

## TIME, FUEL AND DISTANCE TO CLIMB - MAXIMUM CLIMB

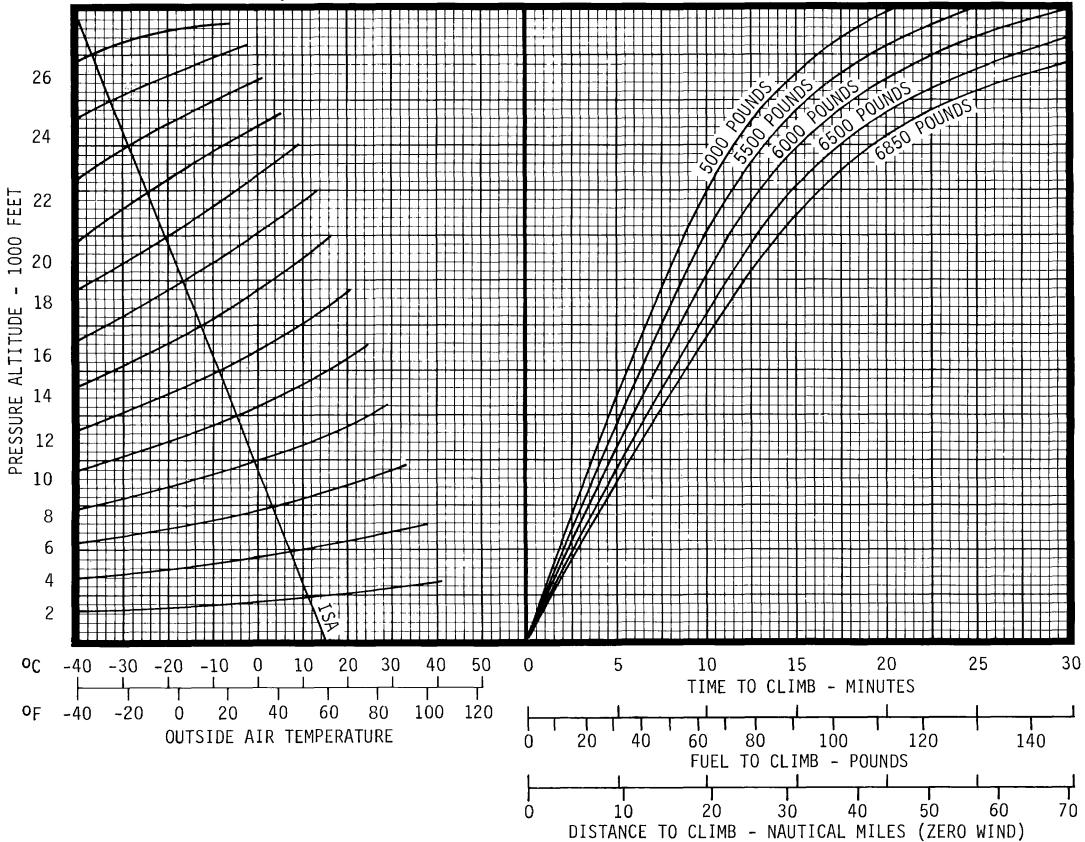
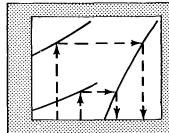


Figure 5-18

1 November 1978  
Revision 2 - 3 Aug 1981

## CONDITIONS:

1. 2600 RPM and 39.0 Inches Hg.\*
2. Mixture - Check Fuel Flow In White Triangle.\*
3. Landing Gear - UP.
4. Wing Flaps - UP.
5. Cowl Flaps - OPEN.

\*Above 16,000 Feet, Use Placarded Manifold Pressure and Climb Fuel Flow.

## NOTE:

1. Time, Fuel and Distance for the Climb are Determined by Taking the Difference Between the Airport Altitude and Initial Cruise.
2. For Total Fuel Used, Add 35 Pounds for Start, Taxi and Takeoff.

(continued)

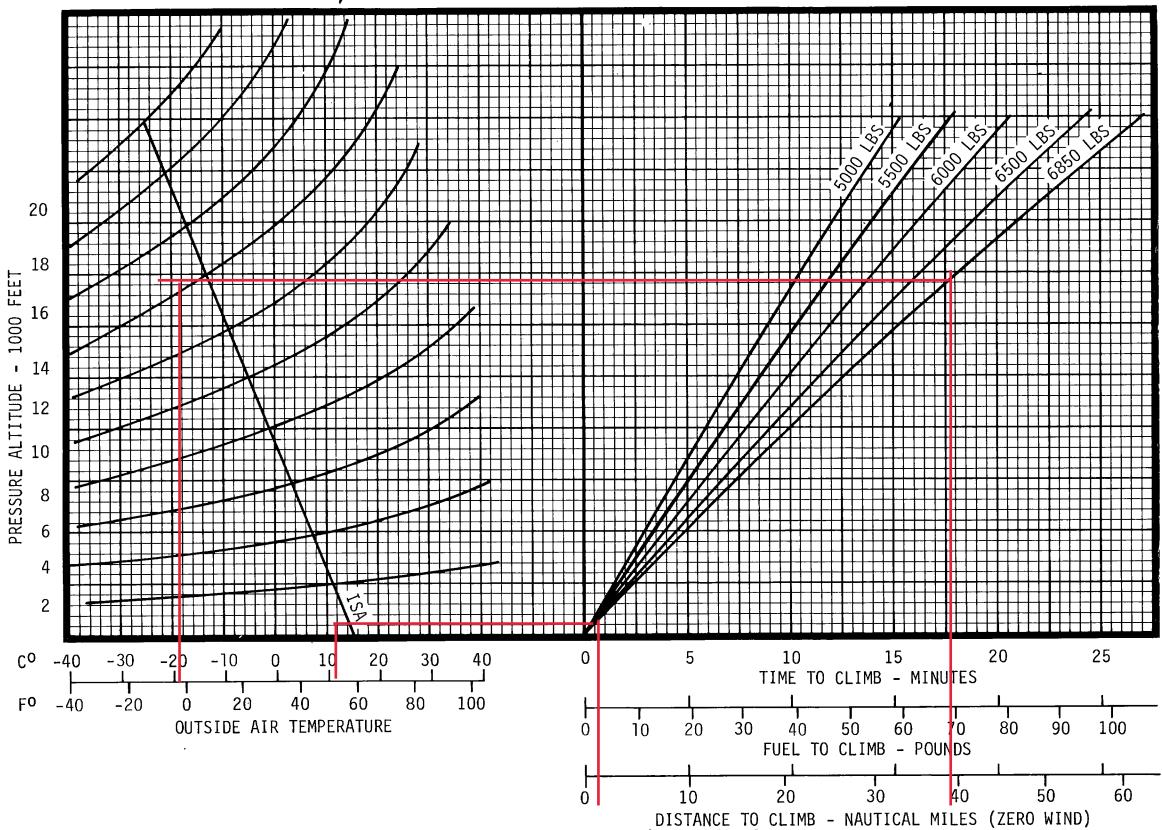
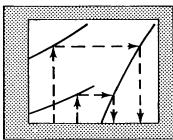


Figure 5-19

- CONDITIONS:
1. 2450 RPM and 29.5 Inches Hg.
  2. Landing Gear - UP.
  3. Wing Flaps - UP.
  4. Cowl Flaps - AS REQUIRED.
  5. Airspeed - 120 KIAS.
  6. Mixtures - Recommended Fuel Flow.

- NOTE:
1. Time, fuel and distance for the climb are determined by taking the difference between the airport altitude and initial cruise altitude conditions.
  2. For total fuel used, add 35 pounds for start, taxi and takeoff.

## CRUISE PERFORMANCE WITH RECOMMENDED LEAN MIXTURE

NOTE:

1. At Sea Level, increase speed by 5 KTAS for each 1000 pounds below 6850 pounds.
2. At 5000 Feet, increase speed by 5 KTAS for each 1000 pounds below 6850 pounds.
3. Operations at peak EGT may be utilized with power settings within the boxes if the airplane is equipped with the optional EGT system.

ALTITUDE	RPM	MP	-50°C (23°F)			150°C (STD TEMP) (59°F)			350°C (95°F)		
			PERCENT BHP	KTAS	TOTAL LB/HR	PERCENT BHP	KTAS	TOTAL LB/HR	PERCENT BHP	KTAS	TOTAL LB/HR
SEA LEVEL	2450	29.5	76.5	175	229	72.0	174	216	67.5	173	203
	2450	27.0	68.8	167	207	64.7	166	195	60.7	165	183
	2450	25.0	62.8	161	189	59.1	160	178	55.5	158	167
	2450	23.0	56.9	154	172	53.6	153	162	50.2	151	152
	2300	30.3	76.5	175	229	72.0	174	216	67.5	173	203
	2300	28.0	69.4	168	209	65.3	167	197	61.3	165	184
	2300	26.0	63.5	162	191	59.8	161	180	56.0	159	169
	2300	24.0	57.6	155	174	54.2	154	164	50.8	152	154
	2300	22.0	51.3	147	155	48.3	146	146	45.3	144	137
	2200	30.3	72.1	170	216	67.8	170	204	63.6	168	191
	2200	28.0	65.8	164	198	61.9	163	186	58.1	162	175
	2200	26.0	60.4	158	182	56.8	157	171	53.3	156	161
	2200	24.0	54.6	151	165	51.4	156	155	48.2	148	146
	2200	22.0	49.0	144	148	46.1	143	140	43.3	139	131
	2100	29.5	66.5	165	200	62.6	164	188	58.6	162	177
	2100	27.0	60.2	158	181	56.7	157	171	53.1	156	160
	2100	25.0	54.8	151	165	51.6	151	156	48.3	148	146
	2100	23.0	49.5	145	150	46.6	143	141	43.7	140	133
	2100	21.0	44.1	137	134	41.5	134	126	38.9	129	119
			-15°C (50°F)			50°C (STD TEMP) (41°F)			250°C (77°F)		
5000 FEET	2450	29.5	76.5	182	229	72.0	182	216	67.5	180	203
	2450	27.0	68.8	174	207	64.7	173	195	60.7	172	183
	2450	25.0	62.8	168	189	59.1	167	178	55.5	165	167
	2450	23.0	56.9	161	172	53.6	160	162	50.2	157	152
	2300	30.3	76.5	182	229	72.0	182	216	67.5	180	203
	2300	28.0	69.4	175	209	65.3	174	197	61.3	173	184
	2300	26.0	63.5	168	191	59.8	167	180	56.0	166	169
	2300	24.0	57.6	161	174	54.2	161	164	50.8	158	154
	2300	22.0	51.3	153	155	48.3	152	146	45.3	148	137
	2200	30.3	72.1	178	216	67.8	177	204	63.6	175	191
	2200	28.0	65.8	171	198	61.9	170	186	58.1	169	175
	2200	26.0	60.4	165	182	56.8	164	171	53.3	162	161
	2200	24.0	54.6	158	165	51.4	156	155	48.2	153	146
	2200	22.0	49.0	150	148	46.1	147	140	43.3	143	131
	2100	29.5	66.5	172	200	62.6	171	188	58.6	169	177
	2100	27.0	60.2	164	181	56.7	164	171	53.1	162	160
	2100	25.0	54.8	158	165	51.6	156	156	48.3	154	146
	2100	23.0	49.5	151	150	46.6	148	141	43.7	144	133
	2100	21.0	44.1	141	134	41.5	137	126	38.9	128	119

Figure 5-20 (Sheet 1 of 3)

## CRUISE PERFORMANCE WITH RECOMMENDED LEAN MIXTURE

**NOTE:**

1. At 10,000 Feet, increase speed by 5 KTAS for each 1000 pounds below 6850 pounds.
2. At 15,000 Feet, increase speed by 5 KTAS for each 1000 pounds below 6850 pounds.
3. Operations at peak EGT may be utilized with power settings within the boxes if the airplane is equipped with the optional EGT system.

ALTITUDE FEET	RPM	MP	-25°C (-13°F)			-5°C (STD TEMP) (23°F)			15°C (59°F)		
			PERCENT BHP	KTAS	TOTAL LB/HR	PERCENT BHP	KTAS	TOTAL LB/HR	PERCENT BHP	KTAS	TOTAL LB/HR
10,000 FEET	2450	29.5	76.5	191	229	72.0	190	216	67.5	188	203
	2450	27.0	68.8	182	207	64.7	181	195	60.7	180	183
	2450	25.0	62.8	175	189	59.1	174	178	55.5	172	167
	2450	23.0	56.9	168	172	53.6	166	162	50.2	162	152
	2300	30.3	76.5	191	229	72.0	190	216	67.5	188	203
	2300	28.0	69.4	183	209	65.3	182	197	61.3	181	184
	2300	26.0	63.5	176	191	59.8	175	180	56.0	173	169
	2300	24.0	57.6	169	174	54.2	167	164	50.8	163	154
	2300	22.0	51.3	159	155	48.3	156	146	45.3	150	137
	2200	30.3	72.1	186	216	67.8	185	204	63.6	183	191
	2200	28.0	65.8	178	198	61.9	178	186	58.1	176	175
	2200	26.0	60.4	172	182	56.8	171	171	53.3	168	161
	2200	24.0	54.6	164	165	51.4	162	155	48.2	158	146
	2200	22.0	49.0	155	148	46.1	152	140	43.3	144	131
	2100	29.5	66.5	179	200	62.6	178	188	58.6	177	177
	2100	27.0	60.2	172	181	56.7	171	171	53.1	168	160
	2100	25.0	54.8	164	165	51.6	163	156	48.3	159	146
	2100	23.0	49.5	156	150	46.6	153	141	43.7	146	133
	2100	21.0	44.1	146	134	41.5	138	126	---	---	---
			-35°C (-30°F)			-15°C (STD TEMP) (6°F)			5°C (42°F)		
15,000 FEET	2450	29.5	76.5	199	229	72.0	198	216	67.5	197	203
	2450	27.0	68.8	190	207	64.7	190	195	60.7	187	183
	2450	25.0	62.8	183	189	59.1	181	178	55.5	178	167
	2450	23.0	56.9	174	172	53.6	172	162	50.2	166	152
	2300	30.3	76.5	199	229	72.0	198	216	67.5	197	203
	2300	28.0	69.4	191	209	65.3	190	197	61.3	188	184
	2300	26.0	63.5	184	191	59.8	182	180	56.0	179	169
	2300	24.0	57.6	175	174	54.2	173	164	50.8	168	154
	2300	22.0	51.3	165	155	48.3	160	146	45.3	149	137
	2200	30.3	72.1	194	216	67.8	193	204	63.6	192	191
	2200	28.0	65.8	187	198	61.9	186	186	58.1	183	175
	2200	26.0	60.4	180	182	56.8	178	171	53.3	174	161
	2200	24.0	54.6	171	165	51.4	167	155	48.2	160	146
	2200	22.0	49.0	160	148	46.1	154	140	---	---	---
	2100	29.5	66.5	187	200	62.6	187	188	58.6	184	177
	2100	27.0	60.2	179	181	56.7	178	171	53.1	173	160
	2100	25.0	54.8	171	165	51.6	168	156	48.3	161	146
	2100	23.0	49.5	161	150	46.6	155	141	43.7	146	133
	2100	21.0	44.1	147	134	41.5	138	126	---	---	---

Figure 5-20 (Sheet 2 of 3)

## CRUISE PERFORMANCE WITH RECOMMENDED LEAN MIXTURE

**NOTE:**

1. At 20,000 Feet, increase speed by 6 KTAS for each 1000 pounds below 6850 pounds.
2. At 25,000 Feet, increase speed by 6 KTAS for each 1000 pounds below 6850 pounds.

3. Operations at peak EGT may be utilized with power settings within the boxes if the airplane is equipped with the optional EGT system.

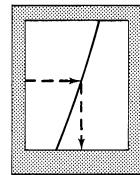
ALTITUDE	RPM	MP	-45°C (-48°F)			-25°C (STD TEMP) (-12°F)			-5°C (24°F)		
			PERCENT BHP	KTAS	TOTAL LB/HR	PERCENT BHP	KTAS	TOTAL LB/HR	PERCENT BHP	KTAS	TOTAL LB/HR
20,000 FEET	2450	29.5	76.5	209	229	72.0	208	216	67.5	206	203
	2450	27.0	68.8	199	207	64.7	198	195	60.7	194	183
	2450	25.0	62.8	191	189	59.1	188	178	55.5	183	167
	2450	23.0	56.9	181	172	53.6	177	162	50.2	166	152
	2300	29.5	73.9	205	222	69.5	205	209	65.2	202	196
	2300	28.0	69.4	200	209	65.3	199	197	61.3	195	184
	2300	26.0	63.5	192	191	59.8	190	180	56.0	185	169
	2300	24.0	57.6	182	174	54.2	179	164	50.8	169	154
	2300	22.0	51.3	170	155	48.3	160	146	---	---	---
	2200	30.3	72.1	203	216	67.8	202	204	63.6	200	191
	2200	28.0	65.8	195	198	61.9	193	186	58.1	189	175
	2200	26.0	60.4	187	182	56.8	184	171	53.3	177	161
	2200	24.0	54.6	177	165	51.4	171	155	---	---	---
	2200	22.0	49.0	163	148	---	---	---	---	---	---
	2100	29.5	66.5	196	200	62.6	194	188	58.6	190	177
	2100	27.0	60.2	187	181	56.7	184	171	53.1	177	160
	2100	25.0	54.8	177	165	51.6	171	156	---	---	---
	2100	23.0	49.5	164	150	---	---	---	---	---	---
			-54°C (-66°F)			-34°C (STD TEMP) (-30°F)			-14°C (6°F)		
25,000 FEET	2450	24.0	60.0	193	181	56.5	187	170	---	---	---
	2450	22.0	53.6	178	162	---	---	---	---	---	---
	2450	21.0	50.3	167	152	---	---	---	---	---	---
	2300	24.0	57.4	188	173	54.0	180	163	---	---	---
	2300	22.0	51.3	171	155	---	---	---	---	---	---
	2200	24.0	54.6	181	165	---	---	---	---	---	---
	2200	22.0	---	---	---	---	---	---	---	---	---
	2100	24.0	52.2	174	158	---	---	---	---	---	---
	2100	22.0	---	---	---	---	---	---	---	---	---

Figure 5-20 (Sheet 3 of 3)

## RANGE PROFILE

### CONDITIONS:

1. Takeoff Weight - 6850 Pounds.
2. Cruise Climb to Desired Altitude.
3. Recommended Lean Fuel Flow.
4. Zero Wind.
5. Standard Day.



### NOTE:

1. Range computations include fuel required for start, taxi, takeoff, cruise climb to altitude, cruise, descent and 45 minutes holding fuel at 45% power.
2. The distances shown are the sum of the distances to climb, cruise and descend.

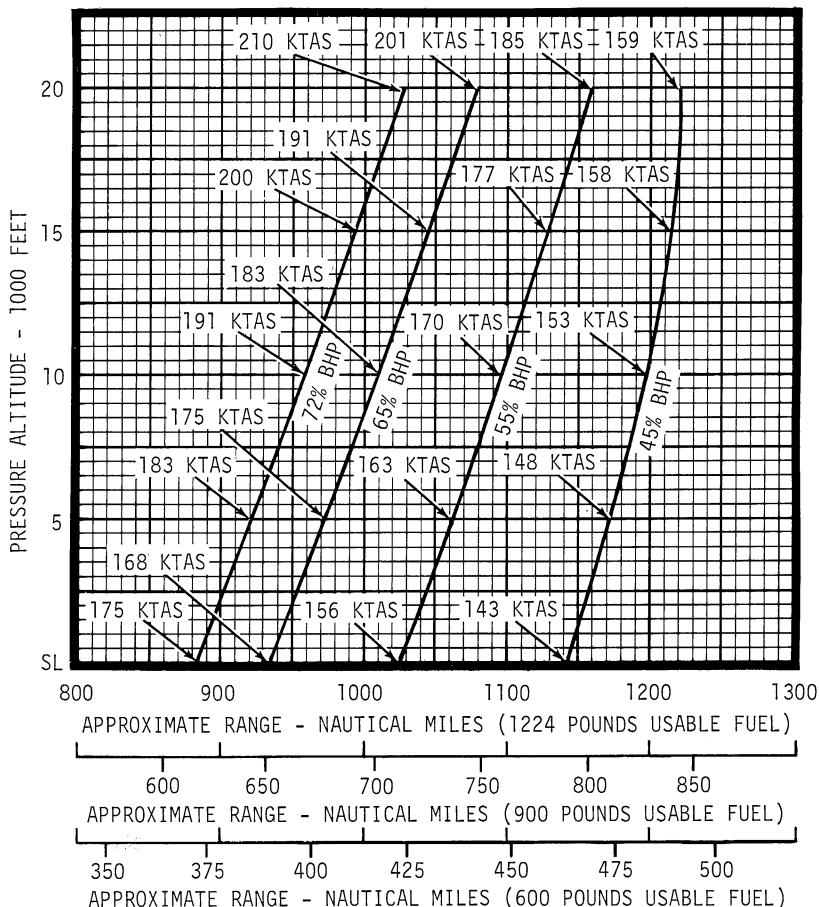


Figure 5-21

52847015

## ENDURANCE PROFILE

## CONDITIONS:

1. Takeoff Weight - 6850 POUNDS.
2. Cruise Climb to Desired Altitude.
3. Recommended Lean Fuel Flow.
4. Standard Day.

## NOTE:

1. Endurance computations include fuel required for start, taxi, takeoff, cruise climb to altitude, cruise, descent and 45 minutes holding fuel at 45% power.
2. The endurance shown is the sum of the times to climb, cruise and descend.

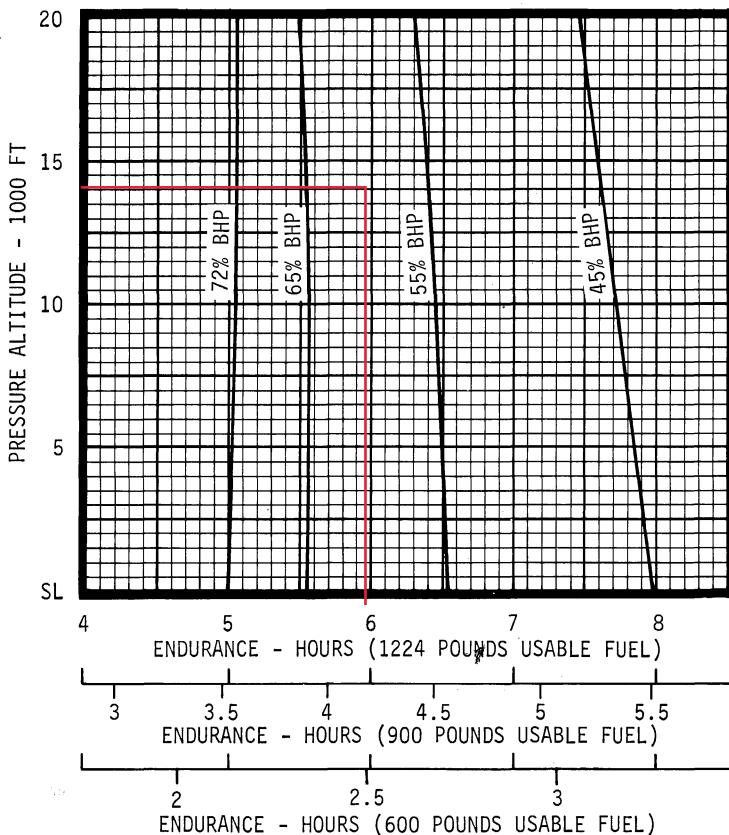
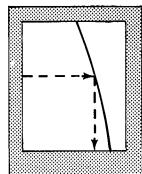


Figure 5-22

52847020

## HOLDING TIME

CONDITIONS:

1. 2100 RPM and 22.0 Inches Hg.  
Manifold Pressure (45% Power).
2. Recommended Lean Fuel Flow  
(137 Pounds Per Hour Total).

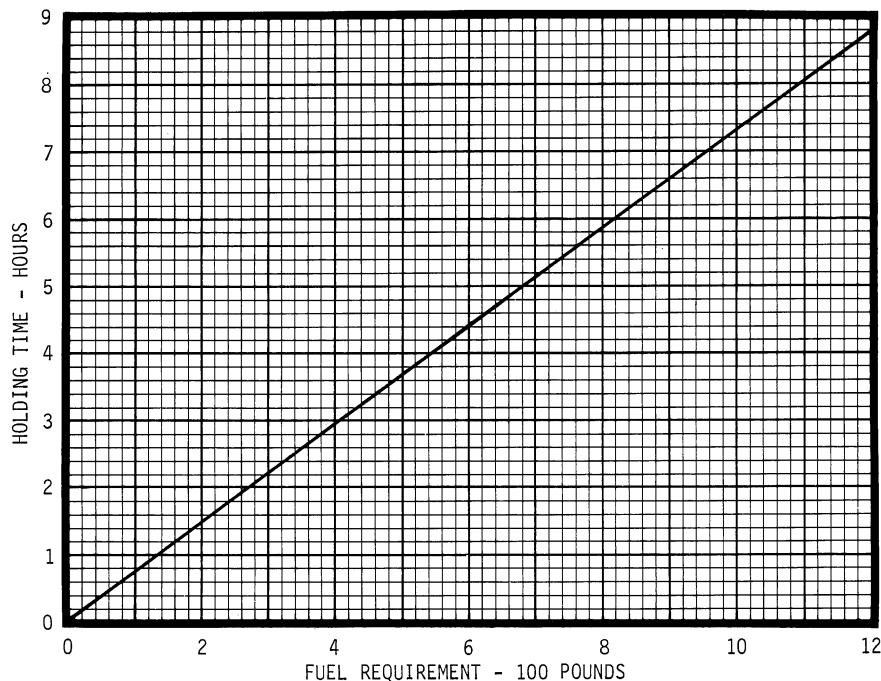
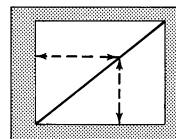
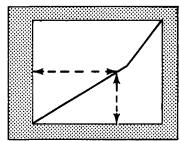


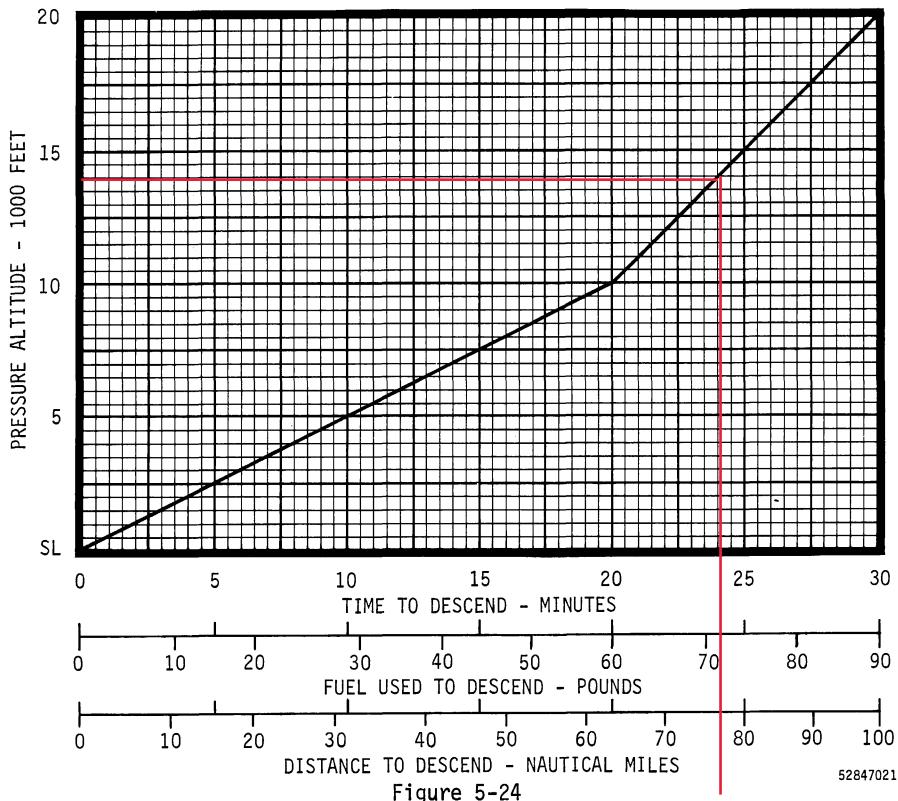
Figure 5-23

## TIME, FUEL AND DISTANCE TO DESCEND



## CONDITIONS:

1. Power - AS REQUIRED.
2. Above 10,000 Feet, Descend at 1000 Feet Per Minute.
3. Below 10,000 Feet, Descend at 500 Feet Per Minute.
4. Landing Gear - UP.
5. Wing Flaps - UP.
6. Airspeed - 180 KIAS.
7. Cowl Flaps - CLOSED.



## Performance Calculations

Phase of Flight	Pilot Calculations	POH Calculations
Start, Taxi, and Takeoff	25 lbs	35 lbs
Cruise Climb	72 lbs 21 Mins 29.5" Hg, 2450 RPM	69 lbs over 17 mins  or  81 lbs over 21 mins
Cruise	864 lbs over 4.9 hrs 27" Hg, 2300 RPM 176 lbs per hour	923 lbs over 4.9 hrs 27" Hg, 2300 RPM 188.5 lbs per hour
Descent	100 lbs over 42 mins 20" Hg, 2300 RPM	72 lbs over 24 mins  Or  126 lbs over 42 mins
Total	1061 lbs used. 163 lbs remaining (27.1 gal, 13.5 gal per side)	1165 lbs used 59 lbs remaining (9.8 gal, 4.9 gal per side)