

LEAN OF PEAK - pg 6

PRESIDENT II



OPERATING TIPS

CONTINENTAL
10-550E

COLEMILL ENTERPRISES, INC.

CORNELIA FORT AIRPARK
2640 AIRPARK DRIVE
NASHVILLE, TN.
37206-0627

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TAKEOFF

Takeoff PowerFull Throttle, 25" M.P. 2700 rpm
Minimum Takeoff Oil
Temperature.....24°C

1. Power – SET TAKEOFF POWER (MIXTURE – FULL RICH) BEFORE BRAKE RELEASE
2. Airspeed – ACCELERATE TO AND MAINTAIN RECOMMENDED SPEEDS.
3. Landing Gear – RETRACT (when positive rate of climb is established)
4. Airspeed – ESTABLISH DESIRED CLIMB SPEED (when clear of obstacles).

CRUISE CLIMB

1. Mixture – FULL RICH
2. Cowl Flaps – AS REQUIRED
3. Power – FULL THROTTLE
4. Propellers – 2500 RPM
5. Engine Temperature – MONITOR
6. Fuel Boost Pumps – OFF

FUEL FLOW SCHEDULE FOR FULL THROTTLE AND 2500 RPM			
PRESSURE ALT (FEET)	FUEL FLOW GPH/ENG	PRESSURE ALT (FEET)	FUEL FLOW GPH/ENG
SL	24.6 – 26.3	10000	17.5 – 20.0
2000	23.2 – 24.2	12000	16.3 – 19.0
4000	21.8 – 23.4	14000	14.8 – 18.0
6000	20.3 – 22.3	16000	13.4 – 17.0
8000	18.8 – 21.2	17000	12.7 – 16.5

**FUEL FLOWS SHOWN ARE FOR BEST RATE OF CLIMB AND MAY VARY
WITH AIRPLANE ATTITUDE**

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CAUTION

Return the mixture control to FULL RICH before switching the fuel boost pump to OFF.

CRUISE

See Cruise Tables and MANIFOLD PRESSURE vs RPM in PERFORMANCE Section (ALL CRUISE SPEEDS ARE APPROXIMATE).

1. Cowl Flaps - CLOSED
2. Power - SET
3. Fuel Boost Pumps - AS REQUIRED
4. Mixtures - SET USING EGT

LEANING USING THE EXHAUST GAS TEMPERATURE INDICATOR (EGT)

A Thermocouple-type exhaust gas temperature (EGT) probe is mounted in the exhaust system. The probe is connected to an indicator in the engine instrument array. Using the EGT system to lean the fuel/air mixture when cruising at 2500 rpm and 25 in. Hg manifold pressure power setting or less in the following manner:

1. Slowly lean the mixture and note the point on the indicator where the EGT temperature peaks. Further lean or enrichen the mixture to the desired cruise mixture. Further leaning is referred to as operation on the lean side of peak EGT. Enrichening the mixture is referred to as operation on the rich side of peak EGT.
2. At lower power settings, the engine may be continuously operated at any mixture settings from FULL RICH to 20°F on the lean side of peak EGT. At higher power settings, as indicated on the MANIFOLD PRESSURE vs RPM (in the PERFORMANCE Section) the engine should not be operated closer to peak EGT than 70°F (rich side of peak EGT).

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3. If engine roughness is encountered operating at lower power settings on the lean side of peak, enrichen the mixture slightly for smooth engine operation.
4. Performance data is presented in the PERFORMANCE Section for mixture settings of:
 - a. CRUISE LEAN Mixture 20°F below peak on the lean side of peak.
 - b. CRUISE RICH Mixture 70°F on the rich side of peak.

NOTE

If Cruise RICH Mixture cannot be obtained at higher altitudes, switch the fuel boost pump from OFF to LO and manually lean to 70 F on the rich side of peak.

5. Changes in altitude and power settings require the peak EGT to be rechecked and the mixture to reset.

DESCENT

1. Altimeter - SET
2. Mixture - FULL RICH
3. Cowl Flaps - CLOSED
4. Flaps - AS REQUIRED
5. Power - AS REQUIRED (Avoid prolonged idle settings. Cylinder Head Temperatures are not to fall below 149°C for longer than five minutes)
6. Windshield Defroster - AS REQUIRED (ON before descent into warm, moist air)

Recommended descent speeds:

16,000 to 13,000	160 kts
Below 13,000 ft.	170 kts

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CAUTION

Engine roughness at high altitudes or fuel flow fluctuation or low fuel flow can occur when climbing on hot days. These can be eliminated by switching the fuel boost pump to LO and manually leaning to the prescribed fuel flow schedule.

MANUALLY LEANING FUEL FLOW SCHEDULE FOR FULL THROTTLE AND 2500 RPM WITH LOW BOOST			
PRESSURE ALT (FEET)	FUEL FLOW GPH/ENG	PRESSURE ALT (FEET)	FUEL FLOW GPH/ENG
SL	25.5	10000	18.8
2000	23.7	12000	17.7
4000	22.6	14000	16.4
6000	21.3	16000	15.2
8000	20.0	17000	14.6

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CRUISE POWER SETTINGS

70°F RICH OF PEAK EGT MAXIMUM CRUISE POWER 25 IN. HG (OR FULL THROTTLE) @ 2500 RPM

	PRESS ALT	IOAT		MAN PRESS	FUEL FLOW/ ENGINE		AIRSPEED	
		FEET	C°		F°	IN. HG	PPH	GPH
ISA - 20°C (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	183	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.

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CRUISE POWER SETTINGS

20°F LEAN OF
PEAK EGT

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

	PRESS ALT	IOAT		MAN PRESS	FUEL FLOW/ ENGINE		AIRSPEED	
		FEET	C°		F°	IN. HG	PPH	GPH
ISA - 20°C (ISA - 36°F)	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
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
	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	193
	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

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COLEMILL PRESIDENT II

CRUISE POWER SETTINGS

70°F RICH OF
PEAK EGT

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

	PRESS ALT	IOAT		MAN PRESS	FUEL FLOW/ ENGINE		AIRSPEED	
		FEET	C°		F°	IN. HG	PPH	GPH
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
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	176
ISA +20°C (ISA +36°F)		SL	38	100	23	76	12.7	166
	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	183
	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.

COLEMILL PRESIDENT II

CRUISE POWER SETTINGS

20°F LEAN OF
PEAK EGT

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

	PRESS ALT	IOAT		MAN PRESS	FUEL FLOW/ ENGINE		AIRSPEED		
		FEET	C°		F°	PPH	GPH	KIAS	KTAS
			IN. HG						
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	175	
	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.
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CRUISE POWER SETTINGS

70°F RICH OF
PEAK EGT

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

	PRESS ALT	IOAT		MAN PRESS	FUEL FLOW/ ENGINE		AIRSPEED		
		FEET	C°		F°	PPH	GPH	KIAS	KTAS
			IN. HG						
ISA - 20°C (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.

COLEMILL PRESIDENT II

CRUISE POWER SETTINGS

20° LEAN OF
PEAK EGT

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

	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	51	9.2	143
	14000	-30	-23	18	51	8.5	135	159
	16000	-35	-30	16	48	8.0	126	153
	STANDARD DAY (ISA)	SL	17	63	25	61	10.2	162
2000		14	56	25	64	10.7	163	167
4000		11	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
	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.

COLEMILL PRESIDENT II

CRUISE POWER SETTINGS

70° RICH OF
PEAK EGT

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

	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
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
	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.
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COLEMILL PRESIDENT II

CRUISE POWER SETTINGS

20°F LEAN OF
PEAK EGT

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

	PRESS ALT	IOAT		MAN PRESS	FUEL FLOW/ ENGINE		AIRSPEED	
		FEET	C°		F°	IN. HG	PPH	GPH
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.