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FAA-APPROVED
Airplane Flight Manual Supplement
for
Cessna 208 Aircraft
Equipped with
Honeywell TPE331-12JR Engine

Doc. No. 850-AFMS

Reg. No. _____

Serial. No. _____

This supplement must be attached to the FAA Approved Pilot's Operating Handbook when the Honeywell TPE331-12JR engine is installed on the airplane in accordance with Aero Twin, Inc. STC SAXXXXAK. The information contained in this document supplements or supersedes the basic manual and applicable appendices only in those areas listed. For limitations, procedures, and performance information not contained in this supplement, consult Cessna's basic Pilot's Operating Handbook and/or Wipline's Pilot's Operating Handbook Supplement 8 for the aircraft equipped with Wipline gross weight increase STC SA270CH.

FAA-Approved: _____

NOT APPROVED

Manager, Anchorage Aircraft Certification Office
Federal Aviation Administration
Anchorage, Alaska
Date: _____

GENERAL INFORMATION

SPEED (KTAS):
- Maximum Cruise at 10,000 FT ..... 190 KNOTS
- Maximum Cruise at 20,000 FT ..... 181 KNOTS

RANGE: With 2224 pounds usable fuel and fuel allowance for engine start, taxi, takeoff, climb, descent and 45 minutes reserve.
- Max Cruise at 10,000 FT ..... 855 NM 4.4 HRS
- Max Cruise at 20,000 FT ..... 1094 NM 5.8 HRS
- Max Range at 10,000 FT ..... 1033 NM 7.2 HRS
- Max Range at 20,000 FT ..... 1224 NM 10.0 HRS

RATE OF CLIMB AT SEA LEVEL ..... 1460 FPM

MAXIMUM OPERATING ALTITUDE ..... 25,000 FT

TAKEOFF PERFORMANCE:
- Ground Roll ..... 1025 FT
- Total Distance Over 50 FT Obstacle ..... 1951 FT

MAXIMUM WEIGHT:
- Ramp ..... 8395 LBS
- Takeoff ..... 8360 LBS
- Landing ..... 7800 LBS

STANDARD EMPTY WEIGHT ..... 4085 LBS

MAXIMUM USEFUL LOAD ..... 4275 LBS

OIL CAPACITY ..... 12 QTS

ENGINE: Honeywell TPE331-12JR-701S
Fixed Shaft Turbine Flat Rated
at 850 Shaft Horsepower

PROPELLER:
Hartzell 4-Bladed, Constant Speed, Full Feathering, Reversible.
- Diameter ..... 109.5 IN

NOTE

The above performance figures are based on indicated weights; standard atmospheric conditions; level, hard surfaced, dry runways; and no wind. They are calculated values derived from flight tests conducted by Aero Twin, Inc. under carefully documented conditions and will vary with individual airplanes and numerous factors affecting performance. Performance for other operational conditions can be derived by reference to operational data in other sections of this supplement.

TABLE OF CONTENTS

The following adjuncts to the text are used to highlight or emphasize important points:

WARNING : Calls attention to use of methods, procedures, or limits which must be followed precisely to avoid injury or death to persons.

CAUTION: Calls attention to methods, procedures, or limits which must be followed to avoid damage to equipment.

NOTE: Calls attention to additional procedures or information pertaining to the text.

SUPPLEMENT
SECTION 5
PERFORMANCE

TABLE OF CONTENTS

INTRODUCTION

The information presented in the Introduction, Use of Performance Charts, and Sample Problem paragraphs in Section 5 of the basic handbook is applicable to the 850 horsepower TPE331-12JR powered aircraft. Using this information, and the performance charts in this supplement, complete flight planning may be accomplished. For information not contained in this supplement, refer to the basic Flight Manual.

WARNING

To ensure that performance in this section can be duplicated, the airplane and engine must be maintained in good condition. Pilot proficiency and proper preflight planning using data necessary for all flight phases is also required to assure expected performance with ample margins of safety.

It should be noted that the cruise performance information presented in these charts are based on the fuel consumption and power expected from a nominal performance engine. You may observe fuel burns that vary plus or minus 10% depending on the quality and age of your engine.

Takeoff, climb, and landing data has been computed from actual flight tests using average piloting techniques and an airplane with an engine in good condition. However, performance below crossover altitude is not expected to be degraded appreciably by extended engine life because the engine is derated and should always be capable of producing 850 horsepower.

In some cases, performance charts in this section include data for temperatures which are outside of the operating limits. This data has been included to aid in interpolation.

SRL OFF EGT LIMITS

The following graph provides EGT limits for when the SRL is either turned off or inoperative. Anytime the SRL OFF annunciator is illuminated, figure 5-1 should be used to determine the EGT limit corresponding to the indicated outside air temperature and engine speed. Note that the 100% engine torque limit is still applicable with the SRL off, and must not be exceeded.

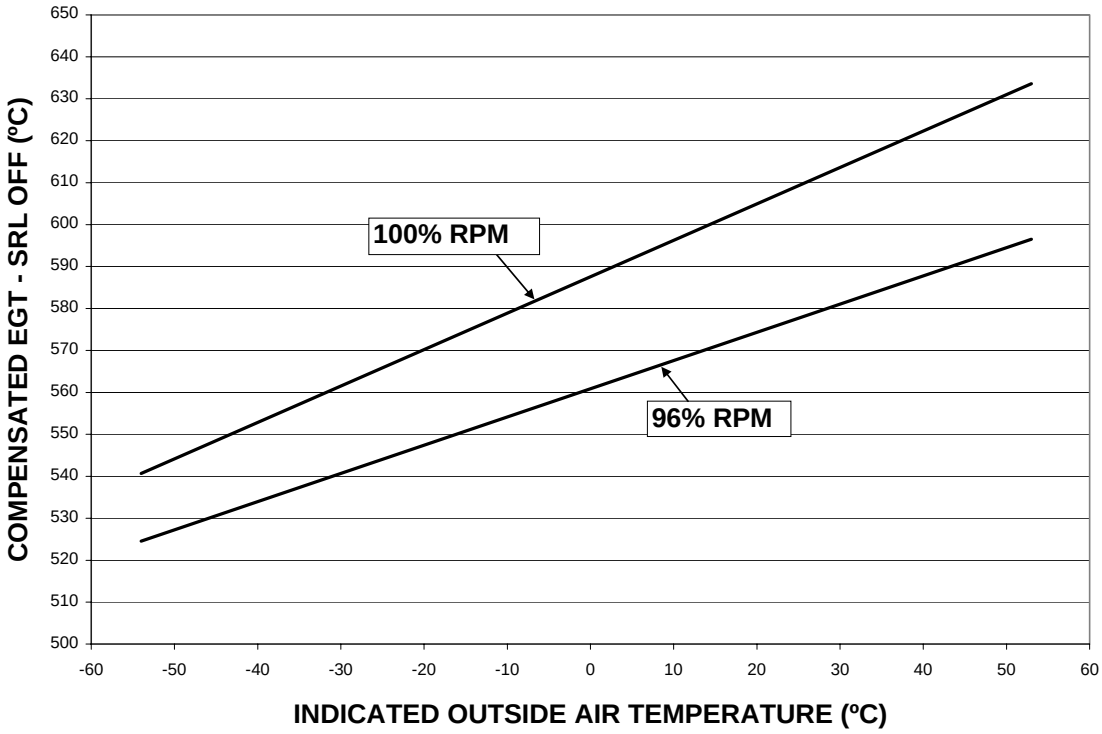

Figure 5-1. SRL Off EGT Limit vs. OAT and Engine Speed

TARGET TAKEOFF TORQUE

Figure 5-2 provides the target takeoff torque for given pressure altitudes and outside air temperatures. If the engine is temperature limited and the indicated EGT at maximum power is 650ºC, then the torque during the takeoff roll must be at least the value found in figure 5-2 for your current altitude and OAT. If the maximum torque is not achieved at maximum power prior to takeoff, the takeoff must be aborted and the aircraft returned to maintenance.

CONDITIONS:
100% Engine Speed
0-60 KIAS

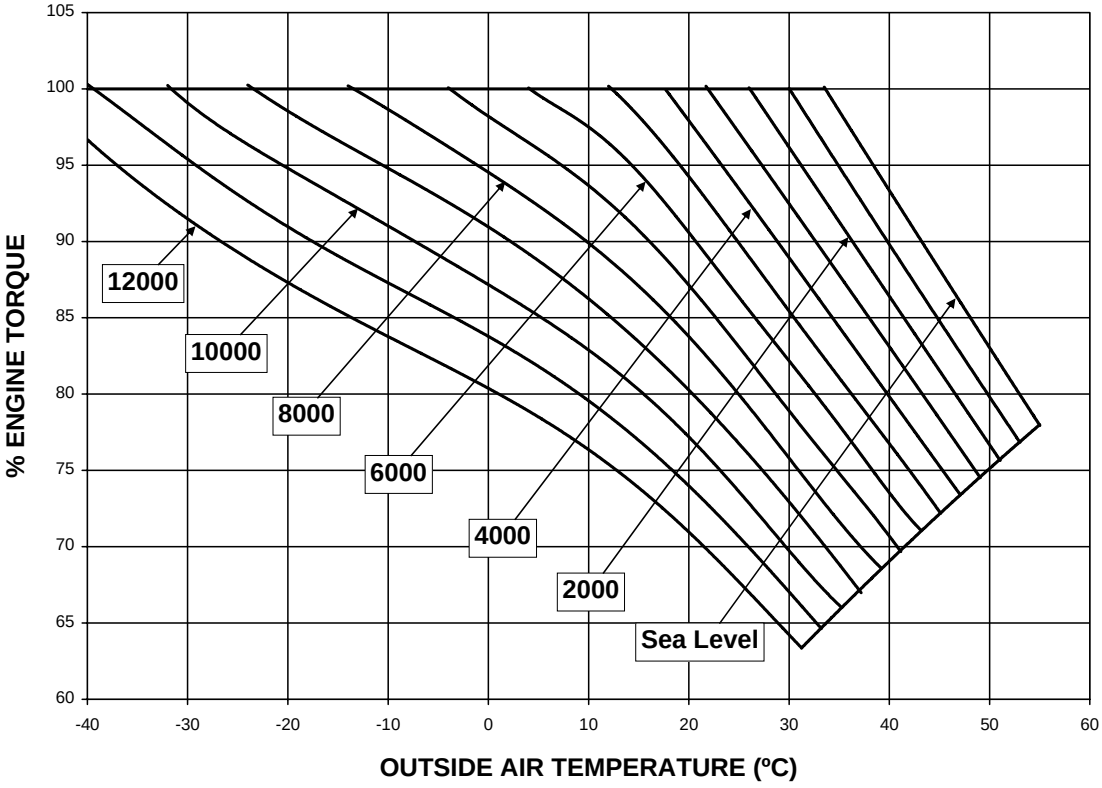

Figure 5-2. Minimum Takeoff Torque vs. Pressure Altitude and OAT

TAKEOFF DISTANCE
SHORT FIELD

CONDITIONS:
Flaps 20º
100% RPM
100% Torque
or 650ºC EGT
Cabin Heat – Off
Zero Wind
Paved, Level, Dry Runway

NOTES:
1. Decrease distance 10% for each 11 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2.5 knots.
2. For operation on a dry, grass runway, increase distance by 15% of the "ground roll" figure.
3. Where distance values have been replaced by dashes, operating temperature limits of the airplane would be greatly exceeded. Those distances which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	-10º C		0º C		10º C		20º C		30º C		40º c	
	LIFT OFF	AT 50 FT		GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT
8360	72	82	SL	881	1689	937	1789	995	1896	1055	2006	1116	2118	1229	2338
			2000	933	1894	1058	2013	1124	2133	1194	2258	1285	2422	1482	2835
			4000	1125	2135	1201	2269	1280	2407	1360	2551	1550	2937	1797	3455
			6000	1283	2413	1368	2567	1464	2738	1641	3089	1879	3580	2183	4223
			8000	1464	2740	1603	3001	1774	3333	1989	3763	2596	4887	2646	5134
			10000	1775	3312	1961	3670	2171	4076	2440	4620	2817	5399	-	-
			12000	2165	4058	2395	4500	2654	5011	3176	5992	3465	6674	-	-
8000	72	82	SL	796	1526	846	1617	899	1714	953	1813	1008	1914	1110	2113
			2000	898	1711	956	1819	1016	1927	1079	2040	1162	2188	1340	2562
			4000	1017	1929	1085	2050	1157	2176	1229	2305	1401	2655	1624	3122
			6000	1160	2181	1236	2320	1323	2475	1483	2792	1698	3236	1973	3816
			8000	1323	2476	1449	2712	1603	3012	1797	3401	2346	4417	2392	4639
			10000	1604	2994	1772	3317	1962	3684	2205	4175	2545	4879	-	-
			12000	1957	3667	2164	4067	2398	4529	2870	5415	3131	6032	-	-
7600	70	80	SL	708	1357	752	1437	799	1523	847	1611	896	1701	987	1878
			2000	798	1521	850	1617	903	1713	959	1813	1032	1945	1190	2277
			4000	904	1715	964	1822	1028	1933	1092	2049	1245	2359	1443	2775
			6000	1031	1938	1098	2062	1176	2199	1318	2481	1509	2875	1754	3392
			8000	1176	2200	1288	2411	1425	2677	1597	3023	2085	3925	2126	4123
			10000	1426	2660	1575	2948	1743	3274	1960	3710	2262	4336	-	-
			12000	1739	3259	1923	3614	2131	4025	2551	4812	2783	5361	-	-

Figure 5-3. Takeoff Distance

TAKEOFF DISTANCE
Flaps Up

CONDITIONS:
Flaps 0º
100% RPM
100% Torque
or 650ºC EGT
Cabin Heat – Off
Zero Wind
Paved, Level, Dry Runway

NOTES:
1. Decrease distance 10% for each 11 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2.5 knots.
2. For operation on a dry, grass runway, increase distance by 15% of the "ground roll" figure.
3. Where distance values have been replaced by dashes, operating temperature limits of the airplane would be greatly exceeded. Those distances which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	-10º C		0º C		10º C		20º C		30º C		40º c	
	LIFT OFF	AT 50 FT		GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT
8360	89	104	SL	1542	2500	1636	2647	1738	2804	1844	1968	1950	3133	2144	3449
			2000	1736	2801	1850	2977	1965	3156	2082	3337	2222	3550	2607	4211
			4000	1967	3158	2093	3352	2219	3547	2351	3755	2703	4337	3182	5161
			6000	2226	3556	2367	3778	2516	4005	2840	4539	3303	5317	3891	6335
			8000	2528	4024	2753	4370	3066	4885	3471	5572	4036	6529	4735	7730
8000	89	104	SL	1394	2259	1479	2392	1570	2534	1666	2682	1762	2831	1938	3117
			2000	1569	2531	1671	2691	1775	2852	1882	3015	2008	3208	2356	2806
			4000	1777	2854	1891	3029	2006	3205	2125	3393	2443	3919	2875	4664
			6000	2011	3214	2139	3414	2273	3619	2567	4102	2958	4805	3516	5725
			8000	2284	3637	2488	3949	2771	4415	3137	5035	3647	5900	4279	6985
7600	89	104	SL	1239	2008	1314	2126	1395	2252	1481	2384	1566	2516	1722	2770
			2000	1394	2249	1485	2391	1578	2534	1672	2680	1785	2851	2093	3382
			4000	1580	2537	1681	2692	1782	2849	1889	3016	2171	3483	2555	4145
			6000	1787	2856	1901	2034	2020	3217	2281	3645	2653	4270	3125	5088
			8000	2030	3232	2211	3510	2463	3923	2788	4475	3241	5244	3803	6208

Figure 5-4. Takeoff Distance

RATE OF CLIMB – TAKEOFF FLAP SETTING

FLAPS 20º

CONDITIONS:

Takeoff Power
100% RPM
Flaps 20º

NOTES:

1. Where rate of climb values have been replaced by dashes, an appreciable rate of climb for the weight shown cannot be expected or operating temperature limits of the airplane would be greatly exceeded. Those rates of climb which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only.

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB - FPM			
			-20º C	0º C	20º C	40º C
8360	0	92	1441	1357	1267	1111
	2000	92	1400	1310	1222	936
	4000	91	1352	1261	1177	766
	6000	91	1292	1204	1003	587
	8000	90	1245	1113	830	442
	10000	90	1242	1021	749	-
	12000	89	1140	927	668	-
8000	0	91	1503	1416	1322	1159
	2000	91	1460	1366	1275	977
	4000	90	1410	1316	1228	799
	6000	90	1348	1256	1046	612
	8000	89	1298	1160	866	442
	10000	89	1296	1065	781	-
	12000	88	1189	967	697	-
7600	0	90	1578	1487	1388	1217
	2000	90	1533	1434	1338	1025
	4000	89	1481	1381	1289	839
	6000	89	1415	1318	1098	643
	8000	88	1363	1218	909	485
	10000	88	1361	1118	820	-
	12000	87	1248	1015	732	-

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

MAXIMUM RATE OF CLIMB

CONDITIONS:

100% RPM
100% TORQUE or 650ºC EGT
Flaps – Up

NOTES:

1. Where rate of climb values have been replaced by dashes, an appreciable rate of climb for the weight shown cannot be expected or operating temperature limits of the airplane would be greatly exceeded. Those rates of climb which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only.

WEIGHT LBS	PRESS ALT FT.	CLIMB SPEED KIAS	RATE OF CLIMB - FPM				
			-40º C	-20º C	0º C	20º C	40º C
8360	SL	107	1748	1651	1565	1473	1315
	4000	106	1595	1495	1401	1307	865
	8000	105	1429	1328	1203	885	455
	12000	102	1427	1164	924	641	387
	16000	98	1096	847	638	393	-
	20000	94	743	525	344	-	-
	24000	90	361	169	-	-	-
8000	SL	106	1823	1722	1633	1536	1372
	4000	105	1664	1559	1461	1363	902
	8000	104	1490	1385	1255	923	475
	12000	101	1489	1214	964	668	403
	16000	97	1143	883	666	410	-
	20000	93	775	548	359	-	-
	24000	89	376	177	-	-	-
7600	SL	106	1914	1808	1714	1613	1441
	4000	104	1747	1637	1534	1432	947
	8000	103	1565	1455	1318	969	498
	12000	100	1563	1275	1012	702	424
	16000	96	1200	927	699	430	-
	20000	92	814	575	377	-	-
	24000	87	395	185	-	-	-

Figure 5-6. Maximum Rate of Climb

CRUISE CLIMB

120 KIAS

CONDITIONS:

100% RPM
100% TORQUE or 650ºC EGT
Flaps – Up

NOTES:

1. Where rate of climb values have been replaced by dashes, an appreciable rate of climb for the weight shown cannot be expected or operating temperature limits of the airplane would be greatly exceeded. Those rates of climb which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only.

WEIGHT LBS	PRESS ALT FT.	RATE OF CLIMB - FPM			
		-20º C	0º C	20º C	40º C
8360	SL	1555	1459	1369	1217
	2000	1525	1431	1334	1023
	4000	1466	1368	1277	808
	6000	1387	1292	1088	577
	8000	1302	1184	841	357
	10000	1290	1023	692	-
	12000	1103	847	561	-
8000	SL	1622	1522	1428	1269
	2000	1591	1493	1392	1067
	4000	1529	1427	1332	842
	6000	1447	1348	1135	602
	8000	1358	1235	877	373
	10000	1346	1067	722	-
	12000	1151	883	585	-
7600	SL	1704	1598	1499	1332
	2000	1670	1568	1461	1120
	4000	1605	1498	1398	885
	6000	1519	1415	1192	632
	8000	1426	1297	921	391
	10000	1413	1120	758	-
	12000	1208	927	615	-

Figure 5-7. Cruise Climb – 120 KIAS

RATE OF CLIMB – BALKED LANDING

FLAPS 30º

CONDITIONS:

100% RPM
100% TORQUE or 650ºC EGT
Flaps – 30º

WEIGHT LBS	PRESS ALT FT.	CLIMB SPEED KIAS	RATE OF CLIMB - FPM			
			-20º C	0º C	20º C	40º C
7800	0	83	1427	1338	1250	1089
	2000	83	1415	1322	1233	947
	4000	83	1371	1278	1189	779
	6000	82	1306	1213	1007	601
	8000	82	1261	1116	845	488
	10000	82	1247	1027	764	454
	12000	81	1149	942	686	449
7300	0	83	1518	1424	1330	1159
	2000	82	1505	1407	1312	1008
	4000	82	1459	1360	1265	829
	6000	81	1390	1291	1072	640
	8000	81	1342	1187	899	519
	10000	81	1327	1093	813	483
	12000	80	1222	1002	730	477
6800	0	82	1622	1522	1421	1239
	2000	81	1608	1503	1402	1077
	4000	81	1559	1453	1351	885
	6000	81	1485	1380	1145	683
	8000	80	1434	1269	960	554
	10000	80	1418	1167	868	516
	12000	79	1306	1071	780	510

Figure 5-8. Rate of Climb – Balked Landing

TIME, FUEL, AND DISTANCE TO CLIMB
MAXIMUM RATE OF CLIMB

CONDITIONS:

100% RPM
100% TORQUE or 650ºC EGT
Flaps – Up

NOTES:

1. Add 35 pounds of fuel for engine start, taxi, and takeoff allowance.
2. Distances shown are based on zero wind.

			20º C BELOW STANDARD TEMP.			STANDARD TEMPERATURE			20º C ABOVE STANDARD TEMP.		
WEIGHT LBS	PRESS ALT FT.	CLIMB SPEED KIAS	CLIMB FROM SEA LEVEL								
			TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM
8360	SL	107	0	0	0	0	0	0	0	0	0
	4000	106	3	22	5	3	23	5	3	27	6
	8000	105	5	44	10	6	47	11	7	55	13
	12000	102	8	67	15	9	72	18	11	86	23
	16000	98	12	92	22	14	101	27	18	122	36
	20000	94	16	119	32	20	135	40	27	169	56
	24000	90	23	152	44	29	178	59	42	237	90
8000	SL	106	0	0	0	0	0	0	0	0	0
	4000	105	3	21	4	3	22	5	3	26	6
	8000	104	5	43	9	6	45	10	7	52	13
	12000	101	8	64	15	9	69	17	11	82	22
	16000	97	11	88	21	13	97	26	17	117	34
	20000	93	16	114	30	19	130	38	25	162	53
	24000	89	22	145	42	28	171	56	40	227	85
7600	SL	106	0	0	0	0	0	0	0	0	0
	4000	104	2	20	4	3	21	5	3	24	5
	8000	103	5	41	9	5	43	10	6	50	12
	12000	100	8	61	14	8	66	16	10	78	21
	16000	96	11	84	20	13	92	24	16	112	32
	20000	92	15	109	28	18	123	36	24	154	50
	24000	87	21	138	40	26	163	53	38	216	80

Figure 5-9. Time, Fuel, and Distance to Climb – Maximum Rate of Climb

TIME, FUEL, AND DISTANCE TO CLIMB

CRUISE CLIMB – 120 KIAS

CONDITIONS:

100% RPM
100% TORQUE or 650ºC EGT
Flaps – Up

NOTES:

1. Add 35 pounds of fuel for engine start, taxi, and takeoff allowance.
2. Distances shown are based on zero wind.

		20º C BELOW STANDARD TEMP.			STANDARD TEMPERATURE			20º C ABOVE STANDARD TEMP.		
WEIGHT LBS	PRESS ALT FT.	CLIMB FROM SEA LEVEL								
		TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM
8360	SL	0	0	0	0	0	0	0	0	0
	2000	1	11	3	1	12	3	2	14	3
	4000	3	23	5	3	24	6	3	28	7
	6000	4	34	8	4	36	9	5	43	11
	8000	6	46	11	6	49	13	7	59	16
	10000	7	58	15	8	62	17	10	75	22
	12000	9	70	18	10	76	21	13	94	29
8000	SL	0	0	0	0	0	0	0	0	0
	2000	1	11	2	2	11	3	2	13	3
	4000	3	22	5	3	23	6	3	27	7
	6000	4	33	8	4	35	9	5	41	11
	8000	5	44	11	6	47	12	7	56	16
	10000	7	55	14	7	60	16	9	72	21
	12000	8	67	17	9	73	21	12	90	28
7600	SL	0	0	0	0	0	0	0	0	0
	2000	1	10	2	1	11	3	3	25	6
	4000	2	21	5	3	22	5	6	52	13
	6000	4	31	8	4	33	8	10	78	21
	8000	5	42	10	6	45	12	13	107	30
	10000	6	53	13	7	57	15	18	138	40
	12000	8	64	17	9	70	20	23	171	52

Figure 5-10. Time, Fuel, and Distance to Climb – Cruise Climb

CRUISE PERFORMANCE

NOTES

The following general information is applicable to all Cruise Performance charts contained in Figure 9, Sheet 2 through 8, in this section:

1. The highest torque shown for each temperature and altitude combination corresponds to the maximum available cruise power expected for that atmospheric condition. For any condition, do not exceed 100% torque or 650ºC EGT, whichever occurs first.
2. With the cabin heat on, fuel flow for a given torque setting will be up to 35 pounds per hour higher.
3. Cruise performance is shown at a maximum gross weight of 8360 pounds. For operation at lower weights, the actual cruise performance will be increased.
4. Some full power settings may result in exceeding the aircraft's never exceed speed during level flight, particularly at low density altitudes. Do not exceed 175 KIAS at any time.

Figure 5-11. Cruise Performance (Sheet 1 of 8)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 2,000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	PERCENT TORQUE	FUEL FLOW PPH	KTAS
45	75.7	396	172
	50	319	141
35	86.4	424	179
	75	388	170
	50	316	140
25	98	453	187
	75	383	168
	50	313	139
15	100	451	187
	75	377	166
	50	309	137
5	100	450	185
	75	379	164
	50	311	136
-5	100	453	183
	75	383	162
	50	316	134
-15	100	457	181
	75	387	160
	50	320	133

Figure 5-11. Cruise Performance (Sheet 2 of 8)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 4,000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	PERCENT TORQUE	FUEL FLOW PPH	KTAS
40	74.6	380	175
	50	306	147
30	85.1	407	183
	75	375	174
	50	303	146
20	96.7	435	190
	75	369	172
	50	299	144
10	100	440	191
	75	367	170
	50	298	143
0	100	441	189
	75	369	168
	50	301	141
-10	100	444	187
	75	373	167
	50	305	139
-20	100	447	184
	75	376	165
	50	308	137

Figure 5-11. Cruise Performance (Sheet 3 of 8)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 8,000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	PERCENT TORQUE	FUEL FLOW PPH	KTAS
30	71.8	347	170
	50	282	144
20	81.6	372	178
	75	351	172
	50	278	143
10	92.1	400	185
	75	347	170
	50	276	141
0	100	423	189
	75	348	168
	50	279	140
-10	100	426	187
	75	352	167
	50	282	139
-20	100	427	185
	75	354	165
	50	285	137
-30	100	429	183
	75	357	163
	50	288	135

Figure 5-11. Cruise Performance (Sheet 4 of 8)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 12,000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	PERCENT TORQUE	FUEL FLOW PPH	KTAS
20	69	317	173
	50	259	152
10	78	341	181
	50	257	151
0	85.6	364	186
	75	331	176
	50	259	150
-10	92.3	386	190
	75	334	174
	50	262	149
-20	99.4	410	194
	75	336	173
	50	265	147
-30	100	412	192
	75	338	171
	50	267	145
-40	100	414	190
	75	341	169
	50	271	143

Figure 5-11. Cruise Performance (Sheet 5 of 8)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 16,000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	PERCENT TORQUE	FUEL FLOW PPH	KTAS
10	65.7	389	177
	50	242	156
0	72.1	309	182
	50	243	154
-10	77.9	328	187
	50	245	153
-20	84	348	192
	75	320	182
	50	247	151
-30	90.3	369	197
	75	322	180
	50	249	150
-40	96.6	389	202
	75	324	178
	50	252	148
-50	100	402	203
	75	327	176
	50	256	147

Figure 5-11. Cruise Performance (Sheet 6 of 8)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 20,000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	PERCENT TORQUE	FUEL FLOW PPH	KTAS
0	60.1	260	170
	50	229	153
-10	64.8	276	174
	50	231	152
-20	70	293	179
	50	233	150
-30	75.2	310	183
	50	234	149
-40	80.4	327	187
	50	237	148
-50	85.5	345	190
	75	313	179
	50	240	147
-54	87.5	353	192
	75	314	178
	50	241	146

Figure 5-11. Cruise Performance (Sheet 7 of 8)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 24,000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	PERCENT TORQUE	FUEL FLOW PPH	KTAS
-10	53.3	231	162
	50	220	162
-20	57.9	245	168
	50	221	160
-30	62.4	260	175
	50	222	159
-40	67.3	276	189
	50	223	158
-50	71.6	291	192
	50	226	156
-54	73.3	297	193
	50	227	156

Figure 5-11. Cruise Performance (Sheet 8 of 8)

LANDING DISTANCE
MAXIMUM PERFORMANCE

CONDITIONS:
Flaps 30º
Power Lever – Idle after clearing obstacles, BETA (lever against spring) range after touchdown.
100% RPM
Maximum Breaking and Reverse
Paved, Level, Dry Runway
Zero Wind

NOTES:
1. Decrease distances 10% for each 11 knots headwind. For operation in tailwinds up to 10 knots, increase distances by 10% for each 2.5 knots.
2. For operation on a dry, grass runway, increase distances by 40% of the "ground roll" figure.
3. If a landing with flaps up is necessary, increase the approach speed by 18 KIAS and allow for 50% longer distances.
4. Where distance values have been replaced by dashes, operating temperature limits of the airplane would by greatly exceeded. Those distances which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only.

			-10ºC		0ºC		10ºC		20ºC		30ºC		40ºC	
WEIGHT LBS	SPEED AR 50 FT KIAS	PRESS ALT FT	GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS	GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS	GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS	GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS	GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS	GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS
7800	78	S.L.	786	1694	832	1764	879	1834	930	1908	981	1983	1033	2057
		2000	880	1835	932	1912	989	1994	1045	2074	1101	2155	1160	2238
		4000	988	1994	1050	2082	1113	2171	1174	2258	1241	2351	1297	2432
		6000	1115	2174	1183	2270	1250	2365	1313	2456	1377	2547	1447	2646
		8000	1255	2373	1323	2470	1396	2573	1472	2681	1554	2794	1641	2914
7300	75	S.L.	718	1548	760	1612	803	1676	850	1744	896	1812	944	1880
		2000	804	1624	852	1693	904	1767	955	1839	1006	1911	1060	1986
		4000	903	1766	960	1845	1017	1925	1073	2004	1134	2087	1185	2160
		6000	1019	1928	1081	2015	1143	2100	1200	2181	1258	2263	1322	2352
		8000	1147	2107	1209	2194	1275	2286	1345	2383	1420	2485	1499	2592
6800	72	S.L.	654	1409	692	1467	731	1523	774	1587	817	1649	859	1711
		2000	732	1526	775	1591	823	1659	869	1726	916	1793	966	1862
		4000	823	1658	874	1732	926	1806	977	1879	1033	1956	1079	2023
		6000	927	1808	984	1889	1040	1968	1093	2043	1146	2119	1203	2201
		8000	1044	1974	1101	2055	1161	2141	1225	2230	1292	2324	1365	2424

Figure 5-12. Landing Distances

SUPPLEMENT
SECTION 9
AMPHIBIAN SUPPLEMENT

TABLE OF CONTENTS

SUBSECTION 9-1
AMPHIBIAN - GENERAL

INTRODUCTION

This section, written especially for operators of the Cessna Caravan I amphibian equipped with the Honeywell TPE331-12JR engine, provides information not found in the basic flight manual supplement. It contains procedures and data required for safe and efficient operation of the airplane equipped with Wipline Model 8000 amphibious floats.

Information contained in the previous sections of this flight manual supplement, as well as that information contained in the amphibian supplement for the standard amphibious Caravan and the information contained in the Wipline gross weight increase flight manual supplement, is not generally repeated in this section.

GENERAL INFORMATION

* SPEED:	
Maximum Cruise at 10,000 Ft	162 KNOTS
Maximum Cruise at 20,000 Ft	165 KNOTS
* RANGE: With 2224 pounds usable fuel and fuel allowance for engine start, taxi, takeoff, climb, descent, and 45 minutes reserve.	
Maximum Cruise at 10,000 Ft	885 NM, 5.3 HRS
Maximum Cruise at 20,000 Ft	1151 NM, 6.5 HRS
Maximum Range at 10,000 Ft	960 NM, 8.0 HRS
Maximum Range at 20,000 Ft	1151 NM, 6.5 HRS
RATE OF CLIMB AT SEA LEVEL	1172 FPM
MAXIMUM OPERATING ALTITUDE	20,000 FT

TAKEOFF PERFORMANCE:	ON LAND	ON WATER
Ground Roll (or Water Run)	1089 FT	1527 FT
Total Distance Over 50-Foot Obstacle	2219 FT	2501 FT
LANDING PERFORMANCE:		
Ground Roll (or Water Run)	947 FT	1017 FT
Total Distance Over 50-Foot Obstacle	1779 FT	1730 FT

STANDARD EMPTY WEIGHT PLUS AMPHIBIAN OPTION	5145 LBS
MAXIMUM USEFUL LOAD WITH AMPHIBIAN OPTION	3215 LBS

* Speeds and range are based on gross weight cruise data

NOTE

The above performance figures are based on indicated weights; standard atmospheric conditions; level, hard surfaced, dry runways or smooth, but non-glassy water; and no wind. They are calculated values derived from flight tests conducted by Aero Twin, Inc. under carefully documented conditions and will vary with individual airplanes and numerous factors affecting performance. Performance for other operational conditions can be derived by reference to operational data in other sections of this supplement.

SUBSECTION 9-5
AMPHIBIAN – PERFORMANCE

INTRODUCTION

The information presented in the Introduction in section 5 of this flight manual supplement is applicable to the amphibian. Using this information and the performance charts in this subsection, complete flight planning may be accomplished.

WARNING

To ensure that performance in this section can be duplicated, the airplane and engine must be maintained in good condition. Pilot proficiency and proper preflight planning using data necessary for all flight phases is also required to assure expected performance with ample margins of safety.

TAKEOFF DISTANCE ON WATER
MAXIMUM PERFORMANCE

CONDITIONS:
Flaps 20º
100% RPM
100% Torque
or 650ºC EGT
Cabin Heat – Off
Zero Wind

NOTES:
1. Decrease distance 10% for each 11 knots headwind. For operation with tailwinds up to 5 knots, increase distances by 5% for each knot.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	-10º C		0º C		10º C		20º C		30º C		40ºC	
	LIFT OFF	AT 50 FT		WATER RUN FT.	TOTAL FT TO CLEAR 50 FT	WATER RUN FT.	TOTAL FT TO CLEAR 50 FT	WATER RUN FT.	TOTAL FT TO CLEAR 50 FT	WATER RUN FT.	TOTAL FT TO CLEAR 50 FT	WATER RUN FT.	TOTAL FT TO CLEAR 50 FT	WATER RUN FT.	TOTAL FT TO CLEAR 50 FT
8360	63	80	SL	1307	2156	1391	2287	1481	2428	1573	2573	1666	2718	1832	2998
			2000	1478	2424	1578	2581	1677	2738	1783	2900	1919	3114	2203	3625
			4000	1678	2740	1790	2912	1911	3096	2034	3285	2309	3767	2659	4403
			6000	1914	3102	2046	3306	2192	3531	2452	3973	2790	4579	3225	5373
			8000	2188	3528	2398	3866	2650	4286	2970	4835	3377	5575	3888	6506
8000	62	80	SL	1181	1949	1257	2067	1338	2194	1421	2325	1506	2457	1655	2709
			2000	1335	2191	1426	2333	1516	2474	1611	2621	1734	2814	1991	3276
			4000	1517	2476	1618	2632	1727	2798	1838	2969	2086	3404	2403	3979
			6000	1730	2803	1849	2987	1981	3191	2216	3591	2521	4138	2915	4855
			8000	1978	3188	2167	3494	2395	3875	2684	4369	3052	5038	3514	5880
7600	59	78	SL	1732	1732	1117	1837	1189	1950	1263	2067	1338	2183	1471	2408
			2000	1947	1947	1267	2073	1347	2199	1432	2329	1541	2501	1769	2912
			4000	2200	2200	1438	2339	1535	2486	1633	2638	1854	3025	2135	3537
			6000	2491	2491	1643	2655	1761	2836	1969	3191	2241	3678	2590	4315
			8000	2834	2834	1926	3105	2129	3442	2385	3883	2713	4478	3123	5226

Figure 9-5.1. Takeoff Distance (Sheet 1 of 2)

TAKEOFF DISTANCE ON LAND
MAXIMUM PERFORMANCE

CONDITIONS:	NOTES:
Flaps 20° 100% RPM 100% Torque or 650°C EGT Cabin Heat – Off Zero Wind Paved, Level, Dry Runway	1. Decrease distance 10% for each 11 knots headwind. For operation with tailwinds up to 5 knots, increase distances by 5% for each knot.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	-10° C		0° C		10° C		20° C		30° C		40° c	
	LIFT OFF	AT 50 FT		GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT OBS	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT OBS	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT OBS	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT OBS	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT OBS	GRND. RUN FT.	TOTAL FT TO CLEAR 50 FT OBS
8360	71	80	SL	934	1921	993	2034	1056	2156	1121	2282	1184	2406	1303	2658
			2000	1054	2153	1124	2290	1193	2424	1268	2567	1365	2758	1572	3222
			4000	1194	2427	1247	2580	1361	2740	1445	2902	1646	3337	1905	3921
			6000	1363	2746	1454	2920	1556	3119	1743	3515	1992	4064	2315	4789
			8000	1556	3118	1704	3418	1885	3793	2114	4282	2417	4960	2798	5811
8000	70	80	SL	844	1736	898	1838	954	1949	1013	2062	1070	2175	1178	2402
			2000	953	1946	1016	2068	1078	2191	1146	2320	1233	2493	1421	2912
			4000	1079	2193	1151	2332	1230	2477	1306	2623	1486	3016	1721	3543
			6000	1232	2482	1314	2639	1406	2819	1575	3177	1800	3672	2092	4328
			8000	1406	2818	1540	3089	1703	3428	1910	3870	2184	4482	2528	5251
7600	68	78	SL	750	1543	798	1634	848	1732	900	1833	951	1933	1047	2135
			2000	847	1729	903	1839	958	1947	1018	2062	1096	2215	1263	2588
			4000	959	1949	1023	2072	1093	2201	1161	2331	1321	2680	1530	3149
			6000	1095	2206	1168	2346	1250	2505	1400	2823	1600	3264	1859	3847
			8000	1250	2504	1369	2746	1514	3046	1698	3439	1941	3983	2247	4667

Figure 9-5.1, Takeoff Distance (Sheet 2 of 2)

RATE OF CLIMB – TAKEOFF FLAP SETTING

FLAPS 20º

CONDITIONS:

Takeoff Power
100% RPM
Flaps 20º

NOTES:

Where rate of climb values have been replaced by dashes, an appreciable rate of climb for the weight shown cannot be expected or operating temperature limits of the airplane would be greatly exceeded. Those rates of climb which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only.

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	Rate of Climb - FPM			
			-20º C	0º C	20º C	40º C
8360	0	87	1279	1198	1110	959
	2000	86	1230	1143	1058	784
	4000	86	1162	1074	989	597
	6000	85	1087	999	804	413
	8000	85	1041	905	642	273
	10000	84	1034	825	573	-
	12000	84	946	746	499	-
8000	0	86	1334	1250	1158	1000
	2000	86	1283	1192	1103	818
	4000	85	1212	1120	1031	623
	6000	85	1134	1042	839	431
	8000	84	1086	944	670	285
	10000	84	1079	861	598	-
	12000	83	987	778	520	-
7600	0	85	1401	1312	1216	1050
	2000	85	1347	1251	1159	859
	4000	84	1273	1176	1083	654
	6000	84	1190	1094	880	453
	8000	83	1140	991	703	299
	10000	83	1133	904	627	-
	12000	83	1036	817	546	-

Figure 9-5.2. Rate of Climb – Takeoff Flap Setting

MAXIMUM RATE OF CLIMB

CONDITIONS:

100% RPM
100% TORQUE or 650ºC EGT
Flaps – Up

NOTES:

1. Where rate of climb values have been replaced by dashes, an appreciable rate of climb for the weight shown cannot be expected or operating temperature limits of the airplane would be greatly exceeded. Those rates of climb which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only.

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	Rate of Climb - FPM			
			-20º C	0º C	20º C	40º C
8360	0	98	1325	1243	1148	1111
	4000	97	1240	1147	1058	608
	8000	96	1149	1008	704	277
	12000	94	965	732	461	150
	16000	90	595	397	156	-
	20000	86	223	46	-	-
8000	0	97	1382	1297	1198	1159
	4000	96	1293	1196	1103	634
	8000	95	1198	1051	735	289
	12000	93	1006	763	480	156
	16000	89	621	415	163	-
	20000	85	233	48	-	-
7600	0	96	1451	1362	1258	1217
	4000	95	1358	1256	1158	666
	8000	94	1258	1104	771	304
	12000	92	1057	801	504	164
	16000	88	652	435	171	-
	20000	83	244	51	-	-

Figure 9-5.3. Maximum Rate of Climb

CRUISE CLIMB

120 KIAS

CONDITIONS:

100% RPM
100% TORQUE or 650ºC EGT
Flaps – Up

NOTES:

2. Where rate of climb values have been replaced by dashes, an appreciable rate of climb for the weight shown cannot be expected or operating temperature limits of the airplane would be greatly exceeded. Those rates of climb which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only.

WEIGHT LBS	PRESS. ALT FT	Rate of Climb - FPM			
		-20º C	0º C	20º C	40º C
8360	0	1209	1112	1022	870
	2000	1152	1059	961	651
	4000	1077	979	888	418
	6000	990	895	684	179
	8000	903	785	442	-
	10000	896	628	325	-
	12000	719	463	154	-
8000	0	1261	1160	1066	908
	2000	1202	1104	1003	679
	4000	1124	1022	927	436
	6000	1033	933	713	186
	8000	941	819	462	-
	10000	934	655	339	-
	12000	750	483	161	-
7600	0	1324	1218	1120	953
	2000	1262	1159	1053	713
	4000	1180	1073	973	457
	6000	1084	980	749	196
	8000	988	860	485	-
	10000	981	688	356	-
	12000	787	507	169	-

Figure 9-5.4. Cruise Climb – 120 KIAS

RATE OF CLIMB – BALKED LANDING

FLAPS 30º

CONDITIONS:

100% RPM
100% TORQUE or 650ºC EGT
Flaps – Up

WEIGHT LBS	PRESS. ALT FT	CLIMB SPEED KIAS	Rate of Climb - FPM			
			-20º C	0º C	20º C	40º C
8360	0	80	1092	1014	930	781
	2000	79	1055	968	887	633
	4000	79	998	914	832	741
	6000	78	934	846	662	303
	8000	78	893	760	521	179
	10000	77	840	647	418	-
	12000	77	705	522	299	-
8000	0	79	1139	1058	970	815
	2000	78	1101	1010	925	660
	4000	78	1041	953	868	773
	6000	77	974	883	690	316
	8000	77	931	792	544	187
	10000	76	876	675	436	-
	12000	76	735	545	311	-
7600	0	78	1196	1111	1018	856
	2000	78	1156	1060	972	693
	4000	77	1093	1001	911	812
	6000	77	1023	927	725	332
	8000	76	978	832	571	196
	10000	76	920	708	458	-
	12000	76	772	572	327	-

Figure 9-5.5. Balked Landing Rate of Climb

TIME, FUEL, AND DISTANCE TO CLIMB
MAXIMUM RATE OF CLIMB

CONDITIONS:

100% RPM
100% TORQUE or 650ºC EGT
Flaps – Up

NOTES:

1. Add 35 pounds of fuel for engine start, taxi, and takeoff allowance.
2. Distances shown are based on zero wind.

			20º C BELOW STANDARD TEMP.			STANDARD TEMPERATURE			20º C ABOVE STANDARD TEMP.		
WEIGHT LBS	PRESS ALT FT.	CLIMB SPEED KIAS	CLIMB FROM SEA LEVEL								
			TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM
8360	SL	98	0	0	0	0	0	0	0	0	0
	4000	97	3	26	5	3	28	6	4	32	7
	8000	96	7	53	11	7	57	12	9	70	16
	12000	94	10	80	17	12	88	20	15	111	27
	16000	90	15	109	25	17	125	31	24	161	44
	20000	86	21	148	37	27	178	50	41	254	80
8000	SL	97	0	0	0	0	0	0	0	0	0
	4000	96	3	25	5	3	27	6	4	31	6
	8000	95	6	50	10	7	55	12	9	67	15
	12000	93	10	76	16	11	84	19	14	106	26
	16000	89	14	105	24	17	119	30	23	155	42
	20000	85	20	144	36	26	171	47	40	243	76
7600	SL	96	0	0	0	0	0	0	0	0	0
	4000	95	3	24	5	3	26	5	4	30	6
	8000	94	6	48	10	7	52	11	8	64	14
	12000	92	9	73	15	11	80	18	14	101	25
	16000	88	13	100	23	16	114	28	21	147	39
	20000	83	19	137	33	25	163	44	38	232	71

Figure 9-5.6. Time, Fuel, and Distance to Climb – Maximum Rate of Climb

TIME, FUEL, AND DISTANCE TO CLIMB

CRUISE CLIMB – 120 KIAS

CONDITIONS:

100% RPM
100% TORQUE or 650ºC EGT
Flaps – Up

NOTES:

1. Add 35 pounds of fuel for engine start, taxi, and takeoff allowance.
2. Distances shown are based on zero wind.

		20º C BELOW STANDARD TEMP.			STANDARD TEMPERATURE			20º C ABOVE STANDARD TEMP.		
WEIGHT LBS	PRESS ALT FT.	CLIMB FROM SEA LEVEL								
		TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM	TIME MIN	FUEL LBS	DIST NM
8360	SL	0	0	0	0	0	0	0	0	0
	4000	4	30	6	4	32	7	5	40	8
	8000	8	62	13	9	68	15	12	91	21
	12000	12	96	21	14	110	26	22	163	41
8000	SL	0	0	0	0	0	0	0	0	0
	4000	4	29	6	4	31	6	5	38	8
	8000	7	59	12	8	65	14	11	87	20
	12000	12	92	20	14	105	24	21	156	39
7600	SL	0	0	0	0	0	0	0	0	0
	4000	3	27	5	4	30	6	4	37	8
	8000	7	56	11	8	62	13	11	83	19
	12000	12	88	19	13	100	23	20	148	37

Figure 9-5.7. Time, Fuel, and Distance to Climb – Cruise Climb

CRUISE PERFORMANCE

NOTES

The following general information is applicable to all Cruise Performance charts contained in Figure 9-5.8, sheets 2 through 7, in this section:

1. The highest torque shown for each temperature and altitude combination corresponds to the maximum available cruise power expected for that atmospheric condition. For any condition, do not exceed 100% torque or 650ºC EGT, whichever occurs first.
2. With the cabin heat on, fuel flow for a given torque setting will be up to 35 pounds per hour higher.
3. Cruise performance is shown at a maximum gross weight of 8360 pounds. For operation at lower weights, the actual cruise performance will be slightly better.

Figure 9-5.8. Cruise Performance (Sheet 1 of 7)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 2000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	% Tq	Wf (PPH)	KTAS
45	74.3	393	141
	50	320	123
35	84.6	420	148
	75	390	144
	50	317	122
25	96.2	449	155
	75	384	143
	50	313	121
15	100	452	160
	75	378	142
	50	309	120
5	100	452	159
	75	384	140
	50	312	118
-5	100	455	157
	75	388	138
	50	316	117
-15	100	458	156
	75	402	137
	50	320	116

Figure 9-5.8. Cruise Performance (Sheet 2 of 7)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 4000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	% Tq	Wf (PPH)	KTAS
40	73.4	377	148
	50	307	123
30	83.6	403	156
	75	376	148
	50	303	122
20	95.1	432	163
	75	370	147
	50	300	121
10	100	442	163
	75	368	145
	50	299	120
0	100	442	160
	75	370	144
	50	301	119
-10	100	446	159
	75	374	143
	50	306	117
-20	100	448	156
	75	377	141
	50	309	116

Figure 9-5.8. Cruise Performance (Sheet 3 of 7)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 8000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	% Tq	Wf (PPH)	KTAS
30	70.8	345	147
	50	283	119
20	80.7	370	156
	75	352	155
	50	278	120
10	90.9	397	161
	75	348	153
	50	277	121
0	99.1	422	165
	75	349	152
	50	279	121
-10	100	427	167
	75	352	150
	50	283	120
-20	100	428	165
	75	355	148
	50	285	119
-30	100	430	163
	75	357	147
	50	289	118

Figure 9-5.8. Cruise Performance (Sheet 4 of 7)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 12000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	% Tq	Wf (PPH)	KTAS
20	67.9	315	144
	50	260	129
10	76.9	338	152
	50	258	128
0	83.8	360	156
	75	332	153
	50	260	126
-10	90.3	382	159
	75	335	151
	50	263	125
-20	97.6	405	167
	75	336	149
	50	265	124
-30	100	413	174
	75	338	148
	50	268	122
-40	100	415	172
	75	341	146
	50	271	121

Figure 9-5.8. Cruise Performance (Sheet 5 of 7))

CRUISE PERFORMANCE
PRESSURE ALTITUDE 16000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	% Tq	Wf (PPH)	KTAS
10	64.8	287	148
	50	242	133
0	70.8	306	154
	50	243	131
-10	76.4	325	159
	50	246	130
-20	82.4	344	164
	75	321	161
	50	248	128
-30	88.5	364	170
	75	322	160
	50	250	126
-40	94.7	384	176
	75	324	158
	50	253	125
-50	100	403	183
	75	328	157
	50	257	125

Figure 9-5.8. Cruise Performance (Sheet 6 of 7)

CRUISE PERFORMANCE
PRESSURE ALTITUDE 20000 FEET

CONDITIONS:
8360 Pounds
96% RPM

NOTE:
Do not exceed 100% torque or 650ºC EGT.

OAT ºC	% Tq	Wf (PPH)	KTAS
0	59.5	259	155
	50	230	118
-10	64.1	275	159
	50	232	121
-20	69.2	291	163
	50	233	124
-30	74.3	308	167
	50	235	126
-40	79.4	325	171
	50	237	129
-50	84.5	343	175
	75	313	165
	50	240	131
-54	86.5	350	177
	75	314	164
	50	241	131

Figure 9-5.8. Cruise Performance (Sheet 7 of 7)

LANDING DISTANCE ON WATER

MAXIMUM PERFORMANCE

CONDITIONS:
Flaps 30°
Power Lever – Idle after clearing obstacles, BETA (lever against spring) range after touchdown.
100% RPM
Zero Wind

NOTES:
1. Decrease distances 10% for each 11 knots headwind. For operation in tailwinds up to 5 knots, increase distances by 5% for each knot.
2. If a landing with flaps up is necessary, increase the approach speed by 18 KIAS and allow for 50% longer distances.
3. Where distance values have been replaced by dashes, operating temperature limits of the airplane would by greatly exceeded. Those distances which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only

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			0ºC		10ºC		20ºC		30ºC		40ºC	
WEIGHT LBS	SPEED AT 50 FT KIAS	PRESS ALT FT	WATER RUN FT.	TOTAL FT TO CLEAR 50 FT OBS	WATER RUN FT.	TOTAL FT TO CLEAR 50 FT OBS	WATER RUN FT.	TOTAL FT TO CLEAR 50 FT OBS	WATER RUN FT.	TOTAL FT TO CLEAR 50 FT OBS	WATER RUN FT.	TOTAL FT TO CLEAR 50 FT OBS
8360	79	S.L.	935	1623	988	1693	1045	1767	1102	1842	1160	1917
		2000	1047	1771	1111	1854	1174	1934	1237	2015	1303	2100
		4000	1180	1942	1250	2032	1319	2120	1394	2214	1457	2296
		6000	1329	2132	1405	2228	1475	2320	1546	2411	1625	2511
		8000	1486	2334	1568	2438	1654	2547	1745	2662	-	-
7800	77	S.L.	845	1467	893	1530	944	1597	996	1665	1049	1733
		2000	946	1601	1004	1675	1061	1748	1118	1821	1178	1898
		4000	1066	1755	1130	1836	1192	1916	1260	2001	1316	2074
		6000	1201	1927	1270	2014	1333	2096	1397	2179	1469	2270
		8000	1343	2109	1417	2203	1494	2301	1577	2405	-	-
7300	75	S.L.	751	1304	793	1360	839	1419	885	1479	932	1540
		2000	841	1422	893	1489	943	1554	993	1619	1047	1687
		4000	947	1560	1004	1632	1060	1703	1120	1778	1170	1844
		6000	1068	1713	1128	1790	1185	1863	1242	1937	1305	2017
		8000	1194	1874	1259	1958	1328	2045	1402	2138	-	-

Figure 9-5.9. Landing Distances (Sheet 1 of 2)

LANDING DISTANCE ON LAND

MAXIMUM PERFORMANCE

CONDITIONS:
Flaps 30°
Power Lever – Idle after clearing obstacles, BETA (lever against spring) range after touchdown.
100% RPM
Maximum Breaking and Reverse
Paved, Level, Dry Runway
Zero Wind

NOTES:
1. Decrease distances 10% for each 11 knots headwind. For operation in tailwinds up to 10 knots, increase distances by 10% for each 2.5 knots.
2. For operation on a dry, grass runway, increase distances by 40% of the "ground roll" figure.
3. If a landing with flaps up is necessary, increase the approach speed by 18 KIAS and allow for 50% longer distances.
4. Where distance values have been replaced by dashes, operating temperature limits of the airplane would by greatly exceeded. Those distances which are included but the operation slightly exceeds the temperature limit are provided for interpolation purposes only.

WEIGHT LBS	SPEED AR 50 FT KIAS	PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
			GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS	GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS	GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS	GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS	GRD ROLL FT.	TOTAL FT TO CLEAR 50 FT OBS
7800	77	S.L.	871	1673	920	1742	973	1815	1027	1889	1081	1963
		2000	975	1819	1035	1900	1093	1980	1152	2059	1214	2142
		4000	1099	1987	1165	2075	1229	2162	1299	2254	1357	2334
		6000	1238	2174	1308	2268	1374	2358	1440	2448	1514	2546
		8000	1385	2372	1460	2474	1540	2581	1626	2694	-	-
7300	75	S.L.	796	1528	841	1592	889	1659	938	1726	987	1793
		2000	891	1616	946	1689	999	1760	1053	1832	1109	1906
		4000	1004	1767	1064	1846	1123	1924	1187	2007	1240	2079
		6000	1131	1935	1196	2020	1256	2100	1316	2182	1383	2270
		8000	1265	2113	1334	2205	1407	2301	1485	2402	-	-
6800	72	S.L.	724	1391	765	1449	809	1510	854	1571	899	1633
		2000	811	1513	861	1581	910	1647	958	1713	1010	1782
		4000	914	1653	969	1726	1022	1799	1080	1875	1129	1942
		6000	1030	1809	1088	1887	1143	1962	1198	2037	1259	2118
		8000	1152	1973	1215	2058	1281	2147	1352	2241	-	-

Figure 9-5.9. Landing Distances (Sheet 2 of 2)