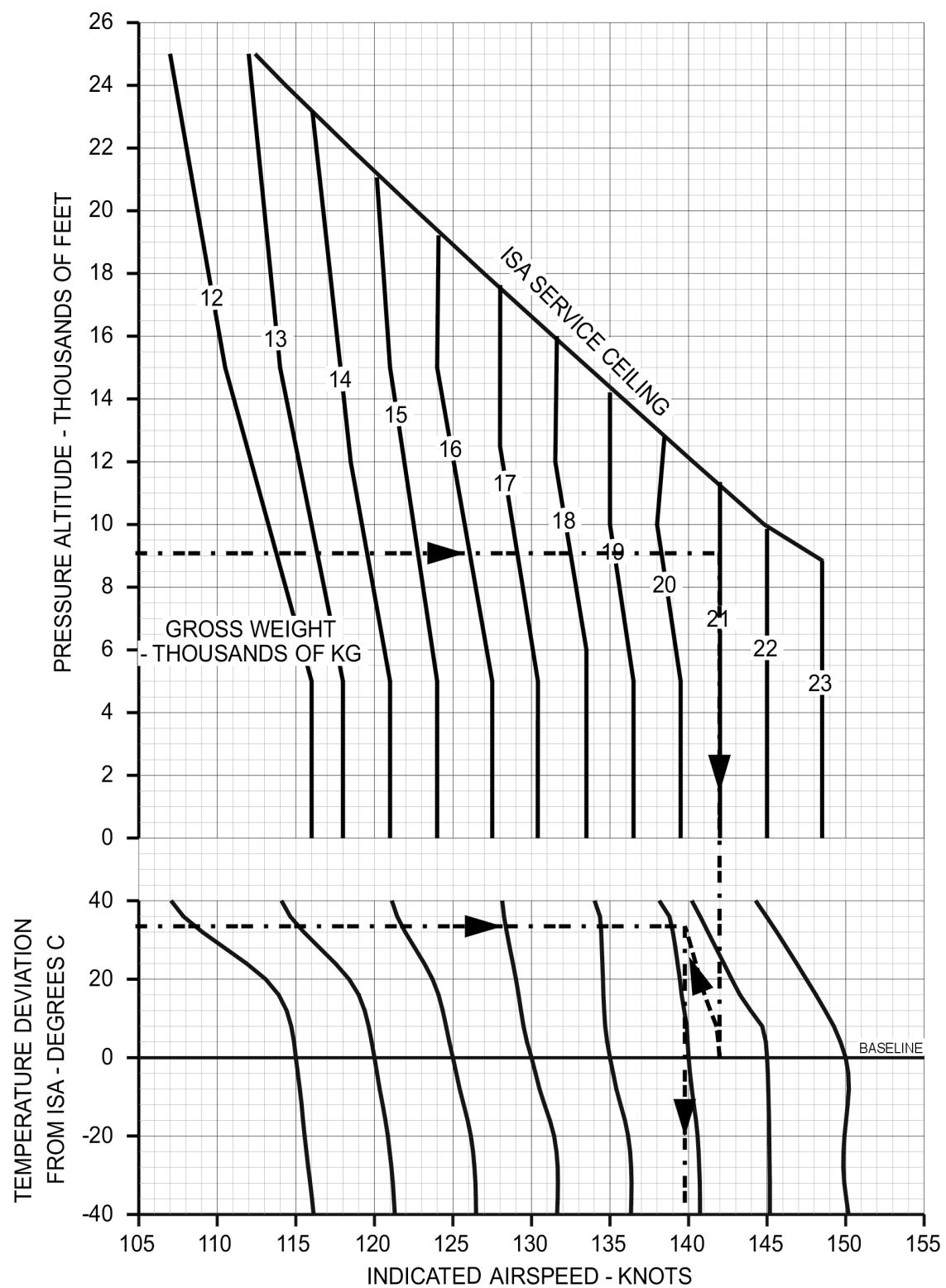


Figure 4-3 Best Rate of Climb Airspeed. 1 Engine

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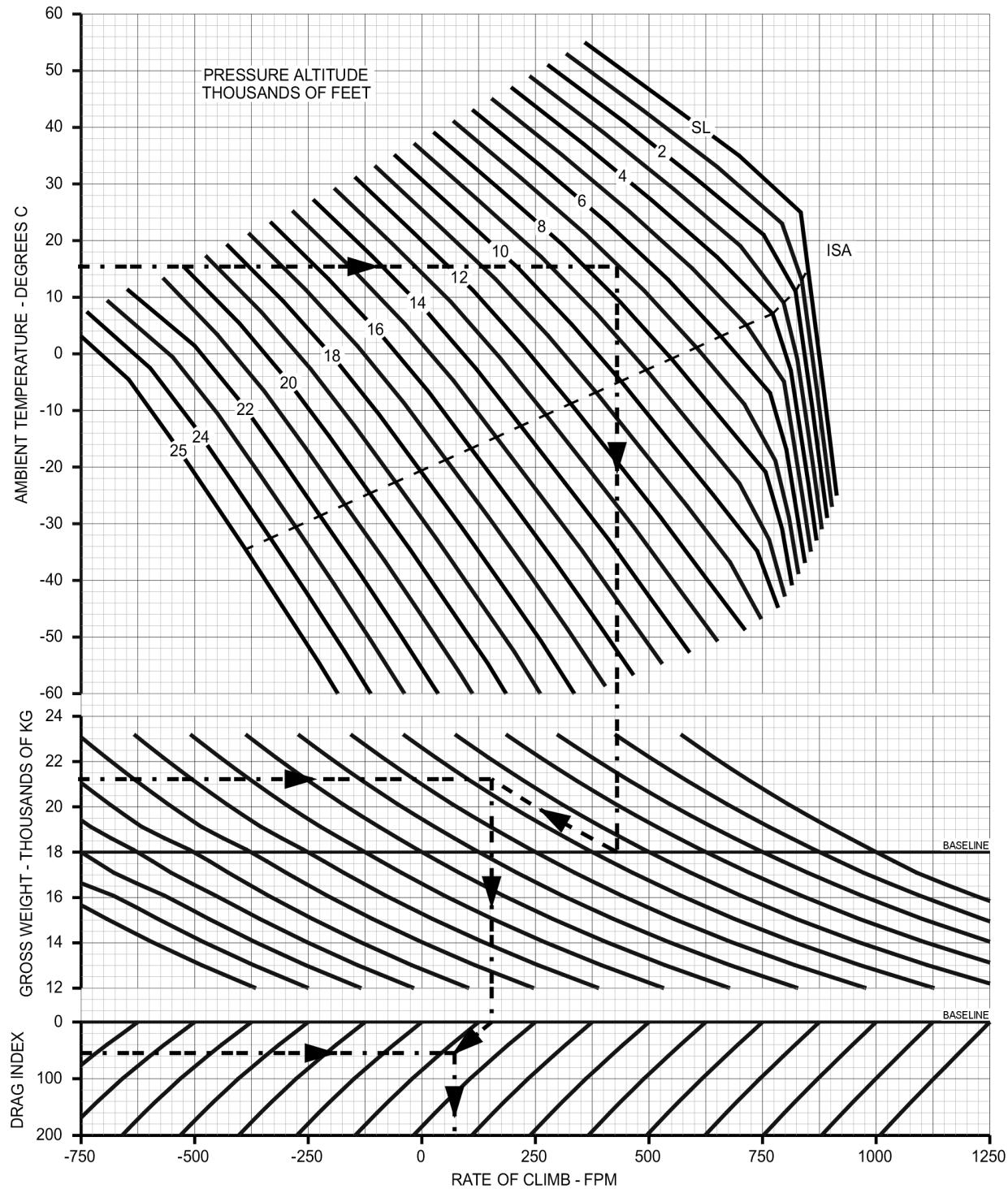
MAXIMUM RATE OF CLIMB

1 ENGINE, MAXIMUM CONTINUOUS POWER (MCT)

DATE: JUL. 2000
 DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
 ENGINES: PW 127-G
 PROPELLERS: HS 568F-5

FLAPS: UP (0°)
 ENGINE A/I: OFF
 SPEED: FIGURE 4-3



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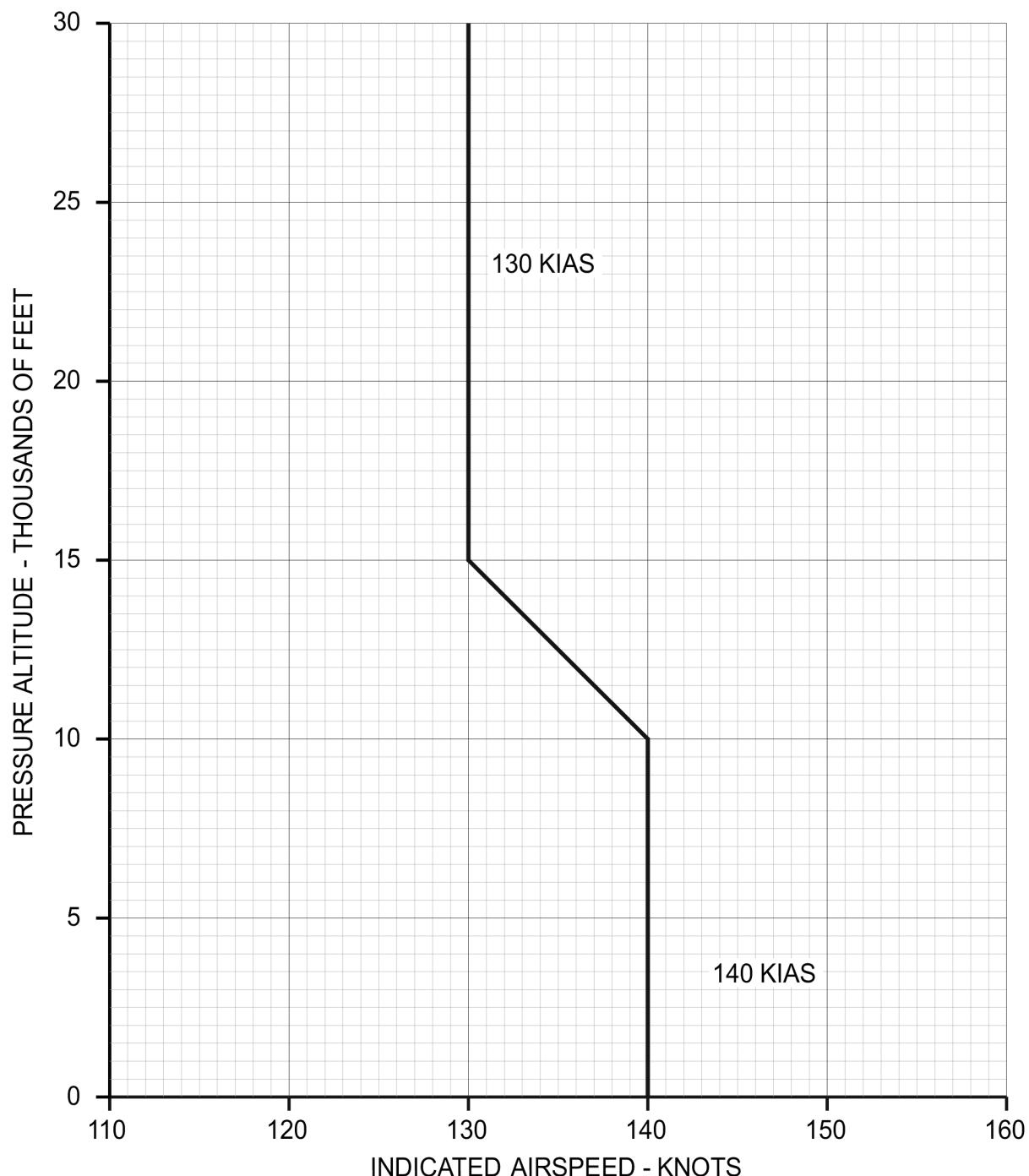
Figure 4-4 Maximum Rate of Climb. 1 Engine. Maximum Continuous Power (MCT)

CLIMB SPEED SCHEDULE 140/130 KIAS 2 ENGINES

DATE: JUL. 2000
DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
ENGINES: PW 127-G
PROPELLERS: HS 568F-5

FLAPS: UP (0°)



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Figure 4-5 Climb Speed Schedule 140/130 KIAS. 2 Engines

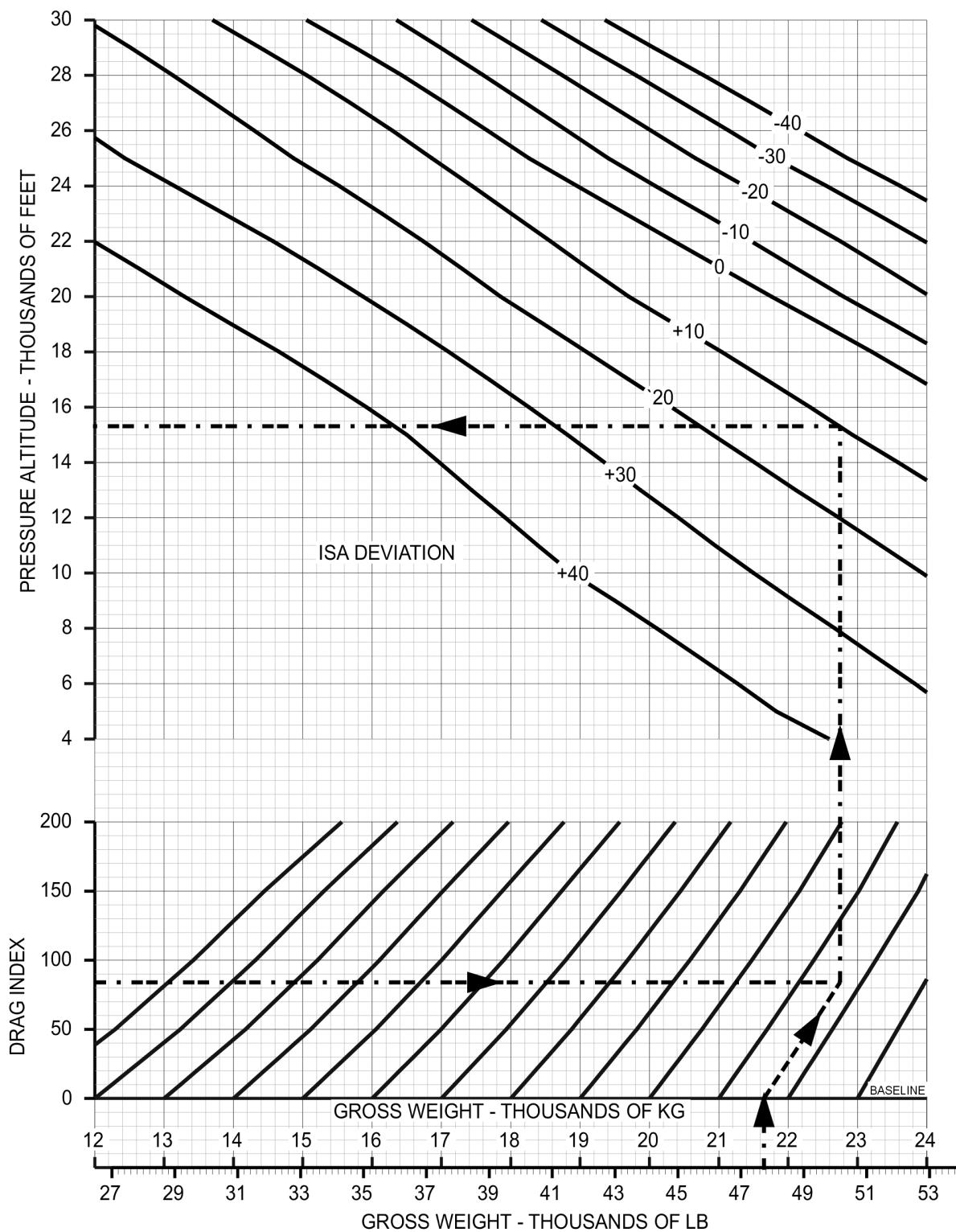
CRUISE CEILING

2 ENGINES, MAXIMUM CLIMB POWER (CLB)

DATE: JUL. 2000
DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
ENGINES: PW 127-G
PROPELLERS: HS 568F-5

FLAPS: UP (0°)
ENGINE A/I: OFF
SPEED: 140/130 KIAS



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Figure 4-6 Cruise Ceiling. 2 Engines. Maximum Climb Power (CLB)

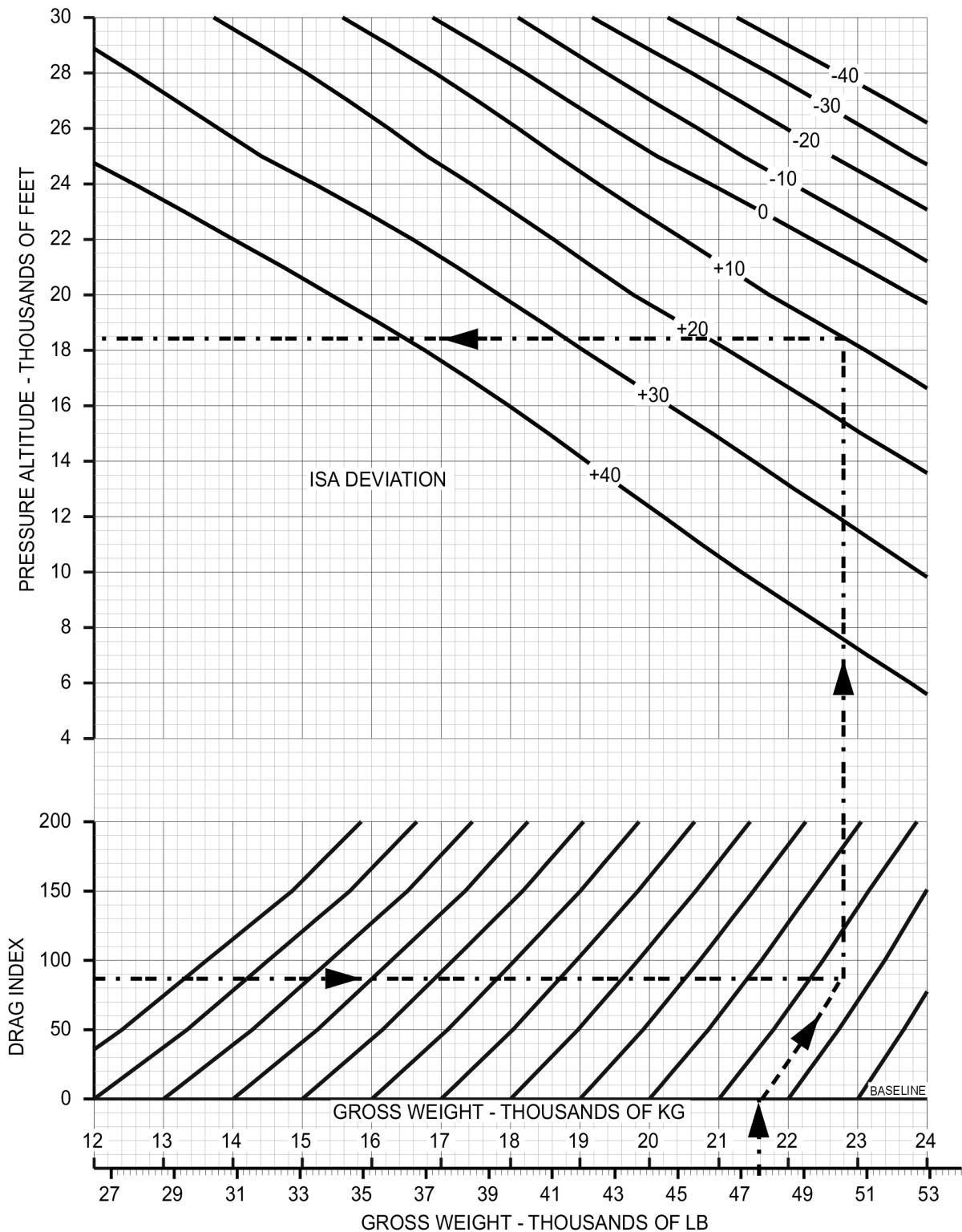
SERVICE CEILING

2 ENGINES, MAXIMUM CLIMB POWER (CLB)

DATE: JUL. 2000
DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
ENGINES: PW 127-G
PROPELLERS: HS 568F-5

FLAPS: UP (0°)
ENGINE A/I: OFF
SPEED: 140/130 KIAS



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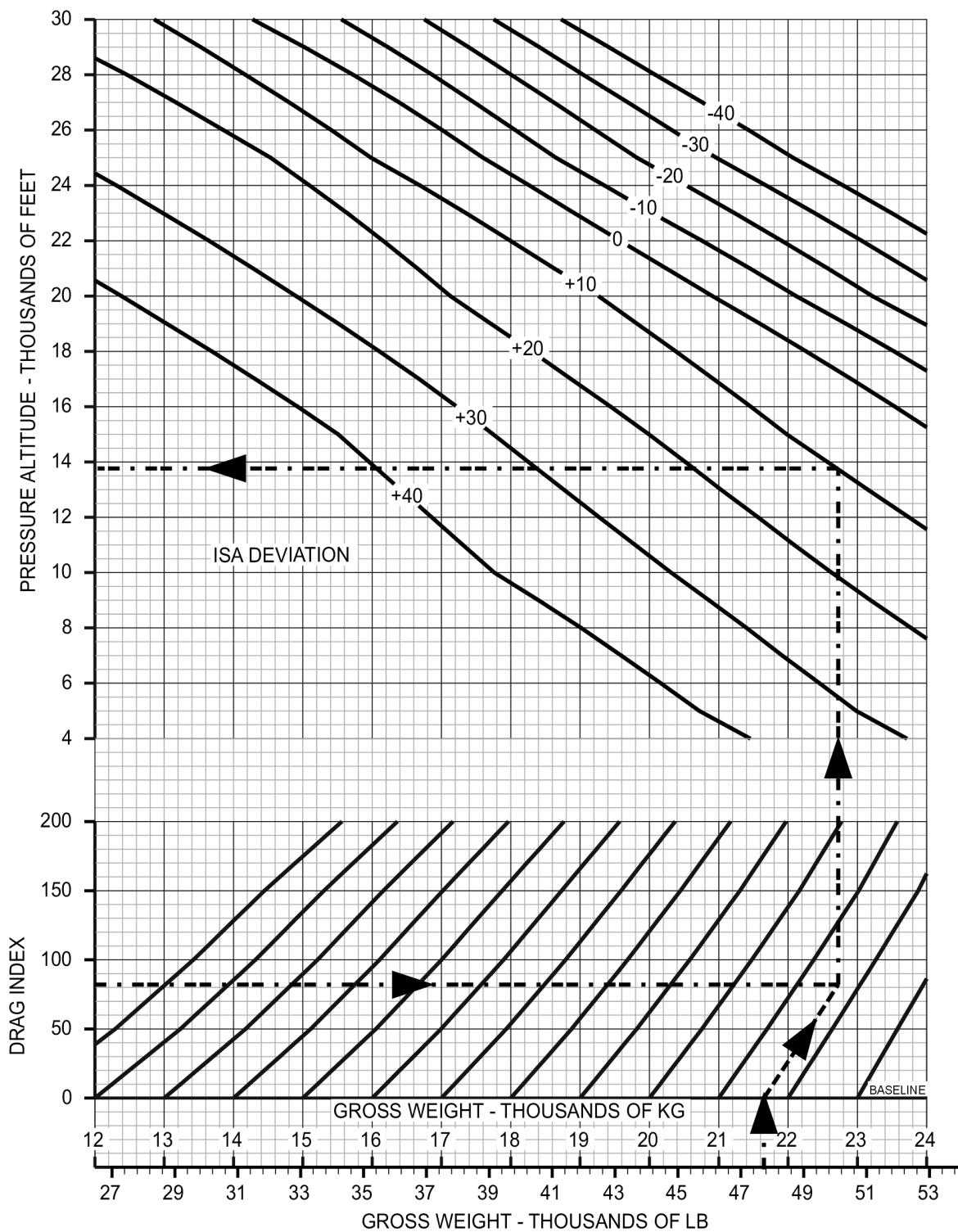
Figure 4-7 Service Ceiling. 2 Engines. Maximum Climb Power (CLB)

CRUISE CEILING
2 ENGINES, MAXIMUM CRUISE POWER 90 % N_P (CRZ1)

DATE: JUL. 2000
 DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
 ENGINES: PW 127-G
 PROPELLERS: HS 568F-5

FLAPS: UP (0°)
 ENGINE A/I: OFF
 SPEED: 140/130 KIAS



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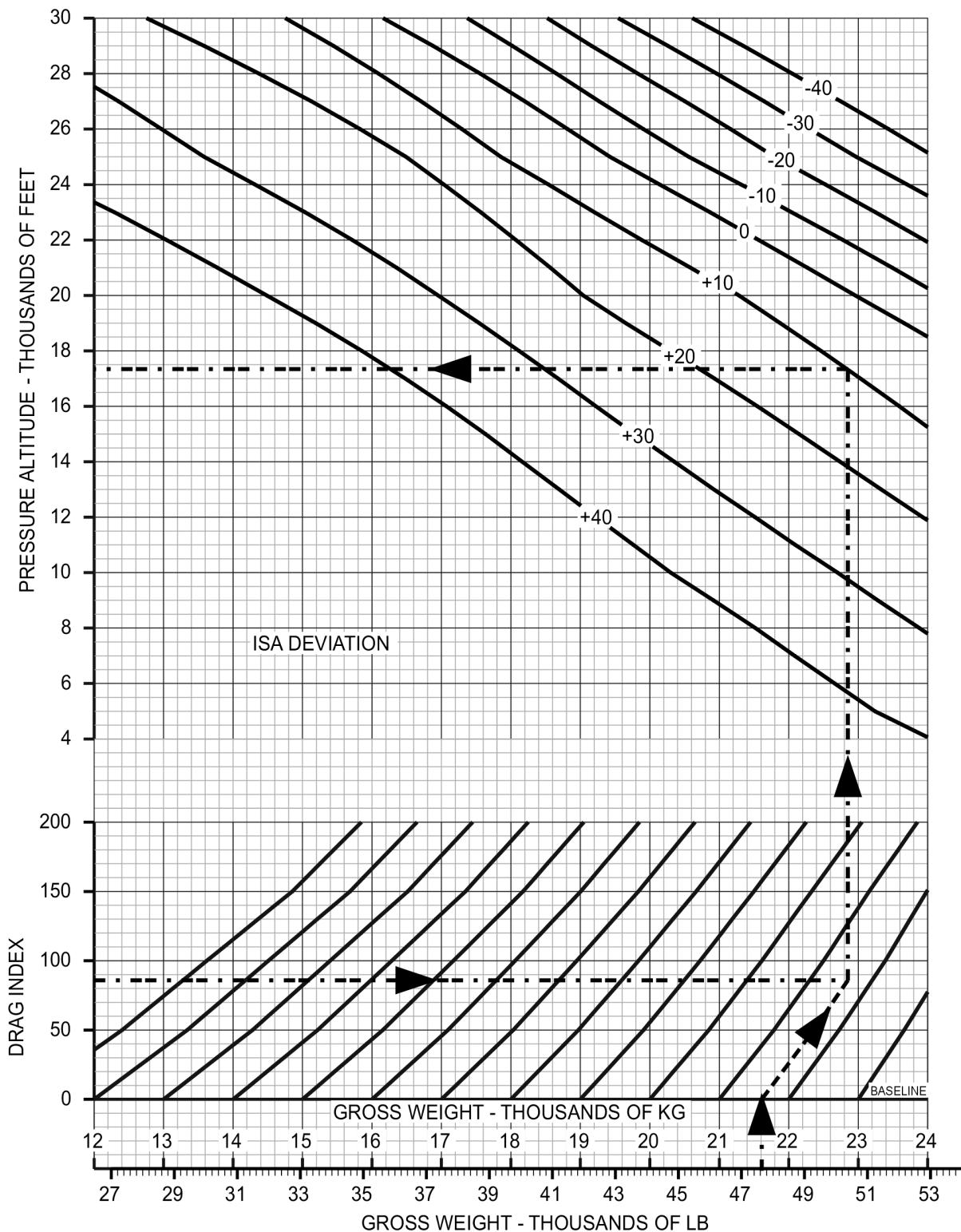
Figure 4-8 Cruise Ceiling. 2 Engines. Maximum Cruise Power (CRZ1)

**SERVICE CEILING
2 ENGINES, MAXIMUM CRUISE POWER 90 % N_P (CRZ1)**

DATE: JUL. 2000
DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
ENGINES: PW 127-G
PROPELLERS: HS 568F-5

FLAPS: UP (0°)
ENGINE A/I: OFF
SPEED: 140/130 KIAS



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Figure 4-9 Service Ceiling. 2 Engines. Maximum Cruise Power (CRZ1)

**BEST CLIMB SPEED
1 ENGINE**DATE: JUL. 2000
DATA BASIS: FLIGHT TESTAIRCRAFT: C-295M
ENGINES: PW 127-G
PROPELLERS: HS 568F-5

FLAPS: UP (0°)

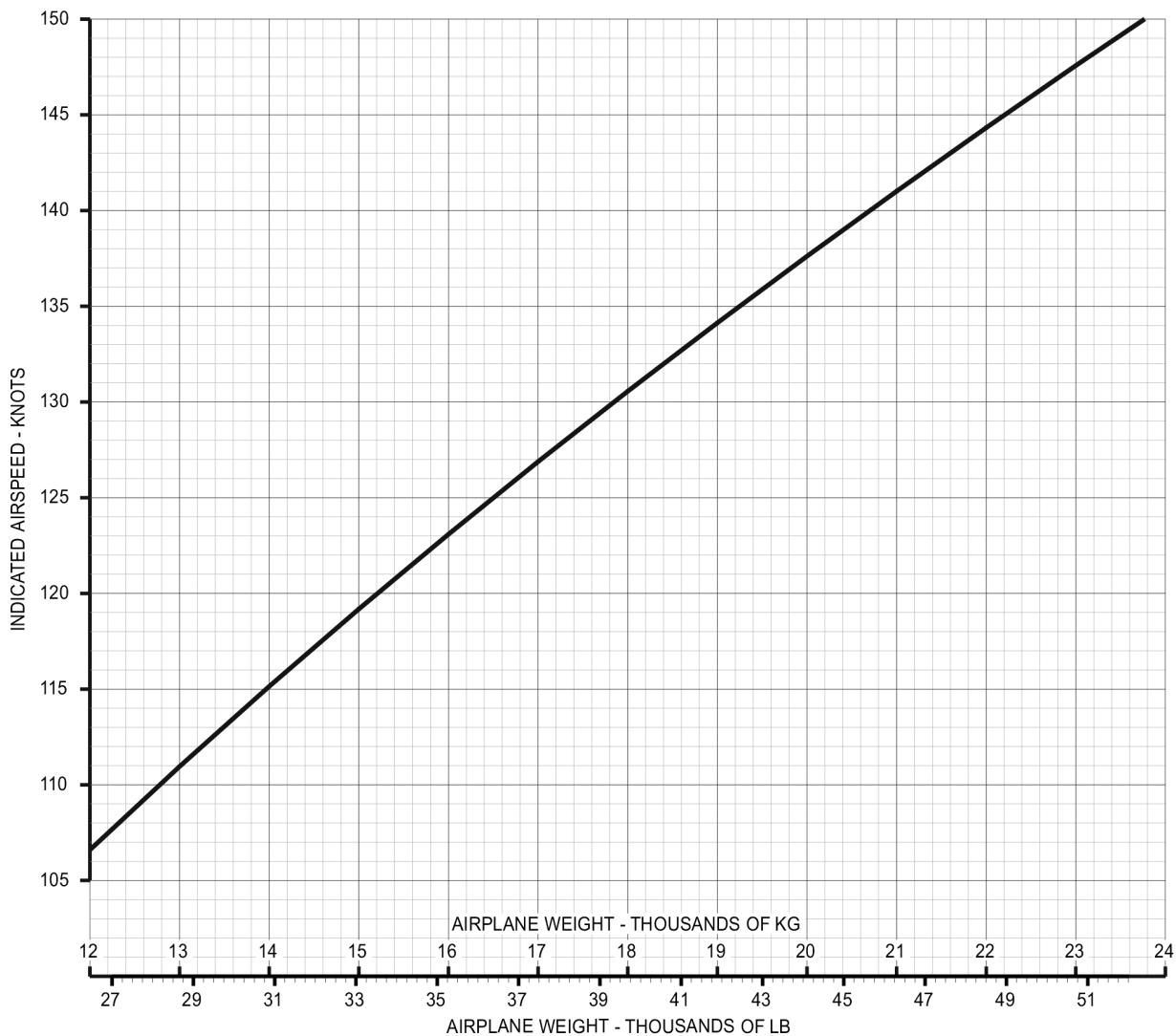


Figure 4-10 Best Climb Speed. 1 Engine

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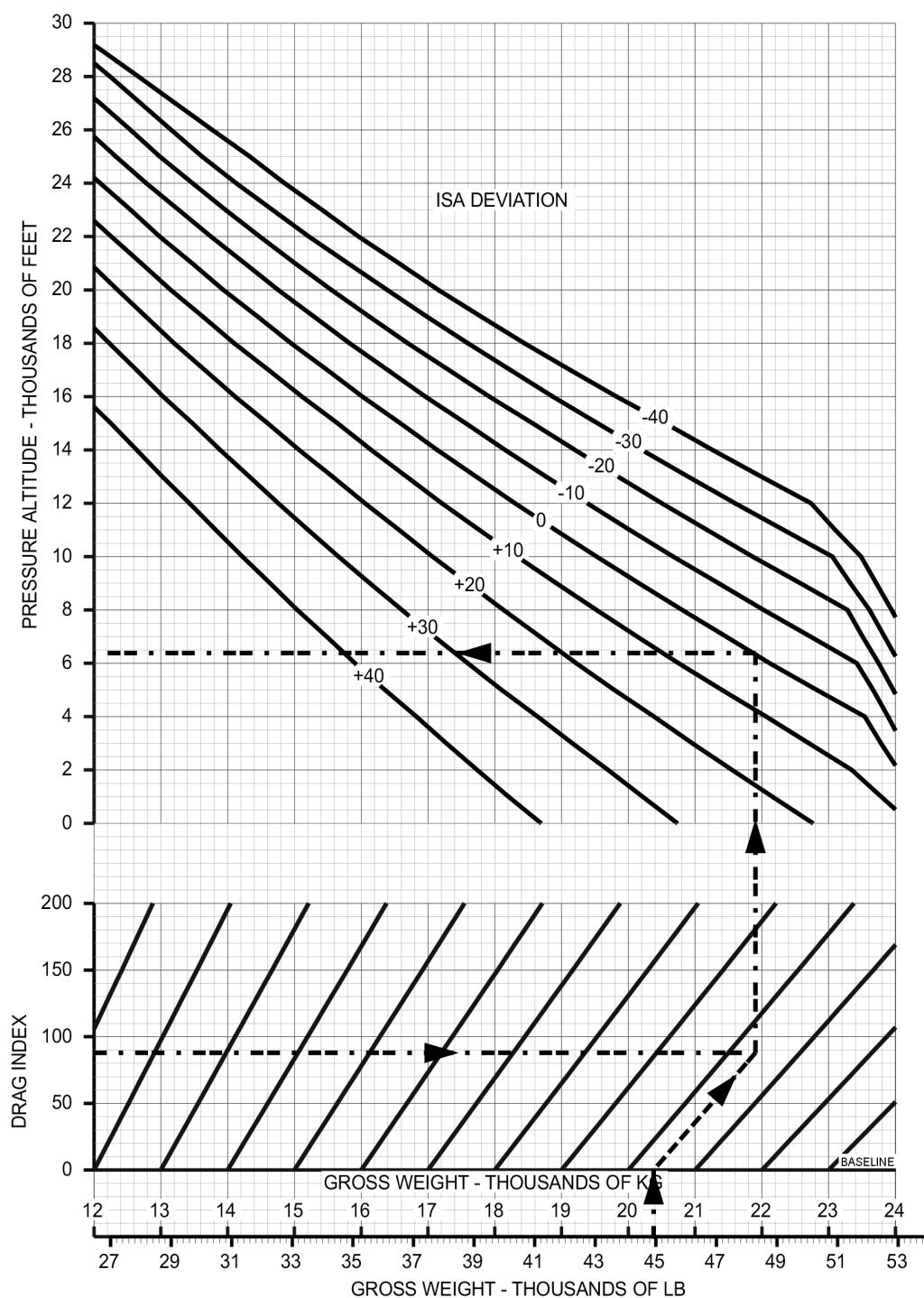
CRUISE CEILING

1 ENGINE, MAXIMUM CONTINUOUS POWER (MCT)

DATE: JUL. 2000
 DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
 ENGINES: PW 127-G
 PROPELLERS: HS 568F-5

FLAPS: UP (0°)
 ENGINE A/I: OFF
 SPEED: 140/130 KIAS



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Figure 4-11 Cruise Ceiling. 1 Engine. Maximum Continuous Power (MCT)

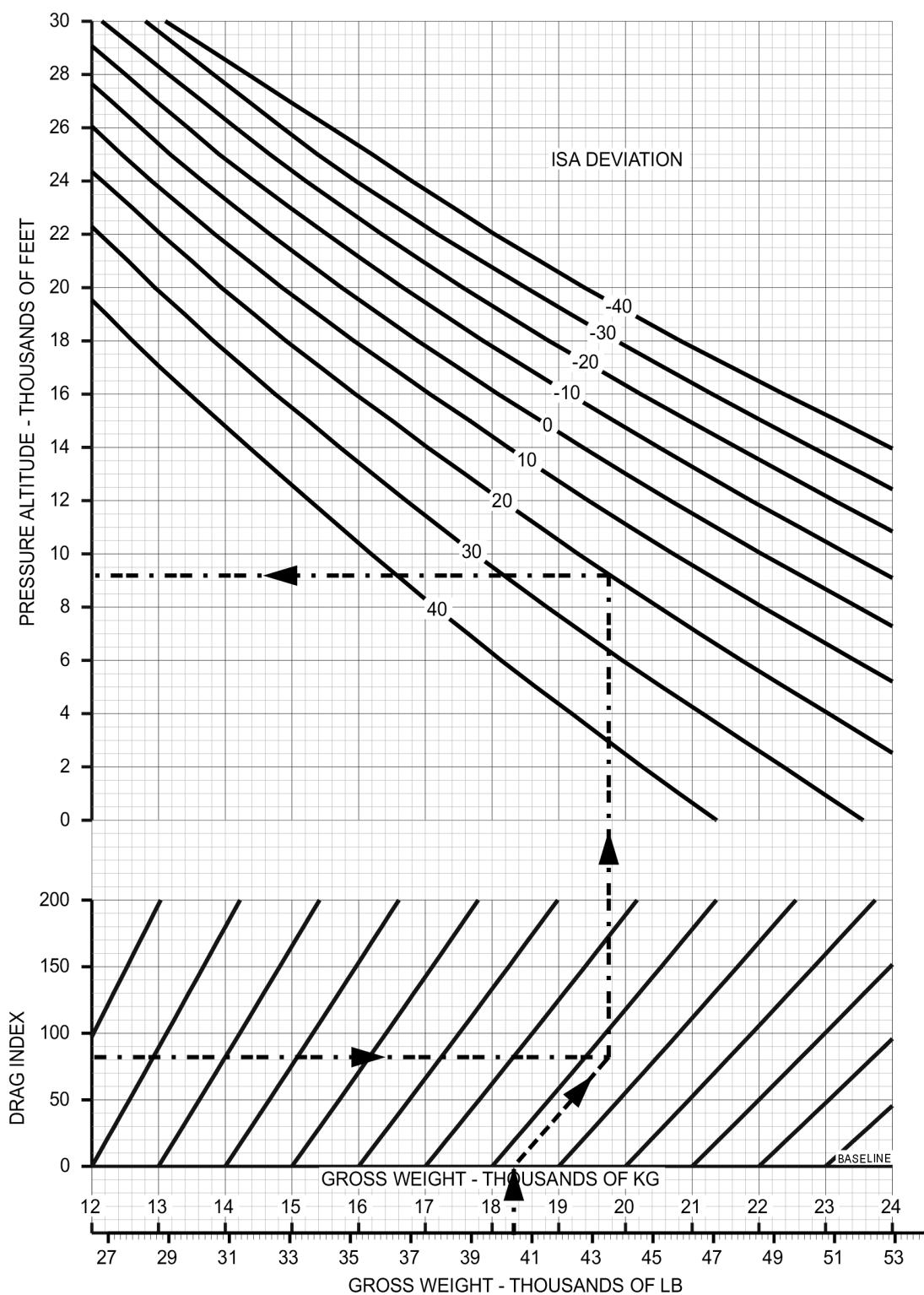
SERVICE CEILING

1 ENGINE, MAXIMUM CONTINUOUS POWER (MCT)

DATE: JUL. 2000
 DATA BASIS: FLIGHT TEST

AIRCRAFT: C-295M
 ENGINES: PW 127-G
 PROPELLERS: HS 568F-5

FLAPS: UP (0°)
 ENGINE A/I: OFF
 SPEED: FIGURE 4-8



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Figure 4-12 Service Ceiling. 1 Engine. Maximum Continuous Power (MCT)

TIME, DISTANCE AND FUEL TO CLIMB
2 ENGINES, MAXIMUM CLIMB POWER 95% NP (CLB)
ISA -20°C

DATE: FEB. 2000 **AIRCRAFT:** C-295M
DATA BASIS: FLIGHT TEST **ENGINES:** PW 127G
PROPELLERS: HS 568F-5

Fuel (Kg)	Distance (NM)	Time (min)
-----------	---------------	------------

FL	WEIGHT (KG) AT BRAKES RELEASE								
	12000	14000	16000	18000	19000	20000	21000	22000	23000
300	195 35 15	235 45 18	288 58 23	370 81 30					
290	187 32 14	224 41 17	272 53 21	343 71 27	397 86 32				
280	180 30 13	215 38 16	259 48 19	321 63 25	366 74 29				
270	173 27 12	206 34 15	246 43 18	302 56 23	340 66 26	390 78 30			
260	167 25 12	197 32 14	235 40 17	284 51 21	318 58 24	359 68 27	414 81 32		
250	161 23 11	189 29 13	224 36 16	269 46 19	298 52 22	334 60 25	380 71 28		
240	155 22 10	182 27 12	214 33 15	255 42 18	281 47 20	312 54 22	351 62 25	401 73 29	
230	149 20 10	174 25 12	204 31 14	242 38 17	265 43 18	293 48 20	327 55 23	369 64 26	425 76 31
220	144 19 9	167 23 11	195 28 13	230 35 15	251 39 17	276 44 19	305 49 21	341 57 24	388 66 27
210	138 17 9	160 21 10	186 26 12	218 32 14	237 35 16	260 39 17	286 44 19	317 50 22	357 58 25
200	133 16 8	154 20 10	178 24 11	207 29 13	225 32 15	245 36 16	268 40 18	296 45 20	330 51 22
190	128 15 8	147 18 9	169 22 11	197 27 13	213 29 14	231 33 15	252 36 16	277 41 18	306 46 20
180	123 14 8	141 17 9	162 20 10	187 24 12	201 27 13	218 30 14	237 33 15	259 37 17	285 41 18
170	118 13 7	135 15 8	154 18 10	177 22 11	190 25 12	205 27 13	222 30 14	242 33 15	265 37 17
160	113 12 7	129 14 8	146 17 9	168 20 10	180 22 11	193 25 12	209 27 13	227 30 14	247 33 15
150	108 11 6	123 13 7	139 16 8	159 19 10	170 20 10	182 22 11	196 25 12	212 27 13	231 30 14
140	103 10 6	117 12 7	132 14 8	150 17 9	160 19 10	171 20 10	184 22 11	199 25 12	215 27 13
130	99 9 6	111 11 7	125 13 7	142 16 8	151 17 9	161 19 10	173 20 10	186 22 11	201 25 12
120	94 8 5	106 10 6	119 12 7	134 14 8	142 15 8	151 17 9	162 18 10	174 20 10	187 22 11
100	85 7 5	95 8 5	106 10 6	118 12 7	125 13 7	133 14 8	141 15 8	151 16 9	162 18 10
80	76 5 4	84 6 5	92 8 5	102 9 6	108 10 6	114 11 7	120 12 7	128 13 7	137 14 8
60	67 4 4	72 5 4	79 6 4	86 7 5	90 7 5	95 8 5	100 9 6	105 9 6	112 10 6
40	57 3 3	61 3 3	65 4 4	70 4 4	73 5 4	76 5 4	79 6 4	83 6 5	87 7 5
20	48 1 3	50 1 3	52 2 3	54 2 3	56 2 3	57 2 3	59 3 3	61 3 3	63 3 3

Field Altitude Correction								
For each 1000 ft of field altitude, subtract:								
8 Kg of fuel								
1.1 NM of distance								
29 Seg of time								

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Figure 4-13 (Sheet 1 of 5) Time, Distance and Fuel to Climb. 2 Engines. Maximum Climb Power (CLB)

TIME, DISTANCE AND FUEL TO CLIMB
2 ENGINES, MAXIMUM CLIMB POWER 95% N_P (CLB)
ISA -10°C

DATE: FEB. 2000 **AIRCRAFT:** C-295M **SPEED:** 140/130 KIAS
DATA BASIS: FLIGHT TEST **ENGINES:** PW 127G **PROPELLERS:** HS 568F-5

Distance (NM)	Fuel (Kg)	Time (min)
---------------	-----------	------------

FL	WEIGHT (KG) AT BRAKES RELEASE								
	12000	14000	16000	18000	19000	20000	21000	22000	23000
300	211 42 17	258 55 21	325 73 27						
290	202 38 16	246 49 19	305 65 25	402 93 34					
280	194 35 15	234 45 18	287 58 23	369 81 30					
270	186 32 14	223 41 17	271 53 21	342 71 27	396 85 32				
260	179 30 13	213 37 16	257 48 19	319 63 25	364 74 29				
250	172 27 12	204 34 15	244 43 18	299 56 22	337 65 26	387 77 30			
240	165 25 11	195 31 14	232 39 17	281 50 21	314 58 23	356 67 27	410 80 31		
230	159 23 11	187 29 13	221 36 16	265 45 19	294 52 21	330 59 24	375 70 28	436 84 33	
220	152 21 10	179 26 12	210 33 14	250 41 18	276 46 20	307 53 22	345 61 25	395 72 29	
210	146 20 10	171 24 11	200 30 14	237 37 16	260 42 18	287 47 20	320 54 23	361 63 26	416 74 30
200	140 18 9	163 22 11	190 27 13	224 34 15	245 38 17	269 42 18	298 48 20	333 55 23	378 64 27
190	135 17 9	156 21 10	181 25 12	212 31 14	231 34 15	252 38 17	277 43 19	308 49 21	346 56 24
180	129 15 8	149 19 9	172 23 11	200 28 13	217 31 14	237 34 16	259 39 17	286 44 19	319 50 21
170	124 14 8	142 17 9	164 21 10	189 25 12	205 28 13	222 31 14	242 35 16	266 39 17	294 44 19
160	118 13 7	136 16 8	155 19 10	179 23 11	193 26 12	208 28 13	226 31 14	248 35 16	272 39 17
150	113 12 7	129 15 8	147 18 9	169 21 10	181 23 11	195 26 12	212 28 13	230 31 14	252 35 16
140	108 11 6	123 13 7	140 16 8	159 19 10	171 21 10	183 23 11	198 26 12	215 28 13	234 31 15
130	103 10 6	117 12 7	132 15 8	150 17 9	161 19 10	172 21 10	185 23 11	200 25 12	217 28 13
120	98 9 6	111 11 7	125 13 7	141 16 8	151 17 9	161 19 10	173 21 10	186 23 11	202 25 12
100	88 7 5	99 9 6	110 11 6	124 13 7	132 14 8	140 15 8	149 17 9	160 18 9	172 20 10
80	78 6 4	87 7 5	96 8 5	106 10 6	113 11 6	119 12 7	126 13 7	135 14 8	144 15 8
60	69 4 4	75 5 4	81 6 5	89 7 5	94 8 5	99 8 6	104 9 6	110 10 6	117 11 7
40	59 3 3	63 3 3	67 4 4	72 5 4	75 5 4	79 5 4	82 6 5	86 6 5	91 7 5
20	49 1 3	51 2 3	53 2 3	56 2 3	57 2 3	59 3 3	60 3 3	62 3 3	65 3 4

Field Altitude Correction
For each 1000 ft of field altitude, subtract
9 Kg of fuel
1.1 NM of distance
29 Seg of time

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Figure 4-13 (Sheet 2 of 5) Time, Distance and Fuel to Climb. 2 Engines. Maximum Climb Power (CLB)

**TIME, DISTANCE AND FUEL TO CLIMB
2 ENGINES, MAXIMUM CLIMB POWER 95% N_P (CLB)
ISA**

DATE: FEB. 2000 **AIRCRAFT:** C-295M
DATA BASIS: FLIGHT TEST **ENGINES:** PW 127G
PROPELLERS: HS 568F-5

		Fuel (Kg)	
		Distance (NM)	Time (min)

FL	WEIGHT (KG) AT BRAKES RELEASE								
	12000	14000	16000	18000	19000	20000	21000	22000	23000
300	232 51 19	290 68 25	380 97 34						
290	221 46 18	274 61 23	350 83 30						
280	211 42 17	259 55 21	325 73 27						
270	202 38 16	246 49 19	304 65 25	401 92 34					
260	193 35 15	234 45 18	286 58 23	367 79 30					
250	185 32 14	222 41 17	270 52 21	340 70 27	392 83 32				
240	178 29 13	212 37 16	255 47 19	316 62 24	360 72 28	418 87 33			
230	170 27 12	202 34 15	242 43 18	296 55 22	333 64 25	381 75 29			
220	163 25 11	193 31 14	229 39 16	278 49 20	310 56 23	350 66 26	402 78 31		
210	157 23 11	184 28 13	218 35 15	261 44 19	290 50 21	324 58 24	367 68 27	425 81 32	
200	150 21 10	176 26 12	207 32 14	246 40 17	271 45 19	302 52 21	339 59 24	386 70 28	450 84 33
190	144 19 9	168 24 11	196 29 13	232 36 16	255 41 18	281 46 20	313 53 22	353 61 25	406 72 29
180	138 18 9	160 22 11	186 27 12	219 33 15	239 37 16	263 42 18	291 47 20	326 54 23	369 63 26
170	132 16 8	152 20 10	177 25 12	207 30 14	225 34 15	246 38 16	271 42 18	301 48 20	338 55 23
160	126 15 8	145 18 9	167 23 11	195 27 13	211 30 14	230 34 15	253 38 17	279 43 19	311 49 21
150	120 14 7	138 17 9	159 21 10	184 25 12	199 28 13	215 31 14	235 34 15	259 38 17	287 44 19
140	115 13 7	131 16 8	150 19 9	173 23 11	186 25 12	202 28 13	219 31 14	240 35 16	265 39 17
130	109 12 7	124 14 8	142 17 9	163 21 10	175 23 11	188 25 12	204 28 13	223 31 14	245 35 16
120	104 10 6	118 13 7	134 15 8	153 19 9	163 20 10	176 22 11	190 25 12	206 28 13	226 31 14
100	93 8 5	104 10 6	117 12 7	133 15 8	141 16 9	151 18 9	162 20 10	175 22 11	190 24 12
80	82 6 5	91 8 5	101 9 6	113 11 7	120 12 7	127 13 7	136 15 8	145 16 9	156 18 9
60	71 5 4	78 6 4	85 7 5	94 8 5	99 9 6	104 9 6	110 10 6	117 11 7	125 13 7
40	60 3 3	65 4 4	70 4 4	75 5 4	79 6 4	82 6 5	86 7 5	90 7 5	95 8 5
20	50 1 3	52 2 3	54 2 3	57 2 3	59 3 3	60 3 3	62 3 3	64 3 3	67 4 4

Field Altitude Correction									
For each 1000 ft of field altitude, subtract									
9 Kg of fuel									
1.2 NM of distance									
31 Seg of time									

15-A-156430-C-0117B-00015-A-01-1Éô

Figure 4-13 (Sheet 3 of 5) Time, Distance and Fuel to Climb. 2 Engines. Maximum Climb Power (CLB)

TIME, DISTANCE AND FUEL TO CLIMB
2 ENGINES, MAXIMUM CLIMB POWER 95% N_P (CLB)
ISA +10°C

DATE: FEB. 2000 **AIRCRAFT:** C-295M **SPEED:** 140/130 KIAS
DATA BASIS: FLIGHT TEST **ENGINES:** PW 127G **PROPELLERS:** HS 568F-5

Distance (NM)	Fuel (Kg)	Time (min)
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FL	WEIGHT (KG) AT BRAKES RELEASE								
	12000	14000	16000	18000	19000	20000	21000	22000	23000
300	266 66 24	347 94 33							
290	252 60 22	323 82 30							
280	240 54 21	303 73 27	401 104 37						
270	228 49 19	285 66 25	369 91 33						
260	218 45 18	269 59 23	342 80 30						
250	208 41 17	255 53 21	320 71 27	430 103 38					
240	199 38 16	242 48 19	300 64 25	393 89 33					
230	190 34 15	230 44 18	282 57 23	362 78 30	424 95 36				
220	181 32 14	218 40 17	266 52 21	335 69 27	387 82 32				
210	173 29 13	207 37 16	250 47 19	311 61 24	355 72 28	414 87 33			
200	166 27 12	197 33 14	236 42 18	290 54 22	328 63 25	376 75 29			
190	158 24 11	187 30 13	223 38 16	271 49 20	304 56 23	344 65 26	398 78 31		
180	151 22 10	178 28 13	211 35 15	254 44 18	282 50 21	317 58 24	362 68 27	422 81 32	
170	144 20 10	169 25 12	199 32 14	238 40 17	263 45 19	293 51 21	331 59 24	380 70 28	448 85 34
160	137 19 9	160 23 11	187 29 13	223 36 16	245 40 17	271 46 19	304 52 22	345 61 25	400 72 29
150	130 17 9	152 21 10	177 26 12	208 32 14	228 36 16	251 41 17	279 46 20	314 53 22	359 62 26
140	124 16 8	144 19 9	167 24 11	195 29 13	212 32 14	233 36 16	258 41 18	288 47 20	326 54 23
130	118 14 8	136 17 9	157 21 10	182 26 12	198 29 13	216 32 14	237 36 16	264 41 18	296 48 20
120	112 13 7	128 16 8	147 19 9	170 23 11	184 26 12	200 29 13	219 32 14	242 37 16	269 42 18
100	99 10 6	113 12 7	128 15 8	146 18 9	157 20 10	169 22 11	184 25 12	201 28 13	222 31 14
80	87 8 5	97 9 6	109 11 7	123 14 7	131 15 8	141 17 9	151 18 9	164 20 10	179 23 11
60	75 5 4	82 7 5	91 8 5	101 10 6	107 10 6	113 12 7	121 13 7	130 14 8	140 16 8
40	63 3 3	68 4 4	73 5 4	80 6 4	83 7 5	88 7 5	92 8 5	98 9 6	104 10 6
20	51 2 3	53 2 3	56 2 3	59 3 3	61 3 3	63 3 3	65 4 4	68 4 4	71 4 4

Field Altitude Correction
For each 1000 ft of field altitude, subtract:
10 Kg of fuel
1.4 NM of distance
35 Seg of time

15-A-156430-C-0117B-00016-A-01-1IÉo

Figure 4-13 (Sheet 4 of 5) Time, Distance and Fuel to Climb. 2 Engines. Maximum Climb Power (CLB)

TIME, DISTANCE AND FUEL TO CLIMB
2 ENGINES, MAXIMUM CLIMB POWER 95% N_P (CLB)
ISA +20°C

DATE: FEB. 2000 **AIRCRAFT:** C-295M
DATA BASIS: FLIGHT TEST **ENGINES:** PW 127G
PROPELLERS: HS 568F-5

Distance (NM)	Fuel (Kg)	Time (min)
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FL	WEIGHT (KG) AT BRAKES RELEASE								
	12000	14000	16000	18000	19000	20000	21000	22000	23000
280	285 75 27	384 110 38							
270	269 67 25	354 95 34							
260	254 61 23	328 84 30							
250	241 55 21	306 74 28	410 107 38						
240	228 50 19	287 66 25	375 93 34						
230	217 45 18	270 60 23	346 81 30						
220	206 41 17	254 54 21	321 72 27						
210	196 37 16	240 49 20	299 64 25	395 90 34					
200	186 34 15	226 44 18	279 57 23	361 78 30	426 96 36				
190	177 31 14	214 40 17	262 51 21	332 69 27	385 82 32				
180	168 28 13	202 36 15	245 46 19	307 61 24	351 72 28	411 87 34			
170	160 26 12	191 33 14	230 42 18	284 54 22	322 63 25	371 75 30	441 91 36		
160	152 24 11	180 30 13	216 38 16	264 48 20	296 56 23	338 65 26	394 78 31		
150	144 22 10	170 27 12	202 34 15	245 43 18	273 49 20	308 57 23	355 68 27	418 82 32	
140	137 20 9	161 25 11	190 31 14	228 39 17	252 44 19	283 51 21	322 59 24	374 70 28	446 86 34
130	129 18 9	151 22 10	178 28 13	212 35 15	233 39 17	259 45 19	293 52 21	336 61 25	394 73 29
120	122 16 8	142 20 10	166 25 11	196 31 14	215 35 15	238 39 17	266 45 19	303 53 22	350 62 26
100	108 13 7	124 16 8	143 19 10	167 24 11	181 27 12	198 30 14	219 34 15	246 39 17	279 46 20
80	93 10 6	106 12 7	120 14 8	138 18 9	149 20 10	162 22 11	177 25 12	195 28 13	218 32 15
60	79 7 5	88 8 5	99 10 6	111 12 7	119 14 7	128 15 8	138 17 9	151 19 10	166 22 11
40	65 4 4	71 5 4	78 6 5	86 8 5	91 8 5	96 9 6	103 10 6	110 12 7	119 13 7
20	52 2 3	55 2 3	58 3 3	62 4 3	64 4 4	67 4 4	70 5 4	73 5 4	77 6 4

Field Altitude Correction
For each 1000 ft of field altitude, subtract:
12 Kg of fuel
1.7 NM of distance
42 Seg of time

15-A-156430-C-0117B-00017-A-01-1Éô

Figure 4-13 (Sheet 5 of 5) Time, Distance and Fuel to Climb. 2 Engines. Maximum Climb Power (CLB)

TIME, DISTANCE AND FUEL TO CLIMB
1 ENGINE, MAXIMUM CONTINUOUS POWER 100% N_P
(MCT) ISA -20°C

DATE: FEB. 2000 **AIRCRAFT:** C-295M
DATA BASIS: FLIGHT TEST **ENGINES:** PW 127G
PROPELLERS: HS 568F-5

	Fuel (Kg)	
	Distance (NM)	Time (min)

FL	WEIGHT (KG) AT BRAKES RELEASE								
	12000	14000	16000	18000	19000	20000	21000	22000	23000
250									
240	204 43 22	275 69 32							
230	194 39 21	256 60 29							
220	184 35 19	239 54 26							
210	175 32 18	224 48 24	304 75 33						
200	166 29 16	210 43 22	278 65 30						
190	158 26 15	198 38 20	256 57 26						
180	150 24 14	186 34 18	238 50 24						
170	143 22 13	175 31 17	221 44 22	292 66 30					
160	136 20 12	165 28 15	206 40 20	266 58 26	311 72 31				
150	129 18 11	155 25 14	191 35 18	243 50 23	281 61 27				
140	122 16 11	146 22 13	178 31 16	224 44 21	255 53 24	296 65 29			
130	115 14 10	137 20 12	166 28 15	206 39 19	232 47 22	267 56 25	312 70 30		
120	109 13 9	129 18 11	154 25 14	189 34 17	212 41 19	241 49 22	279 59 26		
100	97 10 8	112 14 9	133 19 11	160 27 14	177 31 16	198 37 18	225 44 20	259 54 24	306 67 28
80	84 8 6	97 11 8	112 15 9	133 20 11	146 24 12	162 28 14	181 33 16	206 40 18	239 48 21
60	73 6 5	82 8 6	93 11 7	108 15 9	118 17 10	129 20 11	143 24 12	160 28 14	183 34 16
40	61 4 4	67 5 5	75 7 5	84 9 6	90 11 7	98 13 8	107 15 9	118 18 10	132 22 11
20	50 2 3	52 3 3	56 3 4	61 5 4	64 5 4	68 6 5	72 7 5	77 9 6	84 10 6

Field Altitude Correction									
For each 1000 ft of field altitude, subtract:									
10 Kg of fuel									
1.9 NM of distance									
55 Seg of time									

15-A-156430-C-0117B-00018-A-01-1IÉö

Figure 4-14 (Sheet 1 of 5) Time, Distance and Fuel to Climb. 1 Engine. Maximum Climb Power (MCT)

TIME, DISTANCE AND FUEL TO CLIMB
1 ENGINE, MAXIMUM CONTINUOUS POWER 100% N_P
(MCT) ISA -10°C

DATE: FEB. 2000 **AIRCRAFT:** C-295M **SPEED:** 1.24 V_{SR}
DATA BASIS: FLIGHT TEST **ENGINES:** PW 127G
PROPELLERS: HS 568F-5

Fuel (Kg)	Distance (NM)	Time (min)
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FL	WEIGHT (KG) AT BRAKES RELEASE								
	12000	14000	16000	18000	19000	20000	21000	22000	23000
230	210 46 23	288 75 34							
220	198 41 22	266 65 30							
210	188 37 20	247 57 27							
200	178 34 18	230 51 25							
190	169 30 17	215 45 22	291 70 32						
180	160 27 16	202 40 20	266 61 28						
170	152 25 15	189 36 19	245 53 25						
160	144 22 13	178 32 17	226 47 22	305 72 31					
150	136 20 12	166 29 16	209 41 20	275 62 28					
140	129 18 11	156 26 14	194 37 18	250 53 24	292 66 29				
130	121 16 11	146 23 13	179 32 17	227 46 22	262 56 25	309 70 30			
120	114 14 10	136 20 12	166 28 15	207 40 19	236 48 22	274 59 26			
100	101 11 8	118 16 10	141 22 12	172 30 15	193 36 17	218 43 20	252 52 23	298 65 28	
80	88 9 7	101 12 8	118 16 10	141 22 12	156 26 13	174 31 15	197 37 17	227 45 20	268 56 24
60	75 6 5	85 9 6	97 12 8	114 16 9	124 19 10	137 22 11	153 26 13	173 31 15	199 38 17
40	63 4 4	69 6 5	77 8 6	88 10 7	95 12 7	103 14 8	113 17 9	125 20 10	142 24 12
20	51 2 3	54 3 3	58 4 4	63 5 4	66 6 5	70 7 5	75 8 5	81 10 6	89 12 7

Field Altitude Correction								
For each 1000 ft of field altitude, subtract:								
10 Kg of fuel								
1.9 NM of distance								
55 Seg of time								

15-A-156430-C-0117B-00019-A-01-1Éô

Figure 4-14 (Sheet 2 of 5) Time, Distance and Fuel to Climb. 1 Engine. Maximum Climb Power (MCT)

TIME, DISTANCE AND FUEL TO CLIMB
1 ENGINE, MAXIMUM CONTINUOUS POWER 100% N_P
(MCT) ISA

DATE: FEB. 2000 **AIRCRAFT:** C-295M **SPEED:** 1.24 V_{SR}
DATA BASIS: FLIGHT TEST **ENGINES:** PW 127G **PROPELLERS:** HS 568F-5

		Fuel (Kg)	
		Distance (NM)	Time (min)

FL	WEIGHT (KG) AT BRAKES RELEASE								
	12000	14000	16000	18000	19000	20000	21000	22000	23000
210	204 44 23	279 71 33							
200	192 39 21	257 62 29							
190	182 35 19	238 55 26							
180	172 32 18	222 48 24	307 78 34						
170	162 29 16	207 43 21	278 66 30						
160	153 26 15	193 38 19	253 57 27						
150	145 23 14	180 34 18	232 50 24						
140	136 21 13	168 30 16	213 44 21	288 67 29					
130	128 19 12	156 26 15	196 38 19	258 57 26					
120	120 16 11	146 23 13	180 33 17	232 49 22	271 60 27				
100	106 13 9	125 18 11	152 25 13	189 36 17	215 43 20	249 53 23			
80	91 10 7	106 13 9	126 18 11	153 26 13	170 31 15	193 37 17	222 45 20	263 56 24	
60	78 7 6	88 9 7	102 13 8	121 18 10	133 21 11	147 25 12	166 30 14	190 36 17	224 45 20
40	65 4 4	71 6 5	80 8 6	92 11 7	99 13 8	108 15 9	120 18 10	134 22 11	153 27 13
20	52 2 3	55 3 4	59 4 4	65 5 4	69 6 5	73 7 5	78 9 6	85 10 6	94 13 7

Field Altitude Correction								
For each 1000 ft of field altitude, subtract:								
10	Kg of fuel							
1.8	NM of distance							
53	Seg of time							

15-A-156430-C-0117B-00020-A-01-1IÉö

Figure 4-14 (Sheet 3 of 5) Time, Distance and Fuel to Climb. 1 Engine. Maximum Climb Power (MCT)

TIME, DISTANCE AND FUEL TO CLIMB
1 ENGINE, MAXIMUM CONTINUOUS POWER 100% N_P
(MCT) ISA +10°C

DATE: FEB. 2000 **AIRCRAFT:** C-295M
DATA BASIS: FLIGHT TEST **ENGINES:** PW 127G
PROPELLERS: HS 568F-5

Distance (NM)	Fuel e (Kg)	Time (min)
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FL	WEIGHT (KG) AT BRAKES RELEASE								
	12000	14000	16000	18000	19000	20000	21000	22000	23000
200	210 47 24	296 80 36							
190	198 42 22	270 69 32							
180	186 38 20	249 60 28							
170	175 34 18	230 52 25							
160	165 30 17	213 46 23	295 74 33						
150	155 27 15	198 41 21	267 63 29						
140	146 24 14	184 36 19	242 55 25						
130	137 22 13	170 32 17	221 47 22						
120	128 19 12	158 28 15	201 41 20	273 63 28					
100	112 15 10	135 21 12	167 30 16	216 45 21	253 56 25				
80	96 11 8	113 16 10	137 22 12	170 31 15	194 38 18	226 47 21			
60	81 8 6	93 11 7	110 15 9	132 21 11	147 25 13	167 31 15	192 38 17	229 48 21	
40	67 5 5	74 7 5	85 9 6	98 13 8	107 15 9	118 18 10	133 22 11	152 27 13	178 34 15
20	53 2 3	57 3 4	61 4 4	68 6 5	72 7 5	77 8 6	83 10 6	91 12 7	102 15 8

Field Altitude Correction
For each 1000 ft of field altitude, subtract:
10 Kg of fuel
1.8 NM of distance
53 Seg of time

15-A-156430-C-0117B-00021-A-01-1Éô

Figure 4-14 (Sheet 4 of 5) Time, Distance and Fuel to Climb. 1 Engine. Maximum Climb Power (MCT)

TIME, DISTANCE AND FUEL TO CLIMB
1 ENGINE, MAXIMUM CONTINUOUS POWER 100% N_P
(MCT) ISA +20°C

DATE: FEB. 2000 **AIRCRAFT:** C-295M **SPEED:** 1.24 V_{SR}
DATA BASIS: FLIGHT TEST **ENGINES:** PW 127G **PROPELLERS:** HS 568F-5

	Fuel (Kg)	
	Distance (NM)	Time (min)

FL	WEIGHT (KG) AT BRAKES RELEASE)								
	12000	14000	16000	18000	19000	20000	21000	22000	23000
180	206 47 24	293 79 36							
170	193 42 22	267 68 32							
160	181 37 20	244 59 28							
150	169 33 18	225 52 25							
140	159 30 16	207 45 22	291 74 33						
130	148 26 15	191 40 20	261 63 29						
120	138 23 14	176 35 18	235 54 25						
100	120 18 11	148 26 14	191 39 19	265 63 28					
80	102 13 9	123 19 11	153 28 15	202 43 20	241 54 24				
60	85 9 7	100 13 9	121 19 11	152 28 14	175 35 16	208 44 20			
40	69 6 5	79 8 6	92 12 7	110 17 9	123 20 11	140 25 12	165 32 15		
20	54 3 3	59 4 4	65 5 5	73 8 5	79 9 6	86 11 7	96 14 8	110 17 9	

Field Altitude Correction
For each 1000 ft of field altitude, subtract:
11 Kg of fuel
2.0 NM of distance
59 Seg of time

15-A-156430-C-0117B-00022-A-01-1IÉö

Figure 4-14 (Sheet 5 of 5) Time, Distance and Fuel to Climb. 1 Engine. Maximum Climb Power (MCT)