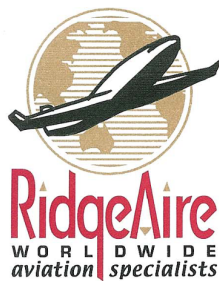


N5765M

1969 Cessna T310P

Performance



MSN: 310P0065

Prepared by the worldwide aviation specialists at RidgeAire, Inc.



TURBO-SYSTEM

SECTION IV

OPERATING LIMITATIONS

OPERATIONS AUTHORIZED

Your Cessna with standard equipment, as certificated under FAA Type Certificate No. 3A10, is approved for day and night operation under VFR or IFR conditions.

MANEUVERS - NORMAL CATEGORY

The aircraft exceeds the requirements of the Federal Aviation Regulations, set forth by the United States Government for airworthiness. Spins and aerobatic maneuvers are not permitted in normal category airplanes in compliance with these regulations. In connection with the foregoing, the following gross weight and flight load factors apply:

Maximum Takeoff Weight		5400 lbs.
Maximum Landing Weight		5400 lbs.
*Flight Load Factor (at design gross weight of 5400 lbs.)		
Flaps UP		+3.8G
		-1.52G
Flaps DOWN		+2.0G

*The design load factors are 150% of the above and in all cases the structure exceeds design loads.

Your aircraft must be operated in accordance with all FAA approved markings, placards, and checklists in the aircraft. If there is any information in this section which contradicts the FAA approved markings, placards, and checklists, it is to be disregarded.

AIRSPEED LIMITATIONS (CAS)

Maximum Structural Cruising Speed		
Level Flight or Climb		210 MPH
Maximum Speed		
Flaps Extended 15°		180 MPH
Flaps Extended 15° - 35°		160 MPH
Gear Extended		160 MPH

*Maximum Maneuvering Speed . . . 170 MPH

*The maximum speed at which you can use abrupt control travel.

AIRSPEED INDICATOR INSTRUMENT MARKINGS

The following is a list of the certificated calibrated airspeed (CAS) limitations for the aircraft.

Never Exceed (glide or dive, smooth air)	257 MPH (red line)
Caution Range	210-257 MPH (yellow arc)
Normal Operating Range	87-210 MPH (green arc)
Flap Operating Range (0° - 35°)	77-160 MPH (white arc)
Minimum Control Speed	90 MPH (red line)
Best Single-Engine Rate of Climb	122 MPH (blue line)

ENGINE OPERATION LIMITATIONS

Maximum Power and Speed 285 BHP at 2700 RPM and 32 in. Hg.
(for all operations)

ENGINE INSTRUMENT MARKINGS

OIL TEMPERATURE GAGES

Normal Operating Range	75° to 240° F (green arc)
Maximum Temperature	240° F (red line)

OIL PRESSURE GAGES

Idling Pressure	10 PSI (red line)
Normal Operating Range	30 to 60 PSI (green arc)
Maximum Pressure	100 PSI (red line)

CYLINDER HEAD TEMPERATURE

Normal Operating Range	200° to 460° F (green arc)
Maximum Temperature	460° F (red line)

MANIFOLD PRESSURE

Normal Operating Range	15 to 29 in. Hg. (green arc)
Maximum Pressure	32 in. Hg. (red line)

MAXIMUM ALLOWABLE MANIFOLD PRESSURE			
ALTITUDE	MAX ALLOWABLE M. P.	ALTITUDE	MAX ALLOWABLE M. P.
Sea Level	32.0	24,000	24.3
16,000	32.0	26,000	22.2
18,000	30.7	28,000	20.2
20,000	29.0	30,000	18.5
22,000	26.4	32,000	17.0

TACHOMETER

Normal Operating Range . . . 2100 to 2350 RPM (green arc)
 Above 10,000 Ft. - Hot Day . 2100 to 2500 RPM (inner green arc)
 Maximum Engine Rated Speed . . . 2700 RPM (red line)

FUEL FLOW GAGE

Normal Operating Range . . . 1.4 to 29.17 GPH (green arc)
 Minimum and Maximum Fuel Flows . 0 and 29.80 GPH (red line)
 2.5 and 19.5 PSI (red line)

WING LOCKERS

The wing lockers are intended primarily for low density items, such as luggage and briefcases. The floor of the wing lockers, in particular, is primary structure, therefore, care should be exercised during loading and unloading to prevent damage. When loading high density objects, insure that adequate protection is available to prevent damage to any aircraft primary structure.

WEIGHT AND BALANCE

The following information will enable you to operate your Cessna with the prescribed weight and center of gravity limitations. To figure the weight and balance for your particular aircraft, use figures 4-1, 4-2, and 4-3 as follows:

Take the licensed Empty Weight and Moment/1000 from the Weight and Balance Data sheet, plus any changes noted on forms FAA-337, carried in your aircraft, and write them down in the proper columns of figure 4-1. Using figure 4-2, determine the moment/1000 of each item to be carried. Total the weights and moments/1000 and use figure 4-3 to determine whether the point falls within the envelope and if the loading is acceptable.

ARM

37

71
10535
4796
124
63

TURBO-SYSTEM 310P SAMPLE PROBLEM	Sample Aircraft		Your Aircraft	
	Weight (lbs)	Moment (lb-ins.) /1000	Weight (lbs)	Moment (lb-ins.) /1000
1. Licensed Empty Weight (Sample Problem)	3503.7	124.0		
2. Oil *(26 Qts. x 1.875 lb/qt.)	49.0	-0.2	49.0	-0.2
3. Pilot and Passenger 37	340.0	12.6		
4. Rear Passengers 71 (Standard Seating) 105 (6-Place Option)	340.0 340.0	24.1 35.7		
5. Fuel (gals. x 6 lbs./gal.) 35 Main Tanks (100 gals.) 47 Auxiliary Tanks Wing Locker Tanks	600.0 47.3	21.0 2.6		
6. Baggage (Sta. 96.0) (124.0) 63 (Wing Lockers) 96 124 63	180.0	11.3		
7. Total Aircraft Weight (Loaded)	5400.0	231.1		
8. Locate this point (5400 at 231.1) on Figure 4-3 and since this point falls within the envelope, the loading is acceptable.				
*Note: Normally full oil may be assumed for all flights.				

Figure 4-1

LOADING CHART

Figure 4-2

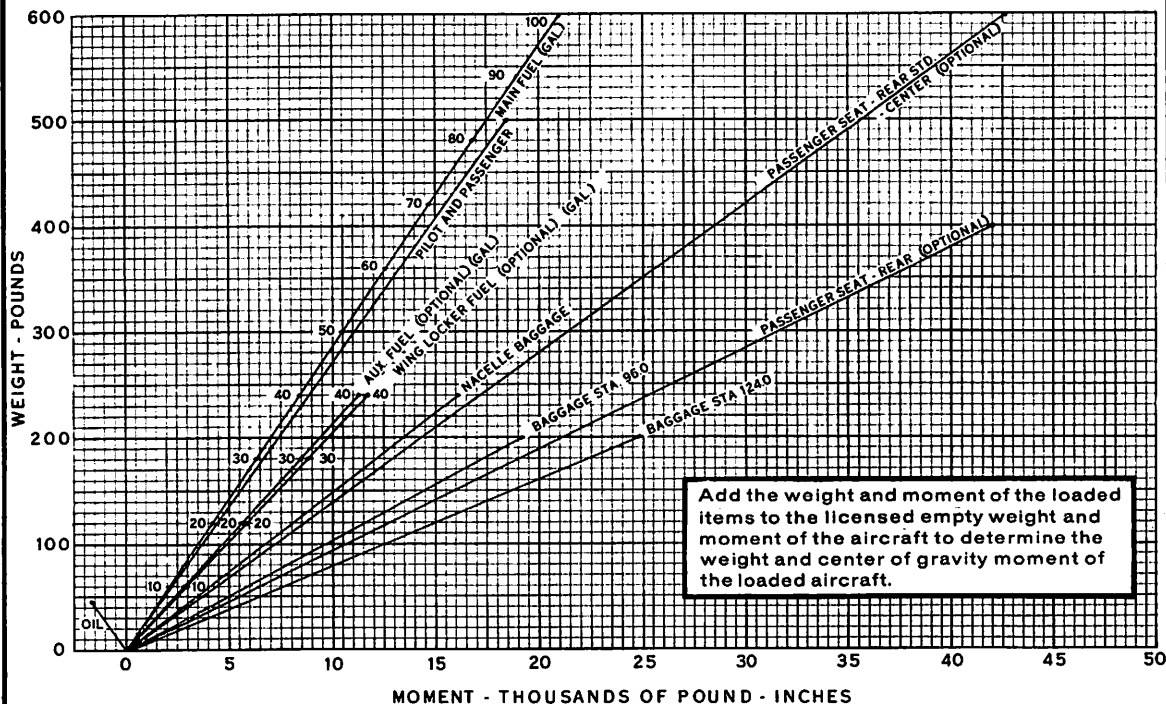
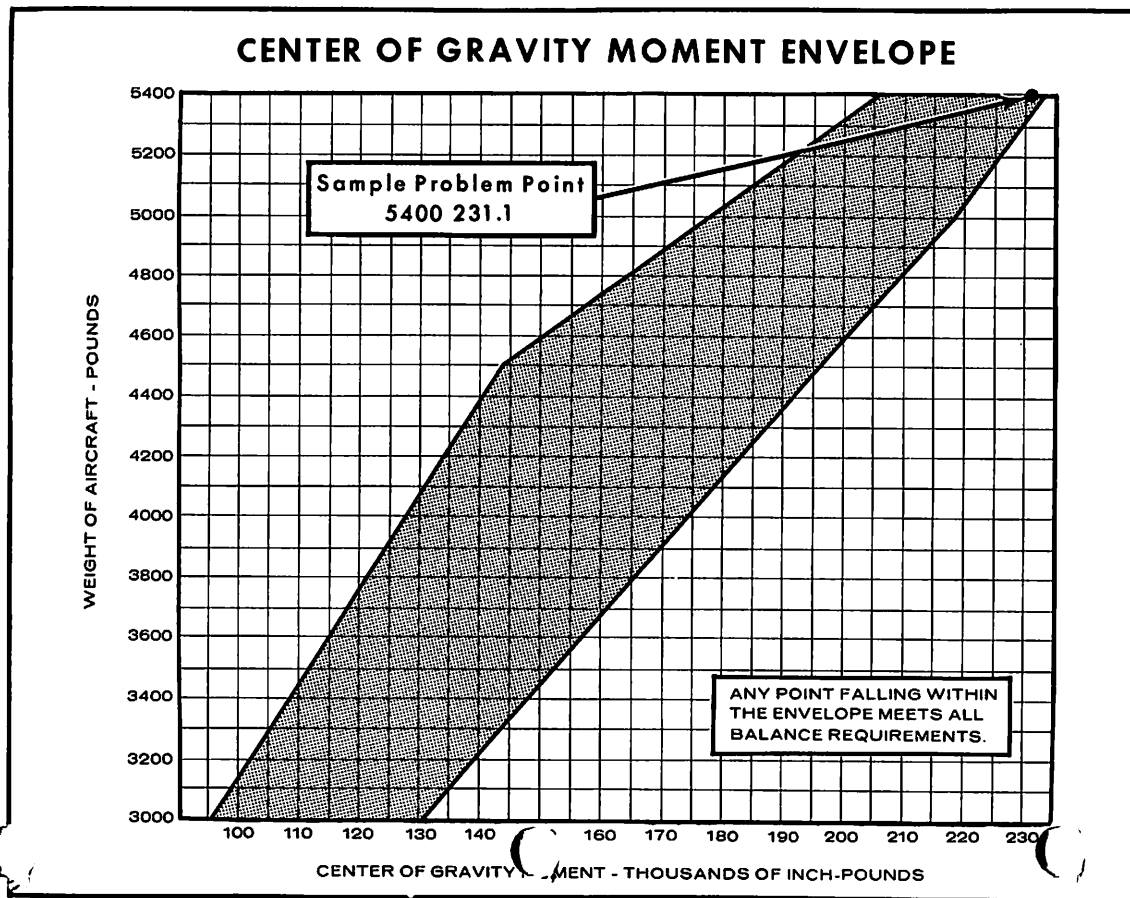


Figure 4-3





TURBO-SYSTEM

SECTION VI

OPERATIONAL DATA

The operational data charts on the following pages are presented for two purposes; first, so that you may know what to expect from your aircraft under various conditions; and second, to enable you to plan your flights in detail and with reasonable accuracy.

A power setting selected from the range charts usually will be more efficient than a random setting, since it will permit accurate fuel flow settings and your fuel consumption can be estimated closely. You will find that using the charts and your Cessna Turbo-System 310P Power Computer will pay dividends in over-all efficiency.

The data in the charts has been compiled from actual flight tests with the aircraft and engines in good condition, and using average piloting techniques. Note also that the range charts make no allowances for wind, navigational errors, warmup, takeoff, climb, etc. You must estimate these variables for yourself and make allowances accordingly.

Because of temperature and pressure effect on turbines, the operational data shown for over 10,000 feet may have a tolerance of plus or minus five percent.

AIRSPEED CORRECTION TABLE

FLAPS 0°		FLAPS 15° *		FLAPS 35° **	
IAS, MPH	CAS, MPH	IAS, MPH	CAS, MPH	IAS, MPH	CAS, MPH
80	81	70	72	60	60.5
100	101	80	82	70	70.5
120	121	90	92	80	80.5
140	140.5	100	101.5	90	90.5
160	160.5	110	111	100	100
180	180.5	120	121	110	110
200	200	130	130.5	120	120
220	220	140	140.5	130	130
240	239.5	150	150	140	140
260	260.5	160	160	150	150
		170	169.5	160	159.5
		180	179.5		

* Maximum Flap Speed 180 MPH-CAS ** Maximum Flap Speed 160 MPH-CAS

Figure 6-1

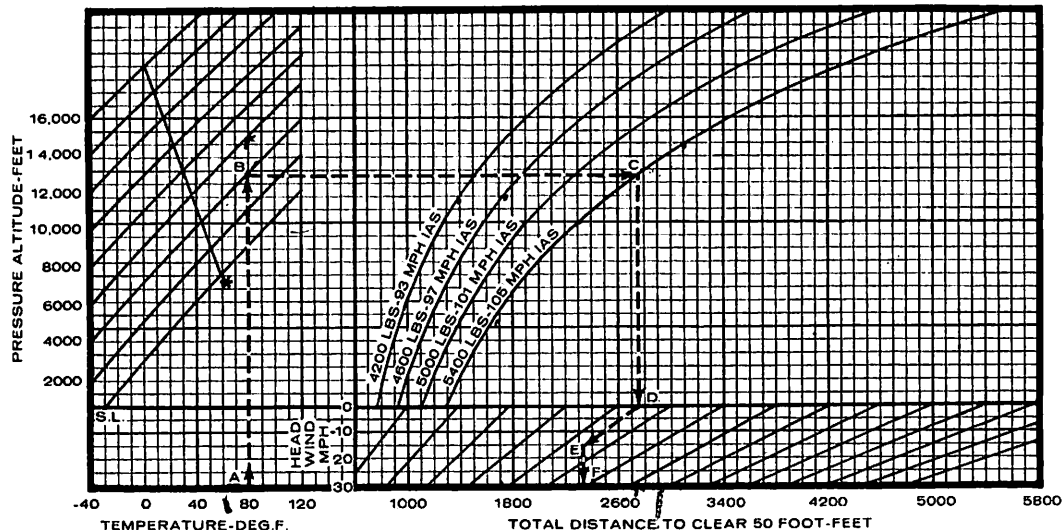
STALL SPEED CHART

MPH (IAS IS APPROXIMATE)
5400 POUNDS GROSS WEIGHT

CONFIGURATION	ANGLE OF BANK							
	0°		20°		40°		60°	
	IAS	CAS	IAS	CAS	IAS	CAS	IAS	CAS
Gear and Flaps Up	86	87	89	90	99	100	122	123
Gear Down and Flaps 15°	82	84	85	87	95	96	118	119
Gear Down and Flaps 35°	76	77	79	80	87	88	109	109

Figure 6-2

NORMAL TAKE-OFF DISTANCE



* STANDARD TEMPERATURE

CONDITIONS:

1. Level Hard Surface Runway.
2. Wing Flaps - UP.
3. Cowl Flaps - OPEN.
4. 2700 RPM, 32 in. Hg. M. P. Before Brake Release.
5. Maintain Speed to 50 Ft.

NOTE: Ground Run is Approximately 83% of Total Distance.

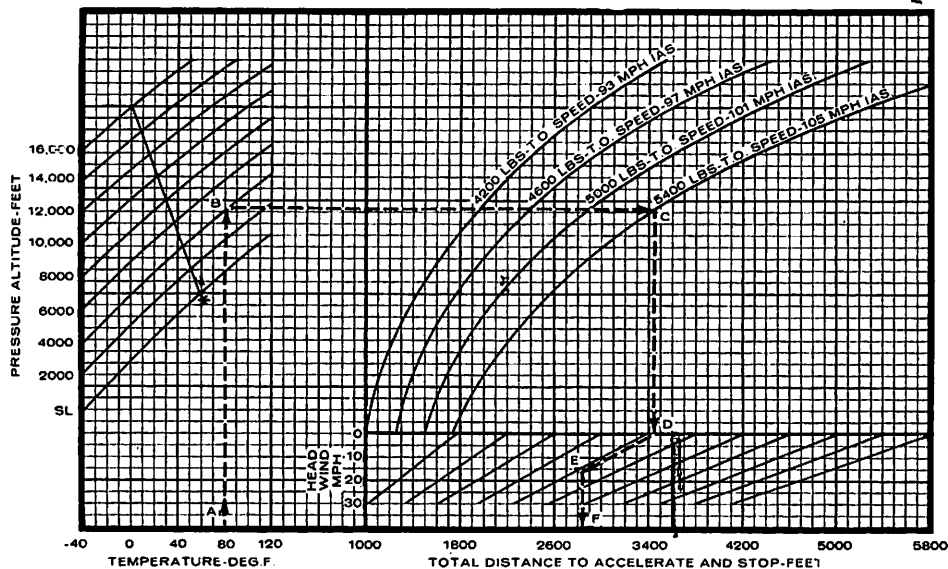
NOTE: Increase Total Distance by 7.5% for Operation on Firm Dry Sod Runway.

EXAMPLE:

- A. Temperature - 80° F.
- B. Pressure Altitude - 4000 Ft.
- C. Gross Weight - 5400 Lbs.
- D. Total Distance to Clear 50 Ft. (No Wind) - 2750 Ft.
- E. Headwind - 15 MPH.
- F. Total Distance to Clear 50 Ft. (15 MPH Headwind) - 2325 Ft.

Figure 6-3

ACCELERATE STOP DISTANCE



* STANDARD TEMPERATURE

CONDITIONS:

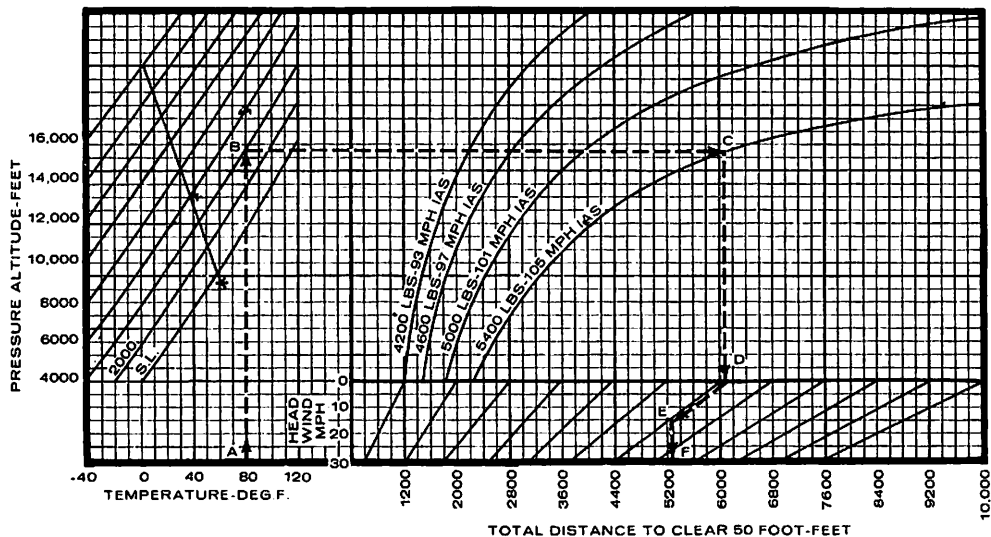
1. Level Hard Surface Runway.
2. Wing Flaps - UP.
3. Cowl Flaps - OPEN.
4. 2700 RPM, 32 in. Hg. M. P. Before Brake Release.
5. Engine Failure at Takeoff Speed.
6. Heavy Braking After Engine Failure.

EXAMPLE:

- A. Temperature - 80°F.
- B. Pressure Altitude - 4000 Ft.
- C. Gross Weight - 5400 Lbs.
- D. Distance to Stop (No Wind) - 3443 Ft.
- E. Headwind - 15 MPH.
- F. Distance to Stop (15 MPH Headwind) - 2840 Ft.

Figure 6-4

SINGLE ENGINE TAKEOFF DISTANCE



* STANDARD TEMPERATURE

CONDITIONS:

1. Level Hard Surface Runway.
2. Wing Flaps - UP.
3. Cowl Flaps - OPEN.
4. 2700 RPM, 32 in. Hg. M. P. Before Brake Release.
5. Engine Failure at Takeoff Speed.
6. Propeller Feathered and Gear Retracted During Climb.
7. Maintain Speed to 50 Ft.

EXAMPLE:

- A. Temperature - 80° F.
- B. Pressure Altitude - 4000 Ft.
- C. Gross Weight - 5400 Lbs.
- D. Total Distance to Clear 50 Ft. (No Wind) - 6069 Ft.
- E. Headwind - 15 MPH.
- F. Total Distance to Clear 50 Ft. (15 MPH Headwind) - 5265 Ft.

Figure 6-5

Figure 6-6

MULTI-ENGINE CLIMB DATA AT 5400 POUNDS

MAXIMUM PERFORMANCE

SEA LEVEL 59°F			5000 FT. 41°F			10000 FT. 23°F			15000 FT. 5°F			20000 FT. -12°F			25000 FT. -30°F		
Best Climb IAS MPH	Rate of Climb Ft/Min	Gal of Fuel Used	Best Climb IAS MPH	Rate of Climb Ft/Min	From S.L. Fuel Used	Best Climb IAS MPH	Rate of Climb Ft/Min	From S.L. Fuel Used	Best Climb IAS MPH	Rate of Climb Ft/Min	From S.L. Fuel Used	Best Climb IAS MPH	Rate of Climb Ft/Min	From S.L. Fuel Used	Best Climb IAS MPH	Rate of Climb Ft/Min	From S.L. Fuel Used
120	1862	5	119.7	1760	7.6	119.4	1658	10.3	119.1	1558	13.2	118.0	1080	16.2	116.2	515	20.6

NOTE: FULL THROTTLE, 2700 RPM, MIXTURE AT RECOMMENDED FUEL FLOW, FLAPS AND GEAR UP
 FUEL USED INCLUDES WARM-UP AND TAKEOFF ALLOWANCE.
 DECREASE RATE OF CLIMB 70 FT/MIN FOR EACH 10°F ABOVE STANDARD TEMPERATURE FOR
 A PARTICULAR ALTITUDE'

CRUISE CLIMB

POWER SETTING		Climb IAS MPH	Fuel Flow Gal/Hr Per Eng	5000 FT. 41°F			10000 FT. 23°F			15000 FT. 5°F			20000 FT. -12°F		
				FROM SEA LEVEL			FROM SEA LEVEL			FROM SEA LEVEL			FROM SEA LEVEL		
				Dist. Miles	Time Min.	Fuel Used Gal.	Dist. Miles	Time Min.	Fuel Used Gal.	Dist. Miles	Time Min.	Fuel Used Gal.	Dist. Miles	Time Min.	Fuel Used Gal.
2350	29	150	16.8	11.6	4.41	7.47	26.2	9.58	10.36	45.7	15.92	13.92	72.4	23.98	18.43

NOTE: WARM-UP AND TAKEOFF ALLOWANCE 5 GALLONS AT SEA LEVEL
 MIXTURE AT RECOMMENDED FUEL FLOW, FLAPS AND GEAR UP.

MAXIMUM PERFORMANCE TAKEOFF 15° FLAPS

Gross Weight Pounds	IAS at Takeoff MPH	IAS at Obstacle MPH	Head Wind MPH	DENSITY ALTITUDE							
				SEA LEVEL 59°F		2500 FT. 50°F		5000 FT. 41°F		7500 FT. 32°F	
				Ground Run	Total Distance over 50 Ft Obstacle	Ground Run	Total Distance over 50 Ft Obstacle	Ground Run	Total Distance over 50 Ft Obstacle	Ground Run	Total Distance over 50 Ft Obstacle
5400	93	93	0	1250	1590	1411	1772	1602	1987	1831	2243
			15	985	1277	1122	1434	1285	1620	1481	1842
			30	733	977	846	1109	982	1265	1145	1454

Figure 6-7

SINGLE ENGINE CLIMB DATA

Gross Weight Pounds	SEA LEVEL 59°F		5000 FT 41°F		10000 FT 23°F		15000 FT 5°F		20000 FT -12°F	
	Best Climb IAS MPH	Rate of Climb Ft/Min	Best Climb IAS MPH	Rate of Climb Ft/Min	Best Climb IAS MPH	Rate of Climb Ft/Min	Best Climb IAS MPH	Rate of Climb Ft/Min	Best Climb IAS MPH	Rate of Climb Ft/Min
5400	121.8	440	121.2	353	120.4	265	119.4	178	114.2	-48
5000	117.0	545	116.5	458	115.5	273	115.0	287	111.0	25
4600	112.0	650	111.7	565	111.0	505	110.2	395	105.5	97

NOTE: FLAPS AND GEAR UP, INOPERATIVE PROPELLER - FEATHERED, WING BANKED 5° TOWARD OPERATING ENGINE, FULL THROTTLE, 2700 RPM AND MIXTURE AT RECOMMENDED FUEL FLOW. DECREASE RATE-OF-CLIMB 35 FT/MIN FOR EACH 10°F ABOVE STANDARD TEMPERATURE FOR A PARTICULAR ALTITUDE.

Figure 6-8

SINGLE ENGINE SERVICE CEILING

BEST CLIMB SPEED APPROXIMATELY 115 MPH IAS

Gross Weight Pounds	OUTSIDE AIR TEMPERATURE °F					
	-10	0	10	20	30	40
	ALTITUDE-FEET					
5400	18,300	17,900	17,600	17,300	16,850	16,420
5000	19,540	19,250	18,950	18,620	18,270	17,900
4600	20,580	20,260	19,970	19,700	19,400	19,020

NOTE: TABLE PROVIDES PERFORMANCE INFORMATION TO AID IN ROUTE SELECTION WHEN OPERATING UNDER FAR 135.145 AND FAR 91.119 REQUIREMENTS.

INCREASE INDICATED SERVICE CEILINGS 100 FEET FOR EACH 0.10 INCH Hg. ALTIMETER SETTING GREATER THAN 29.92.

DECREASE INDICATED SERVICE CEILINGS 100 FEET FOR EACH 0.10 INCH Hg. ALTIMETER SETTING LESS THAN 29.92.

Figure 6-9

CRUISE PERFORMANCE WITH NORMAL LEAN MIXTURE AT SEA LEVEL

RPM	MP	%BHP	TAS	Gal/Hr	Endurance 100 GAL	Range 100 GAL	Endurance 140 GAL	Range 140 GAL	Endurance 180 GAL	Range 180 GAL
2350	29	73.7	210.5	30.2	3.31	698	4.64	976	5.96	1255
	27	67.5	204.5	27.4	3.64	744	5.10	1042	6.57	1344
	25	61.4	197.5	25.0	4.00	789	5.60	1105	7.20	1422
	23	54.6	189	22.6	4.42	837	6.19	1171	7.96	1504
	21	48.1	180	20.4	4.89	882	6.85	1234	8.82	1588
2200	29	66.5	203	27.0	3.70	752	5.19	1053	6.67	1354
	27	60.7	196.5	24.7	4.04	794	5.66	1112	7.29	1432
	25	54.9	189.5	22.7	4.41	835	6.17	1169	7.93	1503
	23	48.8	181	20.7	4.84	877	6.78	1228	8.70	1575
	21	43.0	172.5	18.8	5.31	918	7.44	1285	9.57	1651
2100	29	61.4	197.5	25.0	4.00	789	5.60	1105	7.20	1422
	27	56.0	191	23.0	4.34	829	6.08	1160	7.83	1496
	25	50.5	184	21.2	4.72	867	6.60	1214	8.49	1562
	23	45.0	176	19.4	5.14	905	7.20	1267	9.28	1633
	21	38.9	166	17.6	5.69	944	7.96	1322	10.23	1698
	19	31.4	149	15.3	6.52	973	9.13	1362	11.76	1752

CRUISE PERFORMANCE IS BASED ON STANDARD CONDITIONS (59°F),
ZERO WIND, 100, 140 AND 180 GALLONS OF FUEL (NO RESERVE).

NOTE: See range profile Figure 6-11 for range including climb.

CRUISE PERFORMANCE WITH NORMAL LEAN MIXTURE AT 5000'

RPM	MP	%BHP	TAS	Gal/Hr	Endurance 100 GAL	Range 100 GAL	Endurance 140 GAL	Range 140 GAL	Endurance 180 GAL	Range 180 GAL
2350	29	73.7	221	30.2	3.31	732	4.64	1025	5.96	1317
	27	67.5	214	27.4	3.64	781	5.10	1093	6.57	1406
	25	61.4	207	25.0	4.00	827	5.60	1158	7.20	1490
	23	54.6	198	22.6	4.42	877	6.19	1228	7.96	1576
	21	48.1	188.5	20.4	4.89	923	6.85	1292	8.82	1663
2200	29	66.5	213	27.0	3.70	789	5.19	1104	6.67	1421
	27	60.7	206	24.7	4.04	833	5.66	1166	7.29	1502
	25	54.9	198.5	22.7	4.41	875	6.17	1225	7.93	1574
	23	48.8	190	20.7	4.84	920	6.78	1288	8.70	1653
	21	43.0	180.5	18.8	5.31	959	7.44	1342	9.57	1727
2100	29	61.4	207	25.0	4.00	827	5.60	1158	7.20	1490
	27	56.0	200	23.0	4.34	869	6.08	1216	7.83	1566
	25	50.5	192	21.2	4.72	907	6.60	1269	8.49	1630
	23	45.0	184	19.4	5.14	945	7.20	1325	9.28	1708
	21	38.9	172	17.6	5.69	979	7.96	1369	10.23	1760
	19	31.4	150	15.3	6.52	978	9.13	1370	11.76	1764

CRUISE PERFORMANCE IS BASED ON STANDARD CONDITIONS (41°F),
ZERO WIND, 100, 140 AND 180 GALLONS OF FUEL (NO RESERVE).

NOTE: See range profile Figure 6-11 for range including climb.

Figure 6-10 (Sheet 1 of 3)

CRUISE PERFORMANCE WITH NORMAL LEAN MIXTURE AT 10,000 FT

	MP	%BHP	TAS	Gal/Hr	Endurance 100 GAL	Range 100 GAL	Endurance 140 GAL	Range 140 GAL	Endurance 180 GAL	Range 180 GAL
2350	29	73.7	232.5	30.2	3.31	770	4.64	1078	5.96	1386
	27	67.5	225	27.4	3.64	820	5.10	1147	6.57	1478
	25	61.4	217.5	25.0	4.00	869	5.60	1216	7.20	1566
	23	54.6	207.5	22.6	4.42	919	6.19	1287	7.96	1652
	21	48.1	198	20.4	4.89	968	6.85	1355	8.82	1746
2200	29	66.5	224	27.0	3.70	830	5.19	1161	6.67	1494
	27	60.7	216.5	24.7	4.04	875	5.66	1225	7.29	1578
	25	54.9	208.5	22.7	4.41	918	6.17	1285	7.93	1653
	23	48.8	199	20.7	4.84	963	6.78	1348	8.70	1731
	21	43.0	187.5	18.8	5.31	996	7.44	1395	9.57	1794
2100	29	61.4	217.5	25.0	4.00	869	5.60	1216	7.20	1566
	27	56.0	209.5	23.0	4.34	910	6.08	1274	7.83	1640
	25	50.5	201.5	21.2	4.72	951	6.60	1332	8.49	1711
	23	45.0	191	19.4	5.14	982	7.20	1375	9.28	1772
	21	38.9	177	17.6	5.69	1007	7.96	1409	10.23	1811
	19	31.4	146.5	15.3	6.52	955	9.13	1338	11.76	1723

CRUISE PERFORMANCE IS BASED ON STANDARD CONDITIONS (23°F),
ZERO WIND, 100, 140 AND 180 GALLONS OF FUEL (NO RESERVE).

NOTE: See range profile Figure 6-11 for range including climb.

CRUISE PERFORMANCE WITH NORMAL LEAN MIXTURE AT 15,000 FT

RPM	MP	%BHP	TAS	Gal/Hr	Endurance 100 GAL	Range 100 GAL	Endurance 140 GAL	Range 140 GAL	Endurance 180 GAL	Range 180 GAL
2350	29	73.7	245	30.2	3.31	811	4.64	1139	5.96	1460
	27	67.5	237	27.4	3.64	863	5.10	1208	6.57	1557
	25	61.4	228.5	25.0	4.00	913	5.60	1278	7.20	1645
	23	54.6	218	22.6	4.42	965	6.19	1350	7.96	1735
	21	48.1	206.5	20.4	4.89	1010	6.85	1415	8.82	1821
2200	29	66.5	235.5	27.0	3.70	872	5.19	1221	6.67	1571
	27	60.7	227	24.7	4.04	918	5.66	1286	7.29	1655
	25	54.9	218.5	22.7	4.41	963	6.17	1348	7.93	1733
	23	48.8	207.5	20.7	4.84	1004	6.78	1407	8.70	1805
	21	43.0	193	18.8	5.31	1025	7.44	1436	9.57	1847
2100	29	61.4	228.5	25.0	4.00	913	5.60	1278	7.20	1645
	27	56.0	220.5	23.0	4.34	957	6.08	1339	7.83	1727
	25	50.5	211.5	21.2	4.72	997	6.60	1396	8.49	1796
	23	45.0	199.5	19.4	5.14	1025	7.20	1436	9.28	1851
	21	38.9	183	17.6	5.69	1041	7.96	1457	10.23	1872

CRUISE PERFORMANCE IS BASED ON STANDARD CONDITIONS (5.5°F),
ZERO WIND, 100, 140 AND 180 GALLONS OF FUEL (NO RESERVE).

E: See range profile Figure 6-11 for range including climb.

Figure 6-10 (Sheet 2 of 3)

CRUISE PERFORMANCE WITH NORMAL LEAN MIXTURE AT 20,000 FT

RPM	MP	%BHP	TAS	Gal/Hr	Endurance 100 GAL	Range 100 GAL	Endurance 140 GAL	Range 140 GAL	Endurance 180 GAL	Range 180 GAL
2350	29	73.7	257.5	30.2	3.31	854	4.64	1195	5.96	1535
	27	67.5	249	27.4	3.64	908	5.10	1271	6.57	1636
	25	61.4	240.5	25.0	4.00	960	5.60	1345	7.20	1732
	23	54.9	230	22.7	4.41	1012	6.17	1417	7.93	1824
	21	48.8	216.5	20.7	4.84	1048	6.78	1468	8.70	1884
2200	29	65.5	246.5	26.6	3.76	928	5.27	1299	6.77	1669
	27	60.0	238.5	24.5	4.08	973	5.71	1302	7.35	1753
	25	54.6	229.5	22.6	4.42	1015	6.19	1421	7.96	1827
	23	48.8	216.5	20.7	4.84	1048	6.78	1468	8.70	1884
	21	43.0	200.5	18.8	5.31	1065	7.44	1492	9.57	1919
2100	29	60.4	239.0	24.6	4.06	971	5.69	1359	7.32	1749
	27	55.6	231.0	23.0	4.36	1007	6.10	1410	7.83	1809
	25	50.5	221	21.2	4.72	1043	6.60	1459	8.49	1876
	23	45.4	208	19.6	5.11	1063	7.16	1489	9.18	1909
	21	39.2	185.5	17.7	5.66	1050	7.93	1471	10.17	1887

CRUISE PERFORMANCE IS BASED ON STANDARD CONDITIONS (-12°F),
ZERO WIND, 100, 140 AND 180 GALLONS OF FUEL (NO RESERVE).

NOTE: See range profile Figure 6-11 for range including climb.

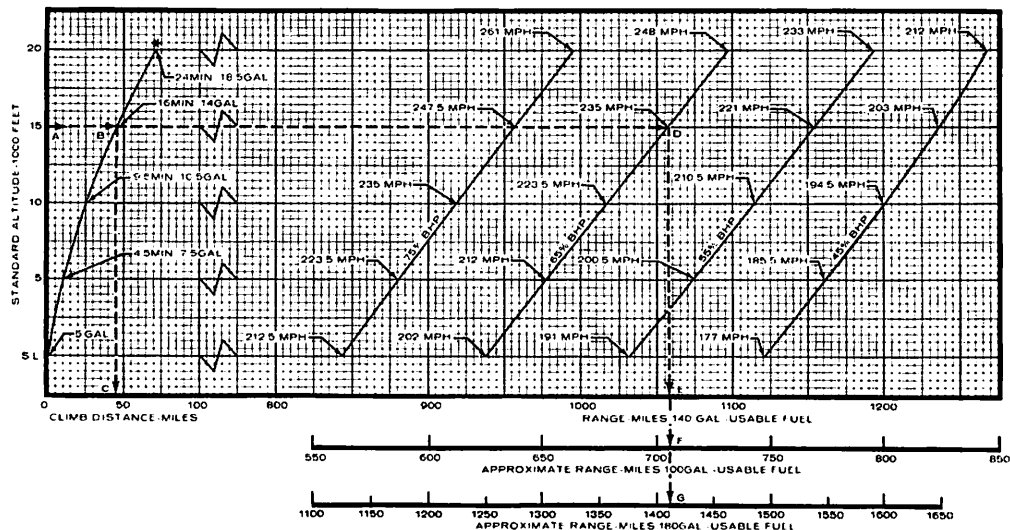
CRUISE PERFORMANCE WITH NORMAL LEAN MIXTURE AT 25,000 FT

RPM	MP	%BHP	TAS	Gal/Hr	Endurance 100 GAL	Range 100 GAL	Endurance 140 GAL	Range 140 GAL	Endurance 180 GAL	Range 180 GAL
2350	23	55.2	241	22.8	4.39	1058	6.14	1480	7.89	1901
	22	51.8	233.5	21.7	4.62	1079	6.46	1508	8.29	1936
	21	48.1	222.5	20.4	4.89	1088	6.85	1524	8.82	1962
	20	45.0	212	19.4	5.14	1090	7.20	1526	9.28	1967
2200	23	48.8	224.5	20.7	4.84	1087	6.78	1522	8.70	1953
	22	46.1	216.5	19.8	5.05	1093	7.07	1531	9.09	1968
	21	43.0	203	18.8	5.31	1078	7.44	1510	9.57	1943
2100	23	45.4	213.5	19.6	5.11	1091	7.16	1529	9.18	1960
	22	42.3	200.5	18.6	5.38	1079	7.53	1510	9.68	1941

CRUISE PERFORMANCE IS BASED ON STANDARD CONDITIONS (-30°F),
ZERO WIND, 100, 140 AND 180 GALLONS OF FUEL (NO RESERVE).

Figure 6-10 (Sheet 3 of 3)

RANGE PROFILE *Climb info*



NOTES

- Maximum range is not changed appreciably with variations in climb power setting and climb speed.
- Range includes distance to alternate destination.
- Climb fuel includes Allowance for start, taxi, & takeoff.

CONDITIONS

- Starting Weight - 5400 Lbs.
- Cruise Climb to Desired Cruise Altitude.
- Cruise Fuel Flow Normal Lean Mixture.
- Zero Wind.
- 45 Min. Reserve Fuel (12.3 Gals.) at 35% BHP Provides Additional 132 Miles.

EXAMPLE

- Cruise Altitude - 15,000 Ft.
- Time and Fuel Used to Climb from S. L. to 15,000 Ft. - 16 Min. and 14 Gal.
- Climb Distance - 45.5 Miles.
- Cruise Power and Speed - 65% and 235 MPH TAS.
- Range - 1058 Miles (140 Gals. Usable Fuel - Optional).
- Range - 702 Miles (100 Gals. Usable Fuel - Standard).
- Range - 1414 Miles (180 Gals. Usable Fuel - Optional).

* Cruise Climb at 2350 RPM, 29.0 In. Hg. M. P. and 150 MPH IAS.

Figure 6-11

LANDING PERFORMANCE									
Gross Weight Pounds	IAS at Obstacle MPH	SEA LEVEL 59° F		2500 FT. 50° F		5000 FT. 41° F		7500 FT. 32° F	
		Ground Run	Total Distance Over 50 Foot Obstacle	Ground Run	Total Distance Over 50 Foot Obstacle	Ground Run	Total Distance Over 50 Foot Obstacle	Ground Run	Total Distance Over 50 Foot Obstacle
5400	108	640	1790	689	1839	742	1892	801	1951
5000	104	540	1690	582	1732	627	1777	677	1827
4600	100	450	1600	484	1634	522	1672	563	1713
4200	95	368	1518	396	1546	427	1577	461	1611

NOTE WING FLAPS 35°, POWER OFF, HARD SURFACE RUNWAY, ZERO WIND, MAXIMUM BRAKING EFFORT. REDUCE LANDING DISTANCE 10% FOR EACH 10 MPH HEADWIND.

NOTE INCREASE DISTANCE BY 25% OF THE GROUND RUN FOR OPERATION ON FIRM DRY SOD RUNWAYS.

ELECTRIC ELEVATOR TRIM

The electric elevator trim system consists of an electrically operated drive motor and clutch assembly, which receives power through a "momentary on" two way trim switch and an emergency disengage switch.

NORMAL OPERATION

To operate the electrical elevator trim system proceed as follows:

- (1) Battery Switch - ON.
- (2) Elevator Trim Disengage Switch - ELEVATOR TRIM.
- (3) Trim Switch - ACTUATE (AS DESIRED).
- (4) Elevator Position Indicator - CHECK.

NOTE

To check the operation of the disengage switch: actuate the elevator trim switch with the disengage switch in the disengage position. Observe that the manual trim wheel and indicator do not rotate when the elevator trim switch is actuated.

EMERGENCY OPERATION

Electric Elevator Trim System Failure.

- (1) Elevator Trim Disengage Switch - DISENGAGE.

NOTE

The disengage switch removes all power from the system and places motor and clutch circuits to ground.

- (2) Manual Trim - AS REQUIRED.

DUAL HEATED PITOT AIRSPEED SYSTEM

The dual heated pitot airspeed system consists of two pitot heads folded together and located on the sides of the fuselage just forward of the pilot's compartment.

WITHOUT WEATHER RADAR INSTALLED

When the system is installed without the radar nose, the standard pitot head remains in the normal position and indicates on the pilot's airspeed indicator in the normal manner (See Pilot's Checklist for airspeed calibrations). The dual pitot system indicates on the copilot's airspeed indicator. The following tables present the copilot's airspeed calibrations.

STANDARD STATIC SOURCE

AIRSPEED CORRECTION TABLE			
Gear Position Flap Position MPH-CAS	Up 0° MPH-IAS	Down 15° MPH-IAS	Down 35° MPH-IAS
80	66.5	70.5	75.5
100	96.5	96	97.5
120	118	117.5	118
140	138	138	139.5
160	158	159	161
180	178	180	
200	198		
220	218		
240	238		

ALTERNATE STATIC SOURCE AIRSPEED CALIBRATIONS

Pilot's Storm Window Closed Heater Vents "on" or "off"				Pilot's Storm Window Open Heater Vents "on" or "off"		
Gear Position Flap Position MPH-CAS	Up 0° MPH-IAS	Down 15° MPH-IAS	Down 35° MPH-IAS	Up 0° MPH-IAS	Down 15° MPH-IAS	Down 35° MPH-IAS
80	64.5	70.5	75	79.5	86	89.5
100	96	97.5	98.5	111.5	112	112.5
120	119	120.5	121.5	135	134	134
140	140	142.5	144.5	156	155	156.5
160	161	164.5	168	178	176.5	179.5
180	182.5	187		200	198	
200	204			221.5		
220	224.5			243		
240	246			265		

Figure 7-3

WITH WEATHER RADAR INSTALLED

When the optional weather radar is installed, the standard pitot head is deleted and only the two side pitot heads are installed. In this configuration both the pilot and copilot's airspeed indicators are connected to the optional pitot heads. The airspeed calibrations with this configuration are shown in the following tables.

STANDARD STATIC SOURCE

AIRSPEED CORRECTION TABLE			
Gear Position Flap Position MPH-CAS	Up 0° MPH-IAS	Down 15° MPH-IAS	Down 35° MPH-IAS
80	71.5	72	73
100	97	96.5	98.5
120	118	118	120
140	138.5	138	140
160	158.5	158	160
180	179	178	
200	199.5		
220	220		
240	240		

ALTERNATE STATIC SOURCE AIRSPEED CALIBRATIONS						
Pilot's Storm Window Closed Heater Vents "on" or "off"				Pilot's Storm Window Open Heater Vents "on" or "off"		
Gear Position Flap Position MPH-CAS	Up 0° MPH-IAS	Down 15° MPH-IAS	Down 35° MPH-IAS	Up 0° MPH-IAS	Down 15° MPH-IAS	Down 35° MPH-IAS
80	69.5	72	72.5	84.5	87.5	87
100	96.5	98	99.5	112	112.5	113.5
120	119	121	123.5	135	134.5	136
140	140.5	142.5	145	156.6	155	157
160	161.5	163.5	167	178.5	175.5	178.5
180	183.5	185		201	196	
200	205.5			223		
220	226.5			245		
240	248			267		

Figure 7-4