TAKEOFF DISTANCE

MAXIMUM WEIGHT 4630 LBS

SHORT FIELD

CONDITIONS:
1/3 Flaps
2800 RPM, Full Throttle and
Mixtures Set Prior to Brake Release
Cowl Flaps Open
Paved, Level, Dry Runway
Zero Wind

MIXTURE SETTING	
PRESS ALT	PPH
S.L.	102
2000	96
4000	90
6000	84
8000	78

NOTES:
1. Short field technique as specified in Section 4.
2. Landing gear extended until takeoff obstacle is cleared.
3. Decrease distances 10% for each 11 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2.5 knots.
4. For operation on a dry, grass runway, increase distances by 15% of the "ground roll" figure.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
4630	69	74	S.L.	895	1500	965	1615	1035	1740	1115	1870	1200	2015
			1000	975	1645	1055	1770	1135	1910	1220	2060	1310	2225
			2000	1070	1805	1150	1950	1240	2105	1335	2275	1435	2460
			3000	1170	1990	1260	2150	1360	2330	1465	2525	1575	2740
			4000	1280	2200	1385	2385	1495	2590	1610	2815	1735	3070
			5000	1410	2445	1520	2660	1640	2895	1770	3165	1910	3465
			6000	1550	2730	1675	2980	1810	3265	1950	3585	2105	3965
			7000	1705	3070	1845	3375	1995	3720	2155	4125	2330	4615
			8000	1885	3490	2040	3865	2210	4305	2385	4845	2580	5545

Figure 5-4. Takeoff Distance (Sheet 1 of 2)

TAKEOFF DISTANCE

4300 LBS AND 4000 LBS

SHORT FIELD

REFER TO SHEET 1 FOR APPROPRIATE CONDITIONS AND NOTES.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
4300	66	71	S.L.	755	1260	810	1355	870	1455	935	1560	1005	1675
			1000	820	1375	885	1480	950	1590	1025	1710	1100	1840
			2000	895	1505	965	1620	1040	1745	1120	1880	1205	2025
			3000	980	1655	1060	1780	1140	1920	1225	2075	1320	2240
			4000	1075	1820	1160	1965	1250	2125	1345	2295	1445	2485
			5000	1180	2010	1270	2175	1370	2355	1480	2555	1590	2775
			6000	1295	2230	1400	2420	1510	2625	1625	2860	1755	3120
			7000	1425	2480	1540	2705	1660	2950	1795	3225	1935	3540
			8000	1570	2785	1700	3045	1835	3340	1980	3675	2140	4075
4000	64	69	S.L.	640	1070	690	1145	740	1230	795	1320	850	1415
			1000	695	1165	750	1250	805	1340	865	1440	930	1545
			2000	760	1270	820	1365	880	1470	945	1580	1015	1695
			3000	830	1390	895	1495	965	1610	1035	1735	1110	1865
			4000	910	1525	980	1645	1055	1770	1135	1910	1220	2060
			5000	995	1680	1075	1810	1155	1955	1245	2110	1340	2280
			6000	1090	1850	1180	2000	1270	2165	1370	2345	1470	2540
			7000	1200	2050	1295	2220	1395	2410	1505	2615	1620	2850
			8000	1320	2280	1425	2480	1540	2700	1660	2940	1790	3215

Figure 5-4. Takeoff Distance (Sheet 2 of 2)

ACCELERATE-STOP DISTANCE

CONDITIONS:
1/3 Flaps
2800 RPM, Full Throttle and
Mixtures Set Prior to Brake Release
Cowl Flaps Open
Engine Failure at Speed Shown in Chart
Throttles Closed at Engine Failure
Maximum Braking During Deceleration
Paved, Level, Dry Runway
Zero Wind

NOTES:
1. Decrease distances 10% for each 11 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2.5 knots.
2. Distances shown are based on maximum takeoff weight and should be used for any lesser weight.

WEIGHT LBS	ENGINE FAILURE SPEED KIAS	PRESS ALT FT	ACCELERATE - STOP DISTANCE — FEET				
			0°C	10°C	20°C	30°C	40°C
4630	80	S.L.	3400	3555	3715	3880	4055
		1000	3570	3735	3910	4090	4280
		2000	3755	3935	4125	4325	4530
		3000	3960	4160	4365	4580	4805
		4000	4190	4400	4625	4865	5115
		5000	4440	4675	4920	5180	5455
		6000	4715	4975	5245	5535	5840
		7000	5025	5310	5610	5930	6265
		8000	5375	5685	6020	6375	6750
	75	S.L.	3020	3150	3285	3430	3575
		1000	3165	3305	3455	3605	3770
		2000	3320	3475	3635	3805	3980
		3000	3495	3660	3835	4020	4210
		4000	3685	3870	4060	4260	4470
		5000	3895	4095	4305	4525	4755
		6000	4130	4350	4575	4815	5070
		7000	4390	4630	4880	5145	5425
		8000	4680	4940	5220	5510	5825
	70	S.L.	2635	2745	2860	2980	3100
		1000	2755	2875	2995	3125	3260
		2000	2885	3015	3150	3290	3435
		3000	3030	3170	3315	3465	3625
		4000	3190	3340	3500	3665	3835
		5000	3365	3525	3700	3880	4070
		6000	3555	3735	3920	4120	4325
		7000	3765	3965	4170	4385	4615
		8000	4005	4220	4445	4685	4935

Figure 5-5. Accelerate-Stop Distance

RATE OF CLIMB - TAKEOFF FLAP SETTING

1/3 FLAPS AND GEAR UP

CONDITIONS:
2800 RPM
Full Throttle
Mixtures Set at Placard Fuel Flow
Cowl Flaps Open

MIXTURE SETTING	
PRESS ALT	PPH
S.L.	102
4000	90
8000	78

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB - FPM			
			-20°C	0°C	20°C	40°C
4630	S.L.	87	1205	1085	970	855
	2000	86	1060	950	840	730
	4000	84	920	815	715	605
	6000	83	785	685	585	480
	8000	82	650	555	460	360
4300	S.L.	85	1355	1235	1115	995
	2000	84	1205	1090	975	865
	4000	83	1060	950	845	740
	6000	81	915	815	715	610
	8000	80	775	680	585	485
4000	S.L.	84	1510	1385	1260	1140
	2000	83	1355	1235	1120	1005
	4000	81	1195	1085	975	865
	6000	80	1050	945	845	740
	8000	78	905	805	710	610

Figure 5-6. Rate of Climb - Takeoff Flap Setting

MAXIMUM RATE OF CLIMB

FLAPS AND GEAR UP

CONDITIONS:
2800 RPM
Full Throttle
Mixtures Set at Placard Fuel Flow
Cowl Flaps Open

MIXTURE SETTING	
PRESS ALT	PPH
S.L.	102
4000	90
8000	78
12,000	66

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB - FPM			
			-20°C	0°C	20°C	40°C
4630	S.L.	99	1310	1190	1070	950
	2000	98	1165	1055	940	825
	4000	97	1025	920	810	705
	6000	96	885	785	680	575
	8000	95	750	650	550	450
	10,000	94	615	520	425	- - -
	12,000	93	485	395	305	- - -
4300	S.L.	97	1460	1340	1215	1095
	2000	96	1310	1195	1075	960
	4000	95	1165	1055	945	835
	6000	94	1020	915	810	705
	8000	93	875	775	675	575
	10,000	92	735	640	545	- - -
	12,000	91	600	510	415	- - -
4000	S.L.	96	1615	1495	1365	1240
	2000	95	1460	1345	1220	1100
	4000	94	1305	1190	1075	965
	6000	93	1155	1045	940	830
	8000	91	1000	900	800	700
	10,000	90	855	760	665	- - -
	12,000	89	715	625	530	- - -

Figure 5-7. Maximum Rate of Climb, Flaps and Gear Up

NORMAL RATE OF CLIMB

FLAPS AND GEAR UP -110 KIAS

CONDITIONS:
2600 RPM
24 Inches Hg or Full Throttle
Cowl Flaps Open

MIXTURE SETTING	
PRESS ALT	PPH
S.L. to 4000	80
8000	68
12,000	56

WEIGHT LBS	PRESS ALT FT	RATE OF CLIMB - FPM			
		-20°C	0°C	20°C	40°C
4630	S.L.	815	720	625	530
	2000	800	705	605	505
	4000	790	685	585	480
	6000	660	555	450	340
	8000	525	420	320	215
	10,000	385	290	190	- - -
	12,000	255	160	60	- - -
4300	S.L.	925	830	730	635
	2000	910	810	710	605
	4000	900	800	690	580
	6000	765	655	550	440
	8000	620	515	410	305
	10,000	480	380	275	- - -
	12,000	340	240	140	- - -
4000	S.L.	1040	940	840	735
	2000	1030	925	820	710
	4000	1015	905	795	685
	6000	875	760	650	535
	8000	720	615	505	395
	10,000	570	465	360	- - -
	12,000	420	320	220	- - -

Figure 5-8. Normal Rate of Climb, Flaps and Gear Up

RATE OF CLIMB - BALKED LANDING

FULL FLAPS AND GEAR DOWN

CONDITIONS:
2800 RPM
Full Throttle
Mixtures Set at Placard Fuel Flow
Cowl Flaps Open

MIXTURE SETTING	
PRESS ALT	PPH
S.L.	102
4000	90
8000	78

NOTE:
Performance data shown below is with full flaps and at the speed for best rate of climb. In a balked landing (go-around) climb, the wing flap setting should be reduced to 1/3 immediately after full power is applied.

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB - FPM			
			-20°C	0°C	20°C	40°C
4400	S.L.	77	1055	930	805	680
	2000	76	905	785	665	545
	4000	74	760	645	530	420
	6000	73	615	505	395	290
	8000	71	470	365	260	160
4100	S.L.	76	1190	1060	930	800
	2000	75	1030	910	785	665
	4000	73	875	755	640	525
	6000	72	725	615	500	390
	8000	70	575	470	360	260
3800	S.L.	75	1335	1200	1070	935
	2000	74	1170	1045	915	790
	4000	72	1010	890	770	650
	6000	71	845	730	615	505
	8000	69	690	580	475	370

Figure 5-9. Rate of Climb - Balked Landing

SINGLE ENGINE MAXIMUM RATE OF CLIMB

CONDITIONS:
Inoperative Propeller Feathered
Flaps Up
Gear Up
2800 RPM
Full Throttle
Mixture Set at Placard Fuel Flow
Cowl Flaps Open on Operating Engine
Cowl Flaps Closed on Inoperative Engine

MIXTURE SETTING	
PRESS ALT	PPH
S.L.	102
4000	90
8000	78

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB - FPM			
			-20°C	0°C	20°C	40°C
4630	S.L.	90	415	350	285	220
	2000	90	330	265	200	135
	4000	90	240	175	115	50
	6000	90	155	95	35	-30
	8000	90	70	5	-55	-115
4300	S.L.	87	510	440	375	310
	2000	87	415	350	290	225
	4000	87	325	260	200	140
	6000	87	235	175	115	55
	8000	87	145	85	30	-30
4000	S.L.	85	600	535	465	405
	2000	85	505	440	380	320
	4000	85	405	345	285	225
	6000	85	315	260	200	140
	8000	85	220	165	110	50

Figure 5-10. Single Engine Maximum Rate of Climb

SINGLE ENGINE SERVICE CEILING

CONDITIONS:
Inoperative Propeller Feathered
Flaps Up
Gear Up
2800 RPM
Full Throttle
Mixture Set at Placard Fuel Flow
Cowl Flaps Open on Operating Engine
Cowl Flaps Closed on Inoperative Engine

NOTES:
1. Single engine service ceiling is the altitude at which the rate of climb is 50 fpm.
2. This chart is based on maximum rate of climb speeds as shown in figure 5-10.

WEIGHT LBS	OUTSIDE AIR TEMPERATURE AT ALTITUDE					
	-20°C	-10°C	0°C	10°C	20°C	30°C
	PRESSURE ALTITUDE - FEET					
4630	8400	7700	7000	6300	5600	4900
4500	9100	8400	7700	7000	6300	5600
4400	9600	8900	8200	7600	6900	6200
4300	10,100	9400	8800	8100	7500	6800
4200	10,600	10,000	9400	8700	8100	7400
4100	11,200	10,600	9900	9300	8600	8000
4000	11,700	11,100	10,500	9800	9200	8600

Figure 5-11. Single Engine Service Ceiling

TIME, FUEL, AND DISTANCE TO CLIMB

MAXIMUM RATE OF CLIMB

CONDITIONS:
Flaps Up
Gear Up
2800 RPM
Full Throttle
Mixtures Set at Placard Fuel Flow
Cowl Flaps Open

MIXTURE SETTING	
PRESS ALT	PPH
S.L.	102
4000	90
8000	78
12,000	66

NOTES:
1. Add 18 pounds of fuel for engine start, taxi and takeoff allowance.
2. Distances shown are based on zero wind.

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
			CLIMB FROM SEA LEVEL								
			TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM
4630	2000	98	2	6	3	2	6	3	2	7	4
	4000	97	4	12	6	4	13	7	5	15	8
	6000	96	6	18	9	7	20	11	7	23	13
	8000	95	8	25	13	9	28	16	11	32	19
	10,000	94	11	32	18	13	36	22	15	42	26
	12,000	93	15	40	24	17	46	29	20	54	36
4300	2000	96	2	5	2	2	6	3	2	6	3
	4000	95	3	10	5	4	11	6	4	13	7
	6000	94	5	16	8	6	17	9	6	20	11
	8000	93	7	22	11	8	24	13	9	27	15
	10,000	92	10	28	16	11	31	18	12	35	21
	12,000	91	13	34	20	14	39	24	16	44	29
4000	2000	95	1	5	2	2	5	2	2	5	3
	4000	94	3	9	4	3	10	5	4	11	6
	6000	93	5	14	7	5	15	8	6	17	9
	8000	91	6	19	10	7	21	11	8	23	13
	10,000	90	9	24	13	10	27	15	11	30	18
	12,000	89	11	30	18	12	33	20	14	38	24

Figure 5-12. Time, Fuel, and Distance to Climb (Sheet 1 of 2)

TIME, FUEL, AND DISTANCE TO CLIMB

NORMAL CLIMB - 110 KIAS

CONDITIONS:
Flaps Up
Gear Up
2600 RPM
24 Inches Hg or Full Throttle
Cowl Flaps Open

MIXTURE SETTING	
PRESS ALT	PPH
S.L. to 4000	80
8000	68
12,000	56

NOTES:
1. Add 18 pounds of fuel for engine start, taxi and takeoff allowance.
2. Distances shown are based on zero wind.

WEIGHT LBS	PRESS ALT FT	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		CLIMB FROM SEA LEVEL								
		TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM
4630	2000	3	7	5	3	8	6	4	10	7
	4000	5	14	10	6	16	11	7	19	14
	6000	8	22	15	10	25	18	11	30	22
	8000	12	30	22	14	35	26	17	43	34
	10,000	16	39	30	19	47	38	25	60	50
	12,000	22	51	42	28	63	55	39	87	81
4300	2000	2	6	4	3	7	5	3	8	6
	4000	5	12	8	5	14	10	6	16	12
	6000	7	19	13	8	21	15	10	25	19
	8000	10	26	19	12	30	22	14	35	28
	10,000	14	34	26	16	39	31	20	48	40
	12,000	18	43	35	22	51	44	28	65	59
4000	2000	2	6	4	2	6	4	3	7	5
	4000	4	11	7	5	12	9	5	14	10
	6000	6	17	11	7	19	13	8	22	16
	8000	9	23	16	10	26	19	12	30	23
	10,000	12	29	22	14	34	27	16	40	33
	12,000	16	37	30	19	43	37	23	52	47

Figure 5-12. Time, Fuel, and Distance to Climb (Sheet 2 of 2)

CRUISE PERFORMANCE

PRESSURE ALTITUDE 2000 FEET

CONDITIONS:
4630 Pounds
Recommended Lean Mixture
Cowl Flaps Closed

NOTE
For best fuel economy at 65% power or less, operate each engine at 6 PPH leaner fuel flow or at peak EGT if an EGT indicator is installed.

		20°C BELOW STANDARD TEMP -9°C			STANDARD TEMPERATURE 11°C			20°C ABOVE STANDARD TEMP 31°C		
RPM	MP	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH
2600	24	- - -	- - -	- - -	76	164	139	73	163	134
	23	74	159	135	71	158	130	69	157	126
	22	69	153	126	66	152	121	64	151	117
	21	64	146	117	62	146	113	60	145	109
2500	25	- - -	- - -	- - -	77	165	141	74	164	136
	24	75	160	137	72	160	132	70	159	128
	23	70	155	129	68	154	124	66	153	120
	22	66	149	120	63	148	116	61	147	112
2400	25	75	160	137	72	159	132	70	158	127
	24	70	155	129	68	154	124	66	153	120
	23	66	149	121	64	149	117	62	148	113
	22	62	144	113	60	143	109	58	143	106
2300	25	70	154	128	67	153	123	65	153	119
	24	66	149	120	63	148	116	61	148	112
	23	62	143	113	59	143	109	58	142	106
	22	57	138	105	55	137	102	54	137	99
2200	25	65	148	119	63	147	115	61	146	111
	24	61	143	112	59	142	108	57	142	105
	23	57	137	105	55	137	101	53	136	98
	22	53	132	98	51	131	95	50	130	92
	21	49	126	92	48	125	89	46	124	86
	20	45	120	85	44	119	83	42	116	80

Figure 5-13. Cruise Performance (Sheet 1 of 6)

CRUISE PERFORMANCE

PRESSURE ALTITUDE 4000 FEET

CONDITIONS:
4630 Pounds
Recommended Lean Mixture
Cowl Flaps Closed

NOTE
For best fuel economy at 65% power or less, operate each engine at 6 PPH leaner fuel flow or at peak EGT if an EGT indicator is installed.

		20°C BELOW STANDARD TEMP -13°C			STANDARD TEMPERATURE 7°C			20°C ABOVE STANDARD TEMP 27°C		
RPM	MP	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH
2600	23	77	165	140	74	165	135	71	164	130
	22	72	159	131	69	159	126	67	159	122
	21	67	153	122	64	153	118	62	153	114
	20	62	147	113	60	147	109	58	146	106
2500	23	73	161	134	71	161	129	68	160	125
	22	68	156	125	66	155	121	64	155	117
	21	64	150	116	61	149	112	59	149	109
	20	59	144	108	57	143	104	55	143	101
2400	23	69	156	126	66	155	121	64	155	117
	22	64	150	118	62	150	113	60	150	110
	21	60	145	110	58	144	106	56	144	103
	20	56	139	102	54	138	99	52	138	96
2300	23	64	150	117	62	150	113	60	149	110
	22	60	145	110	58	144	106	56	144	103
	21	56	139	103	54	139	99	52	138	96
	20	52	133	95	50	133	92	48	132	90
2200	23	60	145	109	58	144	106	56	144	102
	22	56	139	103	54	139	99	52	138	96
	21	52	134	96	50	133	93	48	132	90
	20	48	128	89	46	127	86	45	125	84
	19	44	121	83	42	119	80	41	116	78

Figure 5-13. Cruise Performance (Sheet 2 of 6)

CRUISE PERFORMANCE

PRESSURE ALTITUDE 6000 FEET

CONDITIONS:
4630 Pounds
Recommended Lean Mixture
Cowl Flaps Closed

NOTE
For best fuel economy at 65% power or less, operate each engine at 6 PPH leaner fuel flow or at peak EGT if an EGT indicator is installed.

		20°C BELOW STANDARD TEMP -17°C			STANDARD TEMPERATURE 3°C			20°C ABOVE STANDARD TEMP 23°C		
RPM	MP	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH
2600	22	74	166	136	72	165	131	69	165	127
	21	70	160	127	67	160	122	65	160	118
	20	65	154	118	62	154	114	60	153	110
	19	60	147	109	57	147	105	55	147	102
2500	22	71	162	130	69	162	125	66	162	121
	21	66	156	121	64	156	117	62	156	113
	20	62	150	113	59	150	109	57	150	105
	19	57	144	104	55	143	101	53	143	98
2400	22	67	157	122	64	156	118	62	156	114
	21	62	151	114	60	151	110	58	151	107
	20	58	145	106	56	145	103	54	145	100
	19	54	139	99	52	139	96	50	138	93
2300	22	63	151	114	60	151	110	58	151	107
	21	58	146	107	56	145	103	54	145	100
	20	54	140	99	52	139	96	50	139	93
	19	50	134	92	48	133	89	46	131	87
2200	22	58	146	107	56	145	103	54	145	100
	21	54	140	100	52	140	97	51	139	94
	20	50	134	93	48	134	90	47	132	88
	19	46	128	87	44	127	84	43	125	81

Figure 5-13. Cruise Performance (Sheet 3 of 6)

CRUISE PERFORMANCE

PRESSURE ALTITUDE 8000 FEET

CONDITIONS:
4630 Pounds
Recommended Lean Mixture
Cowl Flaps Closed

NOTE
For best fuel economy at 65% power or less, operate each engine at 6 PPH leaner fuel flow or at peak EGT if an EGT indicator is installed.

		20°C BELOW STANDARD TEMP -21°C			STANDARD TEMPERATURE -1°C			20°C ABOVE STANDARD TEMP 19°C		
RPM	MP	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH
2600	21	72	166	132	70	166	127	67	166	123
	20	67	160	123	65	160	119	63	160	115
	19	62	154	114	60	154	110	58	153	106
	18	57	147	105	55	147	102	53	146	98
2500	21	69	162	127	67	162	122	64	162	118
	20	64	156	118	62	156	113	60	156	110
	19	60	150	109	57	150	105	55	149	102
	18	55	143	101	53	143	97	51	142	94
2400	21	65	157	119	63	157	114	60	157	111
	20	61	151	111	58	151	107	56	151	103
	19	56	145	103	54	145	99	52	144	96
	18	51	139	95	49	138	92	48	137	89
2300	21	61	152	111	58	151	107	56	151	104
	20	56	146	104	54	145	100	52	145	97
	19	52	140	96	50	139	93	48	138	90
	18	48	133	89	46	132	86	44	130	83
2200	21	57	146	104	55	146	101	53	145	97
	20	53	140	97	51	140	94	49	139	91
	19	48	134	90	47	134	87	45	132	85
	18	44	127	84	43	126	81	41	123	79

Figure 5-13. Cruise Performance (Sheet 4 of 6)

CRUISE PERFORMANCE

PRESSURE ALTITUDE 10,000 FEET

CONDITIONS:
4630 Pounds
Recommended Lean Mixture
Cowl Flaps Closed

NOTE
For best fuel economy at 65% power or less, operate each engine at 6 PPH leaner fuel flow or at peak EGT if an EGT indicator is installed.

		20°C BELOW STANDARD TEMP -25°C			STANDARD TEMPERATURE -5°C			20°C ABOVE STANDARD TEMP 15°C		
RPM	MP	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH
2600	19	65	160	119	63	160	115	61	160	111
	18	60	154	110	58	153	106	56	153	103
	17	55	146	101	53	146	98	51	146	95
	16	50	139	92	48	138	89	46	136	86
2500	19	62	156	114	60	156	110	58	156	106
	18	57	150	105	55	149	102	53	149	98
	17	52	143	97	50	142	93	49	141	91
	16	47	135	88	45	133	85	44	131	83
2400	19	58	151	107	56	151	103	54	151	100
	18	54	145	99	52	144	96	50	144	93
	17	49	138	91	47	137	88	46	135	86
	16	44	130	84	43	128	81	41	125	79
2300	19	54	146	100	52	145	97	51	145	94
	18	50	139	93	48	138	90	46	137	87
	17	46	132	85	44	130	83	42	127	80
2200	19	51	141	94	49	140	91	47	139	88
	18	47	134	87	45	132	84	43	130	82

Figure 5-13. Cruise Performance (Sheet 5 of 6)

CRUISE PERFORMANCE

PRESSURE ALTITUDE 12,000 FEET

CONDITIONS:
4630 Pounds
Recommended Lean Mixture
Cowl Flaps Closed

NOTE
For best fuel economy at 65% power or less, operate each engine at 6 PPH leaner fuel flow or at peak EGT if an EGT indicator is installed.

		20°C BELOW STANDARD TEMP -29°C			STANDARD TEMPERATURE -9°C			20°C ABOVE STANDARD TEMP 11°C 60F		
RPM	MP	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH	% BHP	KTAS	TOTAL PPH
2600	18	63	160	115	61	159	111	58	159	107
	17	58	153	106	55	152	102	54	152	99
	16	52	145	97	50	144	93	49	143	91
	15	47	136	88	45	134	85	44	131	82
2500	18	60	156	110	58	155	106	56	155	102
	17	55	149	101	53	148	98	51	147	94
	16	50	141	93	48	140	89	46	138	87
	15	45	131	84	43	129	81	41	125	79
2400	18	56	150	103	54	150	100	52	149	96
	17	51	143	95	50	143	92	48	141	89
	16	47	135	87	45	134	84	43	131	82
2300	18	52	145	97	50	144	93	49	143	91
	17	48	137	89	46	136	86	44	134	84
	16	43	129	82	42	126	79	40	121	77
2200	18	49	140	91	47	138	88	45	136	85
	17	45	132	84	43	129	81	41	126	79

Figure 5-13. Cruise Performance (Sheet 6 of 6)

TIME, FUEL, AND DISTANCE TO DESCEND

155 KIAS

CONDITIONS:
Flaps Up
Gear Up
Power Set for 500 FPM Rate of Descent
Recommended Lean Mixture

NOTE:
Distances shown are based on zero wind.

PRESS ALT FT	DESCENT TO SEA LEVEL		
	TIME MIN	FUEL LBS	DIST NM
12,000	24	38	65
10,000	20	31	54
8000	16	25	42
6000	12	18	31
4000	8	12	20
2000	4	6	10
S.L.	0	0	0

Figure 5-16. Time, Fuel, and Distance to Descend

HOLDING TIME

CONDITIONS:
45% Power
Recommended Lean Mixture
85 Total PPH Fuel Flow

FUEL LBS	TIME MIN
20	14
30	21
40	28
50	35
60	43
70	50
80	57
90	64

Figure 5-17. Holding Time

LANDING DISTANCE

MAXIMUM LANDING WEIGHT - 4400 LBS

SHORT FIELD

CONDITIONS:
Full Flaps
Power Off
Maximum Braking
Paved, Level, Dry Runway
Zero Wind

NOTES:
1. Short field technique as specified in Section 4.
2. Decrease distances 10% for each 11 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2.5 knots.
3. For operation on a dry, grass runway, increase distances by 50% of the "ground roll" figure.

WEIGHT LBS	SPEED AT 50 FT KIAS	PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
			GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
4400	79	S.L.	665	1585	690	1630	710	1670	735	1715	760	1765
		1000	690	1630	715	1675	740	1725	765	1770	790	1815
		2000	715	1675	740	1725	765	1770	790	1820	820	1875
		3000	740	1725	765	1775	795	1825	820	1875	850	1930
		4000	770	1780	795	1830	825	1885	855	1940	880	1990
		5000	795	1830	825	1885	855	1940	885	1995	915	2050
		6000	830	1890	860	1950	890	2005	920	2060	950	2115
		7000	860	1950	890	2005	925	2070	955	2125	985	2185
		8000	895	2015	925	2070	960	2135	990	2195	1025	2260

Figure 5-18. Landing Distance (Sheet 1 of 2)

LANDING DISTANCE

4100 LBS AND 3800 LBS

SHORT FIELD

REFER TO SHEET 1 FOR APPROPRIATE CONDITIONS AND NOTES.

WEIGHT LBS	SPEED AT 50 FT KIAS	PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
			GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
4100	76	S.L.	620	1500	640	1540	665	1585	685	1625	710	1670
		1000	640	1540	665	1585	690	1630	710	1670	735	1715
		2000	665	1585	690	1630	715	1675	740	1725	760	1765
		3000	690	1630	715	1680	740	1725	765	1770	790	1820
		4000	715	1680	740	1725	770	1780	795	1825	820	1875
		5000	745	1735	770	1780	800	1835	825	1885	850	1930
		6000	770	1780	800	1835	830	1890	855	1940	885	1995
		7000	800	1840	830	1895	860	1950	890	2005	920	2060
		8000	830	1895	865	1955	895	2015	925	2070	955	2125
3800	74	S.L.	575	1415	595	1455	615	1490	635	1530	655	1565
		1000	595	1455	615	1490	640	1535	660	1575	680	1615
		2000	615	1490	640	1535	660	1575	685	1620	705	1660
		3000	640	1535	665	1585	685	1625	710	1670	735	1715
		4000	665	1585	690	1630	710	1670	735	1715	760	1765
		5000	690	1630	715	1675	740	1725	765	1770	790	1820
		6000	715	1680	740	1725	765	1775	795	1825	820	1875
		7000	745	1730	770	1780	795	1830	825	1885	850	1930
		8000	770	1780	800	1835	830	1890	855	1940	885	1995

Figure 5-18. Landing Distance (Sheet 2 of 2)