

### TIME - FUEL - DISTANCE SUMMARY

ITEM	TIME HRS:MINS	FUEL GAL	DISTANCE NM
Start, Runup, Taxi, and Take-off acceleration	0:00	4.5	0
Climb	0:08.0	5.6	20.5
Cruise	1:19.0	36.0	253.5
Descent	0:15.2	5.9	48.0
Total	1:42.2	52.0	322.0

Total Flight Time: 1 hour, 42.2 min

Block Speed:  $322 \text{ NM} \div 1 \text{ hour, } 42.2 \text{ min} = 189 \text{ kts}$

### RESERVE FUEL

Enter the ECONOMY CRUISE POWER table at ISA and ISA + 20°C at 10,000 ft and 12,000 ft. Interpolate to find the Fuel Flow at 11,500 ft at ISA + 18°C:

Total Fuel Flow .....17.4 gph

Reserve Fuel (45 minutes) (17.4 gph) ..... 13.1 gal

### TOTAL FUEL REQUIRED

Total Fuel Required = Calculated Fuel Usage + Reserve Fuel

Total Fuel Required

=  $52.0 + 13.1 = 65.1 \text{ gal}$

**CRUISE POWER SETTINGS**

**20° RICH**

**OF PEAK EGT**

**MAXIMUM CRUISE POWER  
25 IN. HG (OR FULL THROTTLE)  
@ 2500 RPM (5200 LBS)**

	PRESS. ALT.	IOAT		MAN. PRESS.	FUEL FLOW/ ENGINE		AIRSPEED	
	FEET	°C	°F	IN. HG	PPH	GPH	KIAS	KTAS
ISA -36°F	SL	-2	29	25	101	16.8	194	187
	2000	-6	22	25	105	17.5	195	193
	4000	-9	15	25	109	18.2	196	199
	6000	-13	8	24	105	17.5	191	200
	8000	-17	1	22	98	16.3	184	198
	10000	-21	-6	21	92	15.3	177	196
	12000	-25	-14	19	86	14.3	169	194
	14000	-29	-21	18	80	13.3	162	191
	16000	-33	-28	16	74	12.3	154	187
STANDARD DAY (ISA)	SL	18	65	25	98	16.3	189	188
	2000	15	58	25	101	16.8	190	195
	4000	11	51	25	105	17.5	191	201
	6000	7	44	24	102	17.0	186	202
	8000	3	37	22	95	15.8	179	200
	10000	-1	30	21	89	14.8	171	198
	12000	-5	23	19	83	13.8	162	195
	14000	-9	15	18	77	12.8	156	192
	16000	-13	8	16	72	12.0	148	188
ISA +20°C (ISA +36°F)	SL	38	101	25	95	15.8	184	190
	2000	35	94	25	98	16.3	185	196
	4000	31	88	25	101	16.8	185	202
	6000	27	81	24	98	16.3	181	203
	8000	23	73	22	92	15.3	173	201
	10000	19	66	21	86	14.3	166	199
	12000	15	59	19	80	13.3	159	196
	14000	11	51	18	75	12.5	151	193
	16000	7	44	16	70	11.7	143	188

- NOTES: 1. SHADED AREA REPRESENTS OPERATION WITH FULL THROTTLE.  
2. FULL-THROTTLE MANIFOLD VALUES ARE APPROXIMATE.  
3. FUEL FLOWS ARE TO BE USED FOR FLIGHT PLANNING ONLY AND WILL VARY FROM AIRPLANE TO AIRPLANE. LEAN USING THE EGT.

SVC0527

### CRUISE POWER SETTINGS

**20° LEAN**

OF PEAK EGT

**RECOMMENDED CRUISE POWER  
25 IN. HG (OR FULL THROTTLE)  
@ 2500 RPM (5200 LBS)**

	PRESS. ALT. FEET	IOAT		MAN. PRESS. IN. HG	FUEL FLOW/ ENGINE		AIRSPEED	
		°C	°F		PPH	GPH	KIAS	KTAS
ISA -36°F ISA -20°C (ISA)	SL	-2	28	25	87	14.5	189	182
	2000	-6	22	25	91	15.2	191	188
	4000	-9	15	25	94	15.7	191	194
	6000	-13	8	24	91	15.2	186	195
	8000	-17	1	22	84	14.0	179	193
	10000	-21	-7	21	78	13.0	172	191
	12000	-26	-14	19	72	12.0	164	188
	14000	-30	-21	18	67	11.2	157	185
	16000	-34	-29	16	62	10.3	149	181
STANDARD DAY (ISA)	SL	18	65	25	84	14.0	184	184
	2000	14	58	25	87	14.5	185	190
	4000	11	51	25	91	15.2	186	196
	6000	7	44	24	88	14.7	181	197
	8000	3	37	22	81	13.5	174	195
	10000	-1	30	21	75	12.5	167	193
	12000	-5	22	19	70	11.7	159	190
	14000	-10	15	18	65	10.8	152	186
	16000	-14	7	16	60	10.0	143	182
ISA +20°C (ISA +36°F)	SL	38	101	25	81	13.5	179	185
	2000	34	94	25	84	14.0	180	191
	4000	31	87	25	87	14.5	181	197
	6000	27	80	24	84	14.0	176	198
	8000	23	73	22	78	13.0	169	196
	10000	19	66	21	72	12.0	161	192
	12000	15	58	19	67	11.2	154	190
	14000	11	51	18	62	10.3	146	187
	16000	6	43	16	58	9.7	138	182

NOTES: 1. SHADED AREA REPRESENTS OPERATION WITH FULL THROTTLE.

2. FULL-THROTTLE MANIFOLD VALUES ARE APPROXIMATE.

3. FUEL FLOWS ARE TO BE USED FOR FLIGHT PLANNING ONLY AND WILL VARY FROM AIRPLANE TO AIRPLANE. LEAN USING THE EGT.

SVC0528

**CRUISE POWER SETTINGS**



OF PEAK EGT

**RECOMMENDED CRUISE POWER**  
**23 IN. HG (OR FULL THROTTLE)**  
**@ 2300 RPM (5200 LBS)**

	PRESS. ALT.	IOAT		MAN. PRESS.	FUEL FLOW/ ENGINE		AIRSPEED	
	FEET	°C	°F	IN. HG	PPH	GPH	KIAS	KTAS
ISA -20°C (ISA -36°F)	SL	2	28	23	81	13.5	176	170
	2000	-6	21	23	84	14.0	178	176
	4000	-10	14	23	87	14.5	179	182
	6000	-14	7	23	91	15.2	180	188
	8000	-18	0	22	89	14.8	177	190
	10000	-22	-7	21	84	14.0	169	188
	12000	-26	-14	19	78	13.0	162	185
	14000	-30	-21	18	73	12.2	154	182
	16000	-34	-29	17	68	11.3	146	178
STANDARD DAY (ISA)	SL	18	64	23	78	13.0	171	171
	2000	14	57	23	81	13.5	173	177
	4000	10	50	23	85	14.2	174	183
	6000	6	44	23	88	14.7	175	190
	8000	3	37	22	87	14.5	171	192
	10000	-2	29	21	81	13.5	164	189
	12000	-6	22	19	76	12.7	156	186
	14000	-10	15	18	71	11.8	149	183
	16000	-14	7	17	66	11.0	140	178
ISA +20°C (ISA +36°F)	SL	38	100	23	76	12.7	166	171
	2000	34	93	23	79	13.2	168	178
	4000	30	86	23	82	13.7	169	184
	6000	26	80	23	85	14.2	169	191
	8000	23	73	22	84	14.0	166	193
	10000	19	65	21	78	13.0	159	190
	12000	14	58	19	73	12.2	151	187
	14000	10	51	18	68	11.3	143	182
	16000	6	43	17	64	10.7	135	178

- NOTES: 1. SHADED AREA REPRESENTS OPERATION WITH FULL THROTTLE.  
2. FULL-THROTTLE MANIFOLD VALUES ARE APPROXIMATE.  
3. FUEL FLOWS ARE TO BE USED FOR FLIGHT PLANNING ONLY AND WILL VARY FROM AIRPLANE TO AIRPLANE. LEAN USING THE EGT.

SVC1030



### CRUISE POWER SETTINGS

**20° LEAN**  
OF PEAK EGT

**RECOMMENDED CRUISE POWER**  
**23 IN. HG (OR FULL THROTTLE)**  
**@ 2300 RPM (5200 LBS)**

	PRESS. ALT.	IOAT		MAN. PRESS.	FUEL FLOW/ ENGINE		AIRSPEED	
	FEET	°C	°F	IN. HG	PPH	GPH	KIAS	KTAS
ISA -20°C (ISA -36°F)	SL	-3	27	23	67	11.2	171	164
	2000	-6	21	23	70	11.7	172	170
	4000	-10	14	23	73	12.2	173	176
	6000	-14	7	23	76	12.7	174	182
	8000	-18	0	22	75	12.5	171	184
	10000	-22	-7	21	69	11.5	164	182
	12000	-26	-14	19	64	10.7	156	179
	14000	-30	-22	18	60	10.0	149	176
	16000	-34	-29	17	56	9.3	140	171
STANDARD DAY (ISA)	SL	18	64	23	64	10.7	166	165
	2000	14	57	23	67	11.2	167	171
	4000	10	50	23	70	11.7	168	177
	6000	6	43	23	73	12.2	169	184
	8000	2	36	22	72	12.0	166	185
	10000	-2	29	21	67	11.2	158	183
	12000	-6	22	19	62	10.3	151	180
	14000	-10	14	18	58	9.7	143	176
	16000	-14	7	17	54	9.0	135	171
ISA +20°C (ISA +36°F)	SL	38	100	23	62	10.3	161	166
	2000	34	93	23	65	10.8	162	172
	4000	30	86	23	68	11.3	163	178
	6000	26	79	23	70	11.7	164	184
	8000	22	72	22	69	11.5	160	186
	10000	18	65	21	64	10.7	153	182
	12000	14	58	19	60	10.0	145	180
	14000	10	50	18	56	9.3	137	175
	16000	6	43	17	52	8.7	128	169

- NOTES: 1. SHADED AREA REPRESENTS OPERATION WITH FULL THROTTLE.  
 2. FULL-THROTTLE MANIFOLD VALUES ARE APPROXIMATE.  
 3. FUEL FLOWS ARE TO BE USED FOR FLIGHT PLANNING ONLY AND WILL VARY FROM AIRPLANE TO AIRPLANE. LEAN USING THE EGT.

SVC1031

CRUISE POWER SETTINGS

**20° RICH**  
**OF PEAK EGT**

**RECOMMENDED CRUISE POWER**  
**25 IN. HG (OR FULL THROTTLE)**  
**@ 2100 RPM (5200 LBS)**

	PRESS. ALT. FEET	IOAT		MAN. PRESS. IN. HG	FUEL FLOW/ ENGINE		AIRSPEED	
		°C	°F		PPH	GPH	KIAS	KTAS
ISA -36°F	SL	-2	28	25	79	13.2	175	168
	2000	-6	21	25	82	13.7	176	174
	4000	-10	14	25	85	14.2	176	180
	6000	-14	7	24	83	13.8	173	181
	8000	-18	0	23	78	13.0	166	179
	10000	-22	-8	21	73	12.2	158	176
	12000	-26	-15	19	68	11.3	151	173
	14000	-30	-22	18	64	10.7	143	169
	16000	-34	-30	17	60	10.0	135	164
STANDARD DAY (ISA)	SL	18	64	25	77	12.8	170	169
	2000	14	57	25	80	13.3	171	175
	4000	10	50	25	82	13.7	171	181
	6000	6	43	24	81	13.5	167	182
	8000	2	36	23	76	12.7	160	180
	10000	-2	29	21	71	11.8	153	177
	12000	-6	21	19	66	11.0	145	173
	14000	-10	14	18	62	10.3	137	169
	16000	-14	6	17	58	9.7	128	163
ISA +20°C (ISA +36°F)	SL	38	100	25	74	12.3	165	170
	2000	34	93	25	77	12.8	166	176
	4000	30	86	25	80	13.3	166	181
	6000	26	79	24	78	13.0	162	183
	8000	22	72	23	73	12.2	155	180
	10000	18	65	21	69	11.5	148	177
	12000	14	57	19	64	10.7	140	173
	14000	10	50	18	60	10.0	131	168
	16000	6	42	17	56	9.3	122	160

- NOTES: 1. SHADED AREA REPRESENTS OPERATION WITH FULL THROTTLE.  
2. FULL-THROTTLE MANIFOLD VALUES ARE APPROXIMATE.  
3. FUEL FLOWS ARE TO BE USED FOR FLIGHT PLANNING ONLY AND WILL VARY FROM AIRPLANE TO AIRPLANE. LEAN USING THE EGT.

SVC1032

### CRUISE POWER SETTINGS

**20° LEAN**  
OF PEAK EGT

**RECOMMENDED CRUISE POWER**  
**25 IN. HG (OR FULL THROTTLE)**  
**@ 2100 RPM (5200 LBS)**

	PRESS. ALT.	IOAT		MAN. PRESS.	FUEL FLOW/ ENGINE		AIRSPEED	
	FEET	°C	°F	IN. HG	PPH	GPH	KIAS	KTAS
ISA -20°C (ISA -36°F)	SL	-3	27	25	63	10.5	167	160
	2000	-6	20	25	66	11.0	168	166
	4000	-10	14	25	68	11.3	168	171
	6000	-14	7	24	67	11.2	165	173
	8000	-18	-1	23	62	10.3	158	170
	10000	-22	-8	21	58	9.7	150	167
	12000	-26	-15	19	55	9.2	143	164
	14000	-30	-23	18	51	8.5	135	159
	16000	-35	-30	17	48	8.0	126	153
STANDARD DAY (ISA)	SL	17	63	25	61	10.2	162	161
	2000	14	56	25	64	10.7	163	167
	4000	10	50	25	66	11.0	163	172
	6000	6	43	24	65	10.8	160	174
	8000	2	35	23	60	10.0	152	171
	10000	-2	28	21	56	9.3	145	167
	12000	-6	21	19	53	8.8	137	163
	14000	-10	13	18	50	8.3	129	158
	16000	-15	6	17	46	7.7	119	151
ISA +20°C (ISA +36°F)	SL	37	99	25	59	9.8	157	162
	2000	34	93	25	61	10.2	158	167
	4000	30	86	25	64	10.7	158	173
	6000	26	79	24	62	10.3	155	174
	8000	22	71	23	58	9.7	147	171
	10000	18	64	21	55	9.2	139	167
	12000	14	57	19	51	8.5	131	162
	14000	10	49	18	48	8.0	122	156
	16000	5	42	17	45	7.5	111	146

NOTES: 1. SHADED AREA REPRESENTS OPERATION WITH FULL THROTTLE.

2. FULL-THROTTLE MANIFOLD VALUES ARE APPROXIMATE.

3. FUEL FLOWS ARE TO BE USED FOR FLIGHT PLANNING ONLY AND WILL VARY FROM AIRPLANE TO AIRPLANE. LEAN USING THE EGT.

SVC1033



CRUISE POWER SETTINGS

**20° RICH**  
**OF PEAK EGT**

**RECOMMENDED CRUISE POWER**  
**21 IN. HG (OR FULL THROTTLE)**  
**@ 2100 RPM (5200 LBS)**

	PRESS. ALT.	IOAT		MAN. PRESS.	FUEL FLOW/ ENGINE		AIRSPEED	
	FEET	°C	°F	IN. HG	PPH	GPH	KIAS	KTAS
ISA -20°C (ISA -36°F)	SL	-3	27	21	62	10.3	155	149
	2000	-7	20	21	65	10.8	157	155
	4000	-11	13	21	67	11.2	158	161
	6000	-14	6	21	70	11.7	159	167
	8000	-18	-1	21	72	12.0	160	172
	10000	-22	-8	21	73	12.2	158	176
	12000	-26	-15	19	68	11.3	151	173
	14000	-30	-22	18	64	10.7	143	169
	16000	-34	-30	17	60	10.0	134	164
STANDARD DAY (ISA)	SL	17	63	21	60	10.0	150	150
	2000	13	56	21	63	10.5	152	156
	4000	9	49	21	65	10.8	153	162
	6000	6	42	21	68	11.3	154	167
	8000	2	35	21	70	11.7	155	173
	10000	-2	29	21	71	11.8	153	177
	12000	-6	21	19	66	11.0	145	173
	14000	-10	14	18	62	10.3	137	169
	16000	-14	6	17	58	9.7	128	163
ISA +20°C (ISA +36°F)	SL	37	99	21	59	9.8	145	150
	2000	33	92	21	61	10.2	147	156
	4000	30	85	21	63	10.5	148	162
	6000	26	78	21	66	11.0	149	167
	8000	22	72	21	68	11.3	149	173
	10000	18	65	21	69	11.5	148	177
	12000	14	57	19	64	10.7	140	173
	14000	10	50	18	60	10.0	131	168
	16000	6	42	17	56	9.3	122	160

- NOTES: 1. SHADED AREA REPRESENTS OPERATION WITH FULL THROTTLE.  
2. FULL-THROTTLE MANIFOLD VALUES ARE APPROXIMATE.  
3. FUEL FLOWS ARE TO BE USED FOR FLIGHT PLANNING ONLY AND WILL VARY FROM AIRPLANE TO AIRPLANE. LEAN USING THE EGT.

SVC1034



### CRUISE POWER SETTINGS

**20° LEAN**

OF PEAK EGT

**ECONOMY CRUISE POWER**  
21 IN. HG (OR FULL THROTTLE)  
@ 2100 RPM (5200 LBS)

	PRESS. ALT.	IOAT		MAN. PRESS.	FUEL FLOW/ ENGINE		AIRSPEED	
	FEET	°C	°F	IN. HG	PPH	GPH	KIAS	KTAS
ISA -20°C (ISA -36°F)	SL	-3	26	21	50	8.3	147	141
	2000	-7	19	21	52	8.7	149	147
	4000	-11	13	21	54	9.0	150	153
	6000	-15	6	21	56	9.3	151	158
	8000	-18	-1	21	58	9.7	152	164
	10000	-22	-8	21	58	9.7	150	167
	12000	-26	-15	19	55	9.2	143	164
	14000	-30	-23	18	51	8.5	135	159
	16000	-35	-30	17	48	8.0	126	153
STANDARD DAY (ISA)	SL	17	62	21	48	8.0	142	141
	2000	13	55	21	50	8.3	144	147
	4000	9	49	21	52	8.7	145	153
	6000	5	42	21	54	9.0	146	159
	8000	2	35	21	56	9.3	146	164
	10000	-2	28	21	56	9.3	145	167
	12000	-6	21	19	53	8.8	137	163
	14000	-10	13	18	50	8.3	129	158
	16000	-15	6	17	46	7.7	119	151
ISA +20°C (ISA +36°F)	SL	37	98	21	47	7.8	137	141
	2000	33	91	21	49	8.2	138	147
	4000	29	85	21	51	8.5	140	152
	6000	25	78	21	52	8.7	141	158
	8000	22	71	21	54	9.0	141	164
	10000	18	64	21	55	9.2	139	167
	12000	14	57	19	51	8.5	131	162
	14000	10	49	18	48	8.0	122	156
	16000	5	42	17	45	7.5	111	146

NOTES: 1. SHADED AREA REPRESENTS OPERATION WITH FULL THROTTLE.

2. FULL-THROTTLE MANIFOLD VALUES ARE APPROXIMATE.

3. FUEL FLOWS ARE TO BE USED FOR FLIGHT PLANNING ONLY AND WILL VARY FROM AIRPLANE TO AIRPLANE. LEAN USING THE EGT.

SVC1035