SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS OFF

FLAPS - 15°
13,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
10000	-54	1555	26845	32036	2060	1378	23409	27537	2020	1319	22290	26089	2010	1201	20090	23277	1990
	-50	1567	26828	32116	2020	1390	23417	27614	1990	1331	22307	26172	1980	1213	20126	23373	1960
	-40	1598	27331	32886	1940	1421	23918	28345	1910	1362	22806	26908	1900	1244	20620	24080	1880
	-30	1627	29050	35107	1870	1450	25463	30313	1840	1391	24296	28777	1830	1273	22002	25795	1810
	-20	1653	35347	42907	1850	1476	30933	36982	1810	1417	29503	35099	1800	1299	26703	31453	1780
	-10	1679	44703	54503	1850	1502	38973	46778	1810	1443	37131	44357	1790	1325	33543	39643	1760
	0	1704	62869	76738	1920	1527	54283	65268	1860	1468	51566	61673	1840	1350	46333	54849	1800
	10	1731	100906	123322	2140	1553	84875	102114	2020	1494	80012	95767	1980	1376	70891	83951	1910
	15					1566	117036	149911	2220	1507	109202	133322	2160	1389	95057	112451	2060
95000	-54	1524	23201	27392	2020	1347	20223	23542	1990	1288	19250	22299	1980	1170	17334	19880	1960
	-50	1536	23184	27437	1980	1359	20230	23605	1960	1300	19266	22368	1950	1182	17365	19974	1930
	-40	1567	23578	28061	1900	1390	20626	24201	1880	1331	19662	22954	1870	1212	17761	20526	1850
	-30	1594	24911	29771	1830	1417	21832	25723	1810	1358	20826	24415	1800	1240	18846	21872	1780
	-20	1620	29672	35648	1800	1443	25987	30767	1770	1384	24788	29203	1760	1266	22432	26167	1740
	-10	1645	36375	43916	1790	1468	31791	37795	1750	1409	30307	35859	1740	1291	27404	32111	1710
	0	1669	48191	58325	1810	1492	41893	49949	1760	1433	39875	47329	1750	1315	35951	42236	1720
	10	1693	68534	83149	1900	1516	58888	70364	1830	1457	55854	66403	1800	1339	50033	58906	1760
	20	1719	115738	140384	2170	1541	96192	114764	2030	1482	90364	107265	1990	1364	79554	93443	1910
	22					1547	110748	136484	2120	1488	103561	122933	2070	1370	90475	106241	1980
90000	-54	1510	20010	23141	1990	1333	17457	19929	1970	1274	16621	18901	1960	1156	14970	16867	1940
	-50	1522	19998	23194	1950	1345	17465	19980	1930	1286	16635	18958	1920	1168	14998	16933	1910
	-40	1546	20356	23779	1870	1369	17814	20533	1850	1310	16978	19478	1840	1192	15336	17441	1830
	-30	1560	21569	25468	1810	1382	18887	21994	1780	1323	18009	20869	1780	1205	16276	18689	1760
	-20	1585	25286	30022	1760	1408	22140	25911	1740	1349	21113	24590	1730	1231	19091	22033	1710
	-10	1610	30316	36176	1740	1433	26518	31179	1710	1374	25283	29585	1700	1256	22857	26490	1680
	0	1633	38579	46209	1740	1456	33642	39704	1700	1397	32047	37649	1690	1279	28929	33652	1660
	10	1656	51267	61604	1770	1479	44431	52602	1720	1420	42247	49773	1700	1302	38008	44341	1670
	20	1679	74820	89841	1880	1502	63976	75736	1800	1443	60583	71383	1780	1325	54098	63099	1730
	26					1517	103103	121059	2040	1458	96722	113061	1990	1340	84895	98312	1910
	27									1460	110262	157507	2080	1342	96129	111037	1980
85000	-54	1505	17331	19852	1960	1328	15140	17184	1940	1269	14421	16389	1940	1151	12998	14716	1920
	-50	1517	17320	19877	1930	1340	15147	17206	1910	1281	14433	16417	1900	1163	13022	14754	1890
	-40	1541	17594	20353	1850	1364	15417	17622	1830	1305	14703	16717	1820	1187	13289	15050	1810
	-30	1554	18526	21681	1780	1377	16246	18757	1760	1318	15497	17808	1750	1200	14017	15965	1740
	-20	1548	21754	25968	1740	1371	19027	22370	1710	1311	18134	21227	1710	1193	16373	18968	1690
	-10	1572	25631	30739	1700	1395	22411	26493	1670	1336	21360	25124	1670	1217	19292	22460	1650
	0	1595	31655	38129	1680	1418	27631	32800	1650	1359	26325	31095	1640	1240	23760	27770	1620
	10	1617	40226	48640	1690	1440	34991	41674	1650	1381	33302	39452	1640	1263	30006	35209	1610
	20	1639	54254	65595	1730	1462	46868	55827	1680	1403	44514	52765	1660	1285	39956	46894	1630
	27	1654	85398	102256	1910	1476	72475	85649	1820	1417	68461	80524	1790	1299	60825	70883	1740

525AFM-06-01

Figure 4-32 (Sheet 28)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS OFF

FLAPS - 15°
14,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1720	84372	106679	2590	1542	71170	88234	2460	1483	67158	82717	2430	1365	59625	72543	2350
	-50	1734	84759	107460	2550	1557	71584	89002	2420	1498	67578	83476	2390	1380	60052	73278	2310
	-40	1767	89251	113361	2480	1590	75484	94050	2350	1531	71300	88325	2310	1413	63445	77635	2240
	-30	1800	109357	138739	2550	1623	91371	113741	2390	1564	86035	106458	2350	1446	76147	93067	2260
	-24	1821	191432	262400	3170	1644	134092	174009	2690	1585	124188	157512	2610	1466	107010	131496	2460
	-21													1477	148024	189437	2770
12200	-54	1710	75448	95018	2500	1533	64159	79293	2400	1474	60679	74526	2360	1356	54084	65626	2300
	-50	1724	75761	95643	2460	1547	64502	79956	2360	1488	61027	75181	2320	1370	54445	66265	2260
	-40	1758	79426	100543	2390	1581	67737	84206	2280	1522	64133	79247	2250	1403	57302	69980	2190
	-30	1789	95109	120284	2420	1612	80483	99963	2300	1553	76039	93887	2260	1435	67702	82626	2190
	-21	1819	217797	309399	3350	1642	142065	184495	2720	1583	129044	165521	2620	1465	110796	136788	2470
	-20					1645	167472	220552	2920	1586	147814	191282	2760	1468	120290	152002	2530
	-19									1591	181040	240123	3020	1472	137550	175014	2670
12000	-54	1699	67289	84340	2430	1522	57597	70914	2330	1463	54574	66799	2310	1345	48803	59028	2250
	-50	1713	67540	84913	2380	1536	57877	71482	2290	1477	54863	67362	2270	1358	49121	59597	2210
	-40	1746	70509	88917	2310	1569	60548	75045	2220	1510	57436	70744	2190	1392	51495	62694	2140
	-30	1778	82708	104218	2320	1601	70669	87565	2210	1542	66951	82481	2180	1424	59899	72930	2120
	-20	1810	149836	198335	2780	1633	119454	149388	2530	1574	111430	137795	2460	1456	97074	118045	2340
	-19	1813	175118	235056	2970	1636	129481	165404	2600	1577	120248	150777	2520	1459	104024	126966	2390
	-16									1587	187623	250117	3040	1469	140353	178402	2660
11800	-54	1688	60648	75738	2360	1511	52160	63994	2280	1452	49490	60354	2260	1333	44364	53479	2210
	-50	1701	60852	76193	2320	1524	52394	64486	2240	1465	49733	60844	2220	1347	44622	53962	2170
	-40	1733	63326	79582	2240	1556	54636	67484	2170	1497	51900	63729	2140	1379	46649	56633	2090
	-30	1766	73108	91846	2230	1589	62884	77700	2150	1530	59689	73348	2120	1412	53585	65115	2070
	-20	1797	118459	149136	2520	1620	98463	121521	2350	1561	92564	113570	2310	1443	81684	99092	2220
	-16	1810	177821	238629	2960	1633	130403	166744	2580	1573	121043	151775	2500	1455	104620	127615	2370
	-13									1584	191355	255484	3030	1465	142054	180255	2640
11600	-54	1676	55105	68562	2310	1499	47562	58181	2240	1440	45174	54953	2220	1322	40569	48773	2170
	-50	1690	55274	68995	2270	1513	47760	58613	2200	1454	45380	55353	2180	1336	40791	49199	2130
	-40	1723	57359	71861	2190	1546	49668	61198	2120	1487	47231	57846	2100	1369	42533	51519	2060
	-30	1754	65394	81984	2170	1577	56520	69683	2090	1518	53724	65859	2070	1400	48351	58624	2020
	-20	1784	99338	124456	2360	1606	83921	103382	2230	1547	79241	97077	2200	1429	70464	85385	2120
	-13	1808	178737	239433	2930	1631	130783	167218	2550	1572	121361	152140	2470	1454	104839	127733	2340
	-10													1461	147269	187443	2650
11400	-54	1665	50392	62452	2270	1488	43613	53158	2200	1429	41456	50245	2180	1311	37280	44674	2140
	-50	1678	50543	62843	2230	1501	43782	53510	2160	1442	41633	50597	2140	1324	37474	45027	2100
	-40	1711	52312	65310	2140	1534	45424	55758	2080	1475	43230	52771	2060	1357	38985	47057	2030
	-30	1742	59029	73762	2110	1565	51202	62924	2050	1506	48720	59557	2030	1388	43930	53130	1980
	-20	1771	85530	106891	2250	1594	72987	89740	2140	1535	69120	84522	2110	1416	61780	74706	2050
	-10	1802	184267	248027	2940	1624	132033	169595	2530	1565	122577	154053	2450	1447	105871	128805	2320
11000	-54	1642	42772	52611	2190	1464	37157	44963	2140	1405	35355	42564	2120	1287	31851	37929	2090
	-50	1655	42871	52911	2150	1478	37284	45267	2100	1419	35500	42853	2090	1301	32002	38210	2050
	-40	1687	44204	54782	2070	1510	38530	46982	2020	1451	36709	44507	2010	1333	33166	39776	1970
	-30	1717	49082	60965	2030	1540	42782	52286	1970	1481	40766	49549	1960	1363	36850	44321	1920
	-20	1746	66518	82734	2090	1569	57452	70322	2020	1510	54595	66460	1990	1392	49106	59145	1950
	-10	1775	104968	130675	2320	1597	88261	108031	2180	1538	83221	101279	2140	1420	73808	88846	2070
	-5	1789	165932	219586	2750	1612	125929	158722	2430	1553	117221	144977	2370	1435	101724	122582	2250
10500	-54	1612	35564	43298	2120	1435	30976	37118	2080	1376	29494	35161	2070	1258	26598	31360	2040
	-50	1625	35632	43526	2090	1448	31070	37353	2040	1389	29595	35375	2030	1271	26713	31599	2000
	-40	1656	36596	44911	2000	1479	31985	38635	1960	1420	30495	36623	1950	1302	27581	32782	1920
	-30	1686	40040	49275	1950	1509	35021	42412	1910	1450	33402	40248	1890	1332	30240	36048	1870
	-20	1714	51412	63441	1970	1537	44748	54363	1910	1478	42618	51501	1890	1359	38486	46012	1860
	-10	1741	72219	89244	2060	1564	62122	75568	1980	1505	58957	71345	1950	1387	52898	63336	1900
	0	1769	129814	163515	2420	1592	106783	129865	2240	1533	100077	121014	2190	1415	87804	105000	2100
	2	1774	165243	218186	2670	1597	125124	157241	2370	1538	116457	143547	2300	1420	101006	121113	2180
10000	-54	1581	30047	36188	2070	1404	26201	31081	2030	1345	24953	29449	2020	1227	22503	26287	2000
	-50	1594	30094	36342	2030	1417	26271	31245	2000	1358	25030	29615	1990	1239	22594	26459	1960
	-40	1625	30814	37394	1950	1447	26964	32227	1920	1388	25714	30576	1910	1270	23261	27374	1880
	-30	1654	33335	40614	1890	1477	29213	35040	1860	1418	27873	33264	1850	1300	25245	29804	1820
	-20	1681	41262	50448	1880	1504	36054	43425	1840	1445	34376	41178	1830	1327	31099	36865	1800
	-10	1707	54242	66538	1910	1530	47112	56898	1860	1471	44831	53870	1840	1353	40426	48077	1800
	0	1733	81700	100269	2050	1555	69771	84318	1960	1496	66068	79459	1930	1378	59023	70218	1880
	9	1758	158372	216018	2550	1580	120226	150836	2270	1521	112042	137008	2210	1403	97355	115902	2100
	10					1584	132352	179012	2350	1525	121262	157319	2270	1407	104639	126731	2150

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Figure 4-32 (Sheet 29)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS OFF

FLAPS - 15°
14,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
9500	-54	1549	25673	30579	2030	1372	22390	26273	2000	1313	21321	24892	1990	1195	19217	22209	1970
	-50	1562	25707	30697	1990	1385	22445	26401	1960	1326	21381	25040	1950	1207	19290	22362	1930
	-40	1592	26256	31512	1910	1415	22981	27168	1880	1356	21913	25775	1870	1238	19812	23066	1850
	-30	1620	28168	33946	1850	1443	24691	29314	1820	1384	23558	27829	1810	1266	21331	24944	1790
	-20	1647	33927	41063	1820	1470	29700	35427	1790	1411	28329	33605	1780	1293	25642	30117	1750
	-10	1672	42702	51898	1820	1495	37256	44601	1780	1436	35503	42302	1770	1318	32084	37843	1740
	0	1697	58771	71617	1880	1520	50852	61024	1820	1461	48337	57726	1800	1343	43481	51388	1760
	10	1722	91247	111414	2050	1545	77279	92893	1950	1486	72991	87263	1920	1368	64896	76800	1860
	17					1564	119163	171118	2200	1505	111053	140698	2140	1387	96470	114163	2040
9000	-54	1519	22089	25974	2000	1342	19257	22318	1970	1283	18332	21156	1960	1165	16508	18865	1940
	-50	1531	22118	26074	1960	1354	19303	22441	1930	1295	18383	21266	1920	1176	16569	18979	1910
	-40	1557	22579	26786	1880	1380	19750	23085	1850	1321	18825	21895	1850	1203	17002	19591	1830
	-30	1585	24063	28658	1810	1408	21084	24742	1790	1349	20111	23500	1780	1231	18193	21047	1760
	-20	1611	28402	33994	1780	1434	24876	29344	1750	1375	23727	27852	1740	1257	21469	24954	1720
	-10	1636	34685	41726	1760	1459	30325	35947	1720	1400	28912	34087	1710	1282	26143	30528	1690
	0	1660	45190	54538	1770	1483	39330	46782	1730	1424	37447	44316	1720	1306	33780	39589	1690
	10	1684	62992	76235	1840	1507	54289	64714	1780	1448	51537	61150	1760	1330	46238	54320	1720
	20	1708	100776	122099	2050	1531	84661	100969	1930	1472	79767	94655	1900	1354	70592	82903	1830
	23					1540	112572	140184	2110	1481	105289	125593	2060	1363	91977	107416	1960
8500	-54	1514	18925	22005	1970	1337	16527	18963	1940	1278	15741	17976	1930	1159	14188	16062	1920
	-50	1525	18945	22081	1930	1348	16563	19047	1910	1289	15781	18062	1900	1171	14237	16152	1890
	-40	1547	19332	22729	1850	1370	16931	19633	1830	1311	16144	18629	1820	1193	14589	16683	1810
	-30	1557	20653	24587	1780	1380	18096	21234	1760	1321	17257	20146	1760	1203	15599	18039	1740
	-20	1573	24142	29003	1740	1396	21132	25019	1720	1337	20149	23732	1710	1219	18210	21228	1690
	-10	1598	28850	34834	1710	1421	25233	30014	1680	1361	24056	28470	1670	1243	21742	25470	1660
	0	1621	36210	43888	1710	1444	31590	37716	1670	1385	30095	35756	1660	1267	27168	31942	1640
	10	1644	47445	57698	1730	1467	41176	49315	1680	1408	39166	46666	1670	1290	35258	41571	1640
	20	1667	67059	81565	1810	1490	57560	68974	1740	1430	54567	65054	1720	1312	48821	57601	1680
	25	1678	97798	117461	1990	1501	82536	97809	1890	1442	77844	91803	1850	1324	68982	80614	1790

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Figure 4-32 (Sheet 30)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
SEA LEVEL

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54																
	-50	1372	88791	99212	2860	1195	73135	80988	2700	1136	68293	75376	2650	1018	59115	64824	2550
	-35	1417	38876	44563	2190	1240	33217	37626	2140	1181	31392	35399	2120	1063	27832	31128	2090
	-30	1430	38921	44723	2150	1253	33302	37810	2100	1194	31490	35608	2080	1076	27954	31350	2050
	-25	1443	38858	44781	2110	1266	33296	37891	2050	1207	31502	35702	2040	1088	28000	31470	2000
	-20	1455	38782	44801	2060	1278	33278	37957	2010	1219	31502	35783	2000	1101	28034	31576	1960
	-15	1468	38654	44762	2020	1291	33206	37981	1970	1232	31459	35813	1960	1114	28031	31639	1930
	-10	1480	38501	44691	1980	1303	33130	37978	1930	1244	31396	35838	1920	1126	28009	31681	1890
	-5	1493	38351	44620	1940	1316	33046	37966	1900	1257	31333	35845	1880	1139	27986	31740	1850
	0	1505	39627	46204	1920	1328	34150	39319	1870	1268	32386	37128	1860	1150	28941	32875	1830
	5	1516	40971	47895	1890	1339	35326	40758	1850	1280	33506	38493	1830	1162	29956	34099	1800
	10	1525	55499	64688	1980	1348	47458	54613	1910	1289	44897	51465	1890	1171	39943	45382	1850
12200	-54																
	-50	1364	80506	90048	2780	1187	66570	73746	2630	1128	62233	68726	2590	1010	53979	59227	2500
	-35	1409	36887	42227	2180	1232	31529	35663	2120	1173	29799	33570	2110	1055	26419	29503	2070
	-30	1422	36926	42372	2130	1245	31606	35833	2080	1186	29888	33746	2060	1068	26532	29709	2030
	-25	1435	36867	42406	2090	1258	31601	35909	2040	1199	29900	33836	2020	1080	26576	29823	1990
	-20	1447	36796	42425	2040	1270	31585	35971	2000	1211	29901	33911	1980	1093	26609	29923	1950
	-15	1460	36677	42411	2000	1283	31527	35984	1960	1224	29862	33940	1940	1106	26608	29984	1910
	-10	1472	36535	42345	1960	1295	31449	35994	1920	1236	29805	33967	1900	1118	26590	30026	1880
	-5	1485	36396	42281	1930	1307	31373	35985	1880	1248	29748	33975	1870	1130	26570	30083	1840
	0	1495	37549	43717	1900	1318	32380	37223	1860	1259	30710	35151	1840	1141	27444	31124	1810
	5	1508	38779	45246	1880	1331	33452	38537	1830	1272	31732	36380	1820	1154	28372	32245	1790
	10	1517	51768	60266	1950	1340	44331	50963	1890	1281	41956	48042	1870	1163	37351	42406	1830
12000	-54																
	-50	1355	72484	81141	2690	1178	60159	66681	2570	1119	56300	62198	2530	1001	48926	53684	2450
	-35	1400	34792	39750	2160	1223	29747	33577	2110	1164	28115	31606	2090	1046	24924	27802	2060
	-30	1413	34824	39900	2110	1236	29816	33749	2060	1177	28196	31784	2050	1059	25027	27978	2020
	-25	1426	34769	39931	2070	1248	29811	33820	2020	1189	28207	31868	2010	1071	25069	28084	1980
	-20	1438	34703	39950	2030	1261	29797	33878	1980	1202	28209	31937	1970	1084	25102	28178	1940
	-15	1451	34593	39916	1980	1273	29745	33892	1940	1214	28175	31967	1930	1096	25103	28237	1900
	-10	1463	34463	39857	1950	1286	29674	33885	1900	1227	28124	31977	1890	1109	25088	28279	1860
	-5	1475	34336	39820	1910	1298	29605	33898	1870	1239	28072	32004	1850	1121	25072	28335	1830
	0	1487	35376	41119	1880	1310	30516	35002	1840	1250	28944	33054	1830	1132	25865	29281	1800
	5	1498	36481	42498	1860	1321	31483	36190	1820	1262	29867	34183	1800	1144	26705	30298	1780
	10	1507	47974	55798	1920	1330	41137	47236	1860	1271	38947	44541	1840	1153	34693	39333	1810
11800	-54					1158	90613	102025	2940	1099	84065	91706	2870	981	71822	77915	2740
	-35	1391	32863	37464	2140	1214	28103	31652	2090	1155	26561	29809	2080	1037	23542	26203	2050
	-30	1404	32891	37603	2090	1227	28166	31810	2050	1168	26635	29957	2030	1050	23638	26365	2000
	-25	1416	32839	37631	2050	1239	28162	31876	2010	1180	26646	30035	1990	1062	23678	26464	1960
	-20	1429	32778	37648	2010	1252	28148	31929	1970	1193	26648	30100	1950	1074	23710	26553	1930
	-15	1441	32677	37616	1970	1264	28101	31943	1930	1205	26618	30129	1910	1087	23712	26610	1890
	-10	1453	32557	37562	1930	1276	28037	31939	1890	1217	26572	30140	1880	1099	23700	26665	1850
	-5	1465	32439	37509	1890	1288	27974	31935	1850	1229	26526	30167	1840	1111	23687	26704	1820
	0	1477	33380	38687	1860	1300	28802	32955	1830	1241	27317	31121	1810	1123	24409	27566	1790
	5	1488	34377	39933	1840	1311	29677	34032	1800	1252	28154	32146	1790	1134	25172	28490	1760
	10	1497	44601	51756	1890	1320	38286	43874	1840	1261	36258	41381	1820	1143	32311	36554	1790
11600	-54	1326	97487	107689	3010	1149	79311	86894	2820	1090	73740	80554	2760	971	63250	68668	2650
	-35	1382	31085	35373	2120	1205	26583	29901	2080	1146	25123	28143	2060	1028	22262	24732	2030
	-30	1395	31106	35480	2080	1217	26639	30030	2030	1158	25190	28279	2020	1040	22350	24881	1990
	-25	1407	31058	35524	2030	1230	26636	30091	1990	1171	25201	28351	1980	1053	22389	24974	1950
	-20	1419	31001	35539	1990	1242	26624	30141	1950	1183	25204	28413	1940	1065	22419	25058	1910
	-15	1431	30907	35509	1950	1254	26581	30156	1910	1195	25177	28441	1900	1077	22423	25127	1880
	-10	1444	30796	35460	1910	1266	26523	30153	1880	1207	25135	28453	1860	1089	22414	25166	1840
	-5	1456	30688	35413	1880	1278	26465	30150	1840	1219	25094	28480	1830	1101	22403	25205	1810
	0	1467	31542	36484	1850	1290	27218	31080	1810	1231	25815	29350	1800	1113	23063	25992	1780
	5	1479	32445	37615	1820	1301	28013	32061	1790	1242	26575	30283	1770	1124	23757	26835	1750
	10	1487	41583	48177	1870	1310	35725	40868	1820	1251	33839	38552	1800	1133	30164	34078	1770
11400	-54	1316	85826	94940	2880	1139	70227	77008	2720	1080	65405	71490	2670	962	56269	61141	2570
	-35	1373	29436	33433	2100	1196	25172	28259	2060	1136	23788	26595	2050	1018	21072	23364	2020
	-30	1385	29454	33529	2060	1208	25223	28378	2020	1149	23849	26721	2010	1031	21154	23502	1980
	-25	1397	29408	33570	2020	1220	25220	28434	1980	1161	23860	26787	1970	1043	21191	23603	1940
	-20	1410	29355	33583	1980	1233	25210	28481	1940	1174	23863	26846	1930	1055	21221	23683	1900
	-15	1422	29268	33556	1940	1245	25171	28496	1900	1186	23839	26873	1890	1068	21226	23735	1870
	-10	1434	29166	33511	1900	1257	25118	28494	1860	1198	23802	26901	1850	1080	21218	23773	1830
	-5	1446	29066	33468	1860	1269	25065	28509	1830	1210	23764	26913	1820	1091	21210	23810	1800
	0	1457	29848	34451	1840	1280	25752	29343	1800	1221	24423	27708	1790	1103	21814	24545	1770
	5	1469	30662	35475	1810	1291	26476	30238	1770	1232	25116	28560	1760	1114	22448	25302	1740
	10	1477	38864	44945	1840	1300	33411	38166	1800	1241	31652	36006	1780	1123	28218	31813	1760

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Figure 4-33 (Sheet 1 of 30)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15° SEA LEVEL

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
11000	-54	1297	68444	76276	2700	1120	56470	62325	2570	1061	52718	57989	2530	943	45544	49753	2460
	-35	1354	26480	30204	2070	1177	22636	25505	2040	1118	21385	23991	2020	1000	18927	21062	2000
	-30	1366	26491	30304	2030	1189	22678	25609	2000	1130	21437	24102	1980	1012	18999	21185	1960
	-25	1378	26450	30327	1990	1201	22676	25662	1950	1142	21447	24178	1940	1024	19033	21266	1920
	-20	1390	26403	30341	1950	1213	22668	25722	1920	1154	21452	24234	1900	1036	19061	21340	1880
	-15	1402	26328	30323	1910	1225	22635	25740	1880	1166	21433	24263	1870	1048	19068	21392	1850
	-10	1414	26240	30289	1870	1237	22591	25744	1840	1178	21402	24279	1830	1060	19064	21430	1810
	-5	1426	26154	30256	1840	1249	22546	25748	1810	1190	21365	24289	1800	1071	19059	21482	1780
	0	1437	26802	31085	1810	1260	23123	26457	1780	1201	21924	24986	1770	1083	19568	22096	1750
	5	1448	27484	31938	1780	1271	23728	27216	1750	1212	22505	25695	1740	1094	20101	22753	1720
	10	1457	34164	39726	1800	1280	29394	33734	1770	1221	27849	31821	1750	1102	24826	28114	1730
10500	-54	1274	53614	59716	2540	1097	44518	49073	2450	1038	41634	45724	2420	920	36068	39331	2360
	-35	1328	23309	26427	2040	1151	19908	22298	2010	1092	18798	20977	2000	974	16614	18380	1980
	-30	1342	23315	26508	2000	1165	19942	22383	1970	1105	18841	21068	1960	987	16675	18483	1940
	-25	1354	23282	26527	1960	1176	19941	22440	1930	1117	18851	21121	1920	999	16706	18564	1900
	-20	1365	23239	26536	1920	1188	19935	22479	1890	1129	18856	21169	1880	1011	16732	18630	1860
	-15	1377	23176	26520	1880	1200	19908	22495	1850	1141	18841	21195	1840	1023	16740	18675	1830
	-10	1389	23102	26491	1850	1211	19872	22500	1820	1152	18817	21210	1810	1034	16739	18710	1790
	-5	1400	23029	26464	1810	1223	19836	22504	1780	1164	18793	21225	1770	1046	16733	18740	1760
	0	1411	23553	27135	1780	1234	20304	23094	1750	1175	19243	21788	1750	1057	17154	19245	1730
	5	1422	24101	27822	1750	1245	20793	23695	1730	1186	19714	22362	1720	1068	17584	19776	1700
	10	1431	29360	33941	1770	1253	25267	28826	1730	1194	23936	27186	1720	1076	21325	24018	1700
10000	-54	1251	43322	48135	2430	1074	36098	39685	2360	1015	33787	37017	2330	898	29306	31867	2290
	-35	1308	20558	23139	2020	1131	17543	19512	1990	1072	16557	18338	1980	954	14614	16059	1960
	-30	1320	20562	23193	1980	1143	17572	19583	1950	1084	16594	18415	1940	965	14666	16147	1920
	-25	1331	20530	23204	1930	1154	17571	19619	1910	1095	16603	18459	1900	977	14694	16206	1880
	-20	1343	20495	23209	1900	1166	17566	19650	1870	1107	16607	18510	1860	989	14717	16261	1840
	-15	1355	20439	23190	1860	1178	17543	19660	1830	1119	16595	18529	1820	1001	14726	16299	1810
	-10	1366	20373	23159	1820	1189	17511	19660	1800	1130	16574	18539	1790	1012	14726	16338	1770
	-5	1378	20308	23129	1790	1201	17479	19660	1760	1142	16553	18548	1750	1024	14726	16365	1740
	0	1385	20782	23766	1760	1208	17895	20206	1730	1149	16950	19054	1730	1031	15086	16817	1710
	5	1395	21233	24332	1730	1218	18298	20703	1710	1159	17338	19541	1700	1041	15445	17249	1680
	10	1403	25438	29205	1730	1226	21880	24806	1700	1167	20721	23388	1700	1049	18440	20642	1680
9500	-54	1226	35761	39585	2350	1049	29845	32693	2290	990	27941	30499	2270	872	24231	26247	2230
	-35	1305	18016	19941	1990	1128	15395	16960	1970	1069	14536	15941	1960	951	12840	14035	1940
	-30	1317	18017	19979	1950	1140	15418	16997	1930	1081	14566	15985	1920	963	12884	14091	1900
	-25	1329	17990	19983	1910	1151	15415	17009	1890	1092	14574	16006	1880	974	12908	14128	1860
	-20	1340	17960	19984	1870	1163	15414	17022	1850	1104	14579	16024	1840	986	12930	14162	1830
	-15	1352	17913	19977	1840	1175	15396	17018	1810	1116	14570	16029	1810	998	12939	14183	1790
	-10	1363	17859	19948	1800	1186	15371	17007	1780	1127	14554	16027	1770	1009	12941	14199	1760
	-5	1375	17806	19921	1770	1198	15346	16997	1740	1139	14538	16122	1740	1021	12943	14213	1720
	0	1382	18180	20410	1740	1205	15675	17397	1720	1146	14854	16443	1710	1027	13231	14596	1690
	5	1388	18571	20923	1710	1211	16020	17850	1690	1152	15183	16848	1680	1034	13531	14900	1670
	10	1376	22172	25266	1710	1198	19052	21442	1680	1139	18032	20206	1670	1021	16023	17808	1660
9000	-54	1201	29983	33048	2290	1024	25027	27294	2240	965	23424	25455	2220	847	20289	21889	2190
	-35	1302	15884	17664	1970	1125	13588	14971	1950	1066	12834	14157	1940	948	11343	12464	1930
	-30	1314	15883	17677	1930	1137	13607	15002	1910	1078	12860	14195	1900	960	11381	12513	1890
	-25	1326	15860	17669	1890	1148	13607	15113	1870	1089	12867	14215	1860	971	11403	12547	1850
	-20	1337	15835	17658	1850	1160	13604	15124	1830	1101	12872	14233	1830	983	11422	12577	1810
	-15	1349	15796	17633	1820	1172	13590	15123	1800	1113	12865	14239	1790	995	11431	12598	1780
	-10	1360	15751	17603	1780	1183	13570	15117	1760	1124	12853	14240	1760	1006	11435	12614	1740
	-5	1372	15707	17573	1750	1195	13550	15111	1730	1136	12841	14240	1720	1018	11438	12629	1710
	0	1379	16006	17992	1720	1201	13815	15381	1700	1142	13095	14598	1690	1024	11671	12957	1680
	5	1385	16317	18310	1690	1208	14091	15662	1670	1149	13360	14867	1670	1031	11913	13203	1650
	10	1361	19261	21650	1680	1184	16554	18393	1660	1125	15668	17348	1650	1007	13918	15283	1640
8500	-54	1174	25414	28035	2250	997	21192	23130	2200	938	19821	21553	2190	819	17132	18489	2160
	-35	1299	14067	15743	1950	1122	12043	13339	1930	1063	11378	12618	1930	945	10060	11105	1920
	-30	1311	14065	15760	1910	1134	12059	13366	1890	1075	11399	12651	1890	956	10093	11149	1880
	-25	1322	14045	15753	1870	1145	12059	13456	1860	1086	11406	12670	1850	968	10112	11179	1840
	-20	1334	14023	15745	1840	1157	12057	13474	1820	1098	11411	12686	1810	980	10130	11207	1800
	-15	1346	13990	15726	1800	1168	12046	13481	1780	1109	11406	12694	1780	991	10141	11229	1770
	-10	1357	13952	15702	1770	1180	12029	13482	1750	1121	11397	12696	1740	1003	10143	11299	1730
	-5	1369	13915	15678	1730	1191	12013	13483	1720	1132	11387	12699	1710	1014	10147	11320	1700
	0	1375	14157	15926	1700	1198	12229	13704	1690	1139	11595	13010	1680	1021	10338	11544	1670
	5	1382	14409	16298	1670	1204	12454	13932	1660	1145	11810	13229	1650	1027	10536	11745	1640
	10	1357	16754	18704	1660	1180	14417	16051	1640	1121	13649	15119	1640	1003	12132	13388	1630

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Figure 4-33 (Sheet 2)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
1,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54									1147	90930	105616	2920	1029	78062	85103	2780
	-35	1439	39188	45063	2180	1262	33580	38154	2130	1203	31770	35951	2110	1085	28236	31690	2080
	-30	1452	39253	45245	2140	1275	33681	38357	2090	1216	31883	36161	2070	1098	28371	31912	2040
	-25	1466	39217	45335	2090	1289	33698	38465	2040	1230	31917	36281	2030	1112	28436	32056	1990
	-20	1478	39175	45396	2050	1301	33708	38585	2000	1242	31943	36394	1990	1124	28494	32192	1960
	-15	1491	39042	45352	2010	1314	33642	38598	1960	1255	31897	36443	1950	1137	28487	32255	1920
	-10	1504	38911	45310	1970	1327	33574	38610	1920	1268	31850	36473	1910	1150	28479	32334	1880
	-5	1516	39441	46058	1940	1339	34060	39258	1890	1280	32321	37096	1880	1162	28924	32911	1850
	0	1530	41051	48070	1920	1353	35459	41001	1870	1294	33652	38745	1850	1176	30123	34364	1820
	5	1539	47240	55387	1930	1362	40672	47085	1880	1303	38565	44438	1860	1185	34466	39381	1830
	10	1548	67131	78376	2060	1371	57122	65901	1980	1312	53964	62003	1950	1194	47894	54546	1900
12200	-54	1375	106399	125591	3080	1198	86933	95731	2880	1139	80973	88914	2810	1021	69761	76143	2700
	-35	1431	37177	42694	2160	1254	31867	36157	2110	1195	30151	34070	2100	1077	26796	30030	2060
	-30	1444	37234	42860	2120	1267	31960	36344	2070	1208	30255	34264	2050	1090	26922	30236	2020
	-25	1457	37201	42925	2080	1280	31975	36445	2030	1221	30286	34377	2010	1103	26983	30371	1980
	-20	1470	37160	43001	2030	1293	31985	36539	1990	1234	30311	34483	1970	1116	27038	30499	1940
	-15	1483	37037	42962	1990	1306	31924	36572	1950	1247	30269	34531	1930	1129	27034	30577	1900
	-10	1495	36915	42923	1950	1318	31862	36585	1910	1259	30227	34560	1900	1141	27027	30637	1870
	-5	1508	37406	43618	1920	1331	32304	37177	1880	1272	30657	35131	1860	1154	27435	31167	1840
	0	1520	38865	45447	1900	1343	33576	38767	1850	1284	31868	36617	1840	1165	28528	32495	1810
	5	1531	44433	52023	1910	1353	38288	44254	1860	1294	36312	41794	1840	1176	32460	37024	1810
	10	1540	61893	72241	2020	1363	52789	60862	1940	1304	49905	57295	1920	1186	44346	50477	1870
12000	-54	1365	93476	103965	2940	1188	76829	84697	2770	1129	71689	78782	2720	1011	61959	67671	2610
	-35	1422	35059	40181	2140	1245	30059	34035	2090	1186	28440	32071	2080	1068	25273	28264	2050
	-30	1435	35107	40331	2100	1258	30142	34207	2050	1199	28535	32249	2040	1081	25389	28455	2010
	-25	1448	35075	40389	2060	1271	30157	34300	2010	1212	28564	32353	2000	1094	25447	28580	1970
	-20	1461	35037	40440	2010	1284	30166	34387	1970	1225	28588	32452	1960	1106	25502	28703	1930
	-15	1473	34924	40405	1970	1296	30110	34401	1930	1237	28550	32481	1920	1119	25496	28775	1890
	-10	1486	34812	40391	1940	1309	30054	34433	1890	1250	28512	32527	1880	1132	25491	28832	1850
	-5	1498	35242	40987	1900	1321	30453	34969	1860	1262	28901	33045	1850	1144	25862	29314	1820
	0	1510	36562	42664	1880	1333	31599	36385	1840	1274	29993	34387	1820	1156	26850	30515	1800
	5	1521	41530	48517	1890	1344	35813	41319	1840	1285	33972	39008	1820	1166	30378	34583	1790
	10	1530	56693	66075	1970	1353	48462	55796	1910	1294	45843	52553	1890	1176	40781	46363	1850
11800	-54	1356	83032	92451	2830	1179	68567	75667	2680	1120	64068	70490	2640	1002	55510	60671	2550
	-35	1413	33110	37867	2120	1236	28391	32093	2080	1177	26862	30240	2060	1059	23869	26647	2040
	-30	1426	33152	38022	2080	1249	28467	32250	2040	1190	26949	30403	2020	1071	23974	26821	1990
	-25	1439	33120	38074	2040	1261	28481	32337	1990	1202	26976	30501	1980	1084	24028	26938	1950
	-20	1452	33085	38122	2000	1275	28489	32419	1960	1216	26999	30593	1940	1098	24078	27066	1920
	-15	1464	32980	38090	1960	1287	28438	32433	1920	1228	26965	30622	1900	1109	24076	27122	1880
	-10	1476	32876	38059	1920	1299	28387	32464	1880	1240	26930	30666	1870	1122	24073	27177	1840
	-5	1488	33264	38618	1890	1311	28748	32951	1850	1252	27283	31137	1830	1134	24411	27617	1810
	0	1501	34493	40113	1860	1324	29785	34234	1820	1265	28272	32354	1810	1147	25307	28708	1780
	5	1511	38905	45389	1860	1334	33570	38653	1820	1275	31847	36513	1810	1156	28482	32374	1780
	10	1520	52174	60749	1940	1343	44678	51373	1880	1284	42285	48430	1860	1166	37647	42731	1820
11600	-54	1346	74431	82929	2740	1169	61690	68080	2610	1110	57705	63480	2570	992	50092	54743	2490
	-35	1404	31310	35726	2110	1226	26850	30280	2060	1167	25402	28530	2050	1049	22564	25132	2020
	-30	1414	31346	35867	2060	1238	26918	30424	2020	1179	25481	28680	2010	1061	22662	25294	1980
	-25	1429	31317	35916	2020	1252	26931	30505	1980	1193	25507	28771	1970	1075	22714	25404	1940
	-20	1442	31283	35959	1980	1264	26939	30580	1940	1205	25528	28857	1930	1087	22761	25524	1900
	-15	1454	31186	35930	1940	1277	26893	30594	1900	1218	25498	28900	1890	1100	22761	25577	1870
	-10	1466	31090	35901	1900	1289	26846	30625	1870	1230	25467	28927	1850	1112	22760	25629	1830
	-5	1478	31440	36409	1870	1301	27174	31068	1830	1242	25788	29356	1820	1124	23068	26032	1800
	0	1490	32515	37763	1840	1313	28113	32232	1810	1254	26685	30461	1800	1136	23883	27024	1770
	5	1501	36520	42494	1840	1324	31526	36219	1800	1265	29911	34216	1790	1146	26751	30320	1760
	10	1509	48207	56021	1910	1332	41340	47454	1850	1273	39140	44727	1830	1155	34869	39503	1800
11400	-54	1337	67121	74810	2670	1160	55803	61595	2550	1101	52256	57485	2510	983	45433	49657	2440
	-35	1395	29645	33761	2090	1218	25420	28612	2050	1159	24047	26956	2040	1041	21353	23737	2010
	-30	1407	29676	33890	2050	1230	25482	28744	2010	1171	24120	27094	1990	1053	21445	23901	1970
	-25	1419	29647	33934	2010	1242	25494	28819	1970	1183	24144	27179	1950	1065	21494	24004	1930
	-20	1432	29616	33974	1970	1255	25502	28890	1930	1196	24164	27274	1920	1078	21538	24103	1890
	-15	1444	29525	33947	1930	1267	25459	28904	1890	1208	24137	27301	1880	1090	21540	24154	1860
	-10	1456	29428	33912	1890	1279	25416	28933	1850	1220	24108	27326	1840	1102	21540	24204	1820
	-5	1468	29753	34383	1860	1291	25715	29338	1820	1232	24402	27719	1810	1114	21822	24587	1790
	0	1480	30728	35613	1830	1303	26569	30398	1790	1244	25212	28720	1780	1126	22565	25479	1760
	5	1490	34344	39870	1830	1313	29656	33990	1790	1254	28138	32110	1780	1136	25163	28466	1750
	10	1499	44697	51876	1880	1322	38373	43983	1830	1263	36342	41465	1810	1145	32390	36653	1780

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Figure 4-33 (Sheet 3)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
1,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
11000	-54	1319	55598	61927	2550	1142	46445	51212	2450	1083	43541	47857	2420	965	37936	41391	2360
	-35	1375	26657	30231	2060	1198	22850	25598	2030	1139	21610	24110	2010	1021	19173	21226	1990
	-30	1387	26680	30323	2020	1210	22902	25710	1980	1151	21672	24242	1970	1033	19252	21356	1950
	-25	1400	26654	30360	1980	1223	22912	25790	1940	1164	21693	24315	1930	1046	19296	21447	1910
	-20	1412	26626	30393	1940	1235	22919	25851	1900	1176	21712	24385	1890	1058	19337	21534	1870
	-15	1424	26547	30369	1900	1247	22883	25864	1870	1188	21689	24410	1860	1070	19340	21593	1840
	-10	1436	26469	30346	1860	1259	22846	25876	1830	1200	21666	24433	1820	1082	19342	21638	1800
	-5	1448	26731	30732	1830	1271	23096	26215	1800	1212	21911	24777	1790	1094	19581	21950	1770
	0	1461	27540	31755	1800	1283	23809	27100	1770	1224	22593	25605	1760	1106	20204	22709	1740
	5	1470	30516	35260	1790	1293	26357	30065	1760	1234	25005	28400	1750	1116	22354	25167	1730
	10	1479	38761	44806	1830	1301	33328	38037	1790	1242	31576	35887	1770	1124	28154	31731	1740
10500	-54	1296	45105	50493	2440	1118	37810	41870	2360	1059	35476	39147	2340	941	30946	33888	2290
	-35	1350	23455	26683	2030	1173	20087	22561	2000	1114	18988	21246	1990	996	16823	18661	1970
	-30	1363	23471	26761	1990	1185	20129	22670	1960	1126	19038	21348	1950	1008	16890	18785	1930
	-25	1375	23448	26794	1950	1198	20138	22728	1920	1139	19058	21414	1910	1020	16929	18866	1890
	-20	1387	23422	26825	1910	1210	20144	22783	1880	1151	19074	21477	1870	1032	16965	18944	1850
	-15	1399	23356	26808	1870	1221	20115	22798	1840	1162	19056	21502	1830	1044	16970	18988	1810
	-10	1410	23289	26792	1830	1233	20085	22812	1810	1174	19037	21526	1800	1056	16974	19031	1780
	-5	1422	23498	27110	1800	1245	20286	23092	1770	1186	19237	21812	1770	1068	17170	19291	1750
	0	1433	24147	27928	1770	1256	20861	23816	1750	1197	19788	22488	1740	1079	17675	19915	1720
	5	1443	26515	30745	1760	1266	22894	26206	1730	1207	21715	24742	1720	1089	19394	21896	1700
	10	1452	32860	38149	1780	1275	28280	32405	1740	1216	26795	30569	1730	1098	23888	27010	1710
10000	-54	1271	37367	41700	2360	1094	31377	34640	2290	1035	29448	32392	2270	917	25689	28036	2230
	-35	1325	20721	23417	2000	1148	17722	19787	1980	1089	16741	18613	1970	971	14807	16331	1950
	-30	1337	20733	23481	1960	1160	17757	19868	1930	1101	16784	18710	1930	983	14865	16427	1910
	-25	1349	20712	23508	1920	1172	17765	19917	1900	1113	16801	18766	1890	995	14899	16497	1870
	-20	1361	20690	23532	1880	1183	17771	19963	1860	1124	16816	18819	1850	1006	14932	16574	1830
	-15	1372	20629	23510	1850	1195	17744	19971	1820	1136	16800	18837	1810	1018	14936	16610	1800
	-10	1384	20568	23487	1810	1207	17716	19990	1790	1148	16782	18852	1780	1030	14940	16644	1760
	-5	1395	20744	23760	1780	1218	17886	20229	1750	1159	16951	19085	1750	1041	15105	16864	1730
	0	1406	21270	24422	1750	1229	18355	20806	1730	1170	17401	19648	1720	1052	15519	17364	1700
	5	1416	23181	26692	1730	1239	19998	22734	1710	1180	18959	21455	1700	1062	16911	18976	1680
	10	1424	28160	32488	1740	1247	24235	27595	1710	1188	22959	26026	1700	1070	20452	22978	1680
9500 0	-54	1247	31425	34934	2290	1069	26399	29026	2240	1010	24773	27137	2220	892	21593	23477	2190
	-35	1322	18142	20172	1980	1145	15537	17124	1950	1086	14683	16109	1950	968	12996	14210	1930
	-30	1334	18150	20221	1940	1157	15566	17167	1910	1098	14719	16164	1910	980	13045	14271	1890
	-25	1346	18132	20238	1900	1169	15572	17199	1880	1110	14733	16207	1870	991	13075	14314	1850
	-20	1357	18112	20265	1860	1180	15577	17234	1840	1121	14746	16249	1830	1003	13103	14355	1820
	-15	1369	18061	20243	1820	1192	15555	17238	1800	1133	14733	16311	1790	1015	13109	14373	1780
	-10	1381	18011	20221	1790	1204	15534	17241	1770	1145	14721	16313	1760	1027	13114	14482	1750
	-5	1391	18157	20438	1760	1214	15674	17440	1740	1155	14860	16477	1730	1037	13250	14628	1710
	0	1397	18616	21041	1730	1220	16076	17967	1710	1161	15243	16965	1700	1043	13598	15016	1690
	5	1392	20310	23176	1710	1215	17507	19730	1690	1156	16589	18613	1680	1038	14779	16445	1670
	10	1398	24327	27869	1710	1221	20922	23671	1690	1162	19812	22316	1680	1043	17626	19678	1660
9000 0	-54	1221	26729	29564	2240	1043	22440	24547	2200	984	21047	22951	2180	866	18315	19823	2160
	-35	1319	15982	17784	1960	1142	13702	15104	1940	1083	12953	14295	1930	965	11471	12610	1920
	-30	1331	15987	17803	1920	1154	13726	15239	1900	1095	12983	14337	1890	977	11513	12663	1880
	-25	1343	15971	17802	1880	1165	13731	15258	1860	1106	12994	14361	1850	988	11539	12701	1840
	-20	1354	15954	17799	1840	1177	13735	15276	1820	1118	13006	14386	1810	1000	11564	12737	1800
	-15	1366	15912	17772	1810	1189	13718	15273	1790	1130	12997	14391	1780	1012	11570	12756	1770
	-10	1378	15870	17745	1770	1201	13701	15269	1750	1142	12988	14394	1750	1024	11577	12865	1730
	-5	1388	15986	17987	1740	1211	13814	15393	1720	1152	13100	14616	1710	1033	11688	12986	1700
	0	1394	16352	18357	1710	1217	14136	15719	1690	1158	13408	14927	1680	1040	11968	13269	1670
	5	1388	17691	19805	1690	1211	15270	16937	1670	1152	14475	16075	1660	1034	12904	14279	1650
	10	1366	21144	24045	1690	1189	18160	20399	1660	1130	17185	19219	1660	1012	15261	16930	1640
8500 0	-54	1193	22924	25355	2200	1016	19215	21012	2160	957	18007	19626	2150	839	15633	16907	2130
	-35	1316	14143	15846	1940	1139	12135	13449	1920	1080	11474	12733	1920	962	10166	11228	1900
	-30	1328	14146	15862	1900	1150	12155	13580	1880	1091	11499	12769	1880	973	10201	11274	1860
	-25	1339	14132	15862	1860	1162	12160	13597	1840	1103	11511	12792	1840	985	10225	11308	1830
	-20	1352	14117	15860	1820	1175	12163	13614	1810	1116	11520	12814	1800	998	10247	11424	1790
	-15	1363	14081	15839	1790	1186	12149	13613	1770	1127	11514	12819	1770	1009	10254	11449	1750
	-10	1375	14046	15818	1750	1198	12136	13612	1740	1138	11507	12825	1730	1020	10260	11469	1720
	-5	1385	14139	15921	1720	1207	12228	13714	1710	1148	11599	13026	1700	1030	10352	11569	1690
	0	1390	14435	16337	1690	1213	12490	13979	1680	1154	11849	13279	1670	1036	10581	11801	1660
	5	1384	15510	17508	1670	1207	13400	14976	1650	1148	12706	14219	1650	1030	11333	12629	1640
	10	1360	18232	20502	1660	1183	15678	17425	1640	1124	14841	16426	1640	1005	13187	14524	1620

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Figure 4-33 (Sheet 4)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
2,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1405	87198	97860	2860	1228	72384	80481	2700	1169	67775	75129	2660	1051	59006	64974	2560
	-35	1462	38962	45008	2170	1285	33481	38208	2110	1226	31710	36039	2100	1108	28251	31840	2060
	-30	1476	39005	45190	2120	1298	33564	38393	2070	1239	31806	36231	2050	1121	28370	32047	2020
	-25	1489	39001	45297	2080	1312	33606	38532	2030	1253	31863	36380	2010	1135	28455	32215	1980
	-20	1502	38948	45348	2040	1325	33606	38644	1990	1266	31879	36504	1970	1148	28503	32361	1940
	-15	1515	38838	45334	1990	1338	33556	38679	1950	1279	31849	36555	1930	1161	28510	32442	1900
	-10	1528	38728	45319	1960	1351	33506	38714	1910	1292	31817	36605	1900	1174	28514	32521	1870
	-5	1540	40302	47308	1930	1363	34870	40395	1890	1304	33116	38198	1870	1186	29688	33947	1840
	0	1552	42512	50050	1910	1375	36768	42719	1870	1316	34916	40394	1850	1198	31302	35899	1820
	5	1563	56038	65889	1990	1385	48097	55845	1930	1326	45566	52671	1910	1208	40667	46607	1870
	10	1573	84946	99143	2190	1396	71664	82674	2080	1336	67533	77594	2050	1218	59671	67990	1980
12200	-54	1397	79260	89039	2780	1219	66014	73454	2640	1160	61872	68624	2590	1042	53961	59431	2510
	-35	1454	36973	42652	2150	1277	31780	36215	2100	1218	30101	34159	2080	1100	26816	30177	2050
	-30	1467	37010	42798	2100	1290	31856	36386	2050	1231	30189	34337	2040	1113	26928	30370	2010
	-25	1481	37004	42918	2060	1303	31895	36515	2010	1244	30242	34477	2000	1126	27007	30527	1970
	-20	1494	36954	42965	2020	1316	31895	36620	1970	1257	30257	34593	1960	1139	27053	30665	1930
	-15	1507	36852	42953	1980	1329	31850	36655	1930	1270	30230	34643	1920	1152	27060	30743	1890
	-10	1519	36750	42940	1940	1342	31804	36689	1900	1283	30202	34691	1880	1165	27066	30818	1850
	-5	1532	38179	44753	1910	1355	33046	38224	1870	1296	31386	36147	1860	1177	28139	32123	1830
	0	1544	40179	47217	1900	1367	34768	40339	1850	1308	33021	38146	1840	1190	29607	33885	1810
	5	1554	52247	61357	1960	1377	44907	52063	1900	1318	42561	49143	1880	1200	38010	43508	1840
	10	1563	77051	89940	2120	1386	65260	75277	2030	1327	61569	70749	2000	1209	54514	62124	1940
12000	-54	1387	71576	80471	2700	1210	59800	66579	2570	1151	56098	62246	2530	1033	49002	53995	2460
	-35	1445	34876	40171	2130	1268	29984	34114	2080	1209	28400	32176	2060	1090	25298	28421	2030
	-30	1458	34907	40304	2080	1281	30053	34270	2040	1222	28481	32341	2020	1104	25401	28599	1990
	-25	1471	34900	40394	2040	1294	30088	34390	2000	1235	28529	32469	1980	1117	25475	28746	1950
	-20	1484	34853	40437	2000	1307	30088	34470	1960	1248	28544	32578	1940	1130	25518	28875	1910
	-15	1497	34759	40447	1960	1320	30047	34522	1920	1261	28520	32626	1900	1143	25522	28944	1880
	-10	1508	34665	40437	1920	1331	30006	34555	1880	1272	28495	32672	1870	1154	25534	29021	1840
	-5	1522	35950	42052	1900	1345	31127	35943	1850	1286	29564	33990	1840	1168	26504	30205	1820
	0	1534	37740	44286	1880	1357	32673	37828	1830	1298	31034	35773	1820	1180	27827	31794	1790
	5	1544	48395	56780	1930	1367	41651	48231	1870	1308	39490	45540	1860	1189	35289	40335	1820
	10	1553	69370	80986	2060	1376	58974	68023	1980	1317	55700	63960	1950	1199	49414	56278	1900
11800	-54	1378	64965	73018	2630	1201	54422	60569	2520	1142	51092	56662	2480	1024	44689	49203	2410
	-35	1435	32945	37863	2110	1258	28328	32156	2060	1199	26830	30329	2050	1081	23895	26784	2020
	-30	1448	32972	37984	2060	1271	28390	32300	2020	1212	26904	30480	2010	1094	23991	26949	1980
	-25	1461	32963	38065	2020	1284	28422	32410	1980	1225	26948	30599	1970	1107	24059	27100	1940
	-20	1474	32923	38109	1980	1297	28422	32484	1940	1238	26963	30701	1930	1120	24101	27206	1900
	-15	1487	32832	38095	1940	1310	28385	32535	1900	1251	26942	30747	1890	1133	24111	27277	1860
	-10	1500	32746	38106	1900	1323	28348	32566	1870	1264	26920	30791	1850	1145	24118	27345	1830
	-5	1512	33905	39566	1880	1335	29362	33824	1840	1276	27891	31989	1830	1158	24999	28420	1800
	0	1524	35514	41558	1860	1347	30755	35525	1820	1288	29214	33596	1800	1170	26195	29858	1780
	5	1534	44973	52642	1900	1356	38748	44777	1850	1297	36747	42288	1830	1179	32852	37467	1800
	10	1543	62906	73356	2010	1366	53637	61793	1940	1307	50703	58170	1910	1189	45050	51247	1870
11600	-54	1369	59293	66641	2570	1192	49779	55377	2470	1133	46762	51852	2440	1015	40943	45061	2380
	-35	1426	31162	35748	2090	1249	26795	30359	2050	1190	25377	28632	2040	1072	22595	25278	2010
	-30	1439	31184	35858	2050	1262	26852	30492	2010	1203	25445	28772	1990	1085	22684	25431	1970
	-25	1452	31175	35932	2010	1275	26881	30593	1970	1216	25486	28882	1950	1097	22748	25572	1930
	-20	1465	31133	35968	1970	1287	26881	30663	1930	1228	25499	28978	1910	1110	22787	25672	1890
	-15	1477	31052	35960	1930	1300	26848	30711	1890	1241	25481	29021	1880	1123	22798	25739	1850
	-10	1490	30973	35953	1890	1313	26814	30741	1850	1254	25462	29064	1840	1135	22807	25804	1820
	-5	1502	32022	37277	1860	1325	27734	31885	1830	1266	26341	30151	1810	1148	23608	26784	1790
	0	1514	33473	39097	1840	1337	28994	33426	1800	1277	27541	31610	1790	1159	24692	28089	1770
	5	1523	41913	48982	1880	1346	36141	41691	1830	1287	34286	39383	1810	1169	30657	34915	1780
	10	1532	57391	66870	1970	1355	49051	56465	1900	1296	46399	53184	1880	1178	41275	46898	1840
11400	-54	1360	54380	61115	2520	1183	45734	50857	2430	1124	42983	47617	2400	1005	37663	41422	2340
	-35	1416	29510	33786	2070	1239	25373	28690	2040	1180	24028	27055	2020	1062	21387	23892	2000
	-30	1429	29529	33886	2030	1252	25425	28813	1990	1193	24090	27184	1980	1075	21469	24034	1960
	-25	1442	29518	33953	1990	1265	25451	28907	1950	1206	24121	27295	1940	1088	21530	24152	1920
	-20	1455	29479	33987	1950	1277	25451	28987	1910	1218	24141	27377	1900	1100	21567	24246	1880
	-15	1467	29404	33980	1910	1290	25421	29017	1880	1231	24125	27418	1870	1113	21578	24310	1840
	-10	1480	29330	33973	1870	1303	25390	29046	1840	1243	24108	27459	1830	1125	21588	24372	1810
	-5	1492	30283	35178	1850	1314	26228	30089	1810	1255	24909	28451	1800	1137	22319	25267	1780
	0	1503	31596	36829	1820	1326	27371	31488	1790	1267	25998	29777	1780	1149	23305	26454	1760
	5	1513	39159	45678	1850	1336	33789	38919	1810	1277	32055	36765	1790	1159	28663	32574	1770
	10	1522	52628	61266	1930	1345	45065	51813	1870	1286	42652	48822	1850	1168	37975	43103	1810

525AFM-06-00

Figure 4-33 (Sheet 5)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
2,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
11000	-54	1343	46296	51921	2430	1165	39034	43312	2360	1106	36709	40590	2330	988	32195	35331	2280
	-35	1397	26545	30245	2050	1220	22815	25673	2010	1161	21600	24218	2000	1042	19210	21356	1980
	-30	1409	26558	30328	2000	1232	22859	25792	1970	1173	21653	24328	1960	1055	19282	21480	1940
	-25	1422	26547	30384	1960	1245	22881	25872	1930	1186	21686	24416	1920	1068	19335	21583	1900
	-20	1434	26512	30411	1920	1257	22881	25928	1890	1198	21698	24481	1880	1080	19369	21678	1860
	-15	1449	26448	30405	1890	1271	22856	25956	1850	1212	21685	24519	1840	1094	19381	21736	1820
	-10	1459	26383	30399	1850	1282	22830	25982	1820	1223	21672	24555	1810	1105	19391	21792	1790
	-5	1471	27174	31402	1820	1294	23529	26853	1790	1235	22341	25385	1780	1117	20005	22543	1760
	0	1482	28258	32751	1800	1305	24477	28014	1760	1246	23246	26488	1750	1128	20826	23519	1730
	5	1492	34402	39946	1810	1315	29707	34058	1780	1256	28187	32175	1760	1138	25209	28526	1740
	10	1501	44812	52002	1870	1324	38475	44075	1810	1265	36440	41575	1800	1147	32481	36736	1770
10500	-54	1317	38534	43158	2350	1140	32546	36062	2290	1081	30818	33786	2270	963	26858	29420	2230
	-35	1372	23365	26514	2020	1195	20064	22498	1980	1135	18985	21199	1970	1017	16862	18680	1950
	-30	1384	23373	26581	1970	1207	20099	22584	1940	1148	19030	21292	1930	1030	16923	18784	1910
	-25	1396	23362	26626	1930	1219	20117	22652	1900	1160	19057	21366	1890	1042	16969	18873	1880
	-20	1409	23330	26649	1900	1232	20118	22699	1870	1172	19068	21422	1860	1054	16999	18944	1840
	-15	1421	23268	26637	1860	1244	20097	22724	1830	1185	19059	21468	1820	1067	17012	18995	1800
	-10	1433	23221	26639	1820	1256	20077	22747	1790	1197	19049	21501	1790	1079	17023	19045	1770
	-5	1444	23856	27448	1790	1267	20641	23453	1770	1208	19590	22161	1760	1090	17521	19656	1740
	0	1456	24722	28529	1770	1279	21401	24387	1740	1220	20317	23049	1730	1101	18182	20455	1710
	5	1465	29545	34178	1770	1288	25519	29140	1740	1229	24211	27524	1730	1111	21641	24386	1710
	10	1474	37322	43170	1810	1297	32104	36676	1760	1238	30419	34606	1750	1119	27126	30582	1720
10000	-54	1293	32546	36530	2290	1116	27501	30518	2240	1057	25873	28601	2220	938	22682	24879	2190
	-35	1346	20649	23444	1990	1169	17707	19858	1960	1110	16745	18708	1950	992	14846	16442	1930
	-30	1358	20653	23500	1950	1181	17737	19932	1920	1122	16782	18788	1910	1004	14899	16544	1890
	-25	1370	20642	23538	1910	1193	17752	19991	1880	1134	16806	18853	1870	1016	14939	16621	1860
	-20	1382	20614	23558	1870	1205	17752	20045	1840	1146	16815	18903	1840	1028	14962	16681	1820
	-15	1394	20567	23556	1830	1217	17736	20069	1810	1158	16809	18934	1800	1040	14979	16732	1780
	-10	1406	20521	23568	1800	1229	17719	20091	1770	1170	16802	18965	1770	1051	14991	16778	1750
	-5	1417	21036	24219	1770	1240	18179	20661	1740	1181	17244	19521	1740	1063	15399	17272	1720
	0	1428	21735	25102	1740	1251	18796	21425	1720	1192	17835	20237	1710	1074	15937	17928	1690
	5	1437	25584	29622	1740	1260	22088	25231	1710	1201	20948	23835	1700	1083	18705	21089	1690
	10	1446	31545	36552	1760	1269	27153	31054	1720	1210	25728	29295	1710	1091	22936	25883	1690
95000	-54	1267	27786	31022	2240	1090	23474	25909	2190	1031	22074	24269	2180	913	19327	21096	2150
	-35	1341	18096	20211	1970	1164	15535	17167	1940	1105	14695	16174	1930	987	13036	14271	1920
	-30	1353	18100	20268	1920	1176	15560	17227	1900	1117	14727	16239	1890	999	13081	14329	1880
	-25	1365	18088	20294	1890	1188	15573	17274	1860	1129	14747	16291	1850	1011	13116	14380	1840
	-20	1377	18065	20306	1850	1200	15573	17304	1830	1141	14756	16344	1820	1023	13140	14504	1800
	-15	1389	18023	20294	1810	1212	15558	17317	1790	1153	14751	16362	1780	1035	13151	14529	1770
	-10	1399	17981	20283	1780	1222	15543	17329	1760	1163	14743	16380	1750	1045	13161	14553	1730
	-5	1408	18427	20868	1750	1231	15936	17844	1730	1172	15119	16857	1720	1054	13503	14938	1700
	0	1414	19034	21667	1720	1237	16464	18512	1700	1178	15621	17500	1690	1060	13956	15509	1680
	5	1409	22289	25609	1710	1231	19224	21794	1690	1172	18222	20579	1680	1054	16247	18183	1670
	10	1417	26951	31008	1720	1240	23194	26339	1690	1181	21971	24855	1680	1063	19567	21940	1660
90000	-54	1242	23920	26551	2200	1065	20184	22161	2160	1006	18967	20745	2150	887	16575	17999	2120
	-35	1338	15941	17767	1940	1161	13699	15222	1920	1102	12962	14326	1920	984	11504	12663	1900
	-30	1350	15942	17783	1900	1173	13719	15256	1880	1114	12988	14365	1880	996	11543	12713	1860
	-25	1362	15932	17788	1870	1185	13730	15280	1850	1126	13006	14395	1840	1007	11573	12755	1830
	-20	1374	15911	17782	1830	1197	13730	15295	1810	1138	13013	14416	1800	1019	11594	12879	1790
	-15	1386	15876	17762	1790	1209	13719	15297	1770	1150	13009	14525	1770	1032	11606	12904	1750
	-10	1398	15841	17742	1760	1221	13707	15300	1740	1162	13005	14535	1730	1044	11616	12927	1720
	-5	1405	16198	18221	1730	1228	14023	15620	1710	1169	13308	14842	1700	1051	11893	13208	1690
	0	1411	16682	18707	1700	1234	14445	16150	1680	1175	13710	15246	1680	1057	12256	13573	1660
	5	1391	19376	21958	1690	1214	16711	18722	1670	1155	15838	17668	1660	1037	14114	15621	1650
	10	1387	23214	26508	1690	1210	19959	22510	1670	1151	18896	21218	1660	1032	16803	18714	1640
85000	-54	1213	20713	22970	2170	1036	17445	19142	2130	977	16378	17900	2120	859	14276	15488	2100
	-35	1335	14105	15831	1930	1158	12131	13565	1910	1099	11481	12760	1900	981	10194	11274	1890
	-30	1346	14105	15845	1890	1169	12148	13595	1870	1110	11503	12794	1860	992	10227	11318	1850
	-25	1358	14096	15849	1850	1181	12157	13616	1830	1122	11518	12820	1830	1004	10253	11446	1810
	-20	1369	14078	15845	1810	1192	12157	13630	1790	1133	11525	12839	1790	1015	10272	11477	1780
	-15	1382	14048	15830	1780	1205	12148	13634	1760	1146	11523	12950	1750	1028	10283	11500	1740
	-10	1394	14019	15815	1740	1217	12139	13639	1730	1158	11520	12960	1720	1040	10293	11523	1710
	-5	1401	14309	16227	1710	1224	12397	13900	1700	1165	11767	13212	1690	1047	10520	11753	1680
	0	1407	14699	16619	1680	1230	12739	14350	1670	1171	12094	13540	1660	1053	10816	12051	1650
	5	1387	16840	18946	1670	1210	14540	16212	1650	1151	13785	15390	1650	1033	12288	13668	1630
	10	1363	20023	22764	1670	1186	17204	19317	1640	1126	16281	18200	1640	1008	14460	16033	1620

525AFM-08-00

Figure 4-33 (Sheet 6)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
3,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1428	67652	76870	2640	1251	56958	64039	2520	1192	53580	60023	2490	1073	47085	52355	2420
	-35	1486	38483	44720	2150	1309	33164	38061	2090	1250	31444	35935	2080	1132	28082	31820	2050
	-30	1500	38509	44886	2100	1322	33231	38232	2050	1263	31525	36115	2040	1145	28188	32015	2000
	-25	1513	38534	45031	2060	1336	33298	38422	2010	1277	31604	36311	2000	1159	28292	32225	1970
	-20	1526	38465	45066	2020	1349	33283	38500	1970	1290	31606	36403	1960	1172	28327	32342	1930
	-15	1540	38381	45083	1980	1363	33254	38562	1930	1304	31595	36479	1920	1186	28348	32443	1890
	-10	1553	38770	45676	1940	1376	33623	39104	1900	1317	31958	37005	1880	1198	28700	32921	1860
	-5	1563	41389	48899	1930	1386	35872	41838	1880	1328	34081	39556	1870	1210	30612	35215	1840
	0	1577	46528	55066	1930	1400	40236	47000	1880	1341	38214	44447	1870	1223	34275	39501	1830
	5	1586	68558	80678	2080	1409	58555	68057	2000	1350	55395	64120	1970	1232	49318	56607	1920
	10	1598	114026	133743	2400	1421	94681	109055	2250	1362	88813	101915	2200	1244	77828	88614	2120
12200	-54	1420	62502	71012	2580	1243	52726	59253	2480	1184	49627	55584	2450	1066	43654	48519	2390
	-35	1478	36537	42396	2130	1301	31495	36090	2080	1241	29863	34074	2060	1123	26669	30169	2030
	-30	1491	36558	42528	2080	1314	31557	36248	2040	1255	29937	34241	2020	1137	26767	30351	1990
	-25	1505	36580	42682	2040	1328	31617	36425	2000	1268	30010	34424	1980	1150	26864	30548	1950
	-20	1518	36515	42715	2000	1341	31604	36499	1960	1282	30013	34511	1940	1164	26898	30659	1910
	-15	1531	36436	42733	1960	1354	31577	36558	1920	1295	30003	34584	1900	1177	26919	30755	1880
	-10	1544	36790	43276	1930	1367	31915	37036	1880	1308	30336	35049	1870	1190	27243	31195	1840
	-5	1556	39168	46209	1910	1379	33962	39529	1870	1320	32278	37404	1850	1202	28987	33292	1820
	0	1568	43800	51783	1910	1391	37905	44224	1860	1332	36007	41806	1850	1214	32305	37180	1820
	5	1578	63137	74260	2030	1400	54051	62789	1960	1341	51170	59189	1940	1223	45612	52304	1890
	10	1589	100475	117163	2300	1412	84075	96912	2170	1353	79041	90776	2130	1235	69544	79229	2050
12000	-54	1411	57357	65150	2530	1234	48475	54464	2440	1175	45650	51091	2410	1057	40191	44646	2350
	-35	1468	34483	39947	2110	1291	29730	34010	2060	1232	28190	32110	2050	1114	25172	28425	2020
	-30	1482	34500	40068	2060	1305	29786	34155	2020	1245	28258	32263	2010	1127	25263	28594	1980
	-25	1495	34517	40188	2020	1318	29850	34309	1980	1259	28324	32433	1970	1141	25352	28777	1940
	-20	1508	34457	40241	1980	1331	29829	34388	1940	1272	28328	32515	1930	1154	25385	28881	1900
	-15	1521	34385	40258	1940	1344	29805	34444	1900	1285	28319	32583	1890	1167	25406	28972	1860
	-10	1534	34702	40729	1910	1357	30111	34879	1870	1298	28621	33007	1860	1180	25701	29374	1830
	-5	1546	36839	43371	1890	1369	31955	37130	1850	1310	30373	35136	1830	1192	27276	31271	1810
	0	1558	40970	48355	1890	1381	35481	41318	1840	1322	33710	39084	1830	1204	30250	34744	1800
	5	1567	57767	67922	1990	1390	49561	57531	1920	1331	46949	54260	1900	1213	41895	48012	1860
	10	1578	88228	102979	2200	1401	74317	85723	2090	1342	70002	80426	2050	1224	61806	70459	1990
11800	-54	1402	52859	59998	2480	1225	44742	50219	2400	1165	42152	47124	2370	1047	37135	41218	2320
	-35	1459	32590	37666	2090	1281	28101	32070	2050	1222	26644	30277	2030	1104	23787	26797	2010
	-30	1472	32604	37775	2050	1295	28152	32203	2000	1236	26706	30418	1990	1118	23871	26953	1960
	-25	1485	32618	37885	2000	1308	28201	32337	1960	1249	26767	30576	1950	1131	23954	27123	1930
	-20	1498	32562	37914	1960	1321	28191	32419	1930	1262	26771	30652	1910	1144	23986	27221	1890
	-15	1511	32495	37950	1930	1334	28170	32472	1890	1275	26764	30717	1880	1157	24007	27308	1850
	-10	1524	32781	38377	1890	1347	28447	32868	1850	1288	27039	31103	1840	1170	24276	27675	1820
	-5	1536	34708	40764	1870	1359	30113	34906	1830	1300	28623	33031	1820	1182	25703	29395	1800
	0	1548	38409	45214	1870	1371	33280	38651	1830	1312	31622	36563	1810	1193	28380	32523	1780
	5	1557	53106	62325	1950	1380	45643	52891	1890	1321	43259	49927	1870	1203	38635	44208	1840
	10	1567	78412	91526	2120	1390	66379	76574	2020	1330	62617	71930	1990	1212	55444	63167	1940
11600	-54	1392	48894	55440	2440	1215	41437	46468	2360	1156	39050	43635	2340	1038	34419	38160	2290
	-35	1449	30840	35575	2070	1272	26592	30288	2030	1213	25212	28592	2020	1095	22502	25299	1990
	-30	1462	30851	35674	2030	1285	26638	30411	1990	1226	25269	28723	1980	1108	22581	25459	1950
	-25	1475	30862	35774	1990	1298	26683	30534	1950	1239	25319	28863	1940	1121	22658	25603	1910
	-20	1489	30810	35802	1950	1312	26674	30612	1910	1252	25329	28941	1900	1134	22689	25695	1880
	-15	1501	30747	35817	1910	1324	26655	30662	1870	1265	25324	29002	1860	1147	22710	25777	1840
	-10	1514	31006	36225	1880	1337	26907	31024	1840	1278	25574	29356	1830	1160	22956	26130	1810
	-5	1526	32749	38368	1860	1349	28418	32874	1820	1290	27012	31108	1810	1172	24253	27679	1780
	0	1537	36078	42377	1850	1360	31273	36254	1810	1301	29716	34297	1800	1183	26669	30506	1770
	5	1547	49023	57485	1920	1369	42193	48839	1860	1310	40004	46093	1850	1192	35751	40853	1810
	10	1556	70269	82014	2060	1379	59722	68873	1970	1320	56403	64787	1940	1202	50034	56978	1890
11400	-54	1383	45374	51376	2410	1206	38490	43095	2330	1147	36282	40474	2310	1029	31988	35420	2270
	-35	1439	29217	33614	2060	1262	25191	28616	2020	1203	23881	27012	2010	1085	21308	23907	1980
	-30	1452	29225	33705	2010	1275	25233	28730	1980	1216	23934	27148	1970	1098	21381	24042	1940
	-25	1465	29234	33796	1970	1288	25274	28859	1940	1229	23985	27269	1930	1111	21453	24176	1900
	-20	1478	29185	33821	1930	1301	25266	28916	1900	1242	23990	27336	1890	1124	21482	24262	1870
	-15	1491	29127	33834	1900	1314	25249	28963	1860	1255	23986	27393	1850	1137	21503	24339	1830
	-10	1504	29362	34207	1860	1326	25479	29294	1830	1267	24215	27717	1820	1149	21730	24664	1800
	-5	1516	30944	36153	1840	1338	26853	30960	1810	1279	25523	29312	1790	1161	22911	26076	1770
	0	1527	33948	39775	1830	1350	29434	34035	1790	1291	27970	32199	1780	1173	25100	28637	1760
	5	1536	45415	53133	1890	1359	39132	45205	1840	1300	37113	42673	1820	1182	33182	37835	1790
	10	1545	63450	74011	2000	1368	54097	62317	1930	1309	51137	58664	1900	1191	45437	51686	1860

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Figure 4-33 (Sheet 7)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
3,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
11000	-54	1364	39398	44487	2340	1187	33464	37355	2280	1128	31553	35089	2260	1010	27824	30708	2220
	-35	1419	26302	30106	2030	1242	22668	25635	2000	1183	21483	24191	1980	1065	19153	21382	1960
	-30	1432	26306	30182	1990	1255	22703	25732	1950	1196	21528	24295	1940	1078	19217	21499	1920
	-25	1445	26311	30257	1950	1268	22738	25828	1910	1209	21572	24398	1900	1091	19279	21628	1880
	-20	1458	26268	30278	1910	1281	22731	25878	1880	1222	21577	24457	1870	1103	19307	21704	1850
	-15	1470	26217	30290	1870	1293	22717	25920	1840	1234	21575	24508	1830	1116	19327	21773	1810
	-10	1482	26411	30602	1840	1305	22910	26198	1810	1246	21766	24794	1800	1128	19519	22036	1780
	-5	1494	27724	32218	1810	1317	24055	27602	1780	1258	22859	26113	1770	1140	20507	23216	1750
	0	1506	30195	35182	1800	1329	26184	30108	1770	1269	24879	28481	1760	1151	22314	25331	1730
	5	1515	39325	45824	1840	1337	33937	39035	1800	1278	32198	36878	1780	1160	28801	32706	1760
	10	1524	52714	61328	1920	1347	45144	51876	1850	1288	42728	48885	1840	1169	38048	43166	1800
10500	-54	1340	33433	37577	2280	1163	28417	31582	2230	1104	26794	29665	2210	985	23617	25961	2180
	-35	1394	23169	26348	2000	1217	19950	22417	1970	1158	18898	21145	1960	1040	16825	18677	1940
	-30	1406	23170	26408	1960	1229	19978	22497	1930	1170	18935	21231	1920	1052	16880	18776	1900
	-25	1419	23171	26468	1920	1242	20006	22576	1890	1183	18972	21317	1880	1065	16933	18873	1860
	-20	1431	23134	26484	1880	1254	20001	22618	1850	1195	18977	21380	1840	1077	16959	18939	1820
	-15	1444	23091	26493	1840	1267	19991	22653	1820	1208	18977	21424	1810	1090	16978	18999	1790
	-10	1456	23246	26746	1810	1279	20147	22893	1780	1220	19134	21647	1770	1102	17139	19230	1760
	-5	1467	24299	28042	1780	1290	21069	24011	1760	1231	20014	22707	1750	1113	17934	20167	1730
	0	1478	26263	30381	1770	1301	22766	26007	1740	1242	21626	24594	1730	1124	19382	21859	1710
	5	1487	33288	38563	1790	1310	28753	32872	1760	1251	27282	31057	1740	1133	24401	27538	1720
	10	1496	42914	49703	1840	1319	36871	42176	1790	1260	34927	39771	1770	1142	31142	35171	1740
10000	-54	1315	28669	32283	2230	1138	24364	27113	2190	1078	22966	25456	2170	960	20222	22235	2140
	-35	1368	20490	23312	1970	1190	17619	19799	1950	1131	16679	18673	1940	1013	14824	16462	1920
	-30	1380	20488	23362	1930	1203	17642	19868	1910	1144	16711	18747	1900	1026	14872	16548	1880
	-25	1392	20487	23413	1890	1215	17665	19948	1870	1156	16741	18821	1860	1038	14918	16633	1840
	-20	1404	20455	23428	1860	1227	17662	19986	1830	1168	16747	18867	1820	1050	14941	16692	1810
	-15	1416	20421	23455	1820	1239	17653	20019	1800	1180	16748	18907	1790	1062	14960	16747	1770
	-10	1428	20542	23648	1790	1251	17782	20208	1760	1192	16877	19094	1750	1074	15092	16929	1740
	-5	1440	21397	24710	1760	1262	18532	21125	1740	1203	17594	19964	1730	1085	15743	17712	1710
	0	1450	22979	26607	1740	1273	19902	22747	1710	1214	18896	21498	1710	1096	16914	19078	1690
	5	1459	28491	33040	1750	1282	24611	28181	1720	1223	23348	26616	1710	1105	20868	23575	1690
	10	1468	35656	41392	1780	1291	30684	35150	1740	1231	29076	33165	1730	1113	25931	29321	1700
9500	-54	1289	24777	27797	2190	1112	21038	23334	2150	1053	19820	21895	2140	935	17425	19104	2120
	-35	1364	17957	20136	1950	1187	15459	17149	1930	1128	14640	16173	1920	1009	13020	14282	1900
	-30	1376	17955	20188	1910	1199	15479	17204	1890	1140	14667	16256	1880	1022	13061	14347	1860
	-25	1388	17953	20227	1870	1211	15498	17259	1850	1152	14693	16305	1840	1034	13100	14479	1830
	-20	1400	17925	20233	1830	1223	15495	17286	1810	1164	14697	16339	1800	1046	13121	14513	1790
	-15	1413	17892	20234	1800	1236	15487	17308	1780	1176	14698	16369	1770	1058	13137	14544	1760
	-10	1423	18000	20408	1760	1246	15597	17485	1740	1187	14808	16530	1740	1069	13249	14673	1720
	-5	1428	18745	21381	1740	1251	16241	18298	1720	1192	15420	17308	1710	1073	13796	15350	1700
	0	1426	20145	23163	1720	1249	17431	19787	1690	1190	16543	18706	1690	1072	14790	16571	1670
	5	1430	24586	28379	1720	1253	21224	24186	1690	1194	20127	22833	1690	1076	17967	20210	1670
	10	1438	30060	34764	1730	1261	25878	29541	1700	1202	24520	27868	1690	1084	21856	24620	1670
9000	-54	1262	21543	24024	2160	1085	18264	20138	2120	1026	17193	18893	2110	907	15084	16442	2090
	-35	1361	15827	17684	1930	1183	13639	15190	1910	1124	12920	14310	1900	1006	11496	12679	1890
	-30	1373	15824	17696	1890	1196	13655	15221	1870	1137	12942	14346	1860	1019	11531	12726	1850
	-25	1385	15821	17708	1850	1208	13671	15250	1830	1149	12964	14381	1830	1031	11565	12864	1810
	-20	1397	15797	17698	1810	1220	13668	15262	1800	1161	12969	14499	1790	1043	11583	12895	1780
	-15	1409	15769	17804	1780	1232	13663	15271	1760	1173	12970	14515	1750	1055	11599	12924	1740
	-10	1420	15855	17902	1750	1243	13751	15371	1730	1184	13060	14616	1720	1066	11690	13026	1710
	-5	1424	16450	18497	1720	1247	14268	15993	1700	1188	13551	15106	1690	1070	12131	13466	1680
	0	1422	17555	19787	1700	1245	15211	17029	1680	1186	14442	16087	1670	1068	12920	14337	1660
	5	1399	21351	24460	1700	1222	18407	20822	1670	1163	17445	19645	1660	1045	15546	17361	1650
	10	1408	25618	29405	1700	1230	22043	24987	1670	1171	20878	23563	1660	1053	18587	20792	1640
8500	-54	1249	18634	20606	2130	1072	15802	17296	2100	1013	14875	16219	2090	895	13045	14178	2070
	-35	1357	14011	15765	1910	1180	12083	13544	1890	1121	11449	12752	1890	1003	10191	11294	1880
	-30	1369	14009	15777	1870	1192	12097	13571	1860	1133	11468	12783	1850	1015	10221	11427	1840
	-25	1381	14004	15786	1830	1204	12110	13597	1820	1145	11486	12814	1810	1027	10250	11468	1800
	-20	1394	13983	15780	1800	1217	12108	13609	1780	1157	11491	12932	1780	1039	10267	11497	1770
	-15	1406	13960	15771	1760	1229	12104	13618	1750	1170	11493	12947	1740	1052	10281	11524	1730
	-10	1416	14029	15851	1730	1239	12177	13701	1710	1180	11567	13031	1710	1062	10358	11610	1700
	-5	1420	14511	16452	1700	1243	12596	14226	1690	1184	11966	13430	1680	1066	10717	11968	1670
	0	1418	15399	17445	1680	1241	13355	14973	1660	1182	12683	14237	1650	1064	11352	12686	1640
	5	1389	18423	20849	1670	1212	15892	17771	1650	1153	15063	16784	1640	1035	13427	14890	1630
	10	1375	22006	25205	1670	1198	18910	21385	1650	1139	17898	20150	1640	1021	15904	17744	1620

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Figure 4-33 (Sheet 8)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
4,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS 1ST FT	TAILWIND 10 KTS 2ND FT	TAILWIND 10 KTS 3RD FT	TAILWIND 10 KTS TCI FT	ZERO WIND 1ST FT	ZERO WIND 2ND FT	ZERO WIND 3RD FT	ZERO WIND TCI FT	HEADWIND 10 KTS 1ST FT	HEADWIND 10 KTS 2ND FT	HEADWIND 10 KTS 3RD FT	HEADWIND 10 KTS TCI FT	HEADWIND 30 KTS 1ST FT	HEADWIND 30 KTS 2ND FT	HEADWIND 30 KTS 3RD FT	HEADWIND 30 KTS TCI FT
12375	-54	1452	55055	63290	2490	1275	46815	53189	2400	1216	44188	49996	2380	1098	39100	43887	2320
	-35	1510	37970	44449	2130	1333	32805	37892	2080	1274	31144	35816	2060	1156	27879	31780	2030
	-30	1524	38023	44625	2080	1347	32902	38118	2030	1288	31245	36040	2020	1170	28003	32015	1990
	-25	1538	38048	44770	2040	1361	32967	38288	1990	1302	31323	36219	1980	1184	28105	32210	1950
	-20	1552	37986	44814	2000	1374	32957	38376	1950	1315	31329	36319	1940	1197	28142	32333	1910
	-15	1565	37924	44884	1960	1388	32946	38462	1920	1329	31334	36417	1900	1211	28178	32454	1870
	-10	1578	39642	47033	1940	1401	34441	40327	1890	1342	32759	38187	1880	1224	29469	34024	1850
	-5	1590	43031	51189	1930	1413	37344	43827	1880	1354	35511	41491	1860	1236	31931	36975	1840
	0	1601	55024	65329	1990	1424	47462	55627	1930	1365	45046	52553	1910	1247	40360	46673	1870
	5	1612	86313	101618	2210	1435	73121	85075	2100	1376	69011	79964	2070	1258	61182	70292	2000
	7	1617	109728	128576	2380	1440	91587	106104	2230	1381	86054	99306	2190	1263	75662	86640	2110
12200	-54	1444	51456	59112	2450	1267	43807	49725	2370	1208	41361	46772	2350	1090	36618	41073	2300
	-35	1502	36066	42131	2110	1325	31175	35948	2060	1266	29590	33972	2050	1148	26488	30142	2020
	-30	1516	36113	42315	2060	1339	31257	36151	2020	1280	29684	34181	2000	1161	26603	30362	1980
	-25	1529	36134	42448	2020	1352	31317	36310	1980	1293	29756	34348	1960	1175	26698	30544	1940
	-20	1543	36076	42491	1980	1366	31308	36393	1940	1307	29762	34442	1930	1189	26734	30660	1900
	-15	1556	36018	42536	1940	1379	31298	36474	1900	1320	29767	34535	1890	1202	26768	30774	1860
	-10	1569	37583	44520	1920	1392	32663	38182	1880	1333	31070	36137	1860	1215	27950	32214	1840
	-5	1582	40653	48271	1910	1404	35300	41367	1860	1345	33571	39165	1850	1227	30191	34886	1820
	0	1592	51366	60906	1960	1415	44363	51937	1900	1356	42119	49081	1880	1238	37760	43608	1850
	5	1602	78221	92118	2140	1425	66522	77400	2050	1366	62855	72816	2020	1248	55838	64144	1960
	8	1610	108746	127211	2360	1433	90737	104940	2220	1374	85243	98201	2170	1256	74921	85644	2090
12000	-54	1435	47778	54788	2410	1258	40721	46150	2340	1199	38459	43419	2320	1081	34063	38140	2270
	-35	1492	34055	39689	2090	1315	29442	33870	2040	1256	27946	32007	2030	1138	25013	28395	2000
	-30	1507	34097	39837	2050	1330	29518	34039	2000	1271	28032	32201	1990	1153	25119	28600	1960
	-25	1520	34114	39979	2000	1342	29571	34204	1960	1283	28097	32355	1950	1165	25207	28768	1920
	-20	1533	34059	40020	1960	1356	29563	34281	1920	1297	28104	32443	1910	1179	25241	28877	1890
	-15	1546	34006	40061	1920	1369	29554	34356	1890	1310	28109	32529	1870	1192	25274	28984	1850
	-10	1559	35417	41833	1900	1381	30789	35884	1860	1322	29287	33981	1850	1204	26345	30290	1820
	-5	1571	38170	45226	1890	1394	33160	38751	1850	1335	31538	36691	1830	1217	28365	32701	1810
	0	1582	47638	56395	1930	1405	41191	48111	1880	1346	39120	45500	1860	1228	35089	40441	1830
	5	1591	70390	82844	2080	1414	60079	69845	2000	1355	56827	65796	1970	1237	50580	58077	1920
	10	1604	119713	144051	2430	1427	99071	114126	2270	1368	92843	106528	2220	1250	81222	92495	2130
11800	-54	1426	44492	50986	2380	1249	37954	42977	2310	1190	35853	40421	2290	1072	31764	35529	2250
	-35	1482	32201	37455	2070	1305	27841	31965	2030	1246	26425	30205	2020	1128	23647	26806	1990
	-30	1496	32236	37590	2030	1319	27910	32121	1990	1260	26504	30385	1980	1142	23746	26981	1950
	-25	1510	32251	37702	1990	1332	27959	32274	1950	1273	26556	30520	1940	1155	23827	27137	1910
	-20	1523	32200	37760	1950	1346	27952	32346	1910	1287	26571	30610	1900	1169	23860	27240	1870
	-15	1536	32150	37798	1910	1359	27944	32417	1870	1300	26576	30691	1860	1182	23892	27340	1840
	-10	1549	33426	39405	1880	1372	29063	33805	1850	1313	27646	32012	1830	1195	24866	28530	1810
	-5	1561	35905	42446	1870	1384	31202	36396	1830	1325	29678	34462	1820	1207	26692	30713	1790
	0	1572	44318	52366	1900	1394	38356	44728	1850	1335	36436	42308	1840	1217	32694	37612	1810
	5	1581	63775	75055	2030	1404	54592	63428	1950	1345	51681	59793	1930	1227	46069	52840	1880
	10	1593	102582	119661	2300	1415	85742	98886	2160	1356	80583	92564	2120	1238	70862	80755	2050
11600	-54	1416	41540	47535	2350	1239	35460	40089	2290	1180	33502	37727	2270	1062	29685	33163	2230
	-35	1473	30485	35386	2050	1295	26357	30197	2020	1236	25015	28533	2000	1118	22380	25315	1980
	-30	1486	30516	35509	2010	1309	26420	30342	1970	1250	25088	28700	1960	1132	22471	25478	1940
	-25	1499	30527	35612	1970	1322	26465	30484	1930	1263	25143	28833	1920	1145	22547	25623	1900
	-20	1513	30480	35648	1930	1336	26458	30551	1900	1277	25150	28910	1880	1158	22579	25720	1860
	-15	1526	30433	35702	1890	1349	26451	30618	1860	1290	25155	28986	1850	1172	22609	25814	1830
	-10	1538	31591	37164	1870	1361	27469	31883	1830	1302	26129	30189	1820	1184	23497	26900	1800
	-5	1551	33831	39915	1850	1373	29406	34232	1810	1314	27970	32412	1800	1196	25152	28881	1780
	0	1561	41341	48766	1880	1384	35806	41698	1830	1325	34020	39425	1820	1207	30532	35073	1790
	5	1570	58139	68373	1980	1393	49883	57917	1910	1334	47255	54626	1890	1216	42173	48343	1850
	10	1581	89479	104469	2190	1404	75327	86924	2080	1345	70942	81542	2050	1227	62620	71393	1980
11400	-54	1407	38872	44387	2320	1230	33199	37467	2260	1171	31369	35262	2240	1053	27796	30980	2210
	-35	1463	28892	33444	2040	1286	24978	28538	2000	1226	23704	26963	1990	1108	21200	23915	1970
	-30	1476	28919	33556	2000	1299	25035	28687	1960	1240	23771	27118	1950	1122	21285	24066	1930
	-25	1489	28929	33651	1960	1312	25076	28803	1920	1253	23822	27240	1910	1135	21356	24201	1890
	-20	1502	28884	33683	1920	1325	25071	28866	1880	1266	23828	27312	1870	1148	21386	24292	1850
	-15	1516	28839	33734	1880	1338	25064	28927	1850	1279	23834	27383	1840	1161	21415	24395	1820
	-10	1528	29894	35065	1850	1351	25993	30082	1820	1292	24723	28482	1810	1174	22227	25372	1790
	-5	1540	31923	37540	1830	1363	27751	32215	1800	1304	26395	30502	1790	1186	23733	27176	1770
	0	1550	38656	45481	1860	1373	33499	38906	1810	1314	31832	36809	1800	1196	28572	32729	1770
	5	1560	53277	62539	1940	1383	45796	53081	1880	1323	43406	50085	1860	1205	38772	44355	1820
	10	1569	79098	92372	2110	1392	66943	77236	2010	1333	63146	72548	1980	1215	55894	63694	1930

525AFM-06-00

Figure 4-33 (Sheet 9)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
4,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
11000	-54	1388	34241	38944	2270	1210	29261	32887	2220	1151	27649	30950	2210	1033	24493	27197	2170
	-35	1442	26028	29967	2010	1265	22493	25576	1980	1206	21339	24159	1970	1088	19069	21399	1950
	-30	1456	26048	30062	1970	1278	22541	25690	1940	1219	21396	24279	1930	1101	19144	21543	1910
	-25	1469	26054	30141	1930	1292	22575	25789	1900	1232	21440	24384	1890	1114	19206	21660	1870
	-20	1482	26014	30168	1890	1304	22571	25843	1860	1245	21447	24447	1850	1127	19234	21740	1830
	-15	1494	25975	30212	1850	1317	22565	25897	1830	1258	21452	24524	1820	1140	19261	21818	1800
	-10	1507	26854	31306	1830	1330	23343	26865	1800	1271	22197	25431	1790	1152	19943	22653	1770
	-5	1519	28535	33375	1810	1341	24804	28622	1780	1282	23588	27112	1770	1164	21198	24142	1750
	0	1529	34007	39819	1820	1352	29489	34080	1780	1293	28024	32244	1770	1174	25152	28682	1750
	5	1538	45310	53021	1880	1361	39050	45097	1830	1302	37038	42597	1810	1184	33121	37755	1780
	10	1547	63479	74031	1990	1370	54127	62368	1910	1311	51168	58716	1890	1193	45470	51739	1840
10500	-54	1363	29484	33352	2220	1186	25196	28178	2180	1127	23803	26513	2170	1008	21069	23279	2140
	-35	1416	22946	26238	1980	1239	19811	22376	1950	1180	18786	21127	1940	1062	16765	18702	1930
	-30	1429	22960	26314	1940	1252	19850	22469	1910	1193	18833	21226	1900	1075	16828	18811	1890
	-25	1442	22962	26377	1900	1265	19878	22551	1880	1206	18870	21326	1870	1088	16881	18910	1850
	-20	1455	22928	26398	1860	1278	19875	22597	1840	1219	18876	21380	1830	1101	16904	18976	1810
	-15	1467	22894	26435	1830	1290	19871	22656	1800	1231	18882	21432	1790	1113	16932	19058	1780
	-10	1478	23602	27316	1800	1301	20500	23425	1770	1242	19486	22166	1760	1124	17487	19724	1750
	-5	1491	24948	28957	1780	1314	21674	24836	1750	1255	20604	23518	1740	1137	18498	20922	1720
	0	1501	29245	34019	1780	1324	25363	29118	1750	1265	24100	27546	1740	1147	21618	24488	1720
	5	1510	37690	43854	1820	1333	32542	37393	1770	1274	30879	35312	1760	1156	27626	31323	1730
	10	1519	50122	58275	1880	1342	42971	49340	1820	1283	40684	46508	1810	1165	36248	41086	1770
10000	-54	1337	25583	28774	2180	1160	21848	24296	2150	1101	20631	22851	2130	983	18238	20039	2110
	-35	1390	20302	23040	1960	1213	17505	19627	1930	1154	16589	18533	1920	1036	14781	16382	1910
	-30	1402	20314	23106	1920	1225	17539	19721	1890	1166	16630	18618	1880	1048	14836	16477	1870
	-25	1415	20315	23173	1880	1238	17564	19790	1850	1179	16662	18693	1850	1061	14882	16562	1830
	-20	1427	20284	23186	1840	1250	17560	19826	1820	1191	16668	18737	1810	1073	14905	16619	1790
	-15	1438	20252	23200	1810	1261	17556	19862	1780	1202	16672	18779	1770	1084	14927	16676	1760
	-10	1451	20833	23921	1780	1274	18073	20493	1750	1215	17169	19394	1740	1097	15384	17235	1730
	-5	1463	21923	25248	1750	1286	19026	21636	1730	1227	18078	20479	1720	1108	16208	18196	1700
	0	1472	25350	29267	1750	1295	21974	25054	1720	1236	20873	23693	1710	1118	18704	21042	1690
	5	1481	31824	36794	1770	1304	27496	31390	1730	1245	26091	29659	1720	1127	23337	26300	1700
	10	1490	40748	47133	1810	1313	35037	40022	1760	1254	33195	37764	1750	1136	29606	33387	1720
9500	-54	1311	22326	25188	2150	1134	19044	21230	2120	1075	17971	19950	2110	957	15859	17468	2080
	-35	1386	17798	20059	1930	1209	15365	17115	1910	1150	14566	16171	1900	1032	12987	14297	1890
	-30	1399	17806	20111	1890	1222	15392	17181	1870	1163	14600	16240	1870	1045	13034	14427	1850
	-25	1412	17805	20153	1860	1235	15412	17238	1830	1175	14626	16302	1830	1057	13073	14480	1810
	-20	1424	17778	20163	1820	1247	15409	17268	1800	1188	14632	16338	1790	1070	13094	14515	1780
	-15	1436	17752	20173	1780	1259	15406	17297	1760	1200	14636	16374	1760	1082	13113	14554	1740
	-10	1443	18256	20852	1750	1266	15849	17881	1730	1207	15059	16915	1730	1089	13497	15038	1710
	-5	1446	19210	22078	1730	1269	16671	18928	1710	1210	15838	17902	1700	1092	14193	15907	1690
	0	1443	22104	25613	1720	1266	19140	21890	1700	1207	18171	20685	1690	1089	16259	18349	1670
	5	1452	27166	31540	1730	1275	23467	26882	1700	1215	22263	25387	1690	1097	19894	22480	1670
	10	1460	33795	39274	1750	1283	29094	33356	1710	1224	27571	31472	1700	1106	24590	27822	1680
9000	-54	1290	19471	21749	2120	1113	16598	18329	2090	1054	15657	17231	2080	936	13801	15076	2060
	-35	1384	15696	17584	1920	1207	13563	15144	1890	1148	12862	14279	1890	1029	11474	12681	1880
	-30	1396	15701	17604	1880	1219	13586	15180	1860	1160	12890	14321	1850	1042	11513	12826	1840
	-25	1408	15699	17617	1840	1231	13602	15211	1820	1172	12912	14458	1810	1054	11547	12873	1800
	-20	1421	15676	17728	1800	1244	13600	15223	1780	1185	12918	14477	1780	1067	11565	12905	1760
	-15	1433	15654	17722	1770	1256	13598	15236	1750	1197	12922	14496	1740	1079	11583	12936	1730
	-10	1440	16058	18130	1730	1263	13955	15704	1720	1204	13263	14841	1710	1086	11894	13250	1700
	-5	1442	16819	19006	1710	1265	14607	16352	1690	1206	13886	15563	1680	1088	12451	13898	1670
	0	1425	19229	21982	1700	1248	16650	18797	1680	1189	15804	17764	1670	1071	14133	15756	1660
	5	1421	23378	26934	1700	1243	20180	22954	1670	1184	19134	21667	1670	1066	17079	19164	1650
	10	1429	28439	32824	1710	1252	24484	27891	1680	1193	23197	26310	1670	1075	20672	23238	1650
8500	-54	1287	16927	18792	2100	1110	14446	15904	2070	1051	13632	15027	2060	933	12023	13209	2050
	-35	1380	13903	15686	1900	1203	12022	13510	1880	1144	11403	12731	1870	1026	10176	11393	1860
	-30	1393	13906	15703	1860	1215	12041	13542	1840	1156	11427	12869	1840	1038	10210	11440	1820
	-25	1405	13903	15715	1820	1228	12055	13569	1800	1169	11446	12901	1800	1051	10239	11482	1790
	-20	1417	13884	15710	1780	1240	12053	13581	1770	1181	11451	12919	1760	1063	10256	11511	1750
	-15	1430	13864	15705	1750	1252	12052	13593	1730	1193	11455	12937	1730	1075	10272	11540	1720
	-10	1436	14192	16157	1720	1259	12343	13887	1700	1200	11734	13219	1700	1082	10526	11797	1690
	-5	1438	14807	16767	1690	1261	12874	14523	1680	1202	12238	13823	1670	1084	10978	12341	1660
	0	1421	16721	18877	1680	1243	14493	16210	1660	1184	13762	15411	1650	1066	12314	13736	1640
	5	1393	20188	23122	1670	1216	17406	19684	1650	1157	16495	18570	1640	1039	14697	16407	1630
	10	1396	24184	27816	1680	1219	20801	23608	1650	1160	19697	22255	1640	1042	17525	19635	1620

525AFMUKR-01

Figure 4-33 (Sheet 10)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
5,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1478	46674	54261	2380	1301	39982	45905	2320	1242	37835	43240	2290	1124	33657	38148	2250
	-35	1535	37689	44468	2110	1358	32648	38010	2060	1299	31016	35949	2050	1181	27824	31957	2020
	-30	1549	37746	44671	2060	1372	32741	38212	2020	1313	31120	36157	2000	1195	27950	32179	1970
	-25	1563	37812	44893	2020	1386	32836	38464	1980	1327	31225	36411	1960	1209	28073	32417	1940
	-20	1577	37873	45154	1980	1400	32924	38700	1940	1341	31322	36648	1930	1223	28187	32673	1900
	-15	1591	37923	45379	1940	1414	33002	38947	1900	1355	31409	36874	1890	1237	28293	32902	1860
	-10	1604	41286	49461	1940	1427	35902	42410	1890	1368	34164	40172	1880	1250	30767	35823	1850
	-5	1616	45400	54412	1930	1439	39434	46621	1880	1380	37513	44129	1870	1262	33767	39364	1840
	0	1626	67333	80122	2080	1449	57806	67902	2000	1390	54789	64083	1970	1272	48973	56783	1930
	5	1639	118990	143712	2450	1462	99061	115127	2290	1403	93013	107666	2240	1284	81691	93841	2150
	6					1464	112917	140530	2400	1405	105667	125463	2340	1287	92236	105660	2230
12200	-54	1470	43962	51036	2360	1293	37687	43201	2290	1233	35669	40719	2270	1115	31738	35930	2230
	-35	1527	35804	42171	2090	1350	31022	36054	2050	1291	29479	34105	2030	1172	26439	30310	2000
	-30	1541	35855	42338	2050	1364	31108	36242	2000	1305	29570	34294	1990	1187	26556	30518	1960
	-25	1555	35912	42563	2010	1378	31195	36475	1960	1319	29666	34529	1950	1200	26670	30739	1920
	-20	1569	35964	42778	1970	1391	31274	36692	1930	1332	29753	34747	1910	1214	26776	30977	1890
	-15	1582	36006	43005	1930	1405	31344	36899	1890	1346	29833	34955	1870	1228	26873	31188	1850
	-10	1593	39069	46706	1920	1416	33990	40062	1870	1357	32347	37950	1860	1239	29134	33862	1830
	-5	1607	42789	51193	1910	1430	37191	43885	1870	1371	35385	41566	1850	1253	31859	37064	1820
	0	1617	62100	73844	2030	1440	53426	62718	1960	1381	50669	59220	1940	1263	45340	52518	1900
	5	1629	104411	122847	2340	1452	87609	101919	2200	1393	82450	95534	2160	1275	72717	83590	2080
	6	1631	118222	142029	2440	1454	98356	114104	2280	1395	92329	106724	2230	1277	81050	92972	2140
12000	-54	1460	41147	47693	2330	1283	35297	40412	2270	1224	33412	38094	2250	1106	29735	33599	2210
	-35	1517	33812	39750	2070	1340	29302	33989	2030	1281	27839	32145	2020	1163	24970	28570	1990
	-30	1531	33857	39903	2030	1354	29381	34163	1990	1295	27928	32326	1970	1177	25079	28763	1950
	-25	1545	33906	40087	1990	1368	29458	34358	1950	1309	28015	32524	1930	1190	25184	28966	1910
	-20	1558	33949	40302	1950	1381	29528	34573	1910	1322	28094	32740	1900	1204	25280	29185	1870
	-15	1572	33984	40485	1910	1395	29591	34761	1870	1336	28165	32930	1860	1218	25369	29379	1840
	-10	1585	36747	43829	1900	1407	31983	37625	1860	1348	30439	35643	1840	1230	27417	31804	1820
	-5	1597	40076	47854	1890	1420	34854	41041	1850	1361	33167	38876	1830	1243	29867	34687	1800
	0	1606	56897	67596	1990	1429	49047	57529	1930	1370	46542	54344	1910	1252	41689	48230	1870
	5	1617	91328	107584	2230	1440	77150	89827	2120	1381	72752	84373	2080	1263	64396	74075	2020
	7	1623	114827	135462	2400	1446	95611	110784	2250	1387	89771	103631	2200	1268	78828	90290	2120
11800	-54	1451	38595	44652	2300	1274	33125	37832	2250	1215	31358	35664	2230	1096	27908	31472	2190
	-35	1507	31975	37471	2050	1330	27713	32060	2010	1271	26328	30320	2000	1153	23611	26943	1980
	-30	1521	32014	37631	2010	1344	27784	32221	1970	1285	26410	30487	1960	1167	23712	27122	1940
	-25	1535	32057	37798	1970	1357	27854	32398	1930	1298	26489	30668	1920	1180	23808	27309	1900
	-20	1548	32093	37971	1930	1371	27917	32595	1900	1312	26560	30867	1880	1194	23897	27511	1860
	-15	1562	32121	38156	1890	1385	27972	32765	1860	1325	26624	31039	1850	1207	23978	27688	1820
	-10	1574	34622	41185	1880	1397	30141	35364	1840	1338	28688	33502	1830	1220	25838	29892	1810
	-5	1586	37614	44785	1870	1409	32727	38444	1830	1350	31145	36418	1820	1232	28049	32476	1790
	0	1596	52369	62120	1950	1419	45216	52937	1900	1360	42926	50023	1880	1242	38479	44443	1840
	5	1606	80907	95360	2150	1429	68697	79991	2050	1370	64879	75226	2020	1252	57585	66216	1960
	8	1614	111509	130462	2370	1437	92923	107483	2220	1378	87265	100555	2180	1260	76648	87621	2090
11600	-54	1441	36270	41878	2280	1264	31140	35508	2230	1205	29481	33475	2210	1087	26237	29537	2180
	-35	1497	30274	35400	2040	1320	26239	30288	2000	1261	24927	28642	1990	1143	22349	25446	1960
	-30	1511	30309	35548	2000	1334	26305	30437	1960	1275	25002	28798	1950	1156	22443	25612	1920
	-25	1524	30346	35700	1960	1347	26368	30600	1920	1288	25074	28964	1910	1170	22532	25801	1890
	-20	1538	30376	35856	1920	1361	26424	30780	1880	1302	25139	29146	1870	1184	22613	25971	1850
	-15	1551	30399	36024	1880	1374	26474	30935	1850	1315	25197	29304	1830	1197	22688	26135	1810
	-10	1564	32669	38757	1860	1386	28446	33282	1830	1327	27074	31529	1820	1209	24382	28143	1790
	-5	1576	35368	42008	1850	1399	30783	36068	1810	1340	29296	34168	1800	1221	26383	30485	1780
	0	1585	48391	57321	1920	1408	41835	48895	1870	1349	39730	46239	1850	1231	35635	41098	1820
	5	1595	72346	85264	2080	1418	61676	71818	1990	1359	58317	67600	1970	1240	51873	59633	1920
	10	1608	123892	155796	2450	1430	102254	117855	2280	1371	95764	109946	2230	1253	83664	95312	2130
11400	-54	1431	34143	39333	2260	1254	29321	33357	2210	1195	27759	31447	2190	1077	24701	27744	2160
	-35	1487	28696	33456	2020	1310	24869	28623	1990	1251	23623	27066	1980	1133	21173	24039	1950
	-30	1500	28727	33574	1980	1323	24930	28761	1950	1264	23693	27210	1940	1146	21261	24193	1910
	-25	1514	28758	33731	1940	1337	24987	28910	1910	1278	23759	27362	1900	1160	21344	24368	1870
	-20	1527	28783	33871	1900	1350	25038	29075	1870	1291	23818	27530	1860	1173	21419	24525	1840
	-15	1541	28802	34004	1870	1364	25082	29217	1830	1304	23870	27674	1820	1186	21488	24676	1800
	-10	1553	30869	36511	1850	1376	26880	31356	1810	1317	25583	29703	1800	1199	23035	26509	1780
	-5	1565	33311	39457	1830	1388	28999	33883	1800	1329	27599	32098	1790	1211	24852	28635	1760
	0	1574	44869	53019	1890	1397	38829	45285	1840	1338	36885	42834	1830	1220	33097	38083	1800
	5	1584	65173	76751	2020	1407	55741	64813	1950	1348	52756	61084	1920	1230	47007	53960	1880
	10	1596	105087	122625	2300	1418	87707	101169	2160	1359	82396	94668	2120	1241	72406	82508	2040

525AFM-08-00

Figure 4-33 (Sheet 11)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
5,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
11000	-54	1412	30391	34855	2220	1235	26101	29561	2170	1175	24708	27865	2160	1057	21975	24571	2130
	-35	1466	25857	29976	2000	1289	22400	25637	1960	1230	21272	24237	1950	1112	19051	21523	1930
	-30	1480	25881	30093	1960	1302	22451	25755	1920	1243	21332	24360	1910	1125	19128	21657	1890
	-25	1493	25904	30207	1920	1316	22499	25881	1890	1257	21387	24504	1880	1139	19199	21794	1860
	-20	1506	25921	30321	1880	1329	22540	26021	1850	1270	21436	24632	1840	1152	19264	21942	1820
	-15	1519	25933	30429	1840	1342	22576	26139	1810	1283	21481	24754	1800	1165	19323	22071	1780
	-10	1531	27659	32525	1820	1354	24082	27929	1790	1295	22916	26453	1780	1177	20622	23596	1760
	-5	1543	29677	34943	1800	1366	25838	30026	1770	1307	24588	28441	1760	1189	22131	25362	1740
	0	1552	38907	45778	1850	1375	33717	39164	1800	1316	32040	37033	1790	1198	28760	32950	1760
	5	1562	53944	63376	1930	1385	46351	53744	1870	1325	43927	50732	1850	1207	39230	44897	1810
	10	1572	79927	93356	2100	1394	67620	78036	2010	1335	63778	73296	1980	1217	56446	64316	1920
10500	-54	1386	26454	30144	2180	1209	22710	25570	2140	1150	21491	24095	2130	1032	19094	21225	2100
	-35	1440	22801	26243	1970	1263	19734	22428	1940	1204	18732	21206	1930	1085	16755	18798	1910
	-30	1453	22819	26324	1930	1276	19777	22525	1900	1217	18782	21309	1890	1099	16820	18911	1870
	-25	1466	22834	26429	1890	1289	19815	22641	1860	1230	18828	21415	1850	1112	16880	19038	1830
	-20	1479	22844	26519	1850	1302	19848	22741	1820	1243	18868	21519	1820	1125	16935	19149	1800
	-15	1492	22850	26603	1810	1315	19876	22837	1790	1255	18903	21618	1780	1137	16985	19256	1760
	-10	1503	24244	28279	1790	1326	21096	24285	1770	1267	20067	22994	1760	1149	18039	20491	1740
	-5	1515	25857	30228	1770	1338	22503	25950	1740	1279	21408	24573	1730	1161	19252	21908	1720
	0	1524	32978	38562	1800	1347	28601	33010	1760	1288	27180	31232	1750	1170	24399	27787	1730
	5	1533	43767	51167	1850	1356	37734	43553	1800	1297	35793	41142	1790	1179	32012	36467	1760
	10	1542	60331	70339	1950	1365	51518	59333	1880	1306	48723	55879	1860	1188	43330	49271	1810
10000	-54	1360	23161	26218	2140	1183	19865	22221	2110	1124	18788	20929	2100	1006	16668	18423	2080
	-35	1414	20160	23006	1940	1237	17430	19658	1920	1178	16535	18567	1910	1060	14769	16449	1890
	-30	1427	20177	23093	1900	1250	17467	19744	1880	1191	16580	18658	1870	1073	14826	16548	1850
	-25	1440	20188	23165	1860	1262	17499	19828	1840	1203	16618	18746	1830	1085	14878	16644	1820
	-20	1452	20192	23232	1830	1275	17524	19907	1800	1216	16650	18842	1800	1098	14924	16735	1780
	-15	1465	20193	23295	1790	1288	17546	19983	1770	1229	16679	18921	1760	1111	14967	16835	1750
	-10	1475	21351	24701	1770	1298	18558	21194	1740	1239	17644	20070	1740	1121	15839	17852	1720
	-5	1486	22656	26261	1740	1309	19699	22541	1720	1250	18732	21337	1710	1132	16824	19001	1700
	0	1495	28254	32791	1760	1318	24504	28084	1730	1259	23282	26566	1720	1141	20881	23615	1700
	5	1504	36275	42165	1790	1327	31326	35939	1750	1268	29726	33958	1740	1150	26594	30121	1710
	10	1513	47581	55265	1850	1336	40832	46831	1790	1277	38669	44152	1780	1159	34468	39020	1740
9500	-54	1334	20352	22856	2120	1157	17432	19352	2090	1098	16477	18228	2080	980	14592	16011	2060
	-35	1411	17682	19823	1920	1234	15306	17008	1900	1175	14526	16161	1890	1057	12983	14391	1880
	-30	1424	17694	19856	1880	1247	15336	17054	1860	1188	14562	16212	1850	1069	13031	14453	1840
	-25	1436	17695	19901	1840	1259	15361	17201	1820	1200	14593	16259	1810	1082	13075	14511	1800
	-20	1449	17702	19954	1810	1272	15382	17238	1790	1213	14620	16300	1780	1095	13113	14564	1770
	-15	1462	17700	19997	1770	1285	15399	17271	1750	1225	14644	16339	1740	1107	13149	14613	1730
	-10	1463	18704	21281	1740	1285	16264	18296	1720	1226	15463	17322	1720	1108	13881	15436	1700
	-5	1463	19858	22751	1720	1286	17260	19529	1700	1227	16407	18495	1690	1109	14721	16460	1680
	0	1465	24401	28100	1730	1288	21147	24039	1700	1229	20085	22746	1690	1111	17992	20196	1670
	5	1474	30522	35223	1740	1297	26372	30050	1710	1238	25023	28392	1700	1120	22383	25178	1680
	10	1483	38615	44576	1780	1306	33220	37869	1730	1247	31479	35738	1720	1128	28080	31600	1690
9000	-54	1331	17731	19748	2090	1154	15207	16810	2060	1095	14379	15820	2050	977	12743	13972	2040
	-35	1408	15601	17519	1900	1231	13517	15126	1880	1172	12831	14377	1870	1054	11477	12803	1860
	-30	1420	15609	17661	1860	1243	13542	15165	1840	1184	12862	14422	1840	1066	11515	12855	1820
	-25	1433	15613	17681	1820	1256	13562	15200	1810	1197	12888	14462	1800	1079	11552	12905	1790
	-20	1444	15612	17696	1790	1267	13579	15230	1770	1208	12910	14498	1760	1090	11585	12951	1750
	-15	1458	15610	17710	1750	1281	13593	15368	1730	1222	12930	14532	1730	1104	11616	12995	1720
	-10	1460	16414	18629	1730	1282	14288	16056	1710	1223	13589	15290	1700	1105	12205	13675	1690
	-5	1459	17332	19656	1700	1282	15079	16949	1680	1223	14338	16032	1680	1105	12874	14336	1660
	0	1433	21202	24470	1700	1256	18352	20907	1680	1197	17418	19766	1670	1079	15578	17514	1660
	5	1442	25973	30051	1710	1265	22431	25624	1680	1206	21276	24195	1670	1088	19005	21417	1650
	10	1451	31961	37029	1720	1274	27527	31481	1690	1215	26086	29704	1680	1097	23262	26256	1660
8500	-54	1327	15547	17365	2070	1150	13347	14862	2040	1091	12624	13980	2040	973	11193	12344	2020
	-35	1404	13823	15635	1880	1227	11985	13500	1870	1168	11380	12832	1860	1050	10180	11424	1850
	-30	1417	13829	15655	1840	1240	12008	13536	1830	1181	11405	12874	1820	1063	10215	11471	1810
	-25	1429	13831	15672	1810	1252	12023	13565	1790	1193	11428	12910	1790	1075	10247	11515	1780
	-20	1442	13829	15805	1770	1265	12037	13592	1760	1206	11446	12942	1750	1088	10276	11556	1740
	-15	1455	13826	15817	1740	1278	12049	13617	1720	1218	11463	12972	1720	1100	10302	11595	1710
	-10	1455	14479	16464	1710	1278	12613	14285	1690	1219	11999	13607	1690	1101	10781	12166	1680
	-5	1455	15217	17316	1680	1278	13250	14915	1670	1219	12603	14204	1660	1101	11321	12698	1650
	0	1423	18303	20834	1680	1246	15853	17838	1660	1187	15050	16861	1650	1069	13461	14968	1640
	5	1409	22283	25679	1680	1232	19220	21863	1650	1173	18218	20630	1650	1055	16245	18238	1630
	10	1417	26845	30998	1680	1240	23105	26327	1660	1181	21888	24829	1650	1063	19495	21929	1630

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Figure 4-33 (Sheet 12)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
6,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1504	41036	48254	2310	1327	35351	41026	2250	1268	33519	38727	2230	1150	29944	34268	2200
	-35	1561	37857	45078	2090	1384	32860	38592	2050	1325	31244	36523	2030	1207	28081	32518	2000
	-30	1575	37922	45304	2050	1398	32960	38812	2010	1339	31355	36749	1990	1221	28213	32757	1960
	-25	1592	38195	45748	2010	1414	33235	39259	1970	1355	31630	37189	1950	1237	28489	33162	1930
	-20	1604	38472	46225	1970	1427	33513	39691	1930	1368	31908	37614	1920	1250	28767	33590	1890
	-15	1617	39968	48153	1950	1440	34824	41357	1900	1381	33161	39197	1890	1263	29909	35019	1860
	-10	1630	43953	53121	1940	1453	38239	45538	1900	1394	36399	43144	1880	1276	32807	38523	1850
	-5	1642	53589	64664	1990	1465	46408	55228	1930	1406	44111	52238	1910	1287	39653	46519	1870
	0	1653	85370	102636	2210	1476	72459	85621	2100	1416	68473	80446	2070	1298	60908	70801	2010
	2	1658	111868	135164	2400	1481	92765	109704	2250	1422	87118	102410	2210	1304	76663	89013	2120
	3					1484	108686	132905	2370	1425	101430	120016	2310	1307	88351	102645	2210
12200	-54	1495	38835	45600	2290	1318	33473	38765	2230	1259	31741	36596	2220	1141	28353	32396	2180
	-35	1552	35937	42716	2080	1375	31207	36582	2030	1316	29671	34620	2020	1198	26668	30824	1990
	-30	1567	35997	42903	2030	1389	31297	36786	1990	1330	29774	34832	1980	1212	26791	31047	1950
	-25	1581	36245	43333	1990	1404	31549	37179	1950	1345	30027	35219	1940	1227	27046	31423	1910
	-20	1595	36498	43753	1960	1418	31804	37599	1920	1359	30283	35632	1900	1241	27303	31821	1880
	-15	1608	37859	45512	1930	1431	33001	39122	1890	1372	31436	37089	1880	1254	28349	33130	1850
	-10	1621	41464	50014	1920	1444	36098	42921	1880	1385	34366	40670	1860	1267	30983	36299	1840
	-5	1633	50069	60319	1960	1455	43415	51597	1900	1396	41281	48817	1890	1278	37133	43493	1850
	0	1643	77244	92603	2140	1466	65911	77723	2050	1406	62376	73161	2020	1288	55628	64637	1970
	3	1651	114017	138683	2410	1474	94295	111288	2260	1415	88489	103775	2210	1297	77762	90086	2120
	4					1477	108119	131350	2360	1418	100903	118874	2300	1300	87880	101908	2200
12000	-54	1486	36537	42783	2260	1309	31506	36404	2210	1250	29878	34369	2200	1132	26696	30431	2160
	-35	1542	33920	40213	2060	1365	29461	34426	2020	1306	28014	32600	2000	1188	25178	29025	1980
	-30	1556	33974	40385	2020	1379	29546	34637	1970	1320	28109	32798	1960	1202	25292	29232	1940
	-25	1571	34199	40758	1980	1393	29776	34996	1940	1334	28341	33152	1920	1216	25526	29577	1900
	-20	1585	34428	41163	1940	1407	30009	35381	1900	1348	28574	33531	1890	1230	25762	29943	1860
	-15	1598	35655	42752	1910	1421	31091	36761	1870	1362	29610	34845	1860	1244	26710	31132	1830
	-10	1610	38885	46769	1900	1433	33873	40156	1860	1374	32252	38054	1850	1256	29082	33987	1820
	-5	1622	46494	55899	1930	1445	40362	47837	1880	1386	38390	45295	1860	1268	34549	40371	1830
	0	1632	69510	83058	2080	1455	59577	70051	2000	1396	56454	66099	1970	1277	50443	58553	1930
	4	1642	111051	133337	2380	1465	92073	108290	2230	1406	86436	101024	2180	1288	76001	87795	2100
	5	1645	129221	192002	2520	1468	104956	124837	2320	1409	98057	114851	2270	1291	85526	98871	2170
11800	-54	1476	34439	40251	2240	1299	29705	34258	2200	1240	28172	32343	2180	1122	25169	28634	2150
	-35	1532	32069	37914	2040	1355	27854	32476	2000	1296	26486	30736	1990	1178	23801	27376	1960
	-30	1546	32114	38069	2000	1369	27933	32672	1960	1310	26574	30937	1950	1192	23906	27568	1920
	-25	1560	32318	38433	1960	1383	28142	33002	1920	1324	26785	31263	1910	1206	24122	27886	1890
	-20	1574	32525	38782	1920	1397	28354	33337	1890	1338	26999	31592	1870	1220	24338	28224	1850
	-15	1587	33635	40222	1890	1410	29335	34590	1860	1351	27939	32787	1850	1233	25200	29289	1820
	-10	1600	36541	43841	1880	1423	31844	37674	1840	1364	30323	35684	1830	1246	27344	31870	1800
	-5	1611	43304	51947	1900	1434	37627	44510	1860	1375	35797	42152	1840	1257	32227	37579	1810
	0	1621	63020	75102	2030	1444	54196	63682	1960	1385	51395	60127	1930	1267	45987	53320	1890
	5	1633	107911	129119	2350	1456	89644	105181	2200	1397	84199	98179	2160	1279	74077	85380	2080
	6	1636	125045	166979	2470	1459	101982	119900	2290	1400	95354	111335	2240	1282	83255	96035	2140
11600	-54	1466	32511	37898	2220	1289	28047	32261	2180	1230	26599	30458	2160	1112	23760	26961	2130
	-35	1522	30352	35778	2020	1345	26366	30651	1990	1286	25070	29008	1980	1168	22523	25832	1950
	-30	1536	30395	35924	1980	1359	26438	30833	1950	1300	25150	29194	1930	1182	22621	26010	1910
	-25	1550	30579	36257	1940	1373	26630	31135	1910	1314	25344	29493	1900	1196	22820	26302	1870
	-20	1564	30767	36575	1910	1386	26823	31442	1870	1327	25540	29795	1860	1209	23019	26614	1840
	-15	1577	31774	37884	1880	1400	27716	32583	1840	1341	26396	30884	1830	1222	23805	27585	1810
	-10	1589	34398	41132	1860	1412	29986	35355	1830	1353	28555	33507	1820	1235	25748	29925	1790
	-5	1600	40439	48380	1880	1423	35162	41477	1840	1364	33458	39286	1820	1246	30128	35048	1790
	0	1610	57506	68348	1980	1433	49567	58165	1920	1374	47035	54945	1900	1256	42131	48765	1860
	5	1621	92983	110561	2230	1444	78199	91398	2110	1385	73686	85655	2080	1267	65177	74943	2010
	7	1626	121090	152447	2430	1449	99098	116091	2260	1390	92720	107922	2210	1272	81031	93226	2120
11400	-54	1456	30732	35728	2210	1279	26514	30431	2160	1220	25144	28728	2150	1102	22455	25424	2120
	-35	1512	28762	33819	2010	1334	24983	28972	1970	1275	23753	27417	1960	1157	21334	24408	1940
	-30	1525	28800	33955	1970	1348	25049	29141	1930	1289	23828	27589	1920	1171	21426	24574	1900
	-25	1539	28968	34242	1930	1362	25224	29418	1900	1303	24006	27865	1890	1185	21609	24844	1860
	-20	1553	29139	34553	1890	1376	25403	29701	1860	1317	24186	28144	1850	1199	21793	25132	1830
	-15	1566	30055	35746	1860	1389	26217	30743	1830	1330	24968	29139	1820	1212	22512	26021	1800
	-10	1578	32432	38691	1850	1401	28277	33261	1810	1342	26927	31523	1800	1224	24278	28149	1780
	-5	1589	37851	45179	1860	1412	32929	38770	1820	1353	31337	36704	1800	1235	28221	32746	1780
	0	1599	52746	62634	1940	1422	45542	53374	1890	1363	43236	50438	1870	1245	38760	44815	1830
	5	1609	81644	96753	2140	1432	69205	80670	2040	1373	65348	75788	2010	1255	58013	66714	1950
	8	1617	117324	142994	2400	1440	96304	112518	2230	1381	90159	104712	2180	1263	78852	90492	2090

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Figure 4-33 (Sheet 13)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
6,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
11000	-54	1436	27558	31866	2170	1259	23771	27138	2140	1200	22538	25615	2120	1082	20115	22655	2100
	-35	1492	25904	30279	1980	1314	22493	25947	1950	1255	21380	24549	1940	1137	19189	21827	1920
	-30	1504	25934	30393	1940	1327	22549	26077	1910	1268	21444	24683	1900	1150	19269	21984	1880
	-25	1518	26074	30635	1900	1341	22698	26313	1870	1282	21596	24918	1860	1164	19426	22216	1840
	-20	1531	26216	30898	1870	1354	22848	26553	1840	1295	21749	25171	1830	1177	19584	22450	1810
	-15	1544	26981	31877	1840	1367	23530	27427	1810	1308	22405	25991	1800	1190	20189	23211	1780
	-10	1556	28948	34314	1820	1379	25241	29517	1790	1320	24034	27972	1780	1202	21660	24967	1760
	-5	1567	33358	39599	1820	1390	29038	33999	1790	1331	27636	32207	1770	1213	24886	28731	1750
	0	1577	44924	53140	1880	1399	38882	45394	1830	1340	36938	42917	1820	1222	33148	38181	1790
	5	1586	65110	76708	2010	1409	55712	64798	1930	1350	52738	61082	1910	1232	47007	53954	1860
	10	1598	106668	126149	2300	1421	88350	102562	2150	1362	82885	95689	2110	1244	72722	83032	2030
10500	-54	1411	24176	27747	2140	1233	20840	23618	2110	1174	19751	22285	2090	1056	17607	19701	2070
	-35	1464	22831	26468	1950	1286	19808	22667	1930	1227	18819	21437	1920	1109	16869	19051	1900
	-30	1475	22854	26560	1910	1298	19854	22773	1890	1239	18873	21548	1880	1121	16937	19172	1860
	-25	1490	22967	26757	1880	1313	19976	22968	1850	1254	18998	21742	1840	1136	17069	19364	1820
	-20	1503	23081	26956	1840	1326	20100	23164	1810	1267	19124	21951	1810	1149	17201	19558	1790
	-15	1516	23698	27760	1810	1339	20653	23872	1780	1280	19657	22615	1770	1162	17694	20177	1760
	-10	1528	25273	29691	1790	1351	22027	25533	1760	1292	20967	24189	1750	1174	18879	21587	1730
	-5	1539	28740	33827	1780	1362	25021	29063	1750	1303	23810	27528	1740	1184	21429	24543	1720
	0	1548	37410	43982	1820	1371	32440	37628	1780	1312	30830	35603	1770	1194	27678	31683	1740
	5	1557	51193	60052	1900	1380	44047	51015	1840	1321	41761	48149	1820	1203	37323	42662	1790
	10	1567	74693	87421	2050	1389	63338	73095	1960	1330	59787	68731	1930	1212	52991	60411	1880
10000	-54	1384	21307	24271	2110	1207	18345	20641	2080	1148	17377	19465	2070	1030	15466	17184	2050
	-35	1439	20162	23153	1930	1262	17477	19816	1900	1203	16597	18735	1900	1085	14859	16633	1880
	-30	1452	20184	23237	1890	1275	17519	19912	1870	1216	16645	18846	1860	1098	14920	16739	1840
	-25	1465	20276	23396	1850	1288	17617	20069	1830	1229	16750	19006	1820	1111	15031	16911	1810
	-20	1476	20368	23558	1820	1299	17722	20246	1790	1240	16854	19167	1790	1122	15141	17072	1770
	-15	1487	20905	24281	1790	1310	18199	20862	1760	1251	17312	19753	1750	1133	15562	17602	1740
	-10	1499	22182	25843	1760	1322	19316	22207	1740	1263	18377	21030	1730	1145	16525	18745	1710
	-5	1507	24951	29124	1750	1330	21711	25012	1720	1271	20653	23684	1720	1154	18569	21110	1700
	0	1518	31625	36910	1770	1341	27434	31602	1740	1282	26072	29901	1730	1164	23400	26598	1710
	5	1527	41493	48429	1820	1350	35805	41258	1770	1291	33972	38983	1760	1173	30396	34567	1730
	10	1537	56484	65828	1900	1360	48317	55608	1840	1300	45718	52392	1820	1182	40695	46231	1780
9500	-54	1375	18661	20924	2080	1197	16078	17835	2060	1138	15231	16827	2050	1020	13558	14918	2030
	-35	1436	17683	19899	1910	1259	15346	17187	1880	1200	14579	16245	1880	1082	13062	14499	1860
	-30	1449	17699	19961	1870	1272	15377	17233	1850	1212	14618	16300	1840	1094	13112	14563	1830
	-25	1462	17772	20083	1830	1285	15462	17335	1810	1225	14704	16400	1800	1107	13204	14669	1790
	-20	1474	17845	20221	1790	1297	15545	17434	1770	1238	14790	16607	1770	1120	13296	14775	1750
	-15	1482	18285	20810	1760	1305	15935	17921	1740	1246	15164	16993	1740	1128	13638	15221	1720
	-10	1481	19425	22304	1740	1303	16913	19178	1720	1244	16089	18176	1710	1126	14461	16203	1700
	-5	1479	21785	25204	1730	1302	18936	21628	1700	1243	18004	20470	1690	1125	16165	18224	1680
	0	1488	27015	31284	1740	1311	23430	26780	1710	1252	22261	25348	1700	1134	19962	22529	1680
	5	1497	34333	39806	1760	1320	29665	33947	1730	1261	28152	32080	1710	1143	25191	28460	1690
	10	1506	44584	51694	1810	1329	38301	43844	1760	1270	36284	41369	1750	1152	32357	36575	1720
9000	-54	1371	16392	18373	2060	1194	14138	15699	2040	1135	13397	14895	2030	1017	11929	13210	2010
	-35	1433	15601	17670	1890	1256	13552	15191	1870	1197	12879	14453	1860	1078	11544	12897	1850
	-30	1445	15613	17698	1850	1268	13580	15232	1830	1209	12911	14500	1820	1091	11587	12953	1810
	-25	1458	15669	17770	1810	1281	13648	15424	1790	1222	12982	14586	1790	1104	11664	13044	1780
	-20	1471	15731	17848	1780	1294	13716	15508	1760	1235	13054	14671	1750	1117	11741	13134	1740
	-15	1479	16083	18329	1740	1301	14030	15827	1730	1242	13355	15084	1720	1124	12018	13514	1710
	-10	1477	16986	19221	1720	1300	14807	16703	1700	1241	14090	15809	1690	1123	12672	14159	1680
	-5	1464	18946	21710	1700	1287	16472	18642	1680	1227	15661	17658	1670	1109	14057	15709	1660
	0	1456	23266	26886	1710	1279	20159	23000	1680	1220	19144	21743	1670	1102	17142	19306	1660
	5	1465	28838	33395	1720	1288	24920	28485	1690	1229	23645	26909	1680	1110	21141	23847	1660
	10	1473	36186	41951	1750	1296	31147	35641	1710	1237	29518	33634	1690	1119	26333	29733	1670
8500	-54	1369	14470	16349	2040	1192	12491	13960	2020	1133	11840	13250	2010	1015	10549	11751	2000
	-35	1429	13824	15665	1870	1252	12017	13559	1850	1193	11422	12905	1850	1075	10242	11511	1840
	-30	1442	13828	15805	1830	1265	12040	13595	1820	1206	11449	12945	1810	1088	10278	11560	1800
	-25	1455	13880	15872	1790	1278	12096	13666	1780	1219	11509	13019	1770	1100	10344	11638	1760
	-20	1467	13929	15936	1760	1290	12154	13846	1740	1231	11569	13092	1740	1113	10410	11715	1730
	-15	1475	14214	16227	1730	1298	12409	14107	1710	1239	11814	13342	1710	1120	10636	12045	1700
	-10	1473	14940	17066	1700	1296	13034	14722	1680	1237	12407	14031	1680	1118	11163	12563	1670
	-5	1459	16495	18708	1680	1282	14356	16233	1660	1223	13653	15353	1660	1105	12262	13731	1650
	0	1428	20096	23159	1680	1250	17395	19788	1660	1191	16510	18696	1650	1073	14763	16575	1640
	5	1431	24486	28335	1680	1254	21141	24150	1660	1195	20049	22799	1650	1076	17900	20181	1630
	10	1439	29935	34711	1700	1262	25775	29496	1660	1203	24423	27826	1650	1085	21772	24584	1630

525AFM-06-00

Figure 4-33 (Sheet 14)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
7,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1530	38314	45569	2270	1353	33132	38845	2210	1294	31458	36711	2200	1176	28188	32585	2160
	-45	1557	38598	46153	2180	1380	33460	39453	2130	1321	31800	37319	2110	1203	28560	33178	2080
	-40	1572	38691	46420	2130	1395	33586	39712	2080	1336	31937	37582	2070	1218	28713	33465	2040
	-35	1587	38751	46624	2090	1410	33684	39937	2040	1351	32046	37813	2030	1233	28844	33707	2000
	-30	1602	39055	47185	2050	1425	33981	40451	2000	1365	32342	38313	1990	1247	29137	34181	1960
	-25	1616	39667	48174	2010	1439	34532	41308	1960	1380	32874	39132	1950	1262	29635	34927	1920
	-20	1630	40281	49174	1980	1453	35083	42173	1930	1394	33406	39957	1920	1276	30132	35657	1890
	-15	1644	44421	54746	1970	1467	38582	46774	1920	1408	36708	44248	1910	1290	33064	39421	1880
	-10	1657	51154	63850	1990	1480	44160	54152	1930	1421	41942	51126	1910	1303	37656	45328	1880
	-5	1668	73892	92703	2140	1491	62502	76882	2050	1432	59024	72132	2020	1313	52420	63248	1960
	0													1326	103838	166334	2340
12200	-54	1521	36326	43085	2250	1344	31426	36760	2200	1285	29841	34743	2180	1167	26740	30840	2150
	-45	1549	36583	43642	2160	1371	31726	37321	2110	1312	30155	35285	2100	1194	27081	31385	2070
	-40	1563	36666	43866	2110	1386	31842	37560	2070	1327	30281	35549	2050	1209	27226	31656	2020
	-35	1577	36720	44077	2070	1400	31932	37769	2020	1341	30382	35763	2010	1223	27355	31889	1980
	-30	1593	36993	44564	2030	1416	32202	38239	1980	1357	30652	36222	1970	1238	27617	32298	1940
	-25	1607	37542	45457	1990	1430	32699	39018	1950	1371	31133	36966	1930	1253	28070	32978	1910
	-20	1621	38091	46356	1960	1444	33196	39801	1910	1385	31614	37693	1900	1267	28522	33662	1870
	-15	1635	41794	51318	1950	1457	36338	43914	1900	1398	34583	41554	1890	1280	31165	37036	1860
	-10	1648	47706	59318	1960	1470	41268	50412	1910	1411	39216	47621	1890	1293	35245	42288	1860
	-5	1658	66942	83559	2080	1481	56992	69799	2000	1422	53899	65605	1980	1304	48017	57721	1930
	0					1493	110233	150563	2390	1434	101258	127680	2320	1316	86143	104419	2200
12000	-54	1512	34243	40538	2220	1334	29634	34597	2180	1275	28140	32699	2160	1157	25216	29024	2130
	-40	1553	34546	41250	2090	1376	30012	35331	2050	1317	28542	33440	2040	1199	25663	29759	2010
	-35	1568	34594	41423	2050	1391	30094	35523	2010	1332	28635	33638	1990	1214	25776	29986	1970
	-30	1582	34838	41884	2010	1405	30337	35931	1970	1346	28878	34036	1950	1228	26020	30366	1930
	-25	1597	35325	42684	1970	1420	30782	36631	1930	1360	29311	34707	1920	1242	26428	30982	1890
	-20	1611	35812	43489	1940	1434	31226	37335	1900	1375	29742	35381	1880	1256	26835	31600	1860
	-15	1624	39094	47870	1930	1447	34022	40999	1880	1388	32388	38805	1870	1270	29197	34617	1840
	-10	1637	44235	54784	1930	1460	38338	46670	1880	1401	36453	44110	1870	1283	32789	39226	1840
	-5	1648	60427	75095	2030	1470	51714	63092	1960	1411	48982	59386	1940	1293	43751	52410	1890
	0	1659	112345	144941	2410	1482	90217	111142	2230	1423	84054	102654	2180	1305	72977	87786	2090
	2													1310	101460	133610	2300
11800	-54	1502	32334	38156	2210	1325	27988	32569	2160	1266	26578	30800	2150	1147	23814	27335	2120
	-40	1543	32607	38806	2070	1366	28334	33243	2030	1307	26947	31464	2020	1189	24227	28014	2000
	-35	1558	32651	38986	2030	1381	28410	33440	1990	1322	27033	31666	1980	1203	24332	28226	1950
	-30	1572	32868	39382	1990	1395	28630	33810	1950	1336	27254	32028	1940	1218	24555	28573	1920
	-25	1586	33304	40100	1950	1409	29030	34443	1920	1350	27644	32635	1900	1232	24925	29132	1880
	-20	1600	33738	40821	1920	1423	29429	35078	1880	1364	28032	33245	1870	1246	25294	29675	1850
	-15	1613	36664	44727	1910	1436	31932	38337	1870	1377	30403	36312	1850	1259	27415	32383	1830
	-10	1626	41179	50771	1910	1449	35742	43317	1860	1390	33997	40956	1850	1272	30602	36446	1820
	-5	1637	55023	68054	1980	1460	47273	57417	1920	1400	44827	54104	1900	1282	40118	47865	1860
	0	1647	93518	116857	2260	1470	77222	94279	2130	1411	72397	87771	2090	1293	63537	75979	2020
	3									1419	116769	166662	2420	1301	96907	119971	2260
11600	-54	1492	30580	36003	2190	1315	26473	30734	2150	1256	25138	29047	2130	1137	22519	25790	2110
	-35	1547	30866	36747	2010	1370	26860	31522	1980	1311	25558	29849	1970	1193	23001	26617	1940
	-30	1562	31062	37127	1970	1384	27060	31878	1940	1325	25760	30197	1930	1207	23205	26936	1900
	-25	1576	31454	37776	1940	1398	27423	32453	1900	1339	26114	30750	1890	1221	23543	27446	1870
	-20	1589	31843	38405	1900	1412	27784	33010	1870	1353	26465	31285	1860	1235	23879	27941	1830
	-15	1602	34469	41911	1890	1425	30037	35942	1850	1366	28602	34048	1840	1248	25794	30385	1810
	-10	1615	38467	47236	1880	1438	33426	40370	1840	1379	31804	38182	1830	1261	28639	33992	1800
	-5	1626	50453	62108	1950	1448	43475	52608	1890	1389	41259	49640	1870	1271	36977	43976	1840
	0	1635	80756	100026	2160	1458	67674	82171	2050	1399	63704	76833	2020	1281	56255	66998	1960
	4					1469	123143	167786	2460	1410	110874	144017	2360	1292	92983	112658	2220
	5									1413	182590	246849	2920	1295	119757	154844	2420
11400	-54	1482	28961	33993	2170	1304	25071	29019	2130	1245	23806	27441	2120	1127	21321	24344	2090
	-40	1522	29185	34541	2040	1345	25364	29594	2010	1286	24121	28008	1990	1168	21677	24943	1970
	-35	1537	29218	34672	2000	1360	25429	29746	1960	1301	24195	28166	1950	1182	21769	25112	1930
	-30	1551	29397	35002	1960	1374	25611	30072	1920	1315	24379	28486	1910	1197	21957	25405	1890
	-25	1565	29751	35589	1920	1388	25941	30577	1890	1329	24701	28972	1880	1210	22266	25871	1860
	-20	1579	30102	36178	1890	1401	26268	31101	1850	1342	25020	29474	1840	1224	22572	26321	1820
	-15	1591	32468	39312	1870	1414	28304	33748	1840	1355	26953	31972	1820	1237	24307	28516	1800
	-10	1604	36029	44048	1860	1427	31335	37681	1830	1368	29819	35646	1810	1250	26860	31765	1790
	-5	1614	46506	56983	1920	1437	40161	48372	1860	1378	38137	45671	1850	1260	34216	40527	1810
	0	1624	71124	87508	2080	1447	60151	72633	1990	1388	56764	68107	1960	1270	50345	59699	1910
	5	1636	174032	234655	2850	1459	115838	148751	2390	1400	105945	132020	2310	1282	89492	106991	2180

525AFM-08-00

Figure 4-33 (Sheet 15)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
7,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
11000	-54	1461	26060	30407	2140	1284	22554	25968	2110	1225	21411	24536	2100	1107	19162	21753	2070
	-35	1515	26272	30984	1970	1338	22858	26574	1940	1279	21744	25173	1930	1161	19551	22417	1910
	-30	1529	26417	31254	1930	1352	23010	26850	1900	1293	21899	25429	1890	1175	19711	22665	1870
	-25	1543	26708	31741	1900	1366	23284	27269	1870	1307	22168	25834	1860	1189	19971	23058	1840
	-20	1556	26995	32207	1860	1379	23556	27705	1830	1320	22434	26254	1820	1202	20229	23435	1800
	-15	1569	28938	34774	1840	1392	25235	29865	1810	1333	24031	28294	1800	1215	21665	25247	1780
	-10	1582	31804	38555	1830	1404	27689	33021	1790	1345	26356	31265	1780	1227	23745	27869	1760
	-5	1592	39980	48559	1860	1415	34632	41397	1820	1356	32913	39116	1800	1238	29567	34755	1780
	0	1601	57272	69743	1970	1424	48965	58610	1900	1365	46349	55179	1880	1247	41328	48641	1840
	5	1612	95782	117726	2230	1435	78686	94619	2100	1376	73659	87989	2060	1258	64391	75927	1990
	8	1620	180604	230497	2870	1442	125417	156724	2440	1383	113032	140243	2350	1265	94368	112957	2200
10500	-54	1435	22948	26574	2110	1258	19845	22680	2080	1199	18831	21422	2070	1081	16832	18983	2050
	-35	1488	23114	27027	1940	1311	20095	23181	1910	1252	19108	21951	1910	1134	17162	19528	1890
	-30	1502	23229	27260	1900	1324	20219	23406	1880	1265	19235	22160	1870	1147	17294	19745	1850
	-25	1515	23460	27632	1870	1338	20440	23743	1840	1279	19453	22486	1830	1161	17507	20052	1810
	-20	1528	23688	28019	1830	1351	20658	24094	1810	1292	19668	22826	1800	1174	17717	20358	1780
	-15	1541	25230	30032	1810	1364	21998	25793	1780	1305	20943	24433	1770	1186	18869	21803	1750
	-10	1553	27463	32946	1790	1376	23921	28254	1760	1317	22769	26754	1750	1199	20506	23844	1730
	-5	1563	33648	40449	1810	1386	29207	34558	1770	1327	27770	32690	1760	1209	24962	29084	1740
	0	1572	45604	54954	1870	1395	39263	46547	1820	1336	37239	43906	1810	1218	33315	38871	1770
	5	1582	67043	81033	2010	1405	56707	67345	1930	1346	53501	63183	1900	1227	47396	55347	1850
	10	1593	120880	150067	2390	1416	95432	114378	2190	1357	88483	105228	2140	1239	76112	89257	2040
10000	-54	1412	20234	23183	2080	1235	17486	19781	2060	1176	16586	18679	2050	1058	14810	16540	2030
	-35	1462	20392	23601	1920	1285	17713	20245	1890	1226	16835	19152	1880	1108	15102	17032	1870
	-30	1474	20495	23812	1880	1297	17822	20432	1850	1238	16946	19337	1850	1120	15217	17212	1830
	-25	1486	20697	24143	1840	1309	18014	20730	1820	1250	17135	19637	1810	1132	15400	17480	1800
	-20	1499	20881	24455	1810	1322	18192	21015	1780	1263	17312	19901	1780	1145	15574	17742	1760
	-15	1511	22124	26051	1780	1334	19276	22380	1760	1275	18344	21193	1750	1157	16508	18895	1730
	-10	1523	23897	28330	1760	1346	20809	24313	1740	1287	19801	23019	1730	1169	17819	20502	1710
	-5	1533	28693	34124	1770	1356	24926	29202	1740	1297	23701	27629	1730	1179	21300	24580	1710
	0	1542	37388	44566	1810	1365	32302	37903	1770	1306	30663	35805	1750	1188	27470	31743	1730
	5	1551	51174	61112	1880	1374	43773	51473	1820	1315	41428	48437	1810	1197	36901	42694	1770
	10	1561	76177	91396	2040	1384	63717	75093	1950	1325	59906	70199	1920	1207	52725	61103	1860
9500	-54	1409	17744	19940	2060	1232	15354	17058	2030	1173	14569	16202	2030	1055	13019	14424	2010
	-35	1459	17862	20268	1890	1282	15535	17420	1870	1223	14771	16567	1870	1105	13260	14721	1850
	-30	1471	17942	20418	1860	1294	15621	17565	1830	1235	14859	16671	1830	1117	13353	14925	1810
	-25	1482	18101	20678	1820	1305	15775	17812	1800	1246	15011	16876	1790	1128	13501	15084	1780
	-20	1493	18260	20952	1780	1316	15926	18047	1760	1257	15161	17103	1760	1139	13647	15269	1740
	-15	1496	19331	22390	1760	1319	16850	19260	1740	1260	16036	18244	1730	1142	14429	16274	1720
	-10	1496	20866	24453	1740	1319	18162	20987	1720	1260	17277	19866	1710	1142	15532	17683	1690
	-5	1502	24700	29069	1740	1325	21453	24880	1710	1266	20396	23552	1700	1148	18314	20939	1680
	0	1511	31239	36865	1760	1334	27031	31443	1720	1275	25668	29694	1710	1157	22999	26349	1690
	5	1520	40796	48252	1800	1343	35079	40870	1760	1284	33246	38531	1740	1166	29682	34058	1710
	10	1528	55666	65999	1880	1351	47328	55236	1820	1292	44716	51928	1800	1174	39654	45569	1760
9000	-54	1406	15653	17687	2040	1229	13558	15165	2020	1170	12870	14413	2010	1052	11506	12830	2000
	-35	1456	15743	17840	1870	1278	13705	15477	1860	1219	13035	14635	1850	1101	11708	13084	1840
	-30	1468	15805	17917	1840	1291	13775	15561	1820	1232	13107	14720	1810	1113	11785	13173	1800
	-25	1479	15931	18178	1800	1302	13898	15695	1780	1243	13229	14959	1780	1125	11905	13402	1760
	-20	1490	16056	18316	1770	1313	14019	15828	1750	1254	13349	15091	1740	1136	12023	13531	1730
	-15	1492	16906	19282	1740	1315	14754	16667	1720	1256	14047	15889	1710	1138	12648	14249	1700
	-10	1492	18107	20689	1710	1315	15784	17906	1700	1256	15022	16957	1690	1138	13516	15203	1680
	-5	1470	21413	24921	1710	1293	18582	21332	1690	1234	17656	20172	1680	1116	15833	17927	1660
	0	1479	26456	30890	1720	1302	22897	26360	1690	1243	21739	24908	1680	1124	19465	22090	1660
	5	1488	33402	39092	1740	1310	28788	33209	1710	1251	27297	31344	1690	1133	24384	27739	1670
	10	1496	43243	50742	1790	1319	37021	42795	1740	1260	35032	40293	1720	1142	31173	35513	1690
8500	-54	1403	13869	15679	2020	1226	12022	13535	2000	1167	11413	12855	2000	1048	10209	11450	1980
	-35	1452	13938	15926	1860	1275	12143	13818	1840	1216	11552	13057	1840	1098	10379	11669	1830
	-30	1464	13987	15989	1820	1287	12200	13888	1800	1228	11611	13129	1800	1110	10443	11745	1790
	-25	1475	14088	16102	1780	1298	12299	13998	1770	1239	11710	13345	1760	1121	10542	11952	1750
	-20	1486	14187	16337	1750	1309	12397	14107	1730	1250	11808	13454	1730	1132	10639	12059	1720
	-15	1489	14872	17015	1720	1312	12991	14806	1700	1253	12372	14011	1700	1134	11145	12559	1690
	-10	1489	15828	18204	1700	1312	13813	15726	1680	1252	13151	14885	1670	1134	11840	13341	1660
	-5	1460	18424	21262	1690	1283	16009	18232	1670	1224	15217	17249	1660	1106	13653	15343	1650
	0	1444	22619	26484	1690	1267	19561	22581	1660	1208	18561	21321	1660	1090	16596	18874	1640
	5	1453	27836	32682	1700	1276	24003	27774	1670	1217	22758	26205	1660	1099	20316	23165	1640
	10	1462	34760	40911	1720	1285	29845	34592	1680	1226	28261	32600	1670	1107	25167	28737	1650

Figure 4-33 (Sheet 16)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
8,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1555	39922	47861	2270	1378	34562	40828	2210	1319	32834	38600	2190	1201	29460	34280	2160
	-50	1568	40091	48190	2230	1391	34745	41146	2170	1332	33021	38915	2160	1214	29656	34609	2120
	-45	1583	40294	48612	2180	1406	34966	41555	2130	1347	33248	39320	2110	1229	29894	34986	2080
	-40	1599	40354	48812	2130	1421	35069	41784	2080	1362	33364	39558	2070	1244	30035	35239	2040
	-35	1614	40422	49021	2090	1437	35177	42019	2040	1378	33485	39801	2020	1259	30179	35518	1990
	-30	1629	41568	50658	2050	1451	36185	43433	2010	1392	34450	41125	1990	1274	31064	36718	1960
	-25	1643	42994	52678	2020	1466	37436	45148	1980	1407	35643	42773	1960	1289	32147	38172	1930
	-20	1658	45666	56277	2010	1481	39706	48163	1960	1421	37794	45615	1940	1303	34073	40687	1910
	-15	1671	56329	70042	2060	1494	48579	59455	1990	1435	46122	56138	1970	1317	41385	49814	1930
	-10	1683	77310	96821	2190	1506	65427	80772	2090	1447	61757	75841	2060	1329	54804	66641	2010
12200	-54	1547	37772	45186	2240	1370	32719	38584	2190	1311	31087	36462	2180	1193	27897	32403	2150
	-50	1559	37922	45508	2200	1382	32884	38875	2160	1323	31257	36771	2140	1205	28075	32687	2110
	-45	1575	38103	45868	2160	1397	33084	39228	2110	1338	31463	37122	2090	1220	28293	33053	2060
	-40	1590	38159	46054	2110	1413	33180	39463	2060	1354	31571	37344	2050	1235	28425	33290	2020
	-35	1605	38220	46248	2070	1428	33280	39683	2020	1369	31683	37592	2010	1250	28559	33534	1980
	-30	1619	39250	47729	2030	1442	34190	40946	1990	1383	32555	38798	1970	1265	29361	34625	1940
	-25	1634	40535	49558	2000	1457	35312	42517	1960	1398	33628	40265	1940	1280	30338	35962	1910
	-20	1648	42903	52767	1980	1471	37342	45199	1940	1412	35554	42817	1920	1294	32067	38206	1890
	-15	1662	52231	64824	2020	1484	45143	55132	1960	1425	42888	52086	1940	1307	38529	46267	1910
	-10	1674	69703	87246	2130	1497	59318	73141	2040	1438	56083	68801	2020	1320	49917	60531	1970
	-5									1449	106647	136478	2390	1331	90992	110432	2260
12000	-54	1537	35521	42416	2220	1360	30784	36214	2170	1301	29251	34243	2160	1183	26251	30432	2130
	-50	1549	35654	42683	2180	1372	30932	36476	2140	1313	29404	34505	2120	1195	26413	30691	2090
	-45	1564	35813	43007	2140	1387	31111	36817	2090	1328	29590	34843	2080	1210	26611	31026	2050
	-40	1579	35863	43179	2090	1402	31199	37015	2050	1343	29689	35049	2030	1225	26733	31245	2000
	-35	1594	35919	43381	2050	1417	31291	37217	2000	1358	29792	35261	1990	1240	26857	31474	1960
	-30	1609	36833	44683	2010	1432	32103	38355	1970	1373	30572	36345	1960	1255	27577	32457	1930
	-25	1624	37971	46316	1980	1446	33101	39758	1940	1387	31527	37678	1920	1269	28449	33637	1900
	-20	1638	40055	49128	1960	1461	34897	42138	1910	1401	33233	39926	1900	1283	29986	35636	1870
	-15	1651	48131	59592	1990	1474	41686	50756	1930	1415	39628	47978	1920	1296	35638	42681	1880
	-10	1663	62564	78202	2070	1486	53504	65871	2000	1427	50659	61986	1970	1309	45222	54649	1930
	-5	1674	115842	148062	2460	1496	93922	115669	2290	1437	87531	107314	2230	1319	75867	92182	2140
11800	-54	1527	33467	39835	2200	1350	29013	34039	2160	1291	27570	32189	2140	1173	24742	28605	2110
	-50	1539	33584	40075	2160	1362	29146	34277	2120	1303	27708	32426	2100	1185	24890	28841	2080
	-45	1554	33725	40388	2120	1377	29308	34567	2070	1318	27876	32716	2060	1200	25070	29131	2030
	-40	1569	33770	40546	2070	1392	29389	34770	2030	1333	27968	32925	2020	1215	25184	29354	1990
	-35	1584	33821	40711	2030	1407	29474	34960	1990	1348	28063	33125	1970	1230	25298	29566	1950
	-30	1598	34638	41881	1990	1421	30202	35985	1950	1362	28764	34102	1940	1244	25947	30454	1910
	-25	1613	35649	43341	1960	1436	31094	37222	1920	1377	29619	35278	1910	1259	26731	31516	1880
	-20	1627	37497	45840	1940	1450	32692	39344	1900	1391	31150	37296	1880	1273	28104	33305	1860
	-15	1640	44548	54940	1960	1463	38648	46891	1910	1404	36757	44369	1890	1285	33083	39476	1860
	-10	1652	56666	70661	2020	1475	48647	59626	1960	1416	46118	56207	1930	1298	41261	49686	1890
	-5	1663	96134	119973	2300	1486	79437	97816	2170	1427	74434	91232	2130	1309	65144	79056	2050
11600	-54	1517	31586	37488	2180	1340	27388	32040	2140	1280	26026	30299	2130	1162	23357	26927	2100
	-50	1529	31691	37704	2140	1352	27509	32257	2100	1293	26152	30516	2090	1174	23489	27140	2060
	-45	1544	31813	37963	2100	1367	27656	32521	2060	1308	26305	30780	2040	1189	23655	27405	2020
	-40	1559	31858	38113	2050	1381	27730	32691	2010	1322	26390	30957	2000	1204	23761	27615	1980
	-35	1573	31903	38287	2010	1396	27808	32889	1970	1337	26478	31162	1960	1219	23867	27812	1940
	-30	1588	32636	39345	1970	1411	28465	33814	1940	1352	27111	32046	1920	1233	24454	28617	1900
	-25	1602	33541	40632	1940	1425	29266	34927	1900	1366	27879	33105	1890	1248	25161	29575	1870
	-20	1616	35188	42863	1920	1439	30696	36830	1880	1380	29241	34885	1870	1262	26395	31165	1840
	-15	1629	41395	50855	1930	1452	35960	43483	1890	1393	34213	41134	1870	1274	30811	36638	1840
	-10	1641	51704	64246	1980	1464	44531	54369	1920	1405	42256	51267	1900	1287	37871	45417	1870
	-5	1651	82336	102711	2190	1474	68886	84698	2080	1415	64783	79267	2050	1297	57067	69077	1990
11400	-54	1506	29857	35330	2160	1329	25892	30216	2130	1270	24603	28573	2110	1152	22073	25384	2090
	-45	1533	30064	35785	2080	1356	26136	30656	2040	1297	24858	29014	2030	1179	22351	25829	2010
	-40	1548	30101	35921	2040	1371	26213	30822	2000	1312	24938	29181	1990	1194	22449	26026	1960
	-35	1563	30143	36063	1990	1385	26277	30982	1960	1326	25019	29372	1950	1208	22548	26209	1920
	-30	1577	30804	37022	1960	1400	26871	31821	1920	1341	25593	30156	1910	1223	23082	26942	1890
	-25	1591	31616	38204	1920	1414	27594	32827	1890	1355	26287	31115	1880	1237	23723	27794	1860
	-20	1604	33093	40185	1900	1427	28880	34540	1860	1368	27514	32738	1850	1250	24836	29247	1830
	-15	1618	38595	47277	1910	1441	33563	40440	1870	1381	31941	38287	1850	1263	28777	34115	1830
	-10	1630	47475	58748	1950	1453	40993	49864	1890	1394	38929	47080	1870	1276	34932	41755	1840
	-5	1640	72034	89761	2110	1463	60795	74609	2020	1404	57316	69968	1990	1286	50743	61120	1940
	0					1474	136830	179342	2590	1415	119247	154074	2450	1297	99349	121377	2290

525AFM-08-00

Figure 4-33 (Sheet 17)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
8,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS 1ST FT	TAILWIND 10 KTS 2ND FT	TAILWIND 10 KTS 3RD FT	TAILWIND 10 KTS TCI FT	ZERO WIND 1ST FT	ZERO WIND 2ND FT	ZERO WIND 3RD FT	ZERO WIND TCI FT	HEADWIND 10 KTS 1ST FT	HEADWIND 10 KTS 2ND FT	HEADWIND 10 KTS 3RD FT	HEADWIND 10 KTS TCI FT	HEADWIND 30 KTS 1ST FT	HEADWIND 30 KTS 2ND FT	HEADWIND 30 KTS 3RD FT	HEADWIND 30 KTS TCI FT
11000	-54	1485	26787	31505	2130	1308	23227	26945	2100	1249	22067	25476	2090	1131	19784	22619	2060
	-40	1526	26987	32002	2010	1349	23492	27456	1970	1290	22353	25997	1960	1172	20111	23175	1940
	-35	1541	27021	32129	1960	1363	23553	27600	1930	1304	22423	26162	1920	1186	20197	23334	1900
	-30	1555	27566	32921	1930	1378	24047	28298	1900	1319	22900	26814	1890	1201	20644	23947	1870
	-25	1569	28232	33874	1900	1392	24643	29129	1860	1333	23470	27603	1850	1215	21177	24654	1830
	-20	1582	29436	35489	1870	1405	25699	30517	1840	1346	24483	28925	1830	1228	22096	25853	1800
	-15	1593	33842	41121	1870	1416	29470	35263	1830	1357	28055	33375	1820	1239	25285	29768	1800
	-10	1605	40637	49823	1890	1428	35211	42455	1840	1369	33470	40145	1830	1251	30081	35681	1800
	-5	1617	57525	71217	1990	1440	49104	59674	1920	1381	46464	56115	1900	1263	41411	49414	1860
	0	1627	102689	126538	2310	1450	83934	102044	2160	1391	78378	94840	2120	1272	68136	81653	2040
	5									1403	217556	267018	3170	1285	160494	189751	2720
10500	-54	1459	23525	27435	2100	1282	20386	23440	2070	1223	19360	22169	2060	1104	17340	19666	2040
	-35	1513	23706	27925	1930	1336	20651	23992	1910	1277	19653	22722	1900	1159	17684	20260	1880
	-30	1527	24140	28556	1900	1350	21048	24552	1870	1290	20038	23259	1860	1172	18047	20755	1840
	-25	1540	24676	29318	1860	1363	21525	25200	1840	1304	20499	23894	1830	1186	18476	21322	1810
	-20	1554	25621	30583	1830	1377	22364	26315	1810	1317	21302	24939	1800	1199	19211	22263	1780
	-15	1566	29040	34918	1830	1389	25305	29968	1800	1330	24091	28385	1790	1212	21709	25315	1770
	-10	1578	34089	41327	1830	1401	29606	35321	1800	1342	28158	33420	1790	1223	25328	29728	1760
	-5	1588	45549	55636	1890	1411	39202	47076	1840	1351	37182	44395	1830	1233	33269	39268	1790
	0	1597	69700	85485	2050	1420	58670	70773	1960	1361	55269	66249	1940	1243	48843	57833	1880
	5	1608	134793	161026	2520	1430	106471	127291	2300	1371	98326	117471	2240	1253	83804	99364	2120
	8	1615	258142	312016	3450	1438	179789	210846	2840	1379	162348	189227	2710	1260	133878	154315	2490
10000	-54	1434	20713	23921	2070	1257	17936	20443	2050	1198	17027	19317	2040	1080	15233	17132	2020
	-35	1485	20885	24381	1910	1308	18176	20932	1880	1249	17288	19828	1880	1130	15536	17648	1860
	-30	1498	21243	24905	1870	1320	18504	21398	1850	1261	17607	20262	1840	1143	15837	18060	1820
	-25	1511	21669	25496	1840	1334	18891	21920	1810	1275	17982	20776	1810	1157	16188	18520	1790
	-20	1524	22433	26512	1810	1347	19568	22801	1780	1288	18631	21616	1770	1170	16784	19279	1760
	-15	1536	25137	29907	1800	1359	21902	25686	1770	1300	20848	24326	1760	1182	18772	21682	1740
	-10	1548	29001	34774	1790	1370	25212	29773	1760	1311	23983	28176	1750	1193	21570	25064	1730
	-5	1557	37241	44953	1830	1380	32184	38215	1780	1321	30557	36099	1770	1203	27390	32006	1750
	0	1567	52331	63415	1910	1389	44670	53237	1850	1330	42254	50058	1830	1212	37611	44072	1800
	5	1576	81062	98425	2100	1399	67341	80601	2000	1340	63161	75079	1960	1222	55367	65003	1900
	10	1586	161038	188248	2680	1409	128282	147999	2430	1350	118868	136537	2360	1232	101653	116081	2220
9500	-54	1431	18124	20505	2050	1254	15715	17571	2020	1195	14925	16617	2020	1077	13363	14791	2000
	-35	1481	18253	20852	1880	1304	15906	17963	1860	1245	15135	17018	1860	1127	13612	15195	1840
	-30	1493	18541	21273	1850	1316	16172	18324	1830	1257	15394	17366	1820	1139	13857	15504	1810
	-25	1505	18891	21758	1810	1328	16490	18767	1790	1269	15701	17789	1780	1151	14144	15892	1770
	-20	1514	19528	22625	1780	1337	17050	19499	1760	1278	16238	18498	1750	1160	14634	16516	1740
	-15	1511	21822	25625	1770	1334	19012	22004	1740	1275	18093	20853	1740	1157	16282	18582	1720
	-10	1516	24920	29536	1760	1339	21665	25296	1730	1280	20605	23937	1720	1162	18520	21312	1710
	-5	1526	31073	37044	1780	1349	26905	31597	1740	1290	25556	29862	1730	1172	22916	26490	1710
	0	1535	41363	49511	1830	1358	35546	41886	1780	1299	33686	39477	1760	1181	30076	34881	1740
	5	1544	57740	69332	1920	1367	48950	57799	1850	1308	46197	54241	1830	1190	40932	47539	1790
	10	1553	91640	110369	2150	1376	75037	89155	2020	1317	70068	82772	1980	1199	60895	71034	1910
9000	-54	1428	15961	18021	2030	1251	13854	15591	2010	1192	13162	14728	2000	1074	11791	13137	1980
	-35	1478	16058	18305	1860	1301	14008	15805	1850	1242	13333	15063	1840	1124	11998	13495	1830
	-30	1490	16289	18549	1830	1313	14222	16143	1810	1254	13543	15284	1800	1136	12198	13705	1790
	-25	1502	16568	18965	1790	1324	14478	16410	1770	1265	13791	15543	1770	1147	12432	13949	1760
	-20	1511	17074	19478	1760	1333	14926	16977	1740	1274	14221	16087	1740	1156	12825	14448	1720
	-15	1507	18869	21604	1740	1330	16465	18622	1720	1271	15678	17738	1720	1153	14122	15824	1700
	-10	1499	21387	24877	1730	1322	18610	21360	1710	1263	17703	20223	1700	1145	15914	18007	1680
	-5	1493	26297	30988	1740	1316	22779	26451	1710	1257	21636	25000	1700	1139	19390	22184	1680
	0	1502	33703	39858	1760	1325	29051	33845	1730	1266	27551	31942	1720	1148	24622	28252	1690
	5	1511	44307	52541	1820	1334	37896	44248	1770	1275	35853	41644	1750	1157	31900	36665	1720
	10	1520	61836	73667	1920	1343	52076	61021	1840	1284	49040	57154	1820	1166	43259	49869	1770
8500	-54	1425	14121	16074	2010	1247	12267	13896	1990	1188	11657	13132	1980	1070	10447	11709	1970
	-35	1474	14195	16209	1850	1297	12392	14091	1830	1238	11798	13434	1820	1120	10621	12031	1810
	-30	1486	14383	16533	1810	1309	12568	14278	1790	1250	11971	13617	1790	1132	10786	12206	1780
	-25	1498	14609	16770	1780	1321	12777	14610	1760	1262	12174	13830	1750	1144	10979	12408	1740
	-20	1507	15017	17310	1740	1330	13141	14979	1730	1270	12527	14298	1720	1152	11299	12835	1710
	-15	1503	16446	18840	1720	1326	14369	16299	1700	1267	13687	15545	1700	1149	12337	13953	1690
	-10	1494	18402	21123	1700	1317	16040	18180	1690	1258	15265	17306	1680	1140	13735	15421	1670
	-5	1465	22386	26330	1710	1288	19394	22486	1680	1229	18417	21247	1670	1111	16495	18837	1660
	0	1467	28002	33165	1720	1290	24160	28169	1690	1231	22913	26581	1680	1113	20470	23507	1660
	5	1476	35372	41985	1750	1299	30370	35483	1710	1240	28760	33438	1690	1122	25622	29479	1670
	10	1485	46153	54934	1800	1307	39300	46051	1740	1248	37123	43272	1730	1130	32917	37963	1700

525AFM-06-00

Figure 4-33 (Sheet 18)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
9,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1581	42737	51860	2280	1404	36991	44190	2220	1345	35144	41778	2200	1227	31547	37110	2170
	-50	1594	43104	52482	2240	1417	37336	44769	2180	1358	35483	42312	2160	1240	31866	37619	2130
	-45	1610	43347	52994	2190	1433	37591	45254	2140	1374	35742	42788	2120	1256	32142	38068	2080
	-40	1625	43341	53139	2140	1448	37644	45444	2090	1389	35813	42992	2070	1271	32246	38295	2040
	-35	1641	43846	53927	2100	1464	38124	46143	2050	1404	36285	43695	2030	1286	32703	38959	2000
	-30	1655	46145	56917	2080	1478	40112	48695	2030	1419	38176	46114	2010	1301	34412	41124	1980
	-25	1670	48715	60282	2060	1493	42325	51558	2000	1434	40279	48796	1990	1316	36306	43518	1950
	-20	1684	57293	70823	2090	1507	49573	60323	2030	1447	47118	57039	2010	1329	42373	50758	1960
	-15	1697	77648	95138	2220	1519	66447	80274	2130	1460	62943	75672	2100	1342	56245	66980	2040
	-10									1473	108114	134671	2430	1355	94498	111072	2320
12200	-54	1573	40302	48806	2250	1395	34912	41639	2200	1336	33176	39351	2180	1218	29789	34982	2150
	-50	1585	40626	49362	2210	1408	35220	42139	2160	1349	33479	39856	2150	1231	30085	35434	2110
	-45	1601	40841	49825	2170	1424	35449	42580	2120	1365	33713	40268	2100	1247	30328	35856	2070
	-40	1616	40836	49962	2120	1439	35499	42758	2070	1380	33779	40481	2050	1262	30425	36069	2020
	-35	1631	41289	50676	2080	1454	35932	43418	2030	1395	34206	41100	2020	1277	30841	36656	1980
	-30	1646	43341	53358	2050	1469	37714	45691	2000	1410	35905	43280	1990	1292	32379	38611	1960
	-25	1661	45623	56333	2030	1484	39688	48230	1980	1425	37783	45685	1960	1307	34075	40762	1930
	-20	1674	53163	65605	2060	1497	46087	55995	2000	1438	43829	52971	1980	1320	39453	47200	1940
	-15	1687	70507	86376	2160	1510	60566	73143	2080	1451	57437	69012	2050	1333	51430	61185	2000
	-10	1700	119317	149698	2520	1523	99417	118535	2360	1464	93417	110916	2310	1346	82226	96810	2220
12000	-54	1562	37772	45610	2230	1385	32744	38938	2180	1326	31121	36824	2160	1208	27951	32723	2130
	-50	1575	38055	46101	2190	1398	33017	39383	2140	1339	31391	37255	2120	1221	28215	33148	2090
	-45	1590	38242	46515	2140	1413	33220	39780	2100	1354	31599	37648	2080	1236	28434	33511	2050
	-40	1606	38238	46641	2100	1429	33266	39945	2050	1370	31661	37824	2040	1252	28525	33708	2010
	-35	1621	38639	47282	2060	1444	33653	40539	2010	1385	32044	38381	2000	1267	28899	34260	1970
	-30	1636	40442	49625	2030	1458	35235	42564	1980	1399	33553	40326	1970	1281	30269	35987	1940
	-25	1650	42457	52288	2010	1473	36976	44812	1960	1414	35212	42459	1940	1296	31773	37899	1910
	-20	1663	49016	60326	2020	1486	42577	51603	1970	1427	40502	48827	1950	1309	36491	43538	1910
	-15	1676	63656	77888	2100	1499	54867	66171	2030	1440	52085	62515	2010	1321	46723	55510	1960
	-10	1688	101591	122839	2380	1510	85566	102166	2240	1451	80653	95884	2200	1333	71394	84151	2130
11800	-54	1552	35475	42701	2200	1375	30770	36473	2160	1316	29248	34496	2140	1198	26272	30675	2110
	-50	1565	35723	43137	2170	1387	31012	36892	2120	1328	29489	34903	2110	1210	26509	31041	2080
	-45	1580	35887	43508	2120	1403	31193	37229	2080	1344	29675	35238	2060	1226	26707	31390	2030
	-40	1595	35883	43625	2070	1418	31236	37382	2030	1359	29733	35402	2020	1241	26792	31573	1990
	-35	1610	36241	44203	2030	1433	31584	37920	1990	1374	30077	35927	1980	1256	27130	32055	1950
	-30	1625	37853	46300	2010	1448	32995	39730	1960	1389	31425	37647	1950	1270	28357	33623	1920
	-25	1639	39624	48629	1980	1462	34540	41731	1940	1403	32899	39548	1920	1285	29696	35311	1890
	-20	1652	45371	55692	1990	1475	39458	47686	1940	1416	37558	45169	1920	1298	33860	40297	1890
	-15	1665	57872	70695	2060	1487	50017	60224	1990	1428	47518	56935	1970	1310	42686	50637	1930
	-10	1676	88093	106643	2270	1499	74778	89339	2160	1440	70647	84041	2120	1322	62799	74007	2060
11600	-54	1542	33380	40069	2180	1365	28964	34256	2140	1306	27533	32401	2130	1188	24732	28812	2100
	-50	1554	33591	40474	2150	1377	29180	34614	2100	1318	27749	32750	2090	1200	24946	29143	2060
	-45	1569	33742	40793	2100	1392	29342	34940	2060	1333	27909	33065	2040	1215	25126	29444	2020
	-40	1585	33739	40902	2050	1407	29382	35082	2010	1348	27970	33225	2000	1230	25205	29633	1980
	-35	1599	34058	41424	2010	1422	29695	35550	1970	1363	28281	33684	1960	1245	25512	30072	1940
	-30	1614	35498	43304	1980	1437	30959	37197	1940	1378	29490	35251	1930	1260	26614	31467	1910
	-25	1628	37070	45380	1960	1451	32337	38966	1920	1392	30806	36932	1900	1274	27813	33001	1880
	-20	1641	42141	51603	1960	1464	36689	44250	1920	1405	34933	41923	1900	1287	31508	37415	1870
	-15	1654	52921	64568	2010	1476	45836	55102	1960	1417	43573	52145	1940	1299	39183	46413	1900
	-10	1665	77540	93932	2180	1488	66200	79128	2090	1429	62650	74538	2060	1311	55864	65832	2000
	-5													1324	107547	147973	2380
11400	-54	1531	31461	37651	2160	1354	27306	32197	2120	1295	25958	30455	2110	1177	23315	27080	2080
	-45	1559	31781	38279	2080	1382	27645	32797	2040	1323	26303	31046	2030	1204	23673	27655	2000
	-40	1574	31778	38403	2040	1397	27683	32929	2000	1338	26353	31188	1990	1219	23747	27814	1960
	-35	1588	32066	38854	2000	1411	27966	33375	1960	1352	26636	31624	1950	1234	24026	28232	1920
	-30	1603	33356	40542	1970	1426	29103	34839	1930	1367	27724	33018	1920	1249	25017	29487	1890
	-25	1617	34750	42390	1940	1440	30337	36426	1900	1381	28913	34537	1890	1263	26099	30854	1860
	-20	1630	39260	47935	1940	1453	34211	41135	1890	1394	32581	38980	1880	1276	29396	34796	1850
	-15	1642	48643	59199	1980	1465	42202	50615	1920	1406	40137	47917	1910	1288	36122	42700	1870
	-10	1654	69075	83630	2110	1476	59230	70730	2030	1417	56127	66696	2000	1299	50165	59078	1950
	-5	1665	132525	197825	2580	1488	108968	130839	2390	1429	101970	119840	2330	1311	89027	103698	2230
	-4									1432	142676	203097	2650	1314	105326	133431	2350

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Figure 4-33 (Sheet 19)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
9,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS 1ST FT	TAILWIND 10 KTS 2ND FT	TAILWIND 10 KTS 3RD FT	TAILWIND 10 KTS TCI FT	ZERO WIND 1ST FT	ZERO WIND 2ND FT	ZERO WIND 3RD FT	ZERO WIND TCI FT	HEADWIND 10 KTS 1ST FT	HEADWIND 10 KTS 2ND FT	HEADWIND 10 KTS 3RD FT	HEADWIND 10 KTS TCI FT	HEADWIND 30 KTS 1ST FT	HEADWIND 30 KTS 2ND FT	HEADWIND 30 KTS 3RD FT	HEADWIND 30 KTS TCI FT
11000	-54	1510	28079	33384	2130	1333	24375	28554	2090	1274	23170	27007	2080	1156	20803	24020	2060
	-45	1536	28333	33915	2050	1359	24652	29067	2010	1300	23455	27514	2000	1182	21102	24502	1980
	-40	1552	28330	34002	2000	1375	24685	29181	1970	1316	23499	27638	1960	1198	21167	24641	1940
	-35	1566	28565	34376	1960	1389	24920	29536	1930	1330	23733	27986	1920	1212	21402	24993	1900
	-30	1580	29617	35756	1930	1403	25852	30739	1900	1344	24628	29132	1890	1226	22222	26033	1870
	-25	1597	30755	37269	1900	1419	26858	32034	1870	1360	25591	30367	1860	1242	23106	27151	1840
	-20	1607	34361	41691	1900	1430	29975	35811	1860	1371	28554	33942	1850	1253	25770	30323	1820
	-15	1619	41640	50448	1920	1442	36203	43206	1870	1383	34461	40931	1860	1265	31045	36501	1830
	-10	1630	56337	68027	2000	1453	48597	57871	1940	1394	46132	54675	1920	1276	41360	48547	1880
	-5	1641	93639	112051	2270	1464	78889	93228	2150	1405	74342	87508	2110	1287	65719	76689	2040
	0													1301	169468	205153	2830
10500	-54	1481	24535	28902	2100	1304	21291	24731	2060	1245	20233	23386	2050	1127	18149	20771	2030
	-35	1538	24914	29692	1930	1361	21729	25525	1900	1302	20689	24181	1890	1184	18642	21567	1870
	-30	1553	25749	30786	1900	1376	22473	26483	1870	1317	21404	25096	1860	1198	19301	22399	1840
	-25	1565	26644	31958	1870	1388	23269	27490	1840	1329	22169	26074	1830	1211	20004	23287	1810
	-20	1578	29453	35400	1850	1401	25707	30442	1820	1342	24489	28854	1810	1224	22095	25772	1790
	-15	1590	34947	41978	1860	1412	30438	36024	1830	1353	28977	34130	1810	1235	26115	30462	1790
	-10	1600	45286	54352	1910	1423	39229	46419	1860	1364	37282	43895	1850	1246	33493	39055	1820
	-5	1611	67632	80825	2060	1434	57796	68156	1980	1374	54695	64225	1950	1256	48739	56705	1910
	0	1620	121416	145455	2450	1443	100014	116924	2280	1384	93609	109011	2230	1266	81721	94385	2130
	2	1627	184903	223002	2930	1449	140789	165753	2580	1390	129454	151449	2490	1272	109844	127010	2340
	5									1399	255602	303781	3440	1281	192400	220209	2950
10000	-54	1455	21560	25178	2070	1278	18693	21531	2040	1219	17756	20352	2030	1100	15907	18068	2010
	-35	1509	21859	25813	1900	1331	19049	22178	1880	1272	18130	21003	1870	1154	16316	18726	1850
	-30	1522	22531	26675	1870	1345	19651	22936	1840	1286	18709	21742	1840	1168	16852	19387	1820
	-25	1535	23248	27612	1840	1358	20292	23758	1810	1299	19325	22513	1800	1181	17420	20103	1790
	-20	1548	25477	30322	1820	1371	22233	26088	1790	1312	21174	24722	1780	1194	19089	22066	1770
	-15	1559	29732	35414	1820	1382	25907	30421	1790	1323	24663	28821	1780	1205	22220	25714	1760
	-10	1570	37314	44456	1850	1393	32392	38051	1810	1334	30801	36016	1790	1216	27689	32079	1770
	-5	1580	52042	61936	1930	1403	44786	52576	1870	1344	42470	49624	1850	1225	37981	43982	1820
	0	1589	80143	94886	2120	1412	67722	79171	2020	1353	63857	74336	1990	1235	56501	65196	1930
	5	1601	151241	175784	2630	1424	122760	140730	2410	1365	114427	130615	2350	1247	98551	112210	2220
	6	1603	176235	203735	2820	1426	141229	161049	2550	1367	131191	148995	2470	1249	113015	127293	2330
95000	-54	1449	18810	21533	2040	1272	16329	18459	2010	1213	15516	17461	2010	1095	13909	15524	1990
	-35	1499	19073	22091	1880	1322	16636	19017	1860	1263	15836	18019	1850	1144	14257	16083	1830
	-30	1507	19653	22871	1840	1330	17148	19690	1820	1271	16327	18673	1810	1153	14705	16658	1800
	-25	1515	20274	23722	1810	1338	17696	20425	1790	1279	16852	19357	1780	1161	15184	17285	1770
	-20	1517	22179	26122	1790	1340	19339	22462	1770	1281	18410	21292	1760	1162	16577	18984	1740
	-15	1528	25536	30112	1790	1351	22244	25878	1760	1292	21170	24511	1750	1174	19056	21851	1730
	-10	1538	31264	36927	1800	1361	27162	31646	1760	1302	25830	29955	1750	1184	23216	26673	1730
	-5	1548	41559	49123	1850	1371	35895	41843	1800	1312	34072	39545	1790	1194	30518	35090	1760
	0	1557	58598	69155	1950	1380	50077	58321	1880	1321	47376	54935	1860	1203	42167	48462	1820
	5	1567	91411	107345	2170	1390	76374	88606	2050	1331	71757	82896	2020	1213	63048	72189	1950
	10	1581	169950	193685	2730	1404	137733	155114	2480	1345	128248	143898	2410	1226	110929	123533	2280
90000	-54	1446	16506	18702	2020	1268	14345	16098	2000	1209	13635	15320	1990	1091	12231	13686	1970
	-35	1495	16708	19095	1860	1318	14590	16513	1840	1259	13894	15745	1830	1141	12516	14126	1820
	-30	1503	17167	19561	1820	1326	14998	17039	1800	1267	14285	16143	1800	1149	12875	14490	1780
	-25	1511	17656	20181	1790	1334	15431	17479	1770	1275	14700	16564	1760	1157	13253	14874	1750
	-20	1508	19187	22123	1770	1330	16748	19066	1750	1271	15948	18087	1740	1153	14367	16147	1730
	-15	1495	22091	25781	1760	1318	19224	22138	1730	1259	18287	20959	1720	1141	16437	18674	1710
	-10	1505	26520	31023	1760	1328	23036	26582	1730	1269	21900	25171	1720	1151	19666	22394	1700
	-5	1515	34021	39886	1790	1337	29431	34037	1750	1278	27945	32175	1740	1160	25035	28569	1710
	0	1524	45303	53139	1840	1347	38927	45037	1790	1288	36884	42497	1780	1169	32912	37584	1740
	5	1533	63581	74458	1950	1356	53987	62410	1880	1297	50965	58645	1850	1179	45160	51529	1810
	10	1543	100252	116812	2200	1366	82931	95462	2060	1307	77674	89062	2020	1188	67825	77101	1950
85000	-54	1442	14560	16649	2000	1265	12665	14322	1980	1206	12042	13635	1970	1088	10807	12177	1960
	-35	1491	14718	16870	1840	1314	12864	14688	1820	1255	12253	13901	1820	1137	11044	12465	1800
	-30	1499	15087	17371	1800	1322	13193	15023	1790	1263	12569	14332	1780	1145	11335	12862	1770
	-25	1507	15478	17768	1770	1330	13541	15489	1750	1271	12903	14671	1750	1153	11641	13174	1740
	-20	1503	16691	19087	1750	1326	14585	16517	1730	1267	13893	15753	1720	1149	12524	14142	1710
	-15	1489	18948	21839	1730	1312	16513	18792	1710	1253	15714	17802	1700	1135	14135	15881	1690
	-10	1471	22696	26562	1730	1294	19694	22739	1700	1235	18713	21503	1690	1117	16778	19095	1680
	-5	1479	28330	33242	1740	1302	24511	28367	1710	1243	23269	26805	1700	1125	20830	23771	1680
	0	1488	36236	42578	1770	1311	31211	36174	1730	1252	29588	34141	1720	1134	26418	30191	1690
	5	1497	47731	56077	1830	1320	40821	47331	1770	1261	38614	44562	1760	1143	34333	39247	1720
	10	1507	66668	78147	1940	1329	56305	65133	1860	1270	53054	61122	1840	1152	46828	53475	1790

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Figure 4-33 (Sheet 20)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
10,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1608	47468	58178	2310	1431	41033	49507	2240	1372	38975	46766	2220	1254	34979	41530	2180
	-50	1621	48439	59657	2270	1444	41876	50733	2210	1385	39779	47925	2190	1267	35713	42568	2150
	-45	1637	48549	59993	2220	1460	42032	51116	2160	1401	39948	48311	2140	1283	35907	42959	2110
	-40	1653	48480	60093	2180	1476	42035	51274	2120	1417	39975	48487	2100	1298	35976	43168	2060
	-35	1668	50234	62420	2150	1491	43570	53256	2080	1432	41441	50400	2070	1314	37314	44871	2030
	-30	1683	53372	66431	2130	1506	46253	56650	2070	1447	43997	53590	2050	1329	39611	47715	2010
	-25	1698	56964	71024	2120	1520	49330	60512	2050	1461	46903	57228	2030	1343	42215	50950	1990
	-20	1710	73479	90842	2210	1533	63099	76831	2130	1474	59843	72486	2100	1356	53605	64275	2050
	-15	1724	104121	126823	2430	1547	88009	105727	2290	1488	83073	99343	2250	1370	73766	87384	2170
	-14	1728	118820	150986	2540	1550	99553	119084	2380	1491	93705	111588	2330	1373	82830	97753	2240
	-13									1495	108777	137638	2450	1376	95460	112195	2340
12200	-54	1599	44526	54413	2280	1422	38537	46379	2220	1363	36616	43823	2200	1245	32881	38935	2160
	-50	1612	45377	55721	2240	1435	39282	47469	2190	1376	37329	44857	2170	1258	33525	39855	2130
	-45	1628	45474	56027	2200	1451	39421	47792	2140	1392	37482	45209	2120	1273	33711	40223	2080
	-40	1643	45410	56150	2150	1466	39426	47967	2090	1407	37507	45375	2070	1289	33776	40419	2040
	-35	1659	46963	58193	2120	1482	40791	49739	2060	1423	38814	47062	2040	1304	34972	41948	2010
	-30	1674	49725	61740	2100	1496	43174	52736	2040	1437	41080	49900	2020	1319	37015	44486	1980
	-25	1688	52862	65741	2080	1511	45869	56136	2020	1452	43638	53115	2000	1334	39316	47330	1960
	-20	1701	67022	82736	2160	1523	57754	70213	2080	1464	54829	66332	2060	1346	49204	58908	2010
	-15	1714	92195	112314	2330	1537	78461	94287	2210	1478	74207	88739	2180	1360	66127	78357	2110
	-13	1720	119605	152128	2530	1543	100167	119393	2370	1484	94284	111888	2330	1366	83282	97966	2240
	-12									1487	109732	139524	2440	1369	96247	112728	2330
12000	-54	1589	41506	50621	2250	1412	35964	43165	2190	1353	34181	40820	2180	1234	30709	36280	2140
	-50	1601	42243	51741	2210	1424	36615	44151	2160	1365	34807	41733	2140	1247	31286	37106	2110
	-45	1617	42326	52043	2170	1440	36738	44442	2110	1381	34942	42029	2100	1263	31444	37432	2060
	-40	1633	42268	52132	2120	1456	36743	44582	2070	1397	34966	42208	2050	1279	31505	37615	2020
	-35	1648	43628	53933	2090	1471	37946	46151	2030	1412	36120	43705	2020	1294	32565	38975	1990
	-30	1663	46034	57011	2060	1485	40032	48787	2010	1426	38106	46206	1990	1308	34361	41218	1960
	-25	1677	48747	60491	2050	1500	42375	51760	1990	1441	40335	48997	1970	1323	36372	43716	1940
	-20	1690	60772	74926	2110	1512	52532	63814	2040	1453	49917	60302	2010	1335	44870	53653	1970
	-15	1702	81332	99171	2240	1525	69616	83688	2140	1466	65952	78907	2110	1348	58950	69881	2050
	-12	1711	117899	145290	2510	1534	98840	117478	2350	1475	93055	110163	2310	1357	82216	96484	2220
	-11									1478	108293	134116	2420	1360	95035	111004	2310
11800	-54	1578	38794	47149	2220	1401	33644	40259	2170	1342	31984	38079	2150	1224	28744	33873	2120
	-50	1593	39439	48162	2190	1416	34219	41111	2140	1356	32537	38891	2120	1238	29249	34582	2090
	-45	1607	39509	48407	2140	1429	34327	41397	2090	1370	32657	39158	2070	1252	29400	34887	2040
	-40	1622	39456	48491	2090	1445	34332	41527	2040	1386	32681	39325	2030	1268	29457	35056	2000
	-35	1637	40655	50086	2060	1460	35397	42923	2010	1401	33703	40659	2000	1283	30399	36272	1970
	-30	1652	42767	52798	2030	1474	37236	45256	1990	1415	35457	42850	1970	1297	31990	38264	1940
	-25	1666	45131	55848	2010	1489	39289	47847	1960	1430	37412	45307	1950	1312	33759	40446	1920
	-20	1678	55457	68260	2060	1501	48056	58256	2000	1442	45696	55112	1980	1324	41127	49086	1940
	-15	1690	72501	88349	2160	1513	62331	74894	2080	1454	59127	70724	2050	1336	52974	62752	2000
	-11	1702	116229	139543	2490	1525	97531	115579	2330	1466	91839	108361	2290	1348	81157	94969	2200
	-10					1528	113902	143774	2460	1469	106878	129488	2400	1351	93838	109296	2300
11600	-54	1568	36345	44031	2200	1391	31542	37641	2150	1332	29990	35587	2130	1213	26957	31661	2100
	-50	1580	36911	44903	2160	1403	32050	38400	2120	1344	30480	36311	2100	1226	27414	32321	2070
	-45	1596	36971	45149	2120	1419	32147	38638	2070	1360	30589	36576	2050	1241	27544	32574	2030
	-40	1611	36923	45228	2070	1434	32152	38759	2020	1375	30611	36710	2010	1257	27598	32732	1980
	-35	1626	37986	46649	2030	1449	33101	40007	1990	1390	31523	37904	1980	1272	28441	33822	1950
	-30	1641	39851	49052	2010	1463	34731	42082	1960	1404	33080	39853	1950	1286	29857	35599	1920
	-25	1655	41926	51715	1990	1478	36540	44349	1940	1419	34806	42030	1920	1301	31423	37535	1890
	-20	1667	50876	62475	2020	1490	44171	53409	1970	1431	42025	50575	1950	1313	37860	45080	1910
	-15	1679	65181	79358	2100	1502	56230	67493	2030	1443	53394	63788	2000	1325	47924	56715	1960
	-10	1692	114591	136990	2460	1515	96236	113659	2320	1456	90634	106624	2270	1338	80105	93467	2180
	-9					1518	111632	136854	2430	1459	104786	124104	2380	1341	92008	106926	2270
11400	-54	1557	34121	41244	2170	1380	29626	35254	2130	1321	28172	33352	2120	1203	25325	29675	2090
	-45	1585	34673	42222	2090	1408	30166	36151	2050	1349	28707	34225	2040	1231	25854	30501	2010
	-40	1600	34629	42296	2050	1423	30171	36264	2010	1364	28739	34361	1990	1246	25904	30649	1970
	-35	1615	35575	43567	2010	1438	31019	37384	1970	1379	29545	35423	1960	1261	26661	31631	1930
	-30	1629	37224	45704	1990	1452	32472	39240	1940	1393	30934	37167	1930	1275	27927	33205	1900
	-25	1643	39064	48046	1960	1466	34076	41256	1920	1407	32465	39106	1900	1289	29320	34932	1880
	-20	1653	46881	57445	1990	1476	40764	49195	1940	1417	38800	46601	1920	1300	34978	41582	1890
	-15	1667	59054	71845	2050	1490	51067	61254	1980	1431	48529	57930	1960	1313	43617	51560	1920
	-10	1680	97976	117378	2330	1503	83003	98242	2210	1444	78372	92354	2170	1326	69589	81296	2100
	-9	1683	112297	134015	2440	1506	94356	111274	2290	1447	88871	104349	2250	1328	78550	91509	2160
	-7													1334	105640	143584	2360

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Figure 4-33 (Sheet 21)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
10,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
11000	-54	1535	30231	36266	2140	1358	26264	31035	2100	1299	24976	29363	2090	1181	22449	26122	2060
	-45	1563	30666	37053	2060	1386	26698	31765	2020	1327	25410	30076	2010	1209	22883	26803	1980
	-40	1578	30628	37138	2010	1401	26703	31863	1970	1342	25428	30184	1960	1224	22927	26931	1940
	-35	1592	31389	38145	1970	1415	27390	32775	1940	1356	26091	31059	1930	1238	23545	27735	1900
	-30	1606	32712	39868	1950	1429	28558	34253	1910	1370	27210	32468	1900	1252	24568	29011	1870
	-25	1620	34164	41726	1920	1443	29837	35888	1880	1384	28434	34004	1870	1266	25686	30400	1850
	-20	1632	40250	49050	1930	1455	35073	42103	1890	1396	33406	39882	1870	1278	30138	35626	1850
	-15	1644	49300	59749	1970	1467	42803	51137	1920	1408	40718	48427	1900	1290	36663	43160	1860
	-10	1654	75268	90291	2140	1477	64466	76340	2060	1418	61066	71981	2030	1300	54542	63717	1970
	-7	1663	107558	127821	2380	1486	90446	106222	2240	1427	85197	99654	2200	1309	75302	87339	2120
	-5					1491	135911	196233	2590	1432	116037	156876	2430	1314	101077	120626	2310
10500	-54	1508	26208	31178	2100	1330	22770	26683	2060	1271	21650	25258	2050	1153	19447	22458	2030
	-40	1549	26507	31843	1970	1372	23113	27341	1940	1313	22007	25915	1930	1195	19832	23111	1910
	-35	1563	27100	32650	1940	1386	23653	28062	1910	1327	22529	26591	1890	1209	20321	23735	1880
	-30	1577	28134	33981	1910	1400	24564	29217	1870	1341	23404	27694	1860	1223	21124	24737	1840
	-25	1591	29242	35406	1880	1414	25553	30469	1840	1355	24353	28888	1830	1237	21995	25820	1810
	-20	1603	33847	40919	1880	1425	29534	35183	1840	1366	28135	33350	1830	1248	25393	29799	1810
	-15	1614	40417	48705	1900	1437	35183	41793	1850	1378	33493	39599	1840	1260	30189	35337	1810
	-10	1624	57402	68736	2000	1447	49544	58530	1930	1388	47037	55312	1910	1270	42180	49164	1870
	-5	1636	95491	113114	2270	1459	80674	94385	2150	1400	76088	88672	2110	1282	67389	77867	2040
	-4	1639	108042	127645	2360	1462	90575	105728	2220	1402	85229	99091	2180	1284	75161	86663	2090
	0									1412	209414	256890	3120	1294	156913	185489	2710
10000	-54	1479	22890	26958	2060	1302	19875	23078	2030	1243	18891	21825	2030	1125	16950	19401	2010
	-40	1520	23125	27488	1940	1343	20153	23611	1910	1284	19182	22359	1910	1165	17269	19937	1890
	-35	1534	23597	28133	1900	1356	20586	24173	1880	1297	19602	22916	1870	1179	17664	20439	1850
	-30	1547	24411	29180	1870	1370	21312	25093	1840	1311	20300	23780	1840	1193	18302	21234	1820
	-25	1561	25290	30290	1840	1383	22096	26082	1810	1324	21053	24725	1810	1206	19000	22085	1790
	-20	1572	28877	34579	1840	1395	25207	29743	1800	1336	24012	28193	1790	1218	21662	25181	1770
	-15	1583	33837	40446	1840	1406	29489	34738	1800	1347	28078	32919	1790	1229	25311	29393	1770
	-10	1593	45714	54443	1900	1416	39611	46527	1850	1357	37647	44029	1840	1239	33821	39187	1810
	-5	1603	68532	81116	2050	1426	58645	68518	1970	1367	55520	64599	1950	1248	49506	57089	1900
	0	1616	119143	140818	2410	1438	98732	114534	2250	1379	92573	106954	2200	1261	81079	92921	2110
	4	1626	268386	327125	3530	1449	188423	218389	2910	1390	171461	197063	2780	1272	143515	162781	2560
9500	-54	1467	19920	23054	2040	1290	17310	19770	2010	1231	16455	18705	2000	1112	14767	16641	1980
	-35	1514	20545	24110	1880	1337	17926	20746	1850	1278	17068	19657	1850	1160	15375	17546	1830
	-30	1520	21273	25116	1840	1343	18563	21609	1820	1283	17676	20474	1810	1165	15926	18275	1800
	-25	1529	22017	26105	1810	1352	19221	22451	1790	1293	18306	21290	1780	1175	16502	18998	1770
	-20	1540	24863	29483	1800	1363	21694	25353	1770	1304	20659	24025	1770	1186	18621	21455	1750
	-15	1551	28698	34000	1800	1374	25014	29222	1770	1315	23814	27689	1760	1197	21455	24709	1740
	-10	1561	37354	44166	1830	1384	32427	37840	1790	1325	30833	35799	1780	1207	27713	31888	1760
	-5	1570	52226	61578	1920	1393	44979	52360	1860	1334	42661	49437	1840	1216	38161	43818	1810
	0	1581	78921	92700	2090	1404	66877	77561	2000	1344	63113	72885	1970	1226	55924	64054	1910
	4	1591	123095	142929	2410	1414	101345	116745	2240	1355	94827	108815	2190	1237	82716	94149	2090
	5	1594	141219	162332	2540	1416	116551	132086	2350	1357	108648	123164	2280	1239	94064	106598	2170
9000	-54	1463	17388	19723	2010	1286	15130	17006	1990	1227	14388	16193	1980	1109	12922	14487	1970
	-35	1510	17871	20460	1850	1333	15614	17658	1830	1274	14873	16842	1830	1156	13408	15127	1810
	-30	1516	18436	21243	1820	1338	16111	18330	1800	1279	15348	17384	1790	1161	13840	15560	1780
	-25	1522	19047	22072	1790	1344	16647	19041	1770	1285	15860	18070	1760	1167	14304	16147	1750
	-20	1507	21552	25284	1770	1330	18785	21738	1750	1271	17879	20590	1740	1153	16092	18365	1730
	-15	1518	24574	28820	1760	1341	21406	24772	1740	1282	20371	23464	1730	1163	18331	20915	1710
	-10	1527	31078	36439	1780	1350	26993	31231	1750	1291	25665	29561	1740	1173	23058	26318	1720
	-5	1536	41379	48503	1830	1359	35748	41342	1790	1300	33933	39078	1770	1182	30389	34681	1740
	0	1546	57523	67324	1930	1369	49227	56896	1860	1310	46589	53616	1840	1192	41491	47334	1800
	5	1557	87309	101656	2120	1379	73353	84382	2010	1320	69033	79103	1980	1202	60831	69116	1920
	8	1564	120645	138401	2350	1387	99116	113517	2190	1328	92665	105723	2140	1210	80677	91307	2050
8500	-54	1459	15273	17378	1990	1282	13302	15082	1970	1223	12654	14261	1960	1105	11371	12852	1950
	-35	1506	15652	17938	1830	1329	13690	15635	1820	1270	13044	14809	1810	1151	11766	13296	1800
	-30	1513	16098	18513	1800	1336	14083	16031	1780	1277	13421	15298	1780	1158	12109	13743	1760
	-25	1516	16577	18995	1770	1339	14505	16569	1750	1280	13824	15703	1740	1162	12475	14111	1730
	-20	1498	18551	21470	1750	1321	16186	18490	1730	1262	15409	17522	1720	1143	13874	15643	1710
	-15	1482	21190	24816	1740	1305	18433	21281	1710	1246	17530	20155	1710	1128	15748	17931	1690
	-10	1492	26192	30693	1740	1314	22737	26279	1720	1255	21610	24860	1710	1137	19392	22100	1690
	-5	1501	33633	39431	1770	1324	29088	33638	1730	1265	27614	31792	1720	1146	24727	28213	1700
	0	1510	44264	51907	1820	1333	38054	44032	1770	1274	36059	41527	1760	1156	32175	36721	1730
	5	1519	61118	71485	1920	1342	52021	60075	1850	1283	49141	56483	1830	1165	43591	49677	1780
	10	1530	92029	107018	2120	1353	76806	88252	2000	1294	72122	82524	1970	1176	63267	71800	1900

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Figure 4-33 (Sheet 22)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
11,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1634	55048	68031	2360	1457	47422	57679	2290	1398	45002	54412	2260	1280	40338	48265	2220
	-50	1648	56611	70257	2340	1470	48751	59540	2260	1411	46261	56163	2240	1293	41460	49782	2190
	-45	1664	56480	70358	2280	1487	48722	59693	2210	1428	46262	56371	2190	1310	41517	50032	2140
	-40	1680	56449	70540	2230	1503	48772	59939	2160	1444	46337	56634	2140	1326	41636	50327	2100
	-35	1695	59958	75021	2220	1518	51761	63718	2140	1459	49168	60201	2120	1341	44171	53469	2070
	-30	1711	63980	80156	2210	1533	55169	67994	2130	1474	52391	64232	2100	1356	47048	57041	2060
	-25	1725	72700	90928	2240	1548	62430	76853	2150	1489	59213	72499	2120	1371	53060	64250	2070
	-20	1739	95959	118955	2390	1562	81309	99246	2260	1503	76817	93288	2230	1385	68341	82133	2150
	-17	1749	118714	156148	2550	1572	99204	120258	2390	1512	93352	112580	2340	1394	82462	98465	2250
	-16					1574	112775	150163	2490	1515	105763	128605	2430	1397	92861	110443	2320
12200	-54	1625	51194	63132	2330	1448	44190	53646	2260	1389	41959	50659	2240	1271	37639	44941	2190
	-50	1638	52540	65102	2300	1461	45345	55250	2230	1402	43056	52172	2210	1284	38632	46315	2160
	-45	1655	52426	65173	2240	1477	45323	55427	2180	1418	43061	52370	2160	1300	38687	46525	2120
	-40	1671	52399	65344	2200	1494	45370	55656	2130	1435	43131	52615	2110	1316	38798	46798	2070
	-35	1686	55440	69254	2180	1509	47978	58943	2110	1450	45606	55723	2090	1332	41023	49570	2050
	-30	1701	58879	73646	2160	1524	50929	62670	2090	1465	48403	59243	2070	1347	43531	52703	2030
	-25	1715	66290	82820	2180	1538	57139	70259	2100	1479	54254	66339	2080	1361	48713	58918	2030
	-20	1729	85453	105931	2300	1552	72895	88967	2190	1493	69000	83801	2160	1374	61599	74029	2100
	-16	1741	116330	143613	2520	1564	97452	117716	2360	1505	91759	110316	2310	1387	81133	96583	2230
	-15					1567	112134	145326	2470	1508	105213	126110	2420	1390	92441	109572	2310
12000	-54	1615	47312	58195	2290	1438	40915	49533	2230	1379	38868	46794	2210	1261	34898	41567	2170
	-50	1628	48459	59864	2260	1451	41909	50923	2190	1392	39817	48111	2170	1273	35760	42746	2140
	-45	1644	48361	59937	2210	1467	41891	51063	2150	1408	39824	48298	2130	1290	35813	42941	2090
	-40	1660	48337	60096	2160	1483	41934	51301	2100	1424	39887	48522	2080	1306	35914	43216	2040
	-35	1675	50947	63473	2140	1498	44188	54156	2070	1439	42031	51226	2060	1321	37850	45613	2020
	-30	1690	53888	67252	2120	1513	46717	57341	2050	1454	44433	54240	2030	1336	40013	48304	2000
	-25	1704	60102	74926	2130	1527	51972	63768	2060	1468	49403	60298	2040	1350	44434	53630	1990
	-20	1717	75714	93733	2220	1540	64961	79219	2130	1481	61594	74726	2100	1363	55154	66211	2040
	-15	1732	113106	137990	2480	1555	95044	114317	2330	1496	89554	107251	2290	1378	79269	94046	2200
	-14					1558	109089	132567	2440	1499	102462	122065	2380	1381	90175	106498	2280
11800	-54	1604	43889	53860	2250	1427	38010	45900	2200	1368	36124	43377	2180	1250	32455	38574	2140
	-50	1617	44877	55283	2220	1440	38873	47117	2170	1381	36949	44557	2150	1263	33209	39614	2110
	-45	1633	44791	55386	2170	1456	38860	47276	2120	1397	36958	44707	2100	1279	33260	39796	2060
	-40	1649	44770	55534	2130	1472	38899	47469	2070	1413	37016	44913	2050	1295	33353	40026	2020
	-35	1664	47029	58447	2100	1487	40862	49970	2050	1428	38887	47286	2030	1310	35048	42157	1990
	-30	1679	49558	61687	2080	1502	43051	52742	2020	1443	40969	49913	2000	1325	36937	44519	1970
	-25	1693	54848	68256	2080	1516	47559	58255	2020	1457	45236	55113	2000	1339	40749	49107	1960
	-20	1706	67777	83860	2150	1529	58418	71182	2070	1470	55461	67216	2050	1352	49776	59698	2000
	-15	1719	96990	118470	2350	1542	82279	99096	2230	1483	77746	93191	2190	1365	69166	82132	2120
	-14	1723	110124	133789	2450	1545	92729	111161	2300	1486	87426	104354	2260	1368	77460	91595	2180
	-13					1548	106200	126639	2410	1489	99839	118516	2350	1371	87992	103591	2260
11600	-54	1593	40845	49957	2220	1416	35414	42641	2170	1357	33667	40307	2150	1239	30262	35859	2120
	-50	1606	41703	51230	2190	1429	36170	43713	2140	1370	34391	41326	2120	1252	30928	36781	2090
	-45	1622	41626	51300	2140	1445	36159	43837	2090	1386	34401	41491	2080	1268	30976	36950	2040
	-40	1638	41606	51436	2100	1461	36195	44014	2050	1402	34454	41680	2030	1284	31061	37162	2000
	-35	1653	43580	53993	2070	1476	37917	46217	2020	1417	36098	43774	2000	1298	32555	39047	1970
	-30	1667	45773	56818	2050	1490	39826	48645	1990	1431	37918	46054	1980	1313	34205	41096	1940
	-25	1681	50325	62465	2040	1504	43725	53404	1990	1445	41615	50549	1970	1327	37518	45095	1930
	-20	1694	61224	75616	2090	1517	52932	64380	2020	1458	50301	60841	2000	1340	45223	54144	1960
	-15	1707	84680	103460	2250	1530	72331	87111	2150	1471	68482	82092	2110	1353	61145	72598	2050
	-13	1713	107251	129739	2410	1536	90499	108067	2280	1477	85368	101503	2240	1359	75698	89207	2160
	-12	1716	123678	163244	2540	1539	103447	122855	2370	1480	97326	115110	2320	1362	85883	100739	2230
11400	-54	1583	38119	46477	2200	1405	33080	39702	2150	1346	31455	37537	2130	1228	28282	33404	2100
	-50	1595	38869	47573	2170	1418	33745	40652	2120	1359	32094	38441	2100	1241	28873	34224	2070
	-45	1611	38800	47640	2120	1434	33737	40768	2070	1375	32105	38595	2050	1257	28919	34382	2020
	-40	1627	38782	47766	2070	1449	33770	40931	2020	1390	32153	38769	2010	1272	28998	34577	1980
	-35	1641	40516	50022	2040	1464	35290	42883	2000	1405	33607	40603	1980	1287	30322	36253	1950
	-30	1656	42433	52503	2020	1479	36966	44999	1970	1420	35207	42638	1950	1302	31778	38066	1920
	-25	1670	46385	57393	2010	1493	40367	49162	1960	1434	38435	46577	1940	1316	34678	41554	1910
	-20	1683	55675	68616	2050	1506	48257	58577	1990	1447	45893	55421	1970	1328	41314	49373	1930
	-15	1695	74891	91451	2170	1518	64294	77392	2080	1459	60964	73021	2050	1340	54579	64749	2000
	-12	1703	104504	125922	2380	1526	88341	105125	2250	1467	83371	98787	2210	1349	73980	86884	2130
	-10													1355	97285	113553	2310

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Figure 4-33 (Sheet 23)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
11,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS 1ST FT	TAILWIND 10 KTS 2ND FT	TAILWIND 10 KTS 3RD FT	TAILWIND 10 KTS TCI FT	ZERO WIND 1ST FT	ZERO WIND 2ND FT	ZERO WIND 3RD FT	ZERO WIND TCI FT	HEADWIND 10 KTS 1ST FT	HEADWIND 10 KTS 2ND FT	HEADWIND 10 KTS 3RD FT	HEADWIND 10 KTS TCI FT	HEADWIND 30 KTS 1ST FT	HEADWIND 30 KTS 2ND FT	HEADWIND 30 KTS 3RD FT	HEADWIND 30 KTS TCI FT
11000	-54	1561	33433	40505	2150	1383	29047	34637	2110	1324	27627	32774	2100	1206	24847	29171	2070
	-50	1573	34018	41370	2120	1396	29573	35394	2080	1337	28134	33497	2060	1219	25319	29831	2040
	-45	1589	33961	41431	2070	1411	29568	35495	2030	1352	28145	33611	2020	1234	25361	29968	1990
	-40	1604	33944	41537	2030	1427	29595	35655	1990	1368	28186	33759	1970	1250	25428	30135	1950
	-35	1618	35307	43300	2000	1441	30798	37189	1950	1382	29340	35222	1940	1264	26484	31460	1920
	-30	1633	36799	45247	1970	1456	32114	38859	1930	1397	30598	36834	1910	1279	27635	32900	1890
	-25	1647	39843	49010	1950	1469	34751	42083	1910	1410	33108	39890	1900	1292	29900	35635	1870
	-20	1659	46792	57411	1970	1482	40703	49184	1920	1423	38748	46570	1910	1305	34942	41566	1870
	-15	1671	60231	73405	2050	1494	52067	62563	1980	1435	49470	59158	1960	1317	44449	52637	1920
	-10	1684	99916	119898	2330	1506	84546	100208	2200	1447	79802	94175	2160	1329	70820	82861	2090
	-9	1686	115342	137868	2440	1509	96709	114216	2290	1450	91033	107052	2250	1332	80377	93755	2160
10500	-54	1532	28674	34422	2110	1355	24927	29471	2070	1298	23709	27887	2060	1178	21317	24815	2030
	-45	1560	29069	35132	2030	1383	25325	30138	1990	1323	24108	28540	1980	1205	21719	25443	1960
	-40	1575	29053	35217	1980	1398	25347	30250	1950	1339	24142	28661	1940	1220	21776	25580	1910
	-35	1589	30087	36561	1950	1412	26267	31428	1910	1353	25026	29787	1900	1235	22589	26604	1880
	-30	1603	31210	38015	1920	1426	27264	32699	1880	1367	25983	31000	1870	1249	23468	27708	1850
	-25	1616	33477	40831	1900	1439	29242	35105	1860	1380	27869	33285	1850	1262	25177	29759	1830
	-20	1629	38518	46912	1900	1452	33590	40295	1860	1393	31997	38195	1850	1274	28883	34115	1820
	-15	1640	47700	57860	1940	1463	41434	49534	1890	1404	39421	46888	1870	1286	35504	41816	1840
	-10	1651	71228	85609	2100	1473	61119	72486	2010	1414	57928	68377	1990	1296	51793	60575	1940
	-6	1662	116172	139018	2420	1484	97079	113957	2270	1425	91275	106695	2220	1307	80392	93190	2140
	-5	1664	145985	222630	2650	1487	112228	136006	2380	1428	105121	124395	2330	1310	91952	106317	2220
10000	-54	1503	24820	29488	2070	1326	21573	25261	2040	1267	20512	23897	2030	1149	18429	21266	2010
	-35	1559	25916	31161	1910	1381	22626	26806	1880	1322	21554	25403	1870	1204	19443	22677	1850
	-30	1572	26784	32287	1880	1395	23402	27779	1850	1336	22300	26333	1840	1218	20131	23541	1820
	-25	1586	28528	34455	1860	1408	24930	29655	1830	1349	23759	28118	1820	1231	21457	25132	1800
	-20	1598	32333	39032	1850	1420	28228	33557	1820	1361	26895	31814	1810	1243	24279	28433	1780
	-15	1609	38966	46927	1870	1432	33931	40277	1830	1373	32304	38143	1810	1254	29121	34059	1790
	-10	1619	54336	65069	1960	1442	46956	55462	1900	1383	44596	52428	1880	1265	40019	46624	1840
	-5	1630	87386	103769	2180	1453	74085	86900	2080	1394	69950	81675	2050	1276	62076	71864	1980
	-3	1636	112881	133458	2370	1458	94191	110006	2220	1399	88505	102973	2180	1281	77842	89807	2090
	0					1467	172873	209942	2810	1408	154324	185241	2670	1290	125987	148607	2440
	1									1409	207772	252058	3070	1291	159129	186914	2690
9500	-54	1476	21598	25376	2040	1299	18762	21737	2010	1240	17835	20561	2000	1122	16007	18283	1980
	-35	1527	22506	26770	1880	1350	19636	23020	1850	1291	18698	21809	1850	1173	16848	19464	1830
	-30	1541	23192	27660	1850	1364	20255	23809	1820	1305	19292	22561	1810	1187	17398	20138	1800
	-25	1554	24567	29349	1820	1377	21461	25272	1800	1318	20447	23956	1790	1199	18450	21396	1770
	-20	1565	27523	32881	1810	1388	24031	28307	1780	1329	22893	26833	1770	1211	20654	23969	1750
	-15	1576	32500	38788	1820	1399	28328	33336	1780	1340	26973	31591	1770	1222	24314	28204	1750
	-10	1586	43225	51447	1870	1409	37482	43992	1820	1350	35632	41637	1810	1232	32021	37066	1780
	-5	1596	63122	74817	1990	1419	54131	63327	1920	1360	51279	59733	1900	1242	45778	52858	1850
	0	1608	105382	123967	2280	1431	88031	102322	2150	1372	82729	95739	2110	1254	72750	83498	2030
	1	1611	119947	141728	2390	1434	99223	115062	2230	1375	92981	107394	2180	1257	81347	93212	2090
	5	1621	274015	334797	3530	1444	190300	220843	2890	1385	172796	198859	2760	1267	144124	163668	2540
9000	-54	1472	18692	21458	2010	1295	16265	18450	1980	1236	15469	17468	1980	1118	13896	15563	1960
	-35	1517	19449	22670	1850	1339	16986	19536	1830	1280	16179	18519	1820	1162	14584	16547	1810
	-30	1523	20054	23501	1820	1346	17518	20250	1800	1286	16687	19210	1790	1168	15046	17152	1780
	-25	1522	21281	25141	1790	1345	18576	21636	1770	1286	17690	20502	1760	1168	15941	18304	1750
	-20	1532	23641	27971	1780	1354	20627	24068	1750	1295	19642	22806	1740	1177	17700	20349	1730
	-15	1542	27470	32496	1770	1365	23941	27925	1750	1306	22791	26456	1740	1188	20527	23617	1720
	-10	1552	35270	41668	1800	1375	30629	35707	1770	1316	29125	33782	1750	1198	26179	30090	1730
	-5	1561	48312	57005	1870	1384	41659	48511	1820	1325	39526	45812	1800	1207	35377	40640	1770
	0	1570	71251	83807	2020	1393	60599	70359	1940	1334	57250	66205	1910	1216	50827	58242	1860
	5	1584	120009	139675	2350	1407	98842	113977	2190	1348	92491	106194	2140	1230	80681	91871	2050
	9	1592	224308	259872	3110	1415	172421	195873	2720	1356	158659	179342	2610	1238	134679	150757	2430
8500	-54	1468	16307	18658	1980	1291	14205	16096	1960	1232	13515	15228	1960	1114	12148	13630	1940
	-35	1512	16893	19428	1830	1335	14772	16828	1810	1276	14075	15946	1810	1158	12696	14324	1790
	-30	1518	17362	19935	1800	1341	15186	17245	1780	1282	14471	16455	1770	1164	13057	14790	1760
	-25	1517	18306	21209	1770	1339	16001	18298	1750	1280	15244	17353	1740	1162	13748	15517	1730
	-20	1503	20364	23890	1750	1326	17756	20544	1730	1266	16901	19474	1720	1148	15213	17358	1710
	-15	1506	23441	27603	1740	1329	20410	23692	1720	1270	19419	22448	1710	1152	17466	19994	1690
	-10	1516	29289	34472	1760	1339	25438	29531	1720	1279	24184	27946	1710	1161	21721	24881	1690
	-5	1525	38353	45160	1790	1348	33152	38513	1750	1289	31472	36401	1740	1171	28188	32296	1710
	0	1534	52419	61655	1870	1357	44944	52166	1810	1298	42558	49174	1790	1180	37935	43453	1760
	5	1544	76361	89467	2020	1367	64511	74621	1930	1308	60808	70038	1900	1190	53738	61353	1850
	9	1554	114835	133210	2280	1377	94551	108732	2130	1318	88447	101304	2080	1200	77072	87573	2000

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Figure 4-33 (Sheet 24)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
12,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1661	67250	84027	2460	1484	57475	70590	2370	1425	54419	66448	2340	1307	48579	58649	2280
	-50	1675	68110	85406	2430	1498	58238	71743	2330	1439	55155	67549	2300	1321	49264	59653	2250
	-45	1692	67971	85521	2370	1514	58224	71997	2280	1455	55177	67829	2250	1337	49352	59947	2200
	-40	1708	69656	87853	2340	1531	59698	73975	2250	1472	56588	69712	2220	1353	50645	61688	2160
	-35	1724	74272	93757	2330	1546	63560	78839	2230	1487	60251	74309	2200	1369	53871	65686	2150
	-30	1739	79627	100536	2330	1562	68006	84434	2220	1503	64405	79491	2190	1385	57560	70225	2130
	-25	1754	98143	123548	2440	1577	82798	102415	2310	1518	78140	96141	2270	1400	69399	84420	2190
	-20					1593	112498	157000	2510	1534	105256	130530	2450	1416	92109	111370	2340
	-19													1419	98674	119411	2380
12200	-54	1652	61624	76778	2410	1475	52866	64753	2320	1416	50109	61044	2300	1298	44818	53972	2250
	-50	1666	62341	77954	2370	1488	53513	65748	2290	1429	50738	61998	2260	1311	45409	54849	2210
	-45	1682	62226	78072	2320	1505	53506	65987	2240	1446	50763	62228	2210	1328	45490	55119	2160
	-40	1698	63649	80069	2280	1521	54768	67697	2200	1462	51974	63894	2170	1344	46611	56642	2130
	-35	1714	67516	84981	2270	1537	58039	71816	2180	1478	55070	67783	2160	1359	49372	60057	2110
	-30	1729	71948	90649	2260	1552	61766	76513	2170	1493	58583	72163	2140	1375	52497	63931	2090
	-25	1743	86873	109139	2340	1566	73910	91308	2230	1507	69918	85893	2200	1389	62359	75771	2130
	-20	1759	115950	148196	2540	1582	96632	118710	2370	1523	90888	111027	2330	1405	80244	96934	2240
	-19					1585	103072	126478	2420	1526	96769	118056	2370	1408	85167	102749	2270
	-18					1588	115970	175597	2520	1529	108467	145199	2450	1411	94849	114028	2340
12000	-54	1642	56152	69770	2360	1464	48333	59051	2280	1405	45857	55717	2260	1287	41084	49336	2210
	-50	1655	56745	70730	2320	1478	48878	59903	2240	1419	46388	56507	2220	1300	41590	50095	2170
	-45	1671	56658	70857	2270	1494	48876	60095	2190	1435	46415	56750	2170	1317	41668	50374	2130
	-40	1687	57841	72547	2230	1510	49946	61560	2160	1451	47445	58154	2130	1333	42626	51664	2090
	-35	1703	61056	76667	2210	1525	52692	65049	2140	1466	50051	61422	2110	1348	44966	54577	2070
	-30	1718	64697	81299	2200	1541	55791	68958	2120	1482	52984	65109	2090	1364	47591	57827	2050
	-25	1732	76619	96065	2250	1555	65641	80935	2160	1496	62219	76303	2130	1378	55692	67552	2070
	-20	1747	98521	122902	2390	1570	83247	102122	2260	1511	78595	95870	2220	1393	69847	84296	2150
	-18	1753	116397	148011	2520	1576	97153	118621	2360	1517	91407	110993	2310	1399	80738	97013	2220
	-16													1405	103185	137485	2390
11800	-54	1631	51470	63784	2310	1454	44418	54138	2240	1395	42175	51115	2220	1276	37834	45336	2180
	-50	1644	51969	64608	2270	1467	44883	54877	2210	1408	42630	51828	2180	1290	38271	46001	2140
	-45	1660	51887	64722	2220	1483	44886	55056	2160	1424	42657	52026	2140	1306	38345	46233	2100
	-40	1676	52899	66187	2180	1499	45799	56324	2120	1440	43543	53247	2100	1322	39175	47360	2060
	-35	1691	55611	69659	2160	1514	48139	59289	2090	1455	45766	56054	2070	1337	41179	49873	2030
	-30	1707	58655	73569	2140	1529	50752	62615	2070	1470	48246	59202	2050	1352	43424	52670	2010
	-25	1721	68409	85622	2180	1544	58919	72538	2100	1484	55914	68490	2080	1366	50180	60769	2030
	-20	1734	85636	106721	2280	1557	73007	89486	2180	1498	69101	84270	2140	1380	61684	74416	2080
	-16					1570	104720	126700	2400	1511	98396	118454	2350	1392	86690	103319	2260
	-15													1396	98261	116554	2340
11600	-54	1620	47412	58562	2270	1443	40999	49824	2210	1384	38950	47065	2190	1265	34975	41803	2150
	-50	1633	47835	59275	2230	1456	41401	50442	2170	1397	39344	47691	2150	1278	35357	42366	2120
	-45	1649	47765	59384	2180	1472	41418	50650	2130	1413	39372	47875	2110	1295	35428	42606	2070
	-40	1665	48634	60626	2140	1488	42198	51748	2090	1429	40142	48945	2070	1310	36151	43572	2030
	-35	1680	50949	63644	2120	1503	44207	54311	2060	1444	42055	51377	2040	1326	37886	45759	2000
	-30	1695	53527	66950	2100	1518	46437	57141	2040	1459	44178	54062	2020	1341	39804	48168	1980
	-25	1709	61654	77016	2120	1532	53289	65478	2050	1473	50640	61897	2030	1355	45537	55041	1990
	-20	1722	75505	93906	2200	1545	64779	79285	2110	1486	61425	74781	2080	1368	55013	66253	2030
	-15	1737	119522	155180	2520	1560	99960	120391	2360	1501	94076	112731	2310	1383	83108	98625	2220
	-14					1563	113790	150947	2460	1504	106768	131525	2400	1386	93807	110795	2300
11400	-54	1609	43855	53996	2240	1432	37983	46005	2180	1373	36100	43475	2160	1254	32440	38639	2130
	-50	1622	44217	54618	2200	1444	38332	46575	2140	1385	36445	44028	2130	1267	32776	39160	2090
	-45	1638	44156	54721	2150	1461	38338	46729	2100	1402	36473	44198	2080	1283	32842	39359	2050
	-40	1653	44908	55809	2110	1476	39030	47707	2060	1417	37145	45141	2040	1299	33478	40236	2010
	-35	1669	46904	58399	2080	1491	40773	49916	2030	1432	38808	47267	2010	1314	34992	42132	1980
	-30	1684	49113	61251	2060	1506	42694	52369	2000	1447	40641	49572	1990	1329	36654	44231	1950
	-25	1697	55983	69734	2080	1520	48526	59464	2010	1461	46153	56253	1990	1343	41564	50114	1950
	-20	1711	67351	83601	2130	1533	58053	70938	2050	1474	55120	66984	2030	1356	49487	59503	1980
	-15	1724	101074	123520	2360	1547	85541	103040	2240	1488	80775	96841	2200	1370	71784	85225	2120
	-14	1727	113767	138279	2460	1550	95622	114633	2310	1491	90113	107520	2270	1373	79784	94308	2180

525AFM-06-00

Figure 4-33 (Sheet 25)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
12,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS 1ST FT	TAILWIND 10 KTS 2ND FT	TAILWIND 10 KTS 3RD FT	TAILWIND 10 KTS TCI FT	ZERO WIND 1ST FT	ZERO WIND 2ND FT	ZERO WIND 3RD FT	ZERO WIND TCI FT	HEADWIND 10 KTS 1ST FT	HEADWIND 10 KTS 2ND FT	HEADWIND 10 KTS 3RD FT	HEADWIND 10 KTS TCI FT	HEADWIND 30 KTS 1ST FT	HEADWIND 30 KTS 2ND FT	HEADWIND 30 KTS 3RD FT	HEADWIND 30 KTS TCI FT
11000	-54	1586	37898	46374	2180	1409	32897	39590	2130	1350	31284	37453	2120	1232	28136	33312	2080
	-50	1599	38173	46835	2140	1422	33167	40042	2090	1363	31553	37871	2080	1245	28402	33731	2050
	-45	1615	38125	46925	2090	1438	33175	40175	2050	1379	31578	38040	2030	1261	28460	33901	2000
	-40	1630	38700	47775	2050	1453	33712	40947	2010	1394	32103	38765	1990	1276	28961	34604	1970
	-35	1643	40218	49742	2020	1466	35050	42661	1980	1407	33384	40423	1960	1289	30134	36085	1930
	-30	1660	41882	51918	2000	1483	36512	44526	1950	1424	34783	42199	1930	1306	31411	37691	1910
	-25	1674	46957	58205	2000	1496	40865	49833	1950	1437	38910	47215	1930	1319	35109	42127	1900
	-20	1687	54992	67975	2030	1509	47692	58048	1970	1450	45365	54928	1950	1332	40856	48948	1910
	-15	1698	76731	93798	2170	1521	65825	79281	2080	1462	62403	74789	2050	1344	55850	66298	1990
	-12	1707	107669	130118	2390	1530	90772	108272	2250	1471	85603	101666	2210	1353	75868	89261	2130
	-10													1359	101644	125196	2320
10500	-54	1558	32039	38825	2120	1380	27851	33229	2080	1321	26493	31445	2070	1203	23833	27992	2040
	-50	1570	32240	39192	2090	1393	28053	33555	2050	1334	26696	31764	2030	1216	24037	28300	2010
	-45	1585	32202	39267	2040	1408	28063	33666	2000	1349	26719	31886	1990	1231	24088	28443	1960
	-40	1601	32627	39886	2000	1423	28464	34257	1960	1364	27115	32462	1950	1246	24469	28985	1920
	-35	1615	33744	41374	1970	1438	29458	35540	1930	1379	28069	33687	1920	1261	25348	30102	1890
	-30	1630	34954	42955	1940	1452	30532	36922	1900	1393	29100	35007	1890	1275	26295	31282	1860
	-25	1643	38593	47446	1930	1466	33679	40762	1890	1407	32092	38620	1870	1289	28990	34529	1850
	-20	1656	44136	54214	1940	1479	38440	46489	1890	1419	36607	44031	1870	1301	33035	39320	1840
	-15	1667	57917	70557	2010	1490	50126	60203	1950	1431	47642	56944	1930	1313	42834	50696	1890
	-10	1679	94510	113720	2270	1502	80163	95205	2150	1443	75720	89519	2120	1325	67287	78838	2050
	-9	1682	108707	130223	2370	1505	91451	108209	2230	1446	86168	101542	2190	1328	76218	89053	2110
10000	-54	1528	27408	32884	2080	1351	23834	28158	2040	1292	22671	26645	2030	1174	20387	23726	2010
	-45	1555	27528	33229	2000	1378	24005	28528	1960	1319	22849	27014	1950	1201	20591	24089	1930
	-40	1570	27850	33707	1960	1393	24308	28964	1920	1334	23155	27446	1910	1216	20888	24498	1890
	-35	1584	28695	34821	1920	1407	25065	29947	1890	1348	23884	28386	1880	1230	21563	25359	1860
	-30	1598	29603	36015	1890	1421	25877	30997	1860	1362	24666	29392	1850	1244	22285	26277	1830
	-25	1613	32311	39345	1870	1436	28234	33860	1840	1376	26910	32106	1830	1258	24313	28709	1810
	-20	1624	36324	44247	1870	1447	31704	38030	1830	1388	30208	36055	1820	1270	27279	32214	1790
	-15	1635	45742	55438	1910	1458	39763	47492	1860	1399	37841	44989	1850	1281	34094	40137	1820
	-10	1645	67369	81057	2050	1468	57901	68714	1970	1409	54904	64874	1950	1291	49132	57508	1900
	-6	1656	106203	126487	2330	1479	89225	104966	2190	1420	84022	98443	2150	1302	74218	86221	2070
	-5	1659	123833	155131	2460	1482	102887	120665	2290	1423	96570	112809	2240	1305	84789	98223	2150
9500	-54	1497	23661	28100	2040	1320	20567	24073	2010	1261	19558	22775	2000	1143	17569	20251	1980
	-35	1552	24660	29601	1890	1375	21536	25472	1860	1316	20516	24140	1850	1198	18507	21550	1830
	-30	1566	25362	30527	1850	1389	22168	26291	1820	1330	21126	24925	1820	1212	19073	22269	1800
	-25	1579	27445	33086	1830	1402	23984	28478	1800	1343	22860	27004	1790	1225	20644	24135	1770
	-20	1591	30469	36766	1820	1414	26615	31621	1790	1355	25361	29981	1780	1237	22900	26798	1760
	-15	1602	37273	44837	1840	1425	32472	38498	1800	1366	30918	36483	1790	1248	27876	32561	1760
	-10	1612	51395	61553	1920	1435	44458	52530	1860	1376	42236	49666	1850	1258	37919	44182	1810
	-5	1623	80770	96044	2120	1446	68717	80660	2020	1387	64946	75904	1990	1268	57738	66881	1930
	-2	1631	116047	137999	2370	1454	96566	112713	2220	1395	90662	105384	2170	1277	79616	91782	2080
	0	1636	182341	226742	2860	1459	135088	162863	2500	1400	123598	147922	2410	1282	104550	122993	2260
	2					1465	246667	307560	3340	1406	205481	246682	3020	1287	160003	186803	2670
9000	-54	1480	20415	23818	2010	1303	17755	20434	1980	1244	16884	19338	1980	1126	15166	17215	1960
	-35	1523	21312	25259	1860	1346	18603	21719	1830	1287	17716	20594	1820	1169	15966	18372	1810
	-30	1532	21920	26086	1820	1355	19142	22452	1800	1296	18234	21277	1790	1178	16441	19003	1780
	-25	1543	23559	28095	1800	1366	20578	24174	1770	1307	19604	22914	1770	1189	17683	20473	1750
	-20	1557	25903	30923	1780	1380	22620	26609	1760	1321	21549	25223	1750	1203	19440	22527	1730
	-15	1567	31002	36934	1790	1390	27025	31744	1760	1331	25731	30081	1750	1213	23192	26853	1730
	-10	1577	40840	48563	1840	1400	35432	41560	1790	1341	33686	39338	1780	1223	30276	35020	1750
	-5	1587	58619	69472	1940	1410	50360	58917	1880	1351	47732	55596	1860	1233	42649	49231	1820
	0	1598	93628	110306	2180	1421	78712	91603	2060	1362	74110	85877	2030	1244	65396	75141	1960
	2	1603	119788	141308	2360	1426	98936	114743	2200	1367	92666	107046	2150	1249	80991	92782	2060
	5	1612	199188	235704	2940	1435	153215	177428	2590	1376	141087	162426	2500	1257	119940	136637	2340
8500	-54	1475	17649	20145	1980	1298	15371	17371	1960	1239	14624	16548	1950	1121	13146	14724	1940
	-35	1518	18331	21234	1830	1341	16024	18321	1810	1282	15268	17389	1800	1164	13771	15538	1790
	-30	1525	18812	21921	1800	1348	16450	18915	1780	1289	15675	17939	1770	1171	14143	16045	1760
	-25	1519	20245	23830	1770	1342	17679	20523	1750	1283	16839	19451	1740	1165	15179	17373	1730
	-20	1520	22207	26292	1750	1343	19372	22613	1730	1284	18445	21424	1720	1166	16615	19119	1710
	-15	1531	26123	30911	1750	1354	22761	26567	1720	1295	21664	25166	1710	1176	19505	22438	1700
	-10	1540	33266	39349	1770	1363	28889	33713	1740	1304	27469	31909	1730	1186	24684	28393	1710
	-5	1550	44963	53132	1830	1373	38804	45238	1780	1314	36825	42748	1770	1195	32968	37924	1740
	0	1559	64356	75866	1950	1382	54902	63872	1880	1323	51914	60141	1850	1205	46161	52993	1810
	5	1571	101601	119000	2200	1394	84629	97928	2070	1335	79446	91523	2030	1217	69695	79622	1950
	6	1573	114488	133784	2290	1396	94524	109191	2140	1337	88504	101783	2090	1219	77276	88155	2010

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Figure 4-33 (Sheet 26)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
13,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1689	87849	111232	2640	1512	73718	91518	2510	1453	69443	85700	2470	1335	61438	74872	2390
	-50	1703	88033	111864	2600	1526	73950	92125	2460	1467	69690	86301	2420	1349	61713	75461	2350
	-45	1720	88258	112635	2540	1543	74236	92914	2410	1484	69994	87038	2370	1365	62051	76182	2300
	-40	1736	92845	118519	2530	1559	77993	97622	2390	1500	73516	91443	2350	1382	65148	80042	2280
	-35	1752	99209	126532	2530	1575	83136	103987	2390	1516	78283	97341	2340	1398	69337	85164	2270
	-30	1769	109898	139973	2570	1592	91492	114309	2410	1533	86040	106858	2360	1414	75958	93222	2280
	-25													1431	100423	130620	2440
12200	-54	1680	78264	98746	2550	1502	66251	82051	2440	1443	62561	77004	2400	1325	55583	67597	2330
	-50	1693	78388	99259	2510	1516	66435	82566	2390	1457	62761	77517	2360	1339	55813	68107	2290
	-45	1710	78554	99900	2450	1533	66662	83197	2340	1474	63007	78146	2310	1356	56095	68731	2240
	-40	1726	82203	104605	2430	1549	69718	87076	2320	1490	65890	81797	2280	1372	58662	71929	2220
	-35	1742	87222	110921	2420	1565	73873	92241	2310	1506	69794	86643	2270	1388	62109	76193	2200
	-30	1758	95515	121355	2450	1581	80555	100518	2320	1522	76020	94297	2280	1404	67519	82778	2200
	-25					1597	104726	130520	2470	1538	98072	121417	2420	1420	85961	105141	2310
	-22													1430	103541	148853	2430
12000	-54	1669	69569	87479	2470	1492	59307	73227	2370	1433	56115	68880	2340	1315	50032	60688	2280
	-50	1682	69661	87909	2420	1505	59453	73664	2330	1446	56277	69318	2300	1328	50224	61128	2240
	-45	1699	69775	88391	2370	1522	59632	74198	2280	1463	56476	69855	2250	1345	50459	61666	2190
	-40	1715	72683	92154	2350	1538	62114	77348	2250	1479	58829	72835	2220	1361	52575	64331	2160
	-35	1731	76641	97163	2330	1554	65452	81511	2230	1495	61983	76762	2200	1377	55388	67782	2140
	-30	1747	83023	105167	2340	1569	70716	88032	2230	1510	66907	82849	2200	1392	59730	73087	2140
	-25	1762	105915	134063	2480	1585	88649	110198	2340	1526	83480	103151	2290	1408	73863	90230	2210
	-21					1598	112097	158929	2500	1539	104743	130645	2430	1421	91460	111467	2320
	-20													1424	100805	132246	2390
11800	-54	1658	62536	78366	2400	1481	53584	65968	2310	1422	50772	62132	2290	1304	45386	54897	2230
	-50	1671	62603	78692	2360	1494	53702	66345	2270	1435	50907	62513	2250	1317	45549	55283	2200
	-45	1688	62687	79138	2310	1511	53848	66771	2220	1452	51072	62978	2200	1334	45750	55723	2150
	-40	1704	65064	82215	2280	1527	55904	69409	2190	1468	53030	65449	2170	1349	47524	57978	2120
	-35	1720	68251	86261	2260	1542	58648	72870	2170	1483	55633	68724	2140	1365	49864	60875	2090
	-30	1735	73351	92685	2250	1558	62904	78159	2160	1499	59644	73696	2140	1381	53422	65262	2080
	-25	1749	90707	114510	2350	1572	76872	95376	2240	1513	72638	89585	2200	1395	64659	78847	2130
	-20	1765	123887	196019	2580	1588	102279	126282	2400	1529	95967	117810	2350	1411	84371	102389	2260
	-19					1591	114076	165877	2490	1532	106679	137616	2430	1414	93262	112760	2320
	-18													1418	104254	147625	2400
11600	-54	1647	56696	70781	2340	1470	48764	59850	2270	1410	46256	56456	2240	1292	41429	49967	2200
	-50	1660	56746	71097	2300	1483	48863	60148	2230	1424	46370	56760	2200	1306	41571	50309	2160
	-45	1676	56808	71482	2250	1499	48985	60551	2180	1440	46510	57168	2160	1322	41745	50697	2110
	-40	1692	58790	74077	2220	1515	50715	62795	2150	1456	48164	59273	2120	1338	43251	52631	2080
	-35	1708	61446	77446	2200	1531	53010	65685	2120	1472	50348	62015	2100	1354	45227	55066	2050
	-30	1723	65584	82678	2190	1546	56522	70055	2110	1487	53669	66135	2080	1369	48195	58725	2040
	-25	1737	79160	99666	2260	1560	67650	83777	2160	1501	64077	78891	2130	1383	57282	69724	2070
	-20	1753	103196	129357	2410	1575	86762	106925	2270	1516	81796	100255	2230	1398	72506	87913	2160
	-18					1582	105236	128620	2410	1523	98772	120119	2360	1404	86863	104494	2260
	-17									1525	110186	151776	2440	1407	96379	115451	2330
11400	-54	1635	51750	64432	2300	1458	44639	54653	2230	1399	42379	51591	2210	1281	38011	45745	2160
	-50	1649	51787	64710	2250	1471	44723	54915	2190	1412	42477	51860	2170	1294	38136	46025	2130
	-45	1665	51835	65013	2200	1488	44826	55273	2140	1429	42598	52224	2120	1311	38288	46397	2080
	-40	1681	53510	67230	2170	1504	46301	57175	2110	1445	44010	54037	2090	1326	39583	48046	2050
	-35	1696	55742	70092	2150	1519	48246	59646	2080	1460	45867	56390	2060	1342	41271	50142	2020
	-30	1711	59180	74443	2130	1534	51192	63342	2060	1475	48660	59851	2040	1357	43781	53260	2000
	-25	1724	70108	88114	2180	1547	60268	74517	2100	1488	57183	70308	2070	1370	51275	62331	2020
	-20	1739	88557	110868	2290	1562	75262	92712	2180	1503	71170	87197	2150	1385	63427	76850	2080
	-17	1749	117033	147829	2500	1572	97817	119038	2340	1513	92050	111440	2290	1395	81312	97470	2200
	-15													1401	103237	136709	2360
11000	-54	1613	43791	54129	2220	1435	37925	46104	2160	1376	36045	43565	2140	1258	32391	38715	2110
	-50	1626	43813	54347	2180	1448	37987	46313	2120	1389	36119	43805	2110	1271	32489	38963	2070
	-45	1642	43841	54582	2130	1465	38064	46598	2080	1405	36211	44070	2060	1287	32610	39242	2030
	-40	1659	45077	56219	2100	1481	39168	48041	2040	1422	37274	45453	2030	1304	33592	40508	1990
	-35	1672	46712	58349	2070	1495	40610	49874	2010	1436	38656	47229	2000	1318	34859	42098	1960
	-30	1687	49184	61493	2040	1510	42758	52575	1990	1451	40703	49767	1970	1333	36713	44405	1940
	-25	1701	56703	70882	2070	1524	49115	60396	2000	1465	46703	57121	1980	1347	42044	50863	1940
	-20	1715	68492	85425	2120	1537	58956	72358	2040	1478	55955	68299	2020	1360	50199	60623	1970
	-15	1728	104093	127405	2370	1551	87918	106100	2240	1492	82968	99674	2200	1374	73645	87648	2120
	-14	1731	120124	155113	2490	1554	100464	120711	2330	1495	94535	113087	2280	1377	83469	98931	2200

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Figure 4-33 (Sheet 27)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
13,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
10500	-54	1583	36308	44463	2150	1406	31532	37992	2100	1347	29990	35944	2090	1229	26979	31973	2060
	-50	1596	36318	44604	2110	1419	31577	38151	2060	1360	30046	36109	2050	1242	27055	32149	2020
	-45	1614	36333	44806	2060	1436	31633	38373	2020	1377	30115	36315	2000	1259	27149	32388	1980
	-40	1627	37217	45998	2030	1450	32432	39410	1980	1391	30888	37334	1970	1273	27871	33307	1940
	-35	1642	38377	47511	1990	1465	33469	40744	1950	1406	31886	38612	1940	1288	28792	34475	1910
	-30	1657	40107	49712	1970	1479	34990	42680	1920	1420	33340	40432	1910	1302	30116	36141	1880
	-25	1670	45182	56057	1970	1493	39349	48039	1920	1434	37462	45480	1900	1316	33811	40606	1870
	-20	1683	52686	65295	1990	1506	45718	55773	1930	1447	43494	52776	1920	1329	39183	47031	1880
	-15	1695	72914	89262	2120	1518	62653	75597	2030	1458	59424	71345	2010	1340	53227	63289	1960
	-11	1706	118471	146309	2450	1529	99261	118024	2300	1470	93427	110618	2250	1352	82499	96853	2160
	-10									1473	108587	134815	2360	1355	95211	111297	2260
10000	-54	1553	30608	37110	2090	1376	26615	31748	2050	1317	25319	30044	2040	1199	22780	26744	2020
	-50	1566	30612	37218	2050	1388	26649	31892	2020	1329	25363	30193	2010	1211	22841	26902	1980
	-45	1581	30618	37352	2010	1404	26690	32048	1970	1345	25416	30355	1960	1227	22916	27076	1940
	-40	1596	31273	38247	1970	1419	27289	32851	1940	1360	25997	31129	1920	1242	23458	27772	1900
	-35	1609	32128	39374	1940	1432	28060	33832	1900	1373	26741	32071	1890	1255	24154	28660	1870
	-30	1625	33390	40993	1910	1448	29179	35248	1870	1389	27814	33423	1860	1271	25139	29890	1840
	-25	1638	37005	45490	1900	1461	32304	39085	1860	1402	30785	37055	1850	1284	27812	33110	1820
	-20	1651	42146	51820	1900	1474	36723	44440	1860	1415	34976	42115	1850	1297	31569	37609	1820
	-15	1662	54975	67054	1970	1485	47626	57249	1910	1426	45279	54158	1890	1308	40731	48229	1860
	-10	1674	88381	106422	2200	1497	75206	89384	2100	1438	71104	84113	2060	1319	63291	74217	2000
	-8	1679	115645	138742	2400	1502	96814	114374	2250	1443	91086	107151	2210	1325	80344	93716	2120
9500	-54	1522	26108	31327	2050	1345	22707	26826	2020	1286	21599	25384	2010	1168	19421	22585	1990
	-50	1534	26109	31410	2010	1357	22733	26925	1980	1298	21631	25486	1970	1180	19472	22699	1950
	-45	1549	26116	31520	1970	1372	22765	27048	1940	1313	21676	25617	1930	1195	19533	22855	1910
	-40	1564	26609	32202	1930	1387	23226	27669	1900	1328	22124	26217	1890	1210	19957	23398	1870
	-35	1578	27257	33044	1890	1401	23815	28422	1860	1342	22694	26959	1850	1224	20490	24083	1830
	-30	1592	28207	34269	1860	1415	24663	29499	1830	1356	23510	27972	1820	1238	21242	25007	1800
	-25	1605	30884	37605	1850	1428	26991	32342	1820	1369	25726	30667	1800	1251	23243	27419	1780
	-20	1618	34588	42140	1840	1440	30196	36218	1810	1381	28773	34337	1790	1263	25985	30694	1770
	-15	1628	43363	52565	1880	1451	37720	45048	1830	1392	35902	42677	1820	1274	32356	38078	1790
	-10	1639	63184	76018	2000	1462	54402	64568	1930	1402	51614	60985	1910	1284	46232	54099	1860
	-5	1651	111136	132143	2340	1474	93009	109253	2200	1415	87483	102318	2150	1297	77102	89442	2070
9000	-54	1489	22478	26676	2010	1312	19531	22828	1990	1253	18576	21600	1980	1135	16683	19212	1960
	-40	1530	22868	27347	1900	1353	19949	23505	1870	1294	18995	22265	1860	1176	17115	19866	1840
	-35	1544	23377	28025	1860	1367	20414	24098	1830	1308	19447	22852	1830	1190	17539	20396	1810
	-30	1558	24117	28980	1830	1381	21078	24941	1800	1322	20086	23644	1790	1203	18131	21135	1780
	-25	1570	26167	31494	1810	1393	22868	27123	1780	1334	21792	25714	1770	1216	19675	22976	1750
	-20	1583	28942	34890	1790	1405	25285	30026	1760	1346	24093	28465	1750	1228	21751	25437	1740
	-15	1593	35301	42419	1810	1416	30762	36424	1780	1357	29290	34517	1760	1239	26408	30822	1740
	-10	1603	48298	57810	1880	1426	41818	49344	1830	1367	39738	46688	1810	1249	35690	41521	1780
	-5	1613	73905	87927	2050	1436	63069	74060	1960	1377	59661	69743	1930	1259	53125	61530	1880
	0	1627	138883	171179	2510	1449	111696	132019	2300	1390	104391	121802	2240	1272	90911	104512	2140
	3					1456	220905	268555	3100	1397	192167	228069	2880	1279	153178	178213	2590
8500	-54	1482	19242	22309	1980	1305	16750	19164	1960	1246	15934	18144	1950	1128	14321	16167	1940
	-40	1517	19586	22925	1870	1340	17103	19746	1840	1281	16289	18729	1840	1163	14682	16717	1820
	-35	1525	20035	23574	1830	1348	17504	20310	1810	1289	16674	19253	1800	1171	15037	17204	1790
	-30	1531	20688	24488	1800	1354	18077	21081	1780	1295	17222	19998	1770	1176	15534	17856	1750
	-25	1534	22393	26669	1780	1357	19552	22951	1750	1297	18622	21749	1740	1179	16790	19409	1730
	-20	1546	24535	29269	1760	1368	21419	25172	1730	1309	20401	23855	1720	1191	18400	21312	1710
	-15	1556	29298	34891	1760	1379	25536	29982	1730	1320	24312	28407	1720	1202	21905	25348	1700
	-10	1566	38356	45580	1800	1388	33288	39015	1760	1329	31649	36928	1750	1211	28445	32870	1720
	-5	1575	53954	63938	1890	1398	46426	54288	1830	1339	44022	51244	1810	1221	39363	45422	1780
	0	1586	82912	97799	2080	1408	70093	81621	1980	1349	66102	76654	1950	1231	58500	67260	1890
	3	1593	113956	133984	2290	1416	94397	109481	2140	1357	88486	102161	2100	1239	77442	88680	2010

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Figure 4-33 (Sheet 28)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
14,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
12375	-54	1719	136779	191676	3090	1541	106790	136009	2800	1482	98967	124097	2730	1364	85293	105266	2600
	-50	1732	138388	223075	3050	1555	108150	139148	2770	1496	100253	126061	2690	1378	86447	106968	2560
	-45					1572	110791	145680	2730	1513	102696	130423	2650	1395	88565	109865	2520
	-40									1531	108276	143829	2650	1413	93248	115621	2510
	-35													1429	98615	124622	2510
12200	-54	1708	111406	143754	2850	1531	90715	113964	2650	1472	84820	105774	2590	1354	74113	91120	2490
	-50	1722	112475	145930	2810	1545	91713	115527	2610	1486	85780	107268	2560	1368	75003	92485	2450
	-45	1739	114783	150925	2760	1562	93631	118197	2570	1503	87590	109786	2520	1385	76625	94729	2420
	-40	1756	120403	165913	2750	1579	98056	123740	2550	1520	91704	114881	2500	1402	80204	99101	2390
	-35					1596	103099	129986	2540	1537	96377	120660	2490	1419	84243	104035	2380
	-30													1435	100589	131864	2470
12000	-54	1697	93263	119043	2670	1520	77707	97119	2530	1461	73067	90692	2480	1343	64445	78951	2400
	-50	1711	94060	120340	2630	1533	78447	98294	2490	1474	73788	91826	2440	1356	65129	80006	2360
	-45	1727	95714	122799	2590	1550	79886	100370	2440	1491	75164	93803	2400	1373	66389	81800	2320
	-40	1744	99833	127960	2570	1567	83290	104614	2420	1508	78365	97788	2380	1390	69237	85330	2300
	-35	1761	104434	133777	2560	1584	87070	109275	2400	1525	81915	102158	2360	1406	72366	89127	2280
	-30					1600	102240	128314	2480	1541	95739	119325	2430	1423	83920	103286	2330
11800	-54	1686	80628	102348	2550	1508	68044	84690	2430	1449	64201	79413	2400	1331	56963	69576	2330
	-50	1699	81227	103382	2510	1522	68617	85643	2390	1463	64766	80339	2360	1345	57509	70448	2290
	-45	1716	82473	105268	2470	1539	69736	87311	2350	1480	65844	81897	2320	1362	58516	71882	2250
	-40	1732	85605	109201	2440	1555	72399	90637	2320	1496	68370	85043	2290	1378	60787	74698	2220
	-35	1749	89115	113616	2420	1571	75368	94307	2300	1512	71179	88552	2260	1394	63306	77791	2200
	-30	1764	103311	131716	2490	1587	86483	108159	2350	1528	81449	101231	2310	1410	72088	88541	2230
	-25					1603	113238	164096	2530	1544	105670	136172	2460	1426	92082	112902	2350
	-23													1433	104033	152168	2430
11600	-54	1674	71057	89775	2460	1497	60445	74978	2360	1438	57186	70477	2330	1320	50947	62040	2270
	-50	1688	71523	90624	2420	1511	60926	75796	2320	1452	57640	71251	2290	1334	51394	62775	2230
	-45	1705	72501	92160	2380	1527	61822	77135	2280	1468	58512	72542	2250	1350	52218	63975	2190
	-40	1721	74986	95322	2350	1544	63975	79856	2250	1484	60564	75128	2220	1366	54082	66278	2160
	-35	1737	77746	98799	2320	1560	66355	82835	2220	1501	62829	77958	2190	1382	56133	68825	2130
	-30	1752	88332	112211	2360	1575	74904	93458	2250	1516	70794	87828	2210	1398	63048	77273	2150
	-25	1768	112909	143360	2520	1590	93874	117001	2360	1531	88243	109300	2320	1413	77837	95265	2230
	-21													1426	100657	131343	2380
11400	-54	1663	63457	79862	2390	1486	54317	67145	2300	1427	51454	63222	2280	1309	45976	55800	2220
	-50	1676	63831	80576	2350	1499	54682	67772	2260	1440	51828	63845	2240	1322	46348	56429	2190
	-45	1693	64620	81815	2310	1516	55428	68909	2220	1457	52548	64971	2190	1339	47036	57450	2140
	-40	1709	66645	84426	2270	1532	57206	71183	2190	1473	54251	67107	2160	1355	48595	59393	2110
	-35	1725	68882	87236	2240	1548	59161	73659	2160	1489	56118	69430	2130	1370	50300	61533	2080
	-30	1740	77090	97624	2270	1563	65924	82072	2170	1504	62458	77290	2140	1386	55861	68320	2090
	-25	1755	95103	120334	2370	1578	80304	99864	2250	1519	75803	93719	2210	1400	67354	82319	2140
	-20					1594	110367	146239	2450	1535	103330	126686	2390	1417	90517	109666	2290
11000	-54	1640	52012	64998	2280	1463	44853	55075	2210	1403	42579	51984	2190	1285	38189	46086	2150
	-50	1653	52263	65524	2240	1476	45116	55580	2170	1417	42846	52481	2150	1299	38461	46566	2110
	-45	1669	52806	66425	2200	1492	45637	56413	2130	1433	43360	53292	2110	1315	38962	47308	2070
	-40	1685	54228	68268	2160	1508	46908	58044	2100	1449	44585	54857	2080	1331	40096	48744	2040
	-35	1701	55783	70263	2130	1523	48299	59811	2060	1464	45916	56544	2040	1346	41326	50290	2000
	-30	1716	61162	77095	2130	1538	52840	65454	2060	1479	50208	61860	2040	1361	45144	54986	1990
	-25	1730	72052	90766	2180	1553	61856	76635	2090	1494	58667	72282	2070	1375	52570	64045	2020
	-20	1744	92985	116235	2310	1566	78863	96993	2190	1507	74531	91138	2160	1389	66360	80267	2090
	-17	1753	121249	168533	2510	1576	100995	123036	2350	1517	94966	115080	2300	1399	83793	100430	2210
10500	-54	1610	41966	51958	2180	1433	36374	44281	2130	1374	34579	41848	2110	1256	31088	37201	2080
	-50	1623	42130	52307	2150	1446	36554	44623	2090	1387	34765	42189	2080	1269	31282	37535	2050
	-45	1639	42494	52948	2100	1462	36914	45225	2050	1403	35124	42778	2040	1284	31638	38099	2000
	-40	1654	43470	54242	2070	1477	37801	46359	2020	1418	35982	43895	2000	1300	32442	39134	1970
	-35	1669	44529	55632	2030	1492	38760	47602	1980	1433	36909	45092	1960	1315	33306	40217	1930
	-30	1684	48039	60070	2020	1507	41769	51365	1970	1448	39765	48624	1950	1330	35875	43393	1910
	-25	1698	54703	68465	2030	1521	47427	58383	1970	1462	45111	55230	1950	1344	40631	49198	1920
	-20	1711	66540	82794	2090	1534	57372	70238	2020	1475	54480	66366	1990	1357	48921	58967	1950
	-15	1724	99981	122559	2320	1547	84644	102254	2200	1488	79938	96065	2160	1370	71057	84553	2090
	-14	1728	113663	138677	2420	1551	95455	114813	2270	1491	89938	107666	2230	1373	79596	94351	2150

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Figure 4-33 (Sheet 29)

SINGLE-ENGINE TAKEOFF FLIGHT PATH DISTANCES AND TAKEOFF CLIMB INCREMENT (TCI) ANTI-ICE SYSTEMS ON

FLAPS - 15°
14,000 FEET

CONDITIONS: REFER TO PAGE PRECEDING THIS TABLE

WT LBS	TEMP DEG C	TAILWIND 10 KTS				ZERO WIND				HEADWIND 10 KTS				HEADWIND 30 KTS			
		1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT	1ST FT	2ND FT	3RD FT	TCI FT
10000	-54	1579	34700	42529	2120	1402	30152	36331	2070	1343	28683	34376	2060	1225	25810	30602	2030
	-50	1592	34813	42787	2080	1415	30283	36610	2040	1356	28818	34654	2020	1238	25956	30857	2000
	-45	1607	35069	43235	2030	1430	30544	37038	1990	1371	29081	35074	1980	1253	26220	31284	1950
	-40	1623	35773	44185	2000	1445	31191	37897	1960	1386	29710	35905	1940	1268	26814	32038	1920
	-35	1638	36530	45199	1960	1460	31885	38813	1920	1401	30383	36768	1910	1283	27448	32862	1880
	-30	1652	38960	48276	1940	1475	33998	41457	1900	1416	32398	39276	1890	1298	29271	35091	1860
	-25	1666	43428	53881	1940	1488	37836	46187	1890	1429	36039	43769	1880	1311	32536	39086	1850
	-20	1678	50985	63047	1960	1501	44290	53916	1910	1442	42147	51036	1890	1324	37990	45508	1860
	-15	1690	69799	85417	2080	1513	60084	72467	2000	1453	57019	68427	1970	1335	51124	60757	1930
	-11	1701	108776	131367	2350	1524	91595	109171	2220	1465	86343	102435	2180	1346	76458	89914	2100
	-10					1527	106004	125879	2320	1468	99586	117732	2270	1350	87637	102724	2180
95000	-54	1547	29160	35322	2060	1370	25372	30251	2030	1311	24140	28629	2010	1193	21720	25486	1990
	-50	1560	29249	35547	2030	1383	25469	30448	1990	1324	24242	28826	1980	1206	21833	25684	1960
	-45	1575	29436	35884	1980	1398	25665	30792	1950	1339	24440	29166	1940	1221	22036	25997	1920
	-40	1590	29960	36578	1940	1413	26152	31427	1910	1354	24915	29781	1900	1236	22487	26591	1880
	-35	1605	30521	37342	1910	1427	26671	32121	1870	1368	25420	30453	1860	1250	22966	27202	1840
	-30	1618	32284	39586	1880	1441	28217	34042	1850	1382	26897	32280	1840	1264	24309	28866	1820
	-25	1632	35443	43545	1870	1455	30957	37431	1830	1396	29500	35485	1820	1278	26655	31710	1800
	-20	1644	40623	49803	1880	1467	35418	42767	1830	1408	33739	40515	1820	1290	30460	36192	1790
	-15	1655	52491	63944	1940	1478	45525	54653	1880	1419	43296	51718	1860	1301	38968	46079	1830
	-10	1667	81527	98280	2130	1489	69602	82785	2040	1430	65871	77996	2010	1312	58741	68920	1950
	-7	1676	122010	152342	2420	1498	101651	119893	2260	1439	95499	112183	2210	1321	84008	97848	2120
90000	-54	1514	24816	29722	2020	1337	21584	25451	1990	1278	20531	24098	1980	1160	18457	21438	1960
	-45	1541	25015	30147	1940	1364	21809	25873	1910	1305	20764	24502	1900	1187	18707	21841	1880
	-40	1556	25417	30684	1900	1378	22186	26366	1880	1319	21132	24981	1870	1201	19059	22307	1850
	-35	1570	25846	31275	1870	1393	22586	26905	1840	1334	21523	25504	1830	1216	19431	22782	1810
	-30	1583	27170	32944	1840	1406	23753	28357	1810	1347	22640	26886	1800	1229	20451	24031	1780
	-25	1597	29497	35843	1820	1419	25781	30848	1790	1360	24572	29249	1780	1242	22198	26148	1760
	-20	1609	33236	40353	1820	1432	29023	34717	1780	1372	27656	32895	1770	1254	24975	29407	1750
	-15	1620	41334	49999	1850	1442	35975	42873	1800	1383	34246	40622	1790	1265	30869	36251	1760
	-10	1630	58668	70545	1950	1453	50607	60039	1880	1394	48039	56731	1860	1275	43071	50362	1830
	-5	1642	98269	117122	2220	1465	82804	97460	2100	1406	78039	91461	2060	1288	69026	80183	1990
	-4	1644	112945	134288	2320	1467	94278	110684	2180	1408	88604	103581	2140	1290	77964	90375	2050
85000	-54	1489	21183	24957	1990	1312	18428	21405	1960	1253	17527	20257	1950	1135	15750	18021	1930
	-45	1515	21355	25313	1910	1338	18619	21752	1880	1279	17724	20601	1880	1160	15959	18374	1860
	-40	1524	21729	25881	1870	1346	18958	22237	1850	1287	18051	21079	1840	1169	16264	18796	1820
	-35	1533	22119	26441	1830	1356	19312	22747	1810	1297	18394	21553	1800	1179	16584	19230	1790
	-30	1546	23144	27730	1810	1369	20220	23872	1780	1310	19264	22627	1770	1192	17380	20202	1760
	-25	1559	24919	29935	1780	1382	21772	25757	1760	1323	20744	24416	1750	1205	18721	21822	1730
	-20	1571	27731	33305	1770	1394	24219	28657	1740	1335	23074	27165	1730	1217	20823	24268	1710
	-15	1582	33573	40237	1780	1404	29258	34554	1750	1345	27857	32744	1740	1227	25111	29233	1720
	-10	1591	44982	53742	1840	1414	38980	45950	1790	1355	37048	43459	1780	1237	33284	38677	1750
	-5	1601	66666	79353	1970	1424	57062	67024	1900	1365	54025	63158	1880	1247	48181	55812	1830
	0	1614	112725	133182	2290	1437	93736	109286	2140	1378	87975	102142	2100	1260	77189	88877	2020

525AFM-08-00

Figure 4-33 (Sheet 30)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		12375					12200					12000					11800					11600				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
0	-25	4.1	4.8	5.0	5.3	5.6	4.3	5.0	5.3	5.5	5.9	4.6	5.3	5.6	5.9	6.2	4.8	5.6	5.9	6.2	6.6	5.1	5.9	6.2	6.5	6.9
	-20	4.1	4.8	5.0	5.3	5.6	4.3	5.0	5.3	5.6	5.9	4.6	5.3	5.6	5.9	6.2	4.9	5.6	5.9	6.2	6.6	5.1	5.9	6.2	6.6	6.9
	-15	4.1	4.8	5.0	5.3	5.6	4.4	5.0	5.3	5.6	5.9	4.6	5.3	5.6	5.9	6.2	4.9	5.6	5.9	6.2	6.6	5.1	5.9	6.2	6.6	6.9
	-10	4.2	4.8	5.0	5.3	5.6	4.4	5.0	5.3	5.6	5.9	4.6	5.3	5.6	5.9	6.2	4.9	5.6	5.9	6.2	6.6	5.2	5.9	6.2	6.6	6.9
	-5	4.2	4.8	5.1	5.3	5.6	4.4	5.1	5.3	5.6	5.9	4.7	5.3	5.6	5.9	6.2	4.9	5.6	5.9	6.2	6.6	5.2	6.0	6.3	6.6	7.0
	0	4.2	4.8	5.1	5.3	5.6	4.4	5.1	5.3	5.6	5.9	4.7	5.4	5.6	5.9	6.3	4.9	5.7	6.0	6.3	6.6	5.2	6.0	6.3	6.6	7.0
	5	4.2	4.9	5.1	5.4	5.6	4.5	5.1	5.4	5.6	5.9	4.7	5.4	5.7	5.9	6.3	5.0	5.7	6.0	6.3	6.6	5.2	6.0	6.3	6.6	7.0
	10	4.3	4.9	5.1	5.4	5.7	4.5	5.1	5.4	5.6	5.9	4.7	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.6	5.3	6.0	6.3	6.6	7.0
	15	4.3	4.9	5.1	5.4	5.7	4.5	5.1	5.4	5.7	6.0	4.8	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.6	5.3	6.0	6.3	6.7	7.0
	20	4.3	4.9	5.2	5.4	5.7	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.0	5.8	6.0	6.3	6.7	5.3	6.1	6.4	6.7	7.0
	25	4.0	4.6	4.8	5.1	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.6	5.9	4.7	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.6
	30	3.3	3.7	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.6	3.7	4.2	4.4	4.7	4.9	3.9	4.5	4.7	5.0	5.2	4.2	4.8	5.0	5.3	5.6
	35	2.5	2.9	3.0	3.2	3.3	2.7	3.1	3.2	3.4	3.6	2.9	3.3	3.5	3.7	3.9	3.1	3.6	3.8	4.0	4.2	3.4	3.9	4.1	4.3	4.5
	40	1.7	2.0	2.1	2.2	2.3	1.9	2.2	2.3	2.4	2.6	2.1	2.4	2.6	2.7	2.9	2.3	2.7	2.8	3.0	3.1	2.5	2.9	3.1	3.3	3.4
	45	.9	1.1	1.2	1.3	1.4	1.1	1.3	1.4	1.5	1.6	1.3	1.5	1.6	1.7	1.8	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.1	2.2	2.4
	50	.1	.3	.3	.3	.4	.3	.4	.5	.5	.6	.5	.6	.7	.8	.8	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.3	1.3
	55	-.5	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.3	-.2	-.1	-.1	-.1	-.1	.0	.1	.1	.1	.2	.2	.3	.3	.4	.4
1	-25	4.0	4.6	4.9	5.1	5.4	4.2	4.9	5.1	5.4	5.7	4.5	5.1	5.4	5.7	6.0	4.7	5.4	5.7	6.0	6.4	5.0	5.8	6.1	6.4	6.7
0	-20	4.0	4.6	4.9	5.1	5.4	4.2	4.9	5.1	5.4	5.7	4.5	5.2	5.4	5.7	6.0	4.7	5.5	5.7	6.0	6.4	5.0	5.8	6.1	6.4	6.7
0	-15	4.0	4.6	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.7	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.1	6.4	5.0	5.8	6.1	6.4	6.7
0	-10	4.1	4.7	4.9	5.2	5.4	4.3	4.9	5.2	5.4	5.7	4.5	5.2	5.5	5.7	6.1	4.8	5.5	5.8	6.1	6.4	5.1	5.8	6.1	6.4	6.8
	-5	4.1	4.7	4.9	5.2	5.4	4.3	4.9	5.2	5.4	5.7	4.6	5.2	5.5	5.8	6.1	4.8	5.5	5.8	6.1	6.4	5.1	5.8	6.1	6.4	6.8
	0	4.1	4.7	4.9	5.2	5.5	4.3	4.9	5.2	5.5	5.7	4.6	5.2	5.5	5.8	6.1	4.8	5.5	5.8	6.1	6.4	5.1	5.8	6.1	6.4	6.8
	5	4.1	4.7	5.0	5.2	5.5	4.4	5.0	5.2	5.5	5.8	4.6	5.3	5.5	5.8	6.1	4.9	5.6	5.8	6.1	6.4	5.1	5.9	6.2	6.5	6.8
	10	4.1	4.7	5.0	5.2	5.5	4.4	5.0	5.2	5.5	5.8	4.6	5.3	5.5	5.8	6.1	4.9	5.6	5.8	6.1	6.4	5.1	5.9	6.2	6.5	6.8
	15	4.0	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.3	5.6	4.5	5.1	5.4	5.7	5.9	4.8	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.6
	20	3.8	4.4	4.6	4.8	5.0	4.0	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3
	25	3.4	3.9	4.1	4.3	4.5	3.6	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.1	5.4	4.3	5.0	5.2	5.5	5.7
	30	2.7	3.1	3.3	3.4	3.6	2.9	3.3	3.5	3.7	3.9	3.1	3.6	3.8	4.0	4.2	3.4	3.9	4.1	4.3	4.5	3.6	4.1	4.3	4.6	4.8
	35	2.0	2.3	2.4	2.6	2.7	2.2	2.5	2.7	2.8	3.0	2.4	2.8	2.9	3.1	3.2	2.6	3.0	3.2	3.3	3.5	2.9	3.3	3.5	3.6	3.8
	40	1.2	1.4	1.5	1.6	1.7	1.4	1.6	1.7	1.8	2.0	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.4	2.5	2.0	2.4	2.5	2.6	2.8
	45	.4	.6	.6	.7	.7	.6	.8	.8	.9	1.0	.8	1.0	1.0	1.1	1.2	1.0	1.2	1.3	1.4	1.5	1.2	1.4	1.5	1.6	1.7
	50	-.3	-.2	-.2	-.2	-.2	-.1	-.1	.0	.0	.0	.0	.1	.2	.2	.3	.2	.3	.4	.4	.5	.4	.6	.6	.7	.7
	52	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.2	-.2	-.1	-.1	.0	.0	.0	.1	.1	.2	.2
2	-25	3.9	4.5	4.8	5.0	5.3	4.2	4.8	5.0	5.3	5.6	4.4	5.1	5.3	5.6	5.9	4.7	5.4	5.6	5.9	6.3	4.9	5.7	6.0	6.3	6.6
0	-20	4.0	4.6	4.8	5.0	5.3	4.2	4.8	5.0	5.3	5.6	4.4	5.1	5.3	5.6	5.9	4.7	5.4	5.6	5.9	6.3	4.9	5.7	6.0	6.3	6.6
0	-15	4.0	4.6	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.4	5.1	5.4	5.6	5.9	4.7	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.6
0	-10	4.0	4.6	4.8	5.1	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.6	5.9	4.7	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.6
	-5	4.0	4.6	4.8	5.1	5.3	4.2	4.9	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0	4.8	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.7
	0	4.1	4.6	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.0	6.3	6.7
	5	4.1	4.7	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.7	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.1	6.4	6.7
	10	4.1	4.7	4.9	5.1	5.4	4.3	4.9	5.2	5.4	5.7	4.6	5.2	5.5	5.7	6.0	4.8	5.5	5.8	6.0	6.4	5.1	5.8	6.1	6.4	6.7
	15	3.8	4.3	4.5	4.8	5.0	4.0	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.3	5.6	4.5	5.1	5.4	5.7	5.9	4.8	5.4	5.7	6.0	6.3
	20	3.4	3.9	4.1	4.3	4.5	3.6	4.1	4.3	4.5	4.7	3.8	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.1	5.4	4.3	4.9	5.2	5.4	5.7
	25	2.8	3.2	3.4	3.6	3.8	3.0	3.5	3.6	3.8	4.0	3.3	3.7	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.6	3.7	4.3	4.5	4.7	5.0
	30	2.2	2.6	2.7	2.9	3.0	2.4	2.8	2.9	3.1	3.3	2.7	3.0	3.2	3.4	3.5	2.9	3.3	3.5	3.6	3.8	3.1	3.6	3.7	3.9	4.1
	35	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.1	2.2	2.3	1.9	2.2	2.3	2.4	2.6	2.1	2.4	2.6	2.7	2.9	2.3	2.7	2.8	3.0	3.2
	40	.7	.9	1.0	1.0	1.1	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.6	1.3	1.5	1.6	1.7	1.8	1.5	1.8	1.9	2.0	2.1
	45	.0	.1	.1	.1	.2	.1	.2	.3	.3	.4	.3	.4	.5	.5	.6	.5	.7	.7	.8	.8	.7	.9	.9	1.0	1.1
	50	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.5	-.5	-.5	-.4	-.4	-.3	-.3	-.3	-.2	-.2	-.1	-.1	-.1	.0	.1	.1	.1	.2
3	-30	4.0	4.6	4.8	5.1	5.3	4.2	4.8	5.1	5.3	5.6	4.4	5.1	5.4	5.6	6.0	4.7	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.7
0	-25	4.0	4.6	4.8	5.1	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.6	5.9	4.7	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.6
0	-20	4.0	4.6	4.8	5.1	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.6	5.9	4.7	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.7
0	-15	4.0	4.6	4.8	5.1	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0	4.7	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.7
	-10	4.0	4.6	4.8	5.1	5.4	4.3	4.9	5.1	5.4	5.6	4.5	5.1	5.4	5.7	6.0	4.8	5.4	5.7	6.0	6.3	5.0	5.8	6.0	6.3	6.7
	-5	4.1	4.6	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.7	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.1	6.4	6.7
	0	4.1	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.0	6.3	6.7
	5	3.9	4.4	4.7	4.9	5.1	4.1	4.7	4.9	5.2	5.4	4.4	5.0	5.2	5.5	5.7	4.6	5.3	5.5	5.8	6.1	4.9	5.6	5.8	6.1	6.4
	10	3.6	4.2	4.4	4.6	4.8	3.9	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.1	5.4	4.4	5.0	5.2	5.4	5.7	4.6	5.3	5.5	5.8	6.1
	15	3.3	3.8	4.0	4.1	4.4	3.5	4.0	4.2	4.4	4.6	3.7	4.3	4.5	4.7	4.9	4.0	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6
	20	2.9	3.3	3.4	3.6	3.8	3.0	3.5	3.7	3.8	4.0	3.3	3.7	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.6	3.8	4.3	4.5	4.7	5.0
	25	2.4	2.7	2.8	3.0	3.1	2.5	2.9	3.1	3.2	3.4	2.8	3.2	3.3	3.5	3.7	3.0	3.4	3.6	3.8	4.0	3.2	3.7	3.9	4.1	4.3
	30	1.8	2.1	2.2	2.3	2.4	2.0	2.3	2.4	2.5	2.7	2.2	2.5	2.7	2.8	3.0	2.4	2.8	2.9	3.1	3.2	2.6	3.0	3.2	3.4	3.5
	35	1.0	1.2	1.3	1.4	1.5	1.2	1.4	1.5	1.6	1.7	1.4	1.7	1.7	1.8	2.0	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.4	2.5
	40	.3	.4	.4	.5	.5	.4	.6	.6	.7	.7	.6	.8	.8	.9	1.0	.8	1.0	1.1	1.1	1.2	1.0	1.2	1.3	1.4	1.5
	45	-.5	-.4	-.4	-.4	-.4	-.3	-.3	-.2	-.2	-.2	-.1	-.1	.0	.0	.0	.1	.2	.2	.2	.3	.2	.4	.4	.5	.5
	48	-.9	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.6	-.6	-.6	-.5	-.4	-.4	-.4	-.4	-.3	-.2	-.2	-.2	-.1

Figure 4-34 (Sheet 1 of 8)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		11400					11000					10500					9500					8500				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
0	-25	5.4	6.2	6.5	6.9	7.3	6.0	6.9	7.3	7.7	8.1	6.8	7.8	8.2	8.7	9.2	8.6	9.9	10.4	11.0	11.6	10.8	12.4	13.1	13.8	14.6
	-20	5.4	6.2	6.6	6.9	7.3	6.0	6.9	7.3	7.7	8.1	6.8	7.8	8.2	8.7	9.2	8.6	9.9	10.4	11.0	11.6	10.8	12.5	13.1	13.8	14.6
	-15	5.4	6.2	6.6	6.9	7.3	6.0	6.9	7.3	7.7	8.1	6.8	7.8	8.2	8.7	9.2	8.7	9.9	10.4	11.0	11.6	10.9	12.5	13.1	13.8	14.6
	-10	5.5	6.3	6.6	6.9	7.3	6.0	6.9	7.3	7.7	8.1	6.9	7.9	8.3	8.7	9.2	8.7	10.0	10.5	11.0	11.6	10.9	12.5	13.1	13.8	14.6
	-5	5.5	6.3	6.6	6.9	7.3	6.1	7.0	7.3	7.7	8.1	6.9	7.9	8.3	8.7	9.2	8.7	10.0	10.5	11.0	11.6	10.9	12.5	13.2	13.9	14.6
	0	5.5	6.3	6.6	7.0	7.3	6.1	7.0	7.3	7.7	8.1	6.9	7.9	8.3	8.7	9.2	8.7	10.0	10.5	11.0	11.6	11.0	12.6	13.2	13.9	14.6
	5	5.5	6.3	6.6	7.0	7.4	6.1	7.0	7.4	7.7	8.1	6.9	7.9	8.3	8.7	9.2	8.8	10.0	10.5	11.1	11.7	11.0	12.6	13.2	13.9	14.6
	10	5.6	6.4	6.7	7.0	7.4	6.2	7.0	7.4	7.7	8.2	7.0	8.0	8.3	8.8	9.2	8.8	10.1	10.5	11.1	11.7	11.0	12.6	13.2	13.9	14.7
	15	5.6	6.4	6.7	7.0	7.4	6.2	7.1	7.4	7.8	8.2	7.0	8.0	8.4	8.8	9.2	8.8	10.1	10.6	11.1	11.7	11.1	12.6	13.2	13.9	14.7
	20	5.6	6.4	6.7	7.0	7.4	6.2	7.1	7.4	7.8	8.2	7.0	8.0	8.4	8.8	9.3	8.9	10.1	10.6	11.1	11.7	11.1	12.7	13.3	13.9	14.7
	25	5.3	6.0	6.3	6.6	7.0	5.9	6.7	7.0	7.4	7.8	6.7	7.6	8.0	8.4	8.8	8.5	9.7	10.2	10.7	11.2	10.7	12.2	12.8	13.4	14.2
	30	4.5	5.1	5.3	5.6	5.9	5.0	5.7	6.0	6.3	6.7	5.8	6.6	6.9	7.3	7.7	7.5	8.6	9.0	9.5	10.0	9.6	11.0	11.5	12.1	12.8
	35	3.6	4.2	4.4	4.6	4.8	4.2	4.8	5.0	5.3	5.5	4.9	5.6	5.9	6.2	6.5	6.5	7.5	7.8	8.3	8.7	8.6	9.8	10.3	10.8	11.4
	40	2.8	3.2	3.4	3.6	3.7	3.3	3.8	4.0	4.2	4.4	3.9	4.5	4.8	5.0	5.3	5.5	6.3	6.6	7.0	7.4	7.4	8.5	9.0	9.4	10.0
	45	1.9	2.2	2.4	2.5	2.7	2.4	2.8	2.9	3.1	3.3	3.0	3.5	3.7	3.9	4.1	4.5	5.2	5.4	5.7	6.1	6.3	7.3	7.6	8.0	8.5
	50	1.1	1.3	1.4	1.5	1.6	1.5	1.8	1.9	2.1	2.2	2.1	2.5	2.6	2.8	3.0	3.5	4.1	4.3	4.5	4.8	5.2	6.0	6.3	6.7	7.1
	55	.4	.5	.5	.6	.7	.8	1.0	1.0	1.1	1.2	1.3	1.6	1.7	1.8	1.9	2.6	3.1	3.2	3.4	3.6	4.2	4.9	5.2	5.5	5.8
1	-25	5.3	6.1	6.4	6.7	7.1	5.9	6.7	7.1	7.5	7.9	6.7	7.7	8.0	8.5	9.0	8.5	9.7	10.2	10.8	11.4	10.7	12.3	12.9	13.6	14.4
0	-20	5.3	6.1	6.4	6.7	7.1	5.9	6.8	7.1	7.5	7.9	6.7	7.7	8.1	8.5	9.0	8.5	9.7	10.2	10.8	11.4	10.7	12.3	12.9	13.6	14.4
0	-15	5.3	6.1	6.4	6.7	7.1	5.9	6.8	7.1	7.5	7.9	6.7	7.7	8.1	8.5	9.0	8.5	9.8	10.3	10.8	11.4	10.7	12.3	12.9	13.6	14.4
0	-10	5.3	6.1	6.4	6.8	7.1	5.9	6.8	7.1	7.5	7.9	6.7	7.7	8.1	8.5	9.0	8.5	9.8	10.3	10.8	11.4	10.8	12.3	12.9	13.6	14.4
	-5	5.4	6.1	6.4	6.8	7.1	6.0	6.8	7.2	7.5	7.9	6.8	7.7	8.1	8.5	9.0	8.6	9.8	10.3	10.8	11.4	10.8	12.3	13.0	13.6	14.4
	0	5.4	6.2	6.5	6.8	7.2	6.0	6.8	7.2	7.5	7.9	6.8	7.8	8.1	8.5	9.0	8.6	9.8	10.3	10.8	11.4	10.8	12.4	13.0	13.6	14.4
	5	5.4	6.2	6.5	6.8	7.2	6.0	6.9	7.2	7.6	8.0	6.8	7.8	8.2	8.6	9.0	8.7	9.9	10.3	10.9	11.4	10.9	12.4	13.0	13.7	14.4
	10	5.4	6.2	6.5	6.8	7.2	6.0	6.9	7.2	7.6	8.0	6.8	7.8	8.2	8.6	9.0	8.7	9.9	10.3	10.9	11.4	10.9	12.4	13.0	13.7	14.4
	15	5.3	6.1	6.4	6.7	7.0	5.9	6.7	7.1	7.4	7.8	6.7	7.6	8.0	8.4	8.8	8.5	9.7	10.2	10.7	11.2	10.7	12.2	12.8	13.5	14.2
	20	5.1	5.8	6.1	6.4	6.7	5.7	6.4	6.7	7.1	7.4	6.4	7.3	7.7	8.1	8.5	8.2	9.4	9.8	10.3	10.8	10.4	11.9	12.4	13.1	13.7
	25	4.6	5.3	5.5	5.8	6.1	5.2	5.9	6.2	6.5	6.8	5.9	6.8	7.1	7.4	7.8	7.7	8.8	9.2	9.6	10.1	9.8	11.2	11.7	12.3	13.0
	30	3.9	4.4	4.6	4.9	5.1	4.4	5.0	5.3	5.6	5.8	5.1	5.9	6.2	6.5	6.8	6.8	7.8	8.2	8.6	9.0	8.9	10.1	10.6	11.2	11.7
	35	3.1	3.6	3.7	3.9	4.1	3.6	4.1	4.3	4.6	4.8	4.3	4.9	5.2	5.4	5.7	5.9	6.7	7.1	7.4	7.8	7.9	9.0	9.4	9.9	10.4
	40	2.3	2.6	2.8	2.9	3.1	2.7	3.2	3.3	3.5	3.7	3.4	3.9	4.1	4.3	4.5	4.9	5.6	5.9	6.2	6.5	6.7	7.7	8.1	8.6	9.0
	45	1.4	1.7	1.8	1.9	2.0	1.9	2.2	2.3	2.4	2.6	2.5	2.9	3.0	3.2	3.4	3.9	4.5	4.7	5.0	5.2	5.6	6.5	6.8	7.2	7.6
	50	.6	.8	.9	.9	1.0	1.1	1.3	1.4	1.4	1.5	1.6	1.9	2.0	2.2	2.3	2.9	3.4	3.6	3.8	4.0	4.6	5.3	5.6	5.9	6.2
	52	.2	.3	.4	.4	.5	.6	.8	.8	.9	1.0	1.2	1.4	1.5	1.6	1.7	2.4	2.9	3.0	3.2	3.4	4.0	4.7	4.9	5.2	5.5
2	-25	5.2	6.0	6.3	6.6	7.0	5.8	6.7	7.0	7.4	7.8	6.6	7.6	7.9	8.4	8.8	8.4	9.6	10.1	10.7	11.2	10.6	12.1	12.8	13.4	14.2
0	-20	5.2	6.0	6.3	6.6	7.0	5.8	6.7	7.0	7.4	7.8	6.6	7.6	8.0	8.4	8.8	8.4	9.6	10.1	10.7	11.2	10.6	12.2	12.8	13.4	14.2
0	-15	5.2	6.0	6.3	6.6	7.0	5.8	6.7	7.0	7.4	7.8	6.6	7.6	8.0	8.4	8.8	8.4	9.7	10.1	10.7	11.2	10.6	12.2	12.8	13.5	14.2
0	-10	5.3	6.0	6.3	6.7	7.0	5.9	6.7	7.0	7.4	7.8	6.7	7.6	8.0	8.4	8.8	8.5	9.7	10.2	10.7	11.3	10.7	12.2	12.8	13.5	14.2
	-5	5.3	6.1	6.4	6.7	7.0	5.9	6.7	7.1	7.4	7.8	6.7	7.6	8.0	8.4	8.9	8.5	9.7	10.2	10.7	11.3	10.7	12.2	12.8	13.5	14.2
	0	5.3	6.1	6.4	6.7	7.1	5.9	6.8	7.1	7.4	7.8	6.7	7.7	8.0	8.4	8.9	8.6	9.7	10.2	10.7	11.3	10.8	12.3	12.9	13.5	14.2
	5	5.4	6.1	6.4	6.7	7.1	6.0	6.8	7.1	7.5	7.8	6.8	7.7	8.1	8.5	8.9	8.6	9.8	10.2	10.7	11.3	10.8	12.3	12.9	13.5	14.2
	10	5.4	6.1	6.4	6.7	7.1	6.0	6.8	7.1	7.5	7.9	6.8	7.7	8.1	8.5	8.9	8.6	9.8	10.3	10.8	11.3	10.8	12.3	12.9	13.5	14.3
	15	5.1	5.8	6.0	6.3	6.7	5.6	6.4	6.7	7.1	7.4	6.4	7.3	7.7	8.0	8.4	8.2	9.4	9.8	10.3	10.8	10.4	11.8	12.4	13.0	13.7
	20	4.6	5.2	5.5	5.8	6.1	5.2	5.9	6.2	6.5	6.8	5.9	6.8	7.1	7.4	7.8	7.7	8.8	9.2	9.6	10.1	9.8	11.2	11.7	12.3	12.9
	25	4.0	4.6	4.8	5.0	5.3	4.5	5.2	5.4	5.7	6.0	5.3	6.0	6.3	6.6	7.0	7.0	7.9	8.3	8.7	9.2	9.0	10.3	10.8	11.3	11.9
	30	3.4	3.8	4.0	4.2	4.5	3.9	4.4	4.7	4.9	5.1	4.6	5.2	5.5	5.8	6.1	6.2	7.1	7.4	7.8	8.2	8.2	9.4	9.8	10.3	10.9
	35	2.6	3.0	3.1	3.3	3.5	3.1	3.5	3.7	3.9	4.1	3.7	4.3	4.5	4.7	5.0	5.3	6.0	6.3	6.6	7.0	7.2	8.2	8.6	9.0	9.5
	40	1.7	2.0	2.1	2.3	2.4	2.2	2.5	2.7	2.8	3.0	2.8	3.3	3.4	3.6	3.8	4.3	4.9	5.1	5.4	5.7	6.0	6.9	7.3	7.7	8.1
	45	.9	1.1	1.2	1.3	1.4	1.3	1.6	1.7	1.8	1.9	1.9	2.3	2.4	2.5	2.7	3.3	3.8	4.0	4.2	4.5	4.9	5.7	6.0	6.3	6.7
	50	.2	.3	.3	.4	.4	.6	.7	.8	.9	.9	1.1	1.3	1.4	1.5	1.6	2.4	2.8	2.9	3.1	3.3	4.0	4.6	4.8	5.1	5.4
3	-30	5.3	6.0	6.3	6.7	7.0	5.8	6.7	7.0	7.4	7.8	6.6	7.6	8.0	8.4	8.9	8.4	9.7	10.2	10.7	11.3	10.6	12.2	12.8	13.5	14.2
0	-25	5.3	6.0	6.3	6.7	7.0	5.8	6.7	7.0	7.4	7.8	6.6	7.6	8.0	8.4	8.8	8.5	9.7	10.2	10.7	11.3	10.7	12.2	12.8	13.5	14.2
0	-20	5.3	6.0	6.3	6.7	7.0	5.9	6.7	7.0	7.4	7.8	6.7	7.6	8.0	8.4	8.8	8.5	9.7	10.2	10.7	11.3	10.7	12.2	12.8	13.5	14.2
0	-15	5.3	6.1	6.4	6.7	7.0	5.9	6.7	7.1	7.4	7.8	6.7	7.6	8.0	8.4	8.9	8.5	9.7	10.2	10.7	11.3	10.7	12.2	12.8	13.5	14.2
	-10	5.3	6.1	6.4	6.7	7.0	5.9	6.7	7.1	7.4	7.8	6.7	7.7	8.0	8.4	8.9	8.5	9.7	10.2	10.7	11.3	10.7	12.2	12.8	13.5	14.2
	-5	5.3	6.1	6.4	6.7	7.1	5.9	6.8	7.1	7.4	7.8	6.7	7.7	8.0	8.4	8.9	8.6	9.8	10.2	10.7	11.3	10.8	12.3	12.9	13.5	14.2
	0	5.3	6.1	6.4	6.7	7.0	5.9	6.8	7.1	7.4	7.8	6.7	7.7	8.0	8.4	8.8	8.6	9.7	10.2	10.7	11.2	10.8	12.3	12.8	13.5	14.2
	5	5.2	5.9	6.2	6.5	6.8	5.8	6.5	6.9	7.2	7.6	6.5	7.4	7.8	8.2	8.6	8.4	9.5	9.9	10.4	11.0	10.6	12.0	12.6	13.2	13.9
	10	4.9	5.6	5.8	6.1	6.4	5.5	6.2	6.5	6.8	7.2	6.2	7.1	7.4	7.8	8.2	8.0	9.1	9.6	10.0	10.5	10.2	11.6	12.1	12.7	13.4
	15	4.5	5.1	5.4	5.6	5.9	5.1	5.8	6.0	6.3	6.7	5.8	6.6	7.0	7.3	7.7	7.6	8.6	9.0	9.5	10.0	9.7	11.0	11.6	12.1	12.8
	20	4.0	4.6	4.8	5.0	5.3	4.6	5.2	5.4	5.7	6.0	5.3	6.0	6.3	6.6	7.0	7.0	8.0	8.3	8.8	9.2	9.1	10.3	10.8	11.3	11.9
	25	3.5	4.0	4.2	4.4	4.6	4.0	4.6	4.8	5.0	5.3	4.7	5.4	5.6	5.9	6.2	6.3	7.2	7.6	8.0	8.4	8.3	9.5	10.0	10.5	11.0
	30	2.9	3.3	3.5	3.6	3.8	3.4	3.9	4.1	4.3	4.5	4.1	4.6	4.9	5.1	5.4	5.6	6.4	6.7	7.1	7.5	7.6	8.6	9.0	9.5	10.0
	35	2.1	2.4	2.5	2.6	2.8	2.5	2.9	3.1	3.2	3.4	3.2	3.6	3.8	4.0	4.2	4.6	5.3	5.6	5.9	6.2	6.5	7.4	7.8	8.2	8.6
	40	1.2	1.5	1.5	1.6	1.7	1.7	2.0	2.1	2.2	2.3	2.3	2.6	2.8	2.9	3.1	3.7	4.2	4.4	4.7	4.9	5.4	6.2	6.5	6.8	7.2
	45	.4	.6	.6	.7	.8	.9	1.1	1.1	1.2	1.3	1.4	1.7	1.8	1.9	2.0	2.7	3.2	3.3	3.5	3.7	4.3	5.0	5.2	5.5	5.9
	48	-.1	.0	.0	.1	.1	.3	.4	.5	.5	.6	.9	1.0	1.1	1.2	1.3	2.1	2.4	2.6	2.7	2.9	3.6	4.2	4.4	4.7	4.9

Figure 4-34 (Sheet 2)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		12375					12200					12000					11800					11600				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
4	-30	4.0	4.6	4.8	5.1	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0	4.8	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.7
0	-25	4.0	4.6	4.8	5.1	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0	4.8	5.4	5.7	6.0	6.3	5.0	5.7	6.0	6.3	6.7
0	-20	4.0	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.0	5.8	6.0	6.3	6.7
0	-15	4.0	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.1	6.4	6.7
	-10	4.1	4.6	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.1	6.4	6.7
	-5	4.1	4.7	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.4	5.7	6.0	4.8	5.5	5.8	6.0	6.4	5.1	5.8	6.1	6.4	6.7
	0	4.0	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.3	5.6	4.5	5.1	5.4	5.6	5.9	4.8	5.4	5.7	6.0	6.3	5.1	5.8	6.0	6.3	6.6
	5	3.7	4.2	4.4	4.6	4.9	3.9	4.5	4.7	4.9	5.2	4.2	4.8	5.0	5.2	5.5	4.4	5.0	5.3	5.5	5.8	4.7	5.3	5.6	5.9	6.2
	10	3.2	3.7	3.9	4.0	4.2	3.4	3.9	4.1	4.3	4.5	3.7	4.2	4.4	4.6	4.8	3.9	4.5	4.7	4.9	5.2	4.2	4.8	5.0	5.2	5.5
	15	2.8	3.2	3.3	3.5	3.7	3.0	3.4	3.6	3.7	3.9	3.2	3.7	3.8	4.0	4.2	3.5	3.9	4.1	4.3	4.6	3.7	4.2	4.4	4.6	4.9
	20	2.3	2.7	2.8	3.0	3.1	2.5	2.9	3.1	3.2	3.4	2.8	3.2	3.3	3.5	3.7	3.0	3.4	3.6	3.8	4.0	3.2	3.7	3.9	4.1	4.3
	25	1.9	2.2	2.3	2.4	2.6	2.1	2.4	2.5	2.7	2.8	2.3	2.7	2.8	2.9	3.1	2.5	2.9	3.1	3.2	3.4	2.8	3.2	3.3	3.5	3.7
	30	1.3	1.5	1.6	1.7	1.8	1.5	1.7	1.8	1.9	2.0	1.7	2.0	2.1	2.2	2.3	1.9	2.2	2.3	2.4	2.6	2.1	2.4	2.6	2.7	2.9
	35	.5	.7	.7	.8	.9	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.6	1.3	1.6	1.6	1.7	1.8
	40	-.2	-.2	-.1	-.1	-.1	-.1	.0	.1	.1	.1	.1	.2	.3	.3	.4	.3	.4	.5	.5	.6	.5	.7	.7	.8	.8
	45	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.6	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.3	-.2	-.1	-.1	-.1	-.1
	46	-1.1	-1.1	-1.1	-1.1	-1.2	-.9	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.6	-.6	-.5	-.4	-.4	-.4	-.3	-.3
5	-35	4.0	4.6	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.7	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.4	5.1	5.8	6.1	6.4	6.7
0	-30	4.0	4.6	4.8	5.1	5.4	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.1	6.4	6.7
0	-25	4.0	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.1	6.4	6.7
0	-20	4.1	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.1	6.4	6.7
	-15	4.1	4.6	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.6	4.6	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.1	6.4	6.7
	-10	4.0	4.5	4.7	4.9	5.2	4.2	4.8	5.0	5.2	5.5	4.4	5.0	5.3	5.5	5.8	4.7	5.4	5.6	5.9	6.2	5.0	5.7	5.9	6.2	6.5
	-5	3.8	4.4	4.6	4.8	5.0	4.1	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.5	5.7	6.0	4.9	5.5	5.8	6.1	6.4
	0	3.6	4.1	4.3	4.5	4.7	3.8	4.3	4.5	4.8	5.0	4.1	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.5	5.7	6.0
	5	3.2	3.6	3.8	3.9	4.1	3.4	3.8	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.7	3.9	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.1	5.4
	10	2.7	3.1	3.2	3.4	3.6	2.9	3.3	3.5	3.6	3.8	3.1	3.6	3.7	3.9	4.1	3.4	3.9	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.8
	15	2.3	2.6	2.7	2.9	3.0	2.5	2.8	2.9	3.1	3.3	2.7	3.1	3.2	3.4	3.6	2.9	3.3	3.5	3.7	3.9	3.2	3.6	3.8	4.0	4.2
	20	1.9	2.2	2.3	2.4	2.5	2.1	2.4	2.5	2.6	2.8	2.3	2.6	2.8	2.9	3.1	2.5	2.9	3.0	3.2	3.4	2.8	3.2	3.3	3.5	3.7
	25	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.1	2.2	2.3	1.9	2.2	2.3	2.5	2.6	2.1	2.5	2.6	2.7	2.9	2.4	2.7	2.9	3.0	3.2
	30	.8	1.0	1.0	1.1	1.2	1.0	1.2	1.2	1.3	1.4	1.2	1.4	1.5	1.6	1.6	1.4	1.6	1.7	1.8	1.9	1.6	1.9	2.0	2.1	2.2
	35	.1	.1	.2	.2	.3	.2	.3	.4	.4	.5	.4	.5	.6	.6	.7	.6	.8	.8	.9	.9	.8	1.0	1.1	1.1	1.2
	40	-.7	-.7	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.2	-.2	-.1	-.1	.0	.0	.0	.0	.1	.2	.2	.3
	44	-1.2	-1.3	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.2	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.6	-.5	-.5	-.5	-.5
6	-35	4.1	4.7	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.4	5.7	6.0	4.8	5.5	5.8	6.1	6.4	5.1	5.8	6.1	6.4	6.7
0	-30	4.1	4.6	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.4	5.7	6.0	4.8	5.5	5.8	6.0	6.3	5.1	5.8	6.1	6.4	6.7
0	-25	4.1	4.6	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.4	5.7	6.0	4.8	5.5	5.8	6.0	6.3	5.1	5.8	6.1	6.4	6.7
0	-20	4.1	4.7	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.4	5.7	6.0	4.8	5.5	5.8	6.0	6.3	5.1	5.8	6.1	6.4	6.7
	-15	4.0	4.6	4.8	5.0	5.3	4.3	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.6	5.9	4.8	5.4	5.7	6.0	6.3	5.1	5.8	6.0	6.3	6.6
	-10	3.9	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.1	5.4	4.4	5.0	5.2	5.4	5.7	4.6	5.3	5.5	5.8	6.0	4.9	5.6	5.8	6.1	6.4
	-5	3.6	4.1	4.3	4.5	4.7	3.8	4.3	4.5	4.8	5.0	4.1	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.5	5.7	6.0
	0	3.1	3.5	3.7	3.9	4.1	3.3	3.8	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.6	3.8	4.3	4.5	4.7	5.0	4.1	4.6	4.8	5.1	5.3
	5	2.6	3.0	3.1	3.3	3.5	2.8	3.2	3.4	3.5	3.7	3.1	3.5	3.7	3.8	4.0	3.3	3.8	3.9	4.1	4.3	3.6	4.1	4.2	4.4	4.7
	10	2.2	2.5	2.6	2.8	2.9	2.4	2.7	2.9	3.0	3.2	2.6	3.0	3.1	3.3	3.4	2.8	3.2	3.4	3.6	3.7	3.1	3.5	3.7	3.9	4.1
	15	1.8	2.0	2.2	2.3	2.4	2.0	2.3	2.4	2.5	2.6	2.2	2.5	2.6	2.8	2.9	2.4	2.8	2.9	3.0	3.2	2.6	3.0	3.2	3.3	3.5
	20	1.4	1.6	1.7	1.8	1.9	1.6	1.8	1.9	2.0	2.2	1.8	2.1	2.2	2.3	2.4	2.0	2.3	2.4	2.6	2.7	2.3	2.6	2.7	2.9	3.0
	25	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.5	1.3	1.5	1.6	1.7	1.8	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.1	2.2	2.4
	30	.2	.3	.4	.4	.5	.4	.5	.6	.6	.7	.6	.7	.8	.9	.9	.8	1.0	1.0	1.1	1.2	1.0	1.2	1.3	1.4	1.5
	35	-.4	-.4	-.4	-.4	-.4	-.3	-.2	-.2	-.2	-.2	-.1	.0	.0	.0	.1	.1	.2	.2	.3	.3	.3	.4	.5	.5	.6
	40	-1.1	-1.1	-1.1	-1.2	-1.2	-.9	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.6	-.6	-.5	-.4	-.4	-.4	-.3	-.3
	42	-1.4	-1.4	-1.5	-1.5	-1.5	-1.2	-1.3	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7
7	-35	4.1	4.7	4.9	5.1	5.4	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.4	5.7	6.0	4.8	5.5	5.8	6.1	6.4	5.1	5.8	6.1	6.4	6.7
0	-30	4.1	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.6	4.6	5.2	5.4	5.7	6.0	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.1	6.4	6.7
0	-25	4.0	4.6	4.8	5.0	5.3	4.2	4.8	5.0	5.3	5.6	4.5	5.1	5.4	5.6	5.9	4.8	5.4	5.7	5.9	6.2	5.1	5.7	6.0	6.3	6.6
0	-20	4.0	4.5	4.7	5.0	5.2	4.2	4.8	5.0	5.2	5.5	4.5	5.1	5.3	5.5	5.8	4.7	5.4	5.6	5.9	6.2	5.0	5.7	5.9	6.2	6.5
	-15	3.8	4.3	4.5	4.7	4.9	4.0	4.5	4.7	4.9	5.2	4.2	4.8	5.0	5.3	5.5	4.5	5.1	5.3	5.6	5.9	4.8	5.4	5.7	5.9	6.2
	-10	3.5	4.0	4.2	4.4	4.6	3.7	4.2	4.4	4.6	4.8	4.0	4.5	4.7	4.9	5.2	4.2	4.8	5.0	5.2	5.5	4.5	5.1	5.3	5.6	5.9
	-5	3.0	3.5	3.6	3.8	4.0	3.3	3.7	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.6	3.7	4.3	4.5	4.7	4.9	4.0	4.6	4.8	5.0	5.2
	0	2.6	2.9	3.1	3.2	3.4	2.8	3.1	3.3	3.5	3.6	3.0	3.4	3.6	3.7	3.9	3.2	3.7	3.9	4.0	4.2	3.5	4.0	4.2	4.4	4.6
	5	2.1	2.4	2.5	2.7	2.8	2.3	2.6	2.8	2.9	3.1	2.5	2.9	3.0	3.2	3.3	2.8	3.2	3.3	3.5	3.6	3.0	3.4	3.6	3.8	4.0
	10	1.7	1.9	2.0	2.2	2.3	1.9	2.2	2.3	2.4	2.5	2.1	2.4	2.5	2.6	2.8	2.3	2.7	2.8	2.9	3.1	2.6	2.9	3.1	3.2	3.4
	15	1.3	1.5	1.6	1.7	1.8	1.5	1.7	1.8	1.9	2.0	1.7	2.0	2.1	2.2	2.3	1.9	2.2	2.3	2.4	2.6	2.1	2.5	2.6	2.7	2.9
	20	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.5	1.3	1.5	1.6	1.7	1.8	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.1	2.2	2.4
	25	.4	.5	.5	.6	.6	.5	.7	.7	.8	.8	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.3	1.3	1.1	1.3	1.4	1.5	1.6
	30	-.3	-.2	-.2	-.2	-.1	-.1	.0	.0	.0	.1	.1	.2	.2	.3	.3	.3	.4	.4	.5	.5	.5	.6	.7	.7	.8
	35	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.6	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.3	-.2	-.1	-.1	-.1	.0
	40	-1.5	-1.6	-1.6	-1.7	-1.7	-1.4	-1.4	-1.5	-1.5	-1.5	-1.2	-1.3	-1.3	-1.3	-1.3	-1.0	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9

Figure 4-34 (Sheet 3)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		11400					11000					10500					9500					8500				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
4	-30	5.3	6.1	6.4	6.7	7.1	5.9	6.7	7.1	7.4	7.8	6.7	7.6	8.0	8.4	8.9	8.5	9.7	10.2	10.7	11.3	10.7	12.2	12.8	13.5	14.2
0	-25	5.3	6.1	6.4	6.7	7.0	5.9	6.7	7.1	7.4	7.8	6.7	7.6	8.0	8.4	8.9	8.5	9.7	10.2	10.7	11.3	10.7	12.2	12.8	13.5	14.2
0	-20	5.3	6.1	6.4	6.7	7.0	5.9	6.8	7.1	7.4	7.8	6.7	7.7	8.0	8.4	8.9	8.5	9.7	10.2	10.7	11.3	10.7	12.3	12.8	13.5	14.2
0	-15	5.3	6.1	6.4	6.7	7.0	5.9	6.8	7.1	7.4	7.8	6.7	7.7	8.0	8.4	8.9	8.6	9.7	10.2	10.7	11.3	10.8	12.3	12.9	13.5	14.2
	-10	5.4	6.1	6.4	6.7	7.1	6.0	6.8	7.1	7.5	7.8	6.8	7.7	8.1	8.4	8.9	8.6	9.8	10.2	10.7	11.3	10.8	12.3	12.9	13.5	14.2
	-5	5.4	6.1	6.4	6.7	7.1	6.0	6.8	7.1	7.5	7.8	6.8	7.7	8.1	8.5	8.9	8.6	9.8	10.2	10.7	11.3	10.8	12.3	12.9	13.5	14.2
	0	5.3	6.1	6.4	6.7	7.0	5.9	6.7	7.1	7.4	7.8	6.7	7.6	8.0	8.4	8.8	8.6	9.7	10.2	10.7	11.2	10.8	12.2	12.8	13.4	14.1
	5	5.0	5.7	5.9	6.2	6.5	5.6	6.3	6.6	6.9	7.3	6.3	7.2	7.5	7.9	8.3	8.1	9.2	9.7	10.1	10.6	10.3	11.7	12.3	12.8	13.5
	10	4.4	5.1	5.3	5.6	5.8	5.0	5.7	6.0	6.3	6.6	5.8	6.6	6.9	7.2	7.6	7.5	8.5	8.9	9.4	9.8	9.6	10.9	11.4	12.0	12.6
	15	4.0	4.5	4.7	5.0	5.2	4.5	5.1	5.4	5.6	5.9	5.2	5.9	6.2	6.5	6.9	6.9	7.9	8.2	8.6	9.1	9.0	10.2	10.7	11.2	11.8
	20	3.5	4.0	4.2	4.4	4.6	4.0	4.6	4.8	5.0	5.3	4.7	5.4	5.6	5.9	6.2	6.4	7.2	7.6	8.0	8.4	8.4	9.5	10.0	10.5	11.0
	25	3.0	3.5	3.6	3.8	4.0	3.5	4.0	4.2	4.4	4.7	4.2	4.8	5.0	5.3	5.5	5.8	6.6	6.9	7.3	7.6	7.7	8.8	9.2	9.7	10.2
	30	2.3	2.7	2.8	3.0	3.1	2.8	3.2	3.4	3.6	3.8	3.5	4.0	4.2	4.4	4.6	5.0	5.7	6.0	6.3	6.6	6.8	7.8	8.2	8.6	9.1
	35	1.5	1.8	1.9	2.0	2.1	2.0	2.3	2.4	2.6	2.7	2.6	3.0	3.1	3.3	3.5	4.0	4.6	4.8	5.1	5.4	5.8	6.6	6.9	7.3	7.7
	40	.7	.9	1.0	1.0	1.1	1.1	1.4	1.4	1.5	1.6	1.7	2.0	2.1	2.2	2.4	3.0	3.5	3.7	3.9	4.1	4.7	5.4	5.7	6.0	6.3
	45	.0	.1	.1	.1	.2	.4	.5	.6	.6	.7	.9	1.1	1.2	1.3	1.4	2.2	2.5	2.7	2.8	3.0	3.7	4.3	4.5	4.8	5.0
	46	-.2	-.2	-.1	-.1	-.1	.2	.3	.3	.4	.4	.7	.9	.9	1.0	1.1	1.9	2.3	2.4	2.5	2.7	3.4	4.0	4.2	4.4	4.7
5	-35	5.4	6.1	6.4	6.7	7.1	5.9	6.8	7.1	7.5	7.9	6.7	7.7	8.1	8.5	8.9	8.6	9.8	10.3	10.8	11.3	10.8	12.3	12.9	13.6	14.3
0	-30	5.4	6.1	6.4	6.7	7.1	5.9	6.8	7.1	7.5	7.9	6.7	7.7	8.1	8.5	8.9	8.6	9.8	10.2	10.8	11.3	10.8	12.3	12.9	13.5	14.3
0	-25	5.4	6.1	6.4	6.7	7.1	6.0	6.8	7.1	7.5	7.9	6.8	7.7	8.1	8.5	8.9	8.6	9.8	10.2	10.7	11.3	10.8	12.3	12.9	13.5	14.2
0	-20	5.4	6.1	6.4	6.7	7.1	6.0	6.8	7.1	7.5	7.9	6.8	7.7	8.1	8.5	8.9	8.6	9.8	10.2	10.7	11.3	10.8	12.3	12.9	13.5	14.2
	-15	5.4	6.1	6.4	6.7	7.1	6.0	6.8	7.1	7.5	7.9	6.8	7.7	8.1	8.5	8.9	8.6	9.8	10.3	10.8	11.3	10.8	12.3	12.9	13.5	14.2
	-10	5.3	6.0	6.3	6.6	6.9	5.9	6.7	7.0	7.3	7.7	6.7	7.6	7.9	8.3	8.7	8.5	9.6	10.1	10.6	11.1	10.7	12.1	12.7	13.3	14.0
	-5	5.1	5.8	6.1	6.4	6.7	5.7	6.5	6.8	7.1	7.5	6.5	7.4	7.7	8.1	8.5	8.3	9.5	9.9	10.4	10.9	10.5	11.9	12.5	13.1	13.8
	0	4.9	5.5	5.8	6.1	6.4	5.5	6.2	6.5	6.8	7.1	6.2	7.1	7.4	7.8	8.1	8.0	9.1	9.5	10.0	10.5	10.2	11.6	12.1	12.7	13.3
	5	4.4	5.0	5.2	5.5	5.8	4.9	5.6	5.9	6.2	6.5	5.7	6.5	6.8	7.1	7.5	7.4	8.5	8.8	9.3	9.7	9.6	10.8	11.3	11.9	12.5
	10	3.9	4.4	4.6	4.9	5.1	4.4	5.0	5.3	5.5	5.8	5.2	5.9	6.1	6.4	6.8	6.8	7.8	8.1	8.5	9.0	8.9	10.1	10.6	11.1	11.7
	15	3.4	3.9	4.1	4.3	4.5	3.9	4.5	4.7	4.9	5.2	4.6	5.3	5.5	5.8	6.1	6.3	7.1	7.5	7.8	8.2	8.3	9.4	9.8	10.3	10.9
	20	3.0	3.4	3.6	3.8	4.0	3.5	4.0	4.2	4.4	4.6	4.2	4.8	5.0	5.3	5.5	5.8	6.6	6.9	7.2	7.6	7.7	8.8	9.2	9.7	10.2
	25	2.6	3.0	3.1	3.3	3.5	3.1	3.5	3.7	3.9	4.1	3.8	4.3	4.5	4.7	5.0	5.3	6.0	6.3	6.6	7.0	7.2	8.2	8.6	9.0	9.5
	30	1.8	2.1	2.2	2.3	2.5	2.3	2.6	2.8	2.9	3.1	2.9	3.3	3.5	3.7	3.9	4.4	5.0	5.2	5.5	5.8	6.1	7.0	7.4	7.7	8.1
	35	1.0	1.2	1.3	1.4	1.5	1.5	1.7	1.8	1.9	2.0	2.0	2.4	2.5	2.6	2.8	3.4	3.9	4.1	4.3	4.6	5.1	5.8	6.1	6.4	6.8
	40	.2	.4	.4	.5	.5	.7	.8	.9	.9	1.0	1.2	1.4	1.5	1.6	1.7	2.5	2.9	3.0	3.2	3.4	4.1	4.7	4.9	5.2	5.5
	44	-.4	-.3	-.3	-.3	-.3	.0	.1	.1	.2	.2	.5	.7	.8	.8	.9	1.8	2.1	2.2	2.3	2.4	3.2	3.7	3.9	4.2	4.4
6	-35	5.4	6.1	6.4	6.8	7.1	6.0	6.8	7.2	7.5	7.9	6.8	7.8	8.1	8.5	9.0	8.6	9.8	10.3	10.8	11.4	10.9	12.4	13.0	13.6	14.3
0	-30	5.4	6.1	6.4	6.7	7.1	6.0	6.8	7.1	7.5	7.9	6.8	7.7	8.1	8.5	8.9	8.6	9.8	10.3	10.8	11.4	10.9	12.4	12.9	13.6	14.3
0	-25	5.4	6.1	6.4	6.7	7.1	6.0	6.8	7.1	7.5	7.9	6.8	7.8	8.1	8.5	8.9	8.7	9.8	10.3	10.8	11.3	10.9	12.4	12.9	13.6	14.3
0	-20	5.4	6.2	6.4	6.7	7.1	6.0	6.8	7.2	7.5	7.9	6.8	7.8	8.1	8.5	8.9	8.7	9.8	10.3	10.8	11.3	10.9	12.4	13.0	13.6	14.3
	-15	5.4	6.1	6.4	6.7	7.0	6.0	6.8	7.1	7.4	7.8	6.8	7.7	8.0	8.4	8.8	8.6	9.8	10.2	10.7	11.2	10.8	12.3	12.9	13.5	14.1
	-10	5.2	5.9	6.2	6.5	6.8	5.8	6.6	6.9	7.2	7.6	6.6	7.5	7.8	8.2	8.6	8.4	9.5	10.0	10.5	11.0	10.6	12.0	12.6	13.2	13.9
	-5	4.9	5.5	5.8	6.1	6.4	5.5	6.2	6.5	6.8	7.1	6.3	7.1	7.4	7.8	8.2	8.1	9.1	9.5	10.0	10.5	10.2	11.6	12.1	12.7	13.3
	0	4.3	4.9	5.2	5.4	5.7	4.9	5.6	5.8	6.1	6.4	5.7	6.4	6.7	7.0	7.4	7.4	8.4	8.8	9.2	9.7	9.5	10.8	11.3	11.8	12.4
	5	3.8	4.3	4.5	4.8	5.0	4.4	5.0	5.2	5.5	5.7	5.1	5.8	6.1	6.4	6.7	6.8	7.7	8.1	8.4	8.9	8.8	10.0	10.5	11.0	11.5
	10	3.3	3.8	4.0	4.2	4.4	3.9	4.4	4.6	4.8	5.1	4.6	5.2	5.4	5.7	6.0	6.2	7.0	7.4	7.7	8.1	8.2	9.3	9.7	10.2	10.7
	15	2.9	3.3	3.5	3.6	3.8	3.4	3.9	4.1	4.3	4.5	4.1	4.7	4.9	5.1	5.4	5.7	6.4	6.7	7.1	7.4	7.6	8.6	9.0	9.5	10.0
	20	2.5	2.9	3.0	3.2	3.3	3.0	3.4	3.6	3.8	4.0	3.6	4.2	4.4	4.6	4.8	5.2	5.9	6.2	6.5	6.8	7.1	8.0	8.4	8.8	9.3
	25	2.0	2.3	2.4	2.5	2.6	2.4	2.8	2.9	3.1	3.3	3.1	3.5	3.7	3.9	4.1	4.5	5.2	5.4	5.7	6.0	6.4	7.2	7.6	8.0	8.4
	30	1.2	1.5	1.5	1.6	1.7	1.7	2.0	2.1	2.2	2.3	2.3	2.6	2.8	2.9	3.1	3.7	4.2	4.4	4.6	4.9	5.4	6.1	6.4	6.8	7.1
	35	.5	.6	.7	.7	.8	.9	1.1	1.2	1.3	1.3	1.5	1.7	1.8	1.9	2.1	2.8	3.2	3.4	3.6	3.7	4.4	5.0	5.3	5.6	5.9
	40	-.2	-.2	-.1	-.1	-.1	.2	.3	.3	.4	.4	.7	.9	.9	1.0	1.1	1.9	2.3	2.4	2.5	2.7	3.4	4.0	4.2	4.4	4.6
	42	-.5	-.5	-.5	-.5	-.5	-.1	-.1	.0	.0	.0	.4	.5	.6	.6	.7	1.6	1.8	2.0	2.1	2.2	3.0	3.5	3.7	3.9	4.1
7	-35	5.4	6.2	6.4	6.8	7.1	6.0	6.8	7.2	7.5	7.9	6.8	7.8	8.1	8.5	8.9	8.7	9.9	10.3	10.8	11.4	10.9	12.4	13.0	13.6	14.3
0	-30	5.4	6.1	6.4	6.7	7.1	6.0	6.8	7.1	7.5	7.8	6.8	7.7	8.1	8.5	8.9	8.7	9.8	10.3	10.8	11.3	10.9	12.4	12.9	13.6	14.3
0	-25	5.3	6.1	6.3	6.6	7.0	5.9	6.7	7.0	7.4	7.8	6.8	7.7	8.0	8.4	8.8	8.6	9.8	10.2	10.7	11.2	10.8	12.3	12.9	13.5	14.1
0	-20	5.3	6.0	6.3	6.6	6.9	5.9	6.7	7.0	7.3	7.7	6.7	7.6	7.9	8.3	8.7	8.6	9.7	10.1	10.6	11.1	10.8	12.2	12.8	13.4	14.0
	-15	5.1	5.7	6.0	6.3	6.6	5.7	6.4	6.7	7.0	7.4	6.5	7.3	7.6	8.0	8.4	8.3	9.4	9.8	10.3	10.8	10.5	11.9	12.4	13.0	13.6
	-10	4.8	5.4	5.7	5.9	6.2	5.4	6.1	6.3	6.6	7.0	6.1	7.0	7.3	7.6	8.0	8.0	9.0	9.4	9.8	10.3	10.1	11.4	12.0	12.5	13.1
	-5	4.3	4.9	5.1	5.3	5.6	4.8	5.5	5.8	6.0	6.3	5.6	6.4	6.7	7.0	7.3	7.4	8.3	8.7	9.1	9.6	9.5	10.7	11.2	11.7	12.3
	0	3.8	4.3	4.5	4.7	4.9	4.3	4.9	5.1	5.4	5.6	5.0	5.7	6.0	6.3	6.6	6.7	7.6	8.0	8.4	8.8	8.8	9.9	10.4	10.9	11.4
	5	3.3	3.7	3.9	4.1	4.3	3.8	4.3	4.5	4.7	5.0	4.5	5.1	5.4	5.6	5.9	6.1	7.0	7.3	7.6	8.0	8.1	9.2	9.6	10.1	10.6
	10	2.8	3.2	3.3	3.5	3.7	3.3	3.8	4.0	4.1	4.4	4.0	4.6	4.8	5.0	5.3	5.6	6.3	6.6	6.9	7.3	7.5	8.5	8.9	9.3	9.8
	15	2.4	2.7	2.9	3.0	3.2	2.9	3.3	3.4	3.6	3.8	3.5	4.0	4.2	4.4	4.7	5.1	5.8	6.0	6.3	6.6	6.9	7.9	8.3	8.7	9.1
	20	2.0	2.3	2.4	2.5	2.6	2.5	2.8	3.0	3.1	3.3	3.1	3.5	3.7	3.9	4.1	4.6	5.2	5.4	5.7	6.0	6.4	7.3	7.6	8.0	8.4
	25	1.4	1.6	1.7	1.8	1.9	1.8	2.1	2.2	2.3	2.5	2.4	2.8	2.9	3.1	3.3	3.8	4.4	4.6	4.8	5.1	5.6	6.3	6.7	7.0	7.4
	30	.7	.8	.9	1.0	1.0	1.1	1.3	1.4	1.5	1.6	1.7	2.0	2.1	2.2	2.3	3.0	3.5	3.7	3.8	4.1	4.7	5.3	5.6	5.9	6.2
	35	.0	.1	.1	.2	.2	.4	.6	.6	.7	.7	1.0	1.2	1.3	1.3	1.4	2.2	2.6	2.7	2.9	3.0	3.8	4.3	4.6	4.8	5.0
	40	-.7	-.7	-.7	-.7	-.7	-.3	-.2	-.2	-.2	-.2	.2	.3	.4	.4	.5	1.4	1.7	1.8	1.9	2.0	2.9	3.3	3.5	3.7	3.9

Figure 4-34 (Sheet 4)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		12375					12200					12000					11800					11600				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
8	-35	4.1	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.3	5.6	4.5	5.2	5.4	5.7	5.9	4.8	5.5	5.7	6.0	6.3	5.1	5.8	6.0	6.3	6.6
0	-30	4.0	4.6	4.8	5.0	5.3	4.2	4.8	5.0	5.3	5.5	4.5	5.1	5.3	5.6	5.9	4.8	5.4	5.7	5.9	6.2	5.1	5.7	6.0	6.3	6.6
0	-25	4.0	4.5	4.7	5.0	5.2	4.2	4.8	5.0	5.2	5.5	4.5	5.1	5.3	5.5	5.8	4.7	5.4	5.6	5.9	6.2	5.0	5.7	5.9	6.2	6.5
0	-20	3.9	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.1	5.3	4.4	4.9	5.2	5.4	5.7	4.6	5.2	5.5	5.7	6.0	4.9	5.6	5.8	6.1	6.4
	-15	3.5	3.9	4.1	4.3	4.5	3.7	4.2	4.3	4.5	4.8	3.9	4.4	4.6	4.9	5.1	4.2	4.7	4.9	5.2	5.4	4.4	5.0	5.3	5.5	5.8
	-10	3.0	3.4	3.6	3.7	3.9	3.2	3.6	3.8	4.0	4.2	3.4	3.9	4.1	4.3	4.5	3.7	4.2	4.4	4.6	4.8	4.0	4.5	4.7	4.9	5.2
	-5	2.5	2.9	3.0	3.1	3.3	2.7	3.1	3.2	3.4	3.6	2.9	3.3	3.5	3.7	3.9	3.2	3.6	3.8	4.0	4.2	3.4	3.9	4.1	4.3	4.5
	0	2.0	2.3	2.5	2.6	2.7	2.2	2.6	2.7	2.8	3.0	2.5	2.8	2.9	3.1	3.2	2.7	3.1	3.2	3.4	3.5	2.9	3.3	3.5	3.7	3.9
	5	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.3	2.4	2.0	2.3	2.4	2.6	2.7	2.2	2.6	2.7	2.8	3.0	2.5	2.8	3.0	3.1	3.3
	10	1.2	1.4	1.5	1.6	1.7	1.4	1.6	1.7	1.8	1.9	1.6	1.8	1.9	2.0	2.2	1.8	2.1	2.2	2.3	2.4	2.0	2.3	2.5	2.6	2.7
	15	.8	1.0	1.1	1.1	1.2	1.0	1.2	1.3	1.3	1.4	1.2	1.4	1.5	1.6	1.7	1.4	1.6	1.7	1.8	1.9	1.6	1.9	2.0	2.1	2.2
	20	.4	.5	.6	.6	.7	.6	.7	.8	.8	.9	.8	.9	1.0	1.1	1.1	1.0	1.2	1.2	1.3	1.4	1.2	1.4	1.5	1.6	1.7
	25	-.1	-.1	-.1	.0	.0	.0	.1	.1	.2	.2	.2	.3	.3	.4	.4	.4	.5	.6	.6	.7	.6	.7	.8	.9	.9
	30	-.7	-.7	-.7	-.7	-.7	-.6	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.3	-.2	-.1	-.1	-.1	-.1	.0	.1	.1	.1	.2
	35	-1.3	-1.4	-1.4	-1.4	-1.4	-1.2	-1.2	-1.2	-1.2	-1.3	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.6	-.6	-.6
	37	-1.7	-1.8	-1.8	-1.8	-1.9	-1.5	-1.6	-1.7	-1.7	-1.7	-1.4	-1.4	-1.5	-1.5	-1.5	-1.2	-1.3	-1.3	-1.3	-1.3	-1.0	-1.1	-1.1	-1.1	-1.1
9	-35	3.9	4.4	4.6	4.8	5.0	4.1	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.5	5.7	6.0	4.9	5.5	5.8	6.1	6.4
0	-30	3.7	4.2	4.4	4.6	4.9	3.9	4.5	4.7	4.9	5.1	4.2	4.8	5.0	5.2	5.5	4.5	5.1	5.3	5.5	5.8	4.7	5.4	5.6	5.9	6.2
0	-25	3.6	4.1	4.3	4.5	4.7	3.8	4.3	4.5	4.7	4.9	4.1	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.4	5.6	4.6	5.2	5.4	5.7	6.0
0	-20	3.3	3.8	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.6	3.8	4.3	4.5	4.7	4.9	4.0	4.6	4.8	5.0	5.2	4.3	4.9	5.1	5.3	5.6
	-15	2.9	3.3	3.5	3.6	3.8	3.1	3.5	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.7	3.9	4.4	4.6	4.8	5.0
	-10	2.5	2.8	2.9	3.1	3.2	2.7	3.0	3.2	3.3	3.5	2.9	3.3	3.4	3.6	3.8	3.1	3.6	3.7	3.9	4.1	3.4	3.8	4.0	4.2	4.4
	-5	2.0	2.3	2.4	2.5	2.6	2.2	2.5	2.6	2.7	2.9	2.4	2.7	2.9	3.0	3.2	2.6	3.0	3.1	3.3	3.5	2.9	3.3	3.4	3.6	3.8
	0	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.1	2.2	2.3	1.9	2.2	2.3	2.5	2.6	2.2	2.5	2.6	2.7	2.9	2.4	2.7	2.9	3.0	3.2
	5	1.1	1.3	1.4	1.5	1.6	1.3	1.5	1.6	1.7	1.8	1.5	1.8	1.8	1.9	2.1	1.7	2.0	2.1	2.2	2.3	2.0	2.2	2.4	2.5	2.6
	10	.7	.9	.9	1.0	1.1	.9	1.1	1.1	1.2	1.3	1.1	1.3	1.4	1.5	1.5	1.3	1.5	1.6	1.7	1.8	1.5	1.8	1.9	2.0	2.1
	15	.4	.5	.5	.6	.6	.5	.7	.7	.8	.8	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.6
	20	-.1	.0	.0	.0	.1	.1	.1	.2	.2	.3	.3	.4	.4	.4	.5	.4	.6	.6	.7	.7	.7	.8	.9	.9	1.0
	25	-.6	-.6	-.6	-.6	-.6	-.5	-.4	-.4	-.4	-.4	-.3	-.2	-.2	-.2	-.2	-.1	.0	.0	.0	.1	.1	.2	.2	.3	.3
	30	-1.1	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.6	-.6	-.6	-.4	-.4	-.4	-.4	-.4
	35	-1.7	-1.8	-1.9	-1.9	-1.9	-1.6	-1.7	-1.7	-1.7	-1.8	-1.4	-1.5	-1.5	-1.5	-1.6	-1.3	-1.3	-1.3	-1.4	-1.4	-1.1	-1.1	-1.1	-1.1	-1.2
1	-35	3.6	4.1	4.3	4.5	4.7	3.8	4.3	4.5	4.7	5.0	4.1	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.4	5.6	4.6	5.2	5.4	5.7	6.0
0	-30	3.4	3.8	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.7	3.9	4.4	4.6	4.8	5.0	4.1	4.7	4.9	5.1	5.3	4.4	5.0	5.2	5.4	5.7
0	-25	3.2	3.6	3.8	4.0	4.1	3.4	3.8	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.7	3.9	4.4	4.6	4.8	5.1	4.2	4.7	4.9	5.1	5.4
0	-20	2.8	3.2	3.3	3.5	3.6	3.0	3.4	3.5	3.7	3.9	3.2	3.7	3.8	4.0	4.2	3.5	3.9	4.1	4.3	4.5	3.7	4.2	4.4	4.6	4.8
0	-15	2.4	2.7	2.8	3.0	3.1	2.6	2.9	3.1	3.2	3.4	2.8	3.2	3.3	3.5	3.7	3.0	3.4	3.6	3.8	4.0	3.3	3.7	3.9	4.1	4.3
	-10	1.9	2.2	2.3	2.4	2.6	2.1	2.4	2.5	2.7	2.8	2.3	2.7	2.8	2.9	3.1	2.6	2.9	3.1	3.2	3.4	2.8	3.2	3.4	3.5	3.7
	-5	1.5	1.7	1.8	1.9	2.0	1.7	1.9	2.0	2.1	2.2	1.9	2.2	2.3	2.4	2.5	2.1	2.4	2.5	2.7	2.8	2.3	2.7	2.8	2.9	3.1
	0	1.1	1.2	1.3	1.4	1.5	1.2	1.4	1.5	1.6	1.7	1.4	1.7	1.8	1.9	2.0	1.7	1.9	2.0	2.1	2.2	1.9	2.2	2.3	2.4	2.5
	5	.6	.8	.8	.9	1.0	.8	1.0	1.0	1.1	1.2	1.0	1.2	1.3	1.4	1.4	1.2	1.4	1.5	1.6	1.7	1.4	1.7	1.8	1.9	2.0
	10	.3	.4	.4	.5	.5	.4	.6	.6	.7	.7	.6	.8	.8	.9	1.0	.8	1.0	1.1	1.1	1.2	1.0	1.2	1.3	1.4	1.5
	15	-.1	.0	.0	.0	.1	.1	.1	.2	.2	.3	.3	.4	.4	.4	.5	.4	.6	.6	.7	.7	.7	.8	.9	.9	1.0
	20	-.6	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.2	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.1	.2	.3	.3	.3	.4
	25	-1.0	-1.0	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.5	-.5	-.3	-.3	-.3	-.2	-.2
	30	-1.5	-1.6	-1.6	-1.7	-1.7	-1.4	-1.5	-1.5	-1.5	-1.5	-1.2	-1.3	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9
	33	-2.0	-2.1	-2.2	-2.2	-2.3	-1.9	-2.0	-2.0	-2.0	-2.1	-1.7	-1.8	-1.8	-1.9	-1.9	-1.5	-1.6	-1.6	-1.7	-1.7	-1.4	-1.4	-1.4	-1.5	-1.5
1	-35	3.1	3.5	3.7	3.9	4.1	3.3	3.8	3.9	4.1	4.3	3.6	4.0	4.2	4.4	4.6	3.8	4.3	4.5	4.7	5.0	4.1	4.6	4.8	5.1	5.3
1	-30	2.9	3.3	3.5	3.6	3.8	3.1	3.6	3.7	3.9	4.1	3.4	3.8	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.7	3.9	4.4	4.6	4.8	5.0
0	-25	2.7	3.0	3.2	3.3	3.5	2.9	3.2	3.4	3.6	3.7	3.1	3.5	3.7	3.8	4.0	3.3	3.8	4.0	4.1	4.3	3.6	4.1	4.2	4.4	4.7
0	-20	2.2	2.6	2.7	2.8	3.0	2.4	2.8	2.9	3.1	3.2	2.7	3.0	3.2	3.3	3.5	2.9	3.3	3.5	3.6	3.8	3.2	3.6	3.7	3.9	4.1
0	-15	1.8	2.1	2.2	2.3	2.5	2.0	2.3	2.4	2.6	2.7	2.3	2.6	2.7	2.8	3.0	2.5	2.8	3.0	3.1	3.3	2.7	3.1	3.2	3.4	3.6
	-10	1.4	1.7	1.7	1.8	1.9	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.3	2.4	2.1	2.4	2.5	2.6	2.7	2.3	2.6	2.7	2.9	3.0
	-5	1.0	1.2	1.2	1.3	1.4	1.2	1.4	1.4	1.5	1.6	1.4	1.6	1.7	1.8	1.9	1.6	1.8	1.9	2.0	2.1	1.8	2.1	2.2	2.3	2.4
	0	.6	.7	.8	.8	.9	.7	.9	1.0	1.0	1.1	.9	1.1	1.2	1.3	1.3	1.2	1.4	1.4	1.5	1.6	1.4	1.6	1.7	1.8	1.9
	5	.2	.3	.3	.4	.4	.4	.5	.5	.6	.6	.6	.7	.7	.8	.9	.8	.9	1.0	1.0	1.1	1.0	1.1	1.2	1.3	1.4
	10	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.1	.2	.2	.3	.3	.3	.4	.4	.5	.5	.6	.6	.6	.7	.8	.8	.9
	15	-.6	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.2	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.1	.2	.3	.3	.3	.4
	20	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.7	-.7	-.6	-.6	-.6	-.5	-.5	-.4	-.4	-.4	-.3	-.2	-.2	-.2	-.2
	25	-1.4	-1.5	-1.5	-1.5	-1.5	-1.3	-1.3	-1.3	-1.4	-1.4	-1.1	-1.1	-1.1	-1.2	-1.2	-.9	-.9	-.9	-1.0	-1.0	-.7	-.7	-.7	-.7	-.7
	30	-2.0	-2.1	-2.1	-2.2	-2.2	-1.8	-1.9	-2.0	-2.0	-2.1	-1.7	-1.8	-1.8	-1.8	-1.9	-1.5	-1.6	-1.6	-1.6	-1.7	-1.3	-1.4	-1.4	-1.4	-1.5
	31	-2.2	-2.3	-2.3	-2.4	-2.4	-2.0	-2.1	-2.2	-2.2	-2.3	-1.9	-2.0	-2.0	-2.0	-2.1	-1.7	-1.8	-1.8	-1.9	-1.9	-1.5	-1.6	-1.6	-1.7	-1.7

Figure 4-34 (Sheet 5)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																									
		11400					11000					10500					9500					8500					
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	
8	-35	5.4	6.1	6.4	6.7	7.0	6.0	6.8	7.1	7.4	7.8	6.8	7.7	8.0	8.4	8.9	8.6	9.8	10.2	10.7	11.3	10.9	12.4	12.9	13.5	14.2	
0	-30	5.3	6.1	6.3	6.6	7.0	5.9	6.7	7.0	7.4	7.7	6.8	7.7	8.0	8.4	8.8	8.6	9.7	10.2	10.7	11.2	10.9	12.3	12.9	13.5	14.1	
0	-25	5.3	6.0	6.3	6.6	6.9	5.9	6.7	7.0	7.3	7.7	6.7	7.6	7.9	8.3	8.7	8.6	9.7	10.1	10.6	11.1	10.8	12.2	12.8	13.4	14.1	
0	-20	5.2	5.9	6.1	6.4	6.7	5.8	6.6	6.8	7.2	7.5	6.6	7.5	7.8	8.2	8.6	8.4	9.5	10.0	10.4	10.9	10.7	12.1	12.6	13.2	13.8	
	-15	4.7	5.3	5.6	5.8	6.1	5.3	6.0	6.3	6.6	6.9	6.1	6.9	7.2	7.5	7.9	7.9	8.9	9.3	9.8	10.2	10.1	11.4	11.9	12.5	13.1	
	-10	4.2	4.8	5.0	5.3	5.5	4.8	5.4	5.7	6.0	6.2	5.6	6.3	6.6	6.9	7.2	7.3	8.3	8.7	9.1	9.5	9.4	10.7	11.1	11.7	12.2	
	-5	3.7	4.2	4.4	4.6	4.8	4.2	4.8	5.0	5.3	5.5	5.0	5.6	5.9	6.2	6.5	6.7	7.6	7.9	8.3	8.7	8.7	9.9	10.3	10.8	11.3	
	0	3.2	3.6	3.8	4.0	4.2	3.7	4.2	4.4	4.6	4.9	4.4	5.0	5.3	5.5	5.8	6.1	6.9	7.2	7.5	7.9	8.0	9.1	9.5	10.0	10.5	
	5	2.7	3.1	3.3	3.4	3.6	3.2	3.7	3.9	4.0	4.2	3.9	4.5	4.7	4.9	5.1	5.5	6.2	6.5	6.9	7.2	7.4	8.4	8.8	9.2	9.7	
	10	2.3	2.6	2.7	2.9	3.0	2.8	3.2	3.3	3.5	3.6	3.4	3.9	4.1	4.3	4.5	5.0	5.6	5.9	6.2	6.5	6.8	7.7	8.1	8.5	8.9	
	15	1.9	2.1	2.3	2.4	2.5	2.3	2.7	2.8	3.0	3.1	3.0	3.4	3.6	3.8	4.0	4.5	5.1	5.3	5.6	5.9	6.3	7.1	7.5	7.8	8.2	
	20	1.4	1.7	1.7	1.8	2.0	1.9	2.2	2.3	2.4	2.5	2.5	2.9	3.0	3.2	3.3	3.9	4.5	4.7	4.9	5.2	5.7	6.5	6.8	7.1	7.5	
	25	.8	1.0	1.0	1.1	1.2	1.3	1.5	1.6	1.6	1.7	1.9	2.1	2.3	2.4	2.5	3.2	3.7	3.8	4.0	4.2	4.8	5.5	5.8	6.1	6.4	
	30	.2	.3	.3	.4	.4	.6	.8	.8	.9	1.0	1.2	1.4	1.5	1.6	1.7	2.5	2.8	3.0	3.1	3.3	4.0	4.6	4.8	5.1	5.4	
	35	-.5	-.4	-.4	-.4	-.4	-.1	.0	.1	.1	.1	.5	.6	.7	.7	.8	1.7	2.0	2.1	2.2	2.3	3.2	3.6	3.8	4.0	4.3	
	37	-.9	-.9	-.9	-.9	-.9	-.5	-.4	-.4	-.4	-.4	.0	.1	.2	.2	.2	1.2	1.4	1.5	1.6	1.7	2.6	3.0	3.2	3.4	3.6	
9	-35	5.2	5.9	6.1	6.4	6.7	5.8	6.5	6.8	7.1	7.5	6.6	7.4	7.8	8.1	8.5	8.4	9.5	9.9	10.4	10.9	10.6	12.0	12.6	13.2	13.8	
0	-30	5.0	5.7	5.9	6.2	6.5	5.6	6.4	6.6	6.9	7.3	6.4	7.3	7.6	7.9	8.3	8.2	9.3	9.7	10.2	10.7	10.4	11.8	12.3	12.9	13.6	
0	-25	4.9	5.5	5.8	6.0	6.3	5.5	6.2	6.5	6.8	7.1	6.3	7.1	7.4	7.7	8.1	8.1	9.1	9.5	10.0	10.4	10.3	11.6	12.1	12.7	13.3	
0	-20	4.6	5.2	5.4	5.6	5.9	5.1	5.8	6.1	6.4	6.7	5.9	6.7	7.0	7.3	7.7	7.7	8.7	9.1	9.5	10.0	9.9	11.2	11.7	12.2	12.8	
	-15	4.1	4.7	4.9	5.1	5.4	4.7	5.3	5.5	5.8	6.1	5.4	6.2	6.4	6.7	7.1	7.2	8.1	8.5	8.9	9.3	9.3	10.5	11.0	11.5	12.1	
	-10	3.6	4.1	4.3	4.5	4.7	4.2	4.7	5.0	5.2	5.4	4.9	5.6	5.8	6.1	6.4	6.6	7.5	7.8	8.2	8.6	8.7	9.8	10.3	10.7	11.3	
	-5	3.1	3.6	3.7	3.9	4.1	3.7	4.2	4.3	4.5	4.8	4.4	5.0	5.2	5.4	5.7	6.0	6.8	7.1	7.5	7.8	8.0	9.1	9.5	9.9	10.4	
	0	2.6	3.0	3.2	3.3	3.5	3.2	3.6	3.8	3.9	4.1	3.8	4.4	4.6	4.8	5.0	5.4	6.2	6.5	6.8	7.1	7.3	8.3	8.7	9.1	9.6	
	5	2.2	2.5	2.6	2.8	2.9	2.7	3.1	3.2	3.4	3.5	3.3	3.8	4.0	4.2	4.4	4.9	5.5	5.8	6.1	6.4	6.7	7.6	8.0	8.4	8.8	
	10	1.8	2.0	2.1	2.3	2.4	2.2	2.6	2.7	2.8	3.0	2.9	3.3	3.5	3.6	3.8	4.4	5.0	5.2	5.4	5.7	6.2	7.0	7.3	7.7	8.1	
	15	1.4	1.6	1.7	1.8	1.9	1.8	2.1	2.2	2.3	2.4	2.4	2.8	2.9	3.1	3.2	3.9	4.4	4.6	4.8	5.1	5.6	6.4	6.7	7.0	7.4	
	20	.9	1.0	1.1	1.2	1.3	1.3	1.5	1.6	1.7	1.8	1.9	2.2	2.3	2.4	2.6	3.3	3.8	3.9	4.1	4.3	4.9	5.6	5.9	6.2	6.5	
	25	.3	.4	.5	.5	.6	.7	.9	1.0	1.0	1.1	1.3	1.5	1.6	1.7	1.8	2.6	3.0	3.2	3.3	3.5	4.2	4.8	5.0	5.3	5.6	
	30	-.2	-.2	-.2	-.1	-.1	.2	.3	.3	.3	.4	.7	.9	.9	1.0	1.1	2.0	2.3	2.4	2.5	2.7	3.5	4.0	4.2	4.4	4.6	
	35	-.9	-.9	-.9	-.9	-.9	-.5	-.5	-.5	-.5	-.5	.0	.1	.1	.1	.2	1.2	1.4	1.5	1.6	1.6	2.6	3.0	3.1	3.3	3.5	
1	-35	4.9	5.5	5.8	6.0	6.3	5.5	6.2	6.5	6.8	7.1	6.3	7.1	7.4	7.7	8.1	8.1	9.1	9.5	10.0	10.4	10.3	11.6	12.1	12.7	13.3	
0	-30	4.6	5.3	5.5	5.8	6.0	5.2	5.9	6.2	6.5	6.8	6.0	6.8	7.1	7.4	7.8	7.8	8.8	9.2	9.6	10.1	10.0	11.3	11.8	12.3	12.9	
0	-25	4.4	5.0	5.2	5.5	5.7	5.0	5.7	5.9	6.2	6.5	5.8	6.5	6.8	7.1	7.5	7.6	8.5	8.9	9.3	9.8	9.7	11.0	11.4	12.0	12.6	
0	-20	4.0	4.5	4.7	4.9	5.2	4.5	5.1	5.4	5.6	5.9	5.3	6.0	6.3	6.6	6.9	7.0	7.9	8.3	8.7	9.1	9.1	10.3	10.8	11.3	11.8	
0	-15	3.5	4.0	4.2	4.4	4.6	4.1	4.6	4.8	5.1	5.3	4.8	5.4	5.7	6.0	6.2	6.5	7.4	7.7	8.0	8.4	8.5	9.7	10.1	10.6	11.1	
	-10	3.1	3.5	3.7	3.8	4.0	3.6	4.1	4.3	4.5	4.7	4.3	4.9	5.1	5.3	5.6	6.0	6.7	7.0	7.4	7.7	8.0	9.0	9.4	9.8	10.3	
	-5	2.6	2.9	3.1	3.2	3.4	3.1	3.5	3.7	3.8	4.0	3.8	4.3	4.5	4.7	4.9	5.4	6.1	6.4	6.7	7.0	7.3	8.3	8.6	9.0	9.5	
	0	2.1	2.4	2.5	2.7	2.8	2.6	3.0	3.1	3.3	3.4	3.3	3.7	3.9	4.1	4.3	4.8	5.5	5.7	6.0	6.3	6.7	7.6	7.9	8.3	8.7	
	5	1.7	1.9	2.0	2.1	2.3	2.1	2.5	2.6	2.7	2.8	2.8	3.2	3.3	3.5	3.7	4.3	4.9	5.1	5.3	5.6	6.1	6.9	7.2	7.5	7.9	
	10	1.3	1.5	1.6	1.7	1.7	1.7	2.0	2.1	2.2	2.3	2.3	2.7	2.8	3.0	3.1	3.8	4.3	4.5	4.7	5.0	5.5	6.3	6.6	6.9	7.2	
	15	.9	1.0	1.1	1.2	1.2	1.3	1.5	1.6	1.7	1.8	1.9	2.2	2.3	2.4	2.6	3.3	3.8	3.9	4.1	4.4	5.0	5.7	5.9	6.2	6.5	
	20	.4	.5	.5	.6	.6	.8	1.0	1.0	1.1	1.2	1.4	1.6	1.7	1.8	1.9	2.7	3.1	3.3	3.4	3.6	4.3	4.9	5.1	5.4	5.7	
	25	-.1	-.1	.0	.0	.0	.3	.4	.4	.5	.5	.8	1.0	1.1	1.1	1.2	2.1	2.4	2.6	2.7	2.8	3.6	4.1	4.3	4.6	4.8	
	30	-.7	-.7	-.7	-.7	-.7	-.3	-.3	-.2	-.2	-.2	.2	.3	.4	.4	.5	1.4	1.7	1.8	1.9	2.0	2.9	3.3	3.5	3.7	3.9	
	33	-1.2	-1.2	-1.2	-1.3	-1.3	-.8	-.8	-.8	-.8	-.8	-.3	-.3	-.3	-.2	-.2	.8	1.0	1.1	1.2	1.2	2.2	2.6	2.7	2.8	3.0	
1	-35	4.4	4.9	5.2	5.4	5.7	4.9	5.6	5.8	6.1	6.4	5.7	6.4	6.7	7.0	7.4	7.5	8.4	8.8	9.2	9.6	9.6	10.8	11.3	11.8	12.4	
1	-30	4.1	4.7	4.9	5.1	5.4	4.7	5.3	5.6	5.8	6.1	5.5	6.2	6.5	6.8	7.1	7.2	8.1	8.5	8.9	9.3	9.3	10.5	11.0	11.5	12.1	
0	-25	3.8	4.4	4.6	4.8	5.0	4.4	5.0	5.2	5.4	5.7	5.1	5.8	6.1	6.4	6.7	6.9	7.8	8.1	8.5	8.9	9.0	10.1	10.6	11.0	11.6	
0	-20	3.4	3.9	4.0	4.2	4.4	3.9	4.5	4.7	4.9	5.1	4.7	5.3	5.5	5.8	6.1	6.3	7.2	7.5	7.8	8.2	8.4	9.5	9.9	10.3	10.8	
0	-15	3.0	3.4	3.5	3.7	3.9	3.5	4.0	4.1	4.3	4.5	4.2	4.8	5.0	5.2	5.5	5.8	6.6	6.9	7.2	7.6	7.8	8.8	9.2	9.7	10.1	
	-10	2.5	2.9	3.0	3.2	3.3	3.0	3.4	3.6	3.8	4.0	3.7	4.2	4.4	4.6	4.8	5.3	6.0	6.3	6.6	6.9	7.2	8.2	8.6	9.0	9.4	
	-5	2.0	2.3	2.5	2.6	2.7	2.5	2.9	3.0	3.2	3.3	3.2	3.6	3.8	4.0	4.2	4.7	5.4	5.6	5.9	6.2	6.6	7.5	7.8	8.2	8.6	
	0	1.6	1.8	1.9	2.0	2.2	2.1	2.4	2.5	2.6	2.8	2.7	3.1	3.2	3.4	3.6	4.2	4.8	5.0	5.2	5.5	6.0	6.8	7.1	7.4	7.8	
	5	1.2	1.4	1.5	1.5	1.6	1.6	1.9	2.0	2.1	2.2	2.3	2.6	2.7	2.8	3.0	3.7	4.2	4.4	4.6	4.8	5.4	6.2	6.4	6.8	7.1	
	10	.8	.9	1.0	1.1	1.1	1.2	1.4	1.5	1.6	1.7	1.8	2.1	2.2	2.3	2.4	3.2	3.7	3.8	4.0	4.2	4.9	5.6	5.8	6.1	6.4	
	15	.4	.5	.5	.6	.6	.8	1.0	1.0	1.1	1.2	1.4	1.6	1.7	1.8	1.9	2.7	3.1	3.2	3.4	3.6	4.3	4.9	5.1	5.4	5.7	
	20	-.1	.0	.0	.0	.1	.3	.4	.5	.5	.6	.9	1.0	1.1	1.2	1.3	2.1	2.5	2.6	2.7	2.9	3.7	4.2	4.4	4.6	4.9	
	25	-.6	-.5	-.5	-.5	-.5	-.2	-.1	-.1	-.1	.0	.4	.5	.5	.6	.6	1.6	1.9	2.0	2.1	2.2	3.1	3.5	3.7	3.9	4.1	
	30	-1.2	-1.2	-1.2	-1.2	-1.2	-.8	-.8	-.8	-.8	-.8	-.3	-.2	-.2	-.2	-.2	.9	1.1	1.1	1.2	1.3	2.3	2.6	2.8	2.9	3.1	
	31	-1.4	-1.4	-1.4	-1.5	-1.5	-1.0	-1.0	-1.0	-1.0	-1.0	-.5	-.5	-.5	-.5	-.4	.6	.8	.8	.9	1.0	2.0	2.3	2.5	2.6	2.7	

Figure 4-34 (Sheet 6)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																									
		12375					12200					12000					11800					11600					
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	
1	-35	2.6	3.0	3.1	3.3	3.5	2.8	3.2	3.4	3.5	3.7	3.1	3.5	3.6	3.8	4.0	3.3	3.8	3.9	4.1	4.3	3.6	4.0	4.2	4.4	4.6	
2	-30	2.5	2.8	2.9	3.1	3.2	2.7	3.0	3.2	3.3	3.5	2.9	3.3	3.4	3.6	3.8	3.1	3.6	3.7	3.9	4.1	3.4	3.8	4.0	4.2	4.4	
0	-25	2.1	2.4	2.5	2.7	2.8	2.3	2.6	2.8	2.9	3.0	2.5	2.9	3.0	3.2	3.3	2.8	3.2	3.3	3.5	3.6	3.0	3.4	3.6	3.7	3.9	
0	-20	1.7	2.0	2.1	2.2	2.3	1.9	2.2	2.3	2.4	2.5	2.1	2.4	2.5	2.7	2.8	2.4	2.7	2.8	2.9	3.1	2.6	2.9	3.1	3.2	3.4	
0	-15	1.3	1.6	1.6	1.7	1.8	1.5	1.8	1.9	1.9	2.1	1.7	2.0	2.1	2.2	2.3	2.0	2.2	2.4	2.5	2.6	2.2	2.5	2.6	2.7	2.9	
	-10	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.5	1.3	1.5	1.6	1.7	1.8	1.5	1.8	1.9	2.0	2.1	1.8	2.0	2.1	2.2	2.3	
	-5	.5	.6	.7	.7	.8	.7	.8	.9	.9	1.0	.9	1.1	1.1	1.2	1.3	1.1	1.3	1.4	1.4	1.5	1.3	1.5	1.6	1.7	1.8	
	0	.1	.2	.2	.3	.3	.3	.4	.4	.5	.5	.5	.6	.6	.7	.8	.7	.8	.9	.9	1.0	.9	1.1	1.1	1.2	1.3	
	5	-.3	-.2	-.2	-.2	-.1	-.1	.0	.0	.0	.1	.1	.2	.2	.3	.3	.3	.4	.4	.5	.5	.5	.6	.7	.7	.8	
	10	-.6	-.6	-.6	-.6	-.6	-.5	-.4	-.4	-.4	-.4	-.3	-.2	-.2	-.2	-.2	-.1	.0	.0	.0	.1	.1	.2	.2	.3	.3	
	15	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.9	-.9	-.9	-.7	-.7	-.7	-.6	-.6	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.2	-.2	-.2	
	20	-1.4	-1.4	-1.5	-1.5	-1.5	-1.2	-1.3	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	
	25	-1.8	-1.9	-1.9	-1.9	-2.0	-1.6	-1.7	-1.8	-1.8	-1.8	-1.5	-1.6	-1.6	-1.6	-1.6	-1.3	-1.4	-1.4	-1.4	-1.4	-1.1	-1.2	-1.2	-1.2	-1.2	
	29	-2.3	-2.5	-2.5	-2.6	-2.6	-2.2	-2.3	-2.4	-2.4	-2.5	-2.0	-2.2	-2.2	-2.2	-2.3	-1.9	-2.0	-2.0	-2.1	-2.1	-1.7	-1.8	-1.8	-1.9	-1.9	
1	-35	2.2	2.5	2.6	2.7	2.9	2.4	2.7	2.8	3.0	3.1	2.6	3.0	3.1	3.2	3.4	2.8	3.2	3.4	3.5	3.7	3.1	3.5	3.7	3.8	4.0	
3	-30	2.0	2.3	2.4	2.5	2.6	2.2	2.5	2.6	2.7	2.9	2.4	2.7	2.9	3.0	3.2	2.6	3.0	3.1	3.3	3.4	2.9	3.3	3.4	3.6	3.8	
0	-25	1.6	1.8	1.9	2.0	2.1	1.8	2.1	2.2	2.3	2.4	2.0	2.3	2.4	2.5	2.6	2.2	2.5	2.7	2.8	2.9	2.5	2.8	2.9	3.1	3.2	
0	-20	1.2	1.4	1.5	1.6	1.7	1.4	1.6	1.7	1.8	1.9	1.6	1.8	1.9	2.0	2.2	1.8	2.1	2.2	2.3	2.4	2.1	2.3	2.5	2.6	2.7	
0	-15	.8	1.0	1.1	1.1	1.2	1.0	1.2	1.3	1.3	1.4	1.2	1.4	1.5	1.6	1.7	1.4	1.7	1.8	1.8	1.9	1.7	1.9	2.0	2.1	2.2	
	-10	.5	.6	.6	.7	.7	.6	.8	.8	.9	.9	.8	1.0	1.1	1.1	1.2	1.0	1.2	1.3	1.4	1.4	1.3	1.5	1.5	1.6	1.7	
	-5	.1	.1	.2	.2	.2	.2	.3	.4	.4	.4	.4	.5	.6	.6	.7	.6	.7	.8	.9	.9	.8	1.0	1.0	1.1	1.2	
	0	-.3	-.3	-.3	-.3	-.2	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.2	.2	.2	.3	.3	.4	.4	.4	.5	.6	.6	.7	
	5	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.3	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.2	.2	
	10	-1.0	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.3	
	15	-1.4	-1.5	-1.5	-1.5	-1.5	-1.3	-1.3	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	
	20	-1.7	-1.8	-1.9	-1.9	-1.9	-1.6	-1.7	-1.7	-1.7	-1.8	-1.4	-1.5	-1.5	-1.6	-1.6	-1.3	-1.3	-1.3	-1.4	-1.4	-1.1	-1.1	-1.1	-1.2	-1.2	
	25	-2.2	-2.3	-2.4	-2.4	-2.5	-2.1	-2.2	-2.3	-2.3	-2.3	-1.9	-2.0	-2.1	-2.1	-2.2	-1.8	-1.9	-1.9	-1.9	-2.0	-1.6	-1.7	-1.7	-1.7	-1.8	
	27	-2.5	-2.6	-2.7	-2.8	-2.8	-2.4	-2.5	-2.6	-2.6	-2.7	-2.2	-2.3	-2.4	-2.4	-2.5	-2.1	-2.2	-2.2	-2.3	-2.3	-1.9	-2.0	-2.0	-2.1	-2.1	
1	-35	1.7	2.0	2.1	2.2	2.3	1.9	2.2	2.3	2.4	2.6	2.2	2.5	2.6	2.7	2.8	2.4	2.7	2.8	3.0	3.1	2.6	3.0	3.1	3.3	3.4	
4	-30	1.5	1.7	1.8	1.9	2.0	1.7	1.9	2.0	2.1	2.2	1.9	2.1	2.3	2.4	2.5	2.1	2.4	2.5	2.6	2.8	2.3	2.7	2.8	2.9	3.1	
0	-25	1.1	1.3	1.4	1.4	1.5	1.3	1.5	1.6	1.6	1.7	1.5	1.7	1.8	1.9	2.0	1.7	2.0	2.0	2.2	2.3	1.9	2.2	2.3	2.4	2.5	
0	-20	.7	.9	.9	1.0	1.1	.9	1.1	1.1	1.2	1.3	1.1	1.3	1.4	1.4	1.5	1.3	1.5	1.6	1.7	1.8	1.5	1.8	1.9	1.9	2.1	
0	-15	.4	.5	.5	.6	.6	.5	.7	.7	.8	.8	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.3	1.3	1.2	1.3	1.4	1.5	1.6	
	-10	.0	.1	.1	.1	.2	.2	.3	.3	.3	.4	.3	.5	.5	.6	.6	.5	.7	.7	.8	.8	.8	.9	1.0	1.0	1.1	
	-5	-.4	-.4	-.3	-.3	-.3	-.2	-.2	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.1	.2	.3	.3	.3	.3	.4	.5	.5	.6	
	0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.6	-.6	-.6	-.4	-.4	-.4	-.4	-.4	-.2	-.2	-.2	-.2	-.1	-.1	.0	.0	.1	.1	
	5	-1.1	-1.1	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.6	-.6	-.6	-.4	-.4	-.4	-.4	-.3	
	10	-1.4	-1.5	-1.5	-1.5	-1.6	-1.3	-1.3	-1.4	-1.4	-1.4	-1.1	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	
	15	-1.8	-1.8	-1.9	-1.9	-2.0	-1.6	-1.7	-1.7	-1.8	-1.8	-1.5	-1.5	-1.5	-1.6	-1.6	-1.3	-1.3	-1.4	-1.4	-1.4	-1.1	-1.1	-1.2	-1.2	-1.2	
	20	-2.1	-2.2	-2.2	-2.3	-2.3	-1.9	-2.1	-2.1	-2.1	-2.2	-1.8	-1.9	-1.9	-2.0	-2.0	-1.6	-1.7	-1.7	-1.8	-1.8	-1.5	-1.5	-1.5	-1.6	-1.6	
	25	-2.6	-2.8	-2.9	-2.9	-3.0	-2.5	-2.7	-2.7	-2.8	-2.9	-2.4	-2.5	-2.6	-2.6	-2.7	-2.2	-2.3	-2.4	-2.4	-2.5	-2.1	-2.2	-2.2	-2.3	-2.3	
1	-35	1.1	1.2	1.3	1.4	1.5	1.2	1.4	1.5	1.6	1.7	1.4	1.7	1.7	1.8	1.9	1.6	1.9	2.0	2.1	2.2	1.9	2.1	2.2	2.4	2.5	
5	-30	.7	.9	.9	1.0	1.0	.9	1.0	1.1	1.2	1.2	1.1	1.3	1.3	1.4	1.5	1.3	1.5	1.6	1.7	1.8	1.5	1.7	1.8	1.9	2.0	
5	-25	.4	.5	.5	.6	.6	.5	.7	.7	.8	.8	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.6	
0	-20	.0	.1	.1	.2	.2	.2	.3	.3	.3	.4	.4	.5	.5	.6	.6	.6	.7	.8	.8	.9	.8	.9	1.0	1.0	1.1	
0	-15	-.3	-.3	-.3	-.2	-.2	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.2	.2	.2	.3	.3	.4	.4	.4	.5	.6	.6	.7	
	-10	-.7	-.7	-.7	-.7	-.6	-.5	-.5	-.5	-.5	-.5	-.3	-.3	-.3	-.3	-.2	-.2	-.1	-.1	.0	.0	.0	.1	.1	.2	.2	
	-5	-1.0	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.3	
	0	-1.4	-1.4	-1.5	-1.5	-1.5	-1.2	-1.3	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	
	5	-1.7	-1.8	-1.8	-1.9	-1.9	-1.6	-1.7	-1.7	-1.7	-1.7	-1.4	-1.5	-1.5	-1.5	-1.5	-1.3	-1.3	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	
	10	-2.0	-2.1	-2.2	-2.2	-2.3	-1.9	-2.0	-2.0	-2.1	-2.1	-1.7	-1.8	-1.9	-1.9	-1.9	-1.6	-1.6	-1.7	-1.7	-1.7	-1.4	-1.5	-1.5	-1.5	-1.5	
	15	-2.3	-2.5	-2.5	-2.6	-2.6	-2.2	-2.3	-2.4	-2.4	-2.5	-2.1	-2.2	-2.2	-2.3	-2.3	-1.9	-2.0	-2.0	-2.1	-2.1	-1.7	-1.8	-1.8	-1.9	-1.9	
	20	-2.7	-2.9	-2.9	-3.0	-3.1	-2.6	-2.7	-2.8	-2.9	-2.9	-2.4	-2.6	-2.6	-2.7	-2.8	-2.3	-2.4	-2.5	-2.5	-2.6	-2.1	-2.2	-2.3	-2.3	-2.4	
	21	-2.9	-3.0	-3.1	-3.2	-3.3	-2.7	-2.9	-3.0	-3.0	-3.1	-2.6	-2.8	-2.8	-2.9	-3.0	-2.5	-2.6	-2.7	-2.7	-2.8	-2.3	-2.4	-2.5	-2.5	-2.6	

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Figure 4-34 (Sheet 7)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		11400					11000					10500					9500					8500				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
1	-35	3.8	4.3	4.5	4.7	5.0	4.4	5.0	5.2	5.4	5.7	5.1	5.8	6.1	6.3	6.6	6.8	7.7	8.1	8.4	8.8	8.9	10.1	10.5	11.0	11.5
2	-30	3.6	4.1	4.3	4.5	4.7	4.2	4.7	4.9	5.2	5.4	4.9	5.6	5.8	6.1	6.4	6.6	7.5	7.8	8.2	8.6	8.7	9.8	10.2	10.7	11.2
0	-25	3.3	3.7	3.9	4.1	4.2	3.8	4.3	4.5	4.7	4.9	4.5	5.1	5.3	5.6	5.9	6.2	7.0	7.3	7.6	8.0	8.2	9.3	9.7	10.1	10.6
0	-20	2.8	3.2	3.4	3.5	3.7	3.3	3.8	4.0	4.2	4.4	4.0	4.6	4.8	5.0	5.3	5.7	6.4	6.7	7.0	7.3	7.6	8.6	9.0	9.4	9.9
0	-15	2.4	2.8	2.9	3.0	3.2	2.9	3.3	3.5	3.6	3.8	3.6	4.1	4.3	4.5	4.7	5.2	5.9	6.1	6.4	6.7	7.1	8.0	8.4	8.8	9.2
	-10	2.0	2.3	2.4	2.5	2.6	2.5	2.8	2.9	3.1	3.2	3.1	3.6	3.7	3.9	4.1	4.7	5.3	5.5	5.8	6.1	6.5	7.4	7.7	8.1	8.5
	-5	1.5	1.8	1.9	2.0	2.1	2.0	2.3	2.4	2.5	2.7	2.6	3.0	3.1	3.3	3.5	4.1	4.7	4.9	5.1	5.4	5.9	6.7	7.0	7.4	7.7
	0	1.1	1.3	1.4	1.4	1.5	1.6	1.8	1.9	2.0	2.1	2.2	2.5	2.6	2.7	2.9	3.6	4.1	4.3	4.5	4.7	5.3	6.1	6.3	6.6	7.0
	5	.7	.8	.9	1.0	1.0	1.1	1.3	1.4	1.5	1.6	1.7	2.0	2.1	2.2	2.3	3.1	3.5	3.7	3.9	4.1	4.8	5.4	5.7	6.0	6.3
	10	.3	.4	.5	.5	.6	.7	.9	.9	1.0	1.1	1.3	1.5	1.6	1.7	1.8	2.6	3.0	3.2	3.3	3.5	4.3	4.8	5.1	5.3	5.6
	15	-.1	.0	.0	.0	.0	.3	.4	.5	.5	.6	.9	1.0	1.1	1.2	1.2	2.1	2.5	2.6	2.7	2.9	3.7	4.2	4.4	4.6	4.9
	20	-.5	-.5	-.5	-.5	-.5	-.1	-.1	.0	.0	.0	.4	.5	.6	.6	.7	1.6	1.9	2.0	2.1	2.2	3.1	3.6	3.8	4.0	4.2
	25	-1.0	-1.0	-1.0	-1.0	-1.0	-.6	-.6	-.6	-.6	-.5	-.1	.0	.0	.1	.1	1.1	1.3	1.4	1.5	1.6	2.6	2.9	3.1	3.2	3.4
	29	-1.5	-1.6	-1.6	-1.7	-1.7	-1.2	-1.2	-1.2	-1.3	-1.3	-.7	-.7	-.7	-.7	-.7	.4	.5	.6	.6	.7	1.8	2.1	2.2	2.3	2.4
1	-35	3.3	3.8	3.9	4.1	4.3	3.9	4.4	4.6	4.8	5.0	4.6	5.2	5.4	5.7	5.9	6.3	7.1	7.4	7.7	8.1	8.3	9.3	9.8	10.2	10.7
3	-30	3.1	3.5	3.7	3.9	4.1	3.7	4.1	4.3	4.5	4.7	4.4	4.9	5.2	5.4	5.7	6.0	6.8	7.1	7.4	7.8	8.0	9.0	9.4	9.9	10.4
0	-25	2.7	3.1	3.2	3.4	3.5	3.2	3.6	3.8	4.0	4.2	3.9	4.4	4.6	4.8	5.1	5.5	6.2	6.5	6.8	7.1	7.5	8.4	8.8	9.2	9.6
0	-20	2.3	2.6	2.7	2.9	3.0	2.8	3.2	3.3	3.5	3.6	3.4	3.9	4.1	4.3	4.5	5.0	5.7	5.9	6.2	6.5	6.9	7.8	8.2	8.5	8.9
0	-15	1.9	2.2	2.3	2.4	2.5	2.4	2.7	2.8	3.0	3.1	3.0	3.4	3.6	3.8	3.9	4.5	5.1	5.4	5.6	5.9	6.4	7.2	7.5	7.9	8.3
	-10	1.5	1.7	1.8	1.9	2.0	1.9	2.2	2.3	2.4	2.6	2.6	2.9	3.1	3.2	3.4	4.0	4.6	4.8	5.0	5.3	5.8	6.6	6.9	7.2	7.6
	-5	1.0	1.2	1.3	1.4	1.4	1.5	1.7	1.8	1.9	2.0	2.1	2.4	2.5	2.6	2.8	3.5	4.0	4.2	4.4	4.6	5.2	6.0	6.2	6.5	6.8
	0	.6	.7	.8	.9	.9	1.0	1.2	1.3	1.4	1.5	1.6	1.9	2.0	2.1	2.2	3.0	3.4	3.6	3.8	3.9	4.7	5.3	5.6	5.8	6.1
	5	.2	.3	.4	.4	.4	.6	.8	.8	.9	1.0	1.2	1.4	1.5	1.6	1.7	2.5	2.9	3.0	3.2	3.4	4.2	4.7	5.0	5.2	5.5
	10	-.2	-.1	-.1	.0	.0	.2	.4	.4	.4	.5	.8	1.0	1.0	1.1	1.2	2.1	2.4	2.5	2.6	2.8	3.7	4.2	4.4	4.6	4.8
	15	-.5	-.5	-.5	-.5	-.5	-.1	-.1	-.1	.0	.0	.4	.5	.6	.6	.7	1.6	1.9	2.0	2.1	2.2	3.1	3.6	3.8	4.0	4.2
	20	-.9	-.9	-.9	-.9	-.9	-.5	-.5	-.5	-.5	-.5	.0	.0	.1	.1	.1	1.2	1.4	1.5	1.5	1.6	2.6	3.0	3.2	3.3	3.5
	25	-1.4	-1.5	-1.5	-1.5	-1.6	-1.1	-1.1	-1.1	-1.1	-1.1	-.6	-.6	-.6	-.5	-.5	.5	.7	.7	.8	.9	1.9	2.3	2.4	2.5	2.6
	27	-1.7	-1.8	-1.8	-1.9	-1.9	-1.4	-1.4	-1.5	-1.5	-1.5	-.9	-.9	-.9	-.9	-.9	.2	.3	.3	.4	.4	1.6	1.8	1.9	2.0	2.1
1	-35	2.9	3.2	3.4	3.6	3.7	3.4	3.8	4.0	4.2	4.4	4.1	4.6	4.8	5.0	5.3	5.7	6.4	6.7	7.0	7.3	7.6	8.6	9.0	9.4	9.9
4	-30	2.6	2.9	3.1	3.2	3.4	3.1	3.5	3.6	3.8	4.0	3.8	4.2	4.4	4.6	4.9	5.3	6.0	6.3	6.6	6.9	7.3	8.2	8.6	9.0	9.4
0	-25	2.2	2.5	2.6	2.7	2.8	2.6	3.0	3.1	3.3	3.5	3.3	3.7	3.9	4.1	4.3	4.8	5.5	5.7	6.0	6.3	6.7	7.6	7.9	8.3	8.7
0	-20	1.8	2.0	2.1	2.2	2.3	2.2	2.5	2.7	2.8	2.9	2.9	3.3	3.4	3.6	3.7	4.4	4.9	5.2	5.4	5.7	6.2	7.0	7.3	7.7	8.0
0	-15	1.4	1.6	1.7	1.8	1.9	1.8	2.1	2.2	2.3	2.4	2.5	2.8	2.9	3.1	3.2	3.9	4.4	4.6	4.8	5.1	5.7	6.4	6.7	7.1	7.4
	-10	1.0	1.1	1.2	1.3	1.4	1.4	1.6	1.7	1.8	1.9	2.0	2.3	2.4	2.5	2.7	3.4	3.9	4.1	4.3	4.5	5.2	5.8	6.1	6.4	6.7
	-5	.5	.7	.7	.8	.8	1.0	1.1	1.2	1.3	1.4	1.6	1.8	1.9	2.0	2.1	2.9	3.3	3.5	3.6	3.8	4.6	5.2	5.4	5.7	6.0
	0	.1	.2	.3	.3	.3	.6	.7	.7	.8	.9	1.1	1.3	1.4	1.5	1.6	2.4	2.8	2.9	3.1	3.2	4.1	4.6	4.8	5.1	5.3
	5	-.2	-.2	-.2	-.1	-.1	.2	.3	.3	.3	.4	.7	.9	.9	1.0	1.1	2.0	2.3	2.4	2.5	2.7	3.6	4.1	4.2	4.4	4.7
	10	-.6	-.6	-.6	-.6	-.5	-.2	-.1	-.1	-.1	-.1	.3	.4	.5	.5	.6	1.6	1.8	1.9	2.0	2.1	3.1	3.5	3.7	3.9	4.1
	15	-.9	-1.0	-1.0	-1.0	-1.0	-.6	-.5	-.5	-.5	-.5	.0	.0	.1	.1	.1	1.1	1.4	1.4	1.5	1.6	2.6	3.0	3.1	3.3	3.5
	20	-1.3	-1.3	-1.3	-1.4	-1.4	-.9	-.9	-.9	-.9	-.9	-.4	-.4	-.4	-.4	-.3	.7	.9	1.0	1.0	1.1	2.2	2.5	2.6	2.7	2.9
	25	-1.9	-2.0	-2.0	-2.1	-2.1	-1.5	-1.6	-1.6	-1.7	-1.7	-1.1	-1.1	-1.1	-1.1	-1.1	.0	.1	.1	.1	.2	1.3	1.6	1.7	1.8	1.9
1	-35	2.1	2.4	2.5	2.6	2.8	2.6	2.9	3.1	3.2	3.4	3.2	3.7	3.8	4.0	4.2	4.8	5.4	5.6	5.9	6.2	6.6	7.5	7.8	8.2	8.6
5	-30	1.7	2.0	2.1	2.2	2.3	2.2	2.5	2.6	2.8	2.9	2.8	3.2	3.4	3.5	3.7	4.3	4.9	5.1	5.4	5.6	6.2	7.0	7.3	7.6	8.0
5	-25	1.4	1.6	1.7	1.7	1.8	1.8	2.1	2.2	2.3	2.4	2.4	2.8	2.9	3.1	3.2	3.9	4.4	4.6	4.8	5.0	5.7	6.4	6.7	7.0	7.4
0	-20	1.0	1.2	1.2	1.3	1.4	1.4	1.7	1.7	1.8	1.9	2.0	2.3	2.4	2.6	2.7	3.4	3.9	4.1	4.3	4.5	5.2	5.9	6.1	6.4	6.7
0	-15	.6	.8	.8	.9	.9	1.1	1.2	1.3	1.4	1.5	1.6	1.9	2.0	2.1	2.2	3.0	3.4	3.6	3.7	3.9	4.7	5.3	5.5	5.8	6.1
	-10	.2	.3	.4	.4	.5	.7	.8	.9	.9	1.0	1.2	1.4	1.5	1.6	1.7	2.6	2.9	3.0	3.2	3.4	4.2	4.7	5.0	5.2	5.5
	-5	-.2	-.1	-.1	-.1	.0	.2	.3	.4	.4	.5	.8	1.0	1.0	1.1	1.2	2.1	2.4	2.5	2.6	2.8	3.7	4.1	4.3	4.5	4.8
	0	-.5	-.5	-.5	-.5	-.5	-.1	-.1	-.1	.0	.0	.4	.5	.6	.6	.7	1.6	1.9	2.0	2.1	2.2	3.2	3.6	3.8	3.9	4.1
	5	-.9	-.9	-.9	-.9	-.9	-.5	-.5	-.5	-.5	-.5	.0	.1	.1	.1	.2	1.2	1.4	1.5	1.6	1.7	2.7	3.0	3.2	3.4	3.5
	10	-1.2	-1.3	-1.3	-1.3	-1.3	-.9	-.9	-.9	-.9	-.9	-.4	-.3	-.3	-.3	-.3	.8	1.0	1.0	1.1	1.2	2.2	2.6	2.7	2.8	3.0
	15	-1.6	-1.6	-1.7	-1.7	-1.7	-1.2	-1.2	-1.3	-1.3	-1.3	-.7	-.7	-.7	-.7	-.7	.4	.5	.6	.6	.7	1.8	2.1	2.2	2.3	2.4
	20	-2.0	-2.1	-2.1	-2.1	-2.2	-1.6	-1.7	-1.7	-1.8	-1.8	-1.2	-1.2	-1.2	-1.2	-1.2	-.1	.0	.0	.1	.1	1.3	1.5	1.6	1.6	1.7
	21	-2.1	-2.3	-2.3	-2.4	-2.4	-1.8	-1.9	-1.9	-2.0	-2.0	-1.3	-1.4	-1.4	-1.4	-1.5	-.3	-.2	-.2	-.2	-.2	1.0	1.2	1.3	1.3	1.4

Figure 4-34 (Sheet 8)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - ON
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		12375					12200					12000					11800					11600				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
0	-35	3.6	4.1	4.4	4.6	4.9	3.8	4.4	4.6	4.9	5.2	4.0	4.6	4.9	5.2	5.5	4.3	4.9	5.2	5.5	5.8	4.5	5.2	5.5	5.8	6.2
	-30	3.6	4.1	4.3	4.6	4.9	3.8	4.4	4.6	4.9	5.1	4.0	4.6	4.9	5.2	5.5	4.3	4.9	5.2	5.5	5.8	4.5	5.2	5.5	5.8	6.2
	-25	3.6	4.1	4.3	4.6	4.9	3.8	4.4	4.6	4.9	5.1	4.0	4.6	4.9	5.2	5.5	4.3	4.9	5.2	5.5	5.8	4.5	5.2	5.5	5.8	6.2
	-20	3.6	4.1	4.3	4.6	4.9	3.8	4.4	4.6	4.9	5.1	4.0	4.6	4.9	5.2	5.5	4.3	4.9	5.2	5.5	5.8	4.5	5.2	5.5	5.8	6.2
	-15	3.6	4.1	4.4	4.6	4.9	3.8	4.4	4.6	4.9	5.1	4.0	4.7	4.9	5.2	5.5	4.3	4.9	5.2	5.5	5.8	4.5	5.2	5.5	5.8	6.2
	-10	3.6	4.1	4.4	4.6	4.9	3.8	4.4	4.6	4.9	5.1	4.0	4.7	4.9	5.2	5.5	4.3	5.0	5.2	5.5	5.8	4.6	5.3	5.5	5.8	6.2
	-5	3.6	4.2	4.4	4.6	4.9	3.8	4.4	4.6	4.9	5.1	4.1	4.7	4.9	5.2	5.5	4.3	5.0	5.2	5.5	5.8	4.6	5.3	5.5	5.8	6.2
	0	3.5	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.7	5.0	3.9	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0
	5	3.4	3.9	4.1	4.3	4.5	3.6	4.1	4.3	4.6	4.8	3.8	4.4	4.6	4.9	5.1	4.1	4.7	4.9	5.2	5.5	4.3	5.0	5.2	5.5	5.8
	10	2.4	2.8	3.0	3.1	3.3	2.6	3.0	3.2	3.4	3.6	2.8	3.3	3.5	3.7	3.9	3.1	3.6	3.8	4.0	4.2	3.3	3.8	4.0	4.3	4.5
1	-35	3.5	4.0	4.2	4.5	4.7	3.7	4.2	4.5	4.7	5.0	3.9	4.5	4.8	5.0	5.3	4.1	4.8	5.1	5.4	5.7	4.4	5.1	5.4	5.7	6.0
0	-30	3.5	4.0	4.2	4.4	4.7	3.7	4.2	4.5	4.7	5.0	3.9	4.5	4.8	5.0	5.3	4.1	4.8	5.1	5.3	5.6	4.4	5.1	5.4	5.7	6.0
0	-25	3.5	4.0	4.2	4.4	4.7	3.7	4.2	4.5	4.7	5.0	3.9	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.4	5.1	5.4	5.7	6.0
0	-20	3.5	4.0	4.2	4.4	4.7	3.7	4.2	4.5	4.7	5.0	3.9	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.4	5.1	5.4	5.7	6.0
	-15	3.5	4.0	4.2	4.5	4.7	3.7	4.2	4.5	4.7	5.0	3.9	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.4	5.1	5.4	5.7	6.0
	-10	3.5	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.7	5.0	3.9	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0
	-5	3.5	4.0	4.2	4.4	4.6	3.7	4.2	4.4	4.7	4.9	3.9	4.5	4.7	5.0	5.2	4.2	4.8	5.0	5.3	5.6	4.4	5.1	5.3	5.6	5.9
	0	3.3	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.7	3.8	4.3	4.6	4.8	5.1	4.0	4.6	4.9	5.1	5.4	4.3	4.9	5.2	5.4	5.7
	5	2.9	3.3	3.5	3.7	3.9	3.1	3.5	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.5	3.6	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.8	5.1
	10	2.0	2.3	2.4	2.6	2.7	2.2	2.5	2.6	2.8	3.0	2.4	2.8	2.9	3.1	3.2	2.6	3.0	3.2	3.3	3.5	2.8	3.3	3.4	3.6	3.8
2	-35	3.4	3.9	4.1	4.4	4.6	3.6	4.2	4.4	4.6	4.9	3.8	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.3	5.6	4.4	5.0	5.3	5.6	5.9
0	-30	3.4	3.9	4.1	4.4	4.6	3.6	4.2	4.4	4.6	4.9	3.8	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.2	5.5	4.4	5.0	5.3	5.6	5.9
0	-25	3.4	3.9	4.1	4.4	4.6	3.6	4.2	4.4	4.6	4.9	3.9	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.2	5.5	4.4	5.0	5.3	5.6	5.9
0	-20	3.4	3.9	4.1	4.4	4.6	3.6	4.2	4.4	4.6	4.9	3.9	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.2	5.5	4.4	5.0	5.3	5.6	5.9
	-15	3.4	3.9	4.1	4.4	4.6	3.6	4.2	4.4	4.6	4.9	3.9	4.5	4.7	4.9	5.2	4.1	4.7	5.0	5.2	5.5	4.4	5.0	5.3	5.6	5.9
	-10	3.4	4.0	4.2	4.4	4.6	3.6	4.2	4.4	4.6	4.9	3.9	4.5	4.7	4.9	5.2	4.1	4.8	5.0	5.3	5.5	4.4	5.0	5.3	5.6	5.9
	-5	3.3	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.7	3.8	4.3	4.5	4.8	5.0	4.0	4.6	4.8	5.1	5.4	4.3	4.9	5.2	5.4	5.7
	0	3.2	3.7	3.8	4.0	4.3	3.4	3.9	4.1	4.3	4.5	3.6	4.2	4.4	4.6	4.8	3.9	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.2	5.5
	5	2.4	2.8	2.9	3.1	3.3	2.6	3.0	3.1	3.3	3.5	2.8	3.2	3.4	3.6	3.8	3.0	3.5	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.4
	10	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.1	2.2	2.3	1.9	2.2	2.3	2.5	2.6	2.1	2.5	2.6	2.7	2.9	2.3	2.7	2.9	3.0	3.2
3	-35	3.5	4.0	4.2	4.4	4.7	3.7	4.2	4.4	4.7	4.9	3.9	4.5	4.7	5.0	5.3	4.1	4.8	5.0	5.3	5.6	4.4	5.1	5.3	5.6	5.9
0	-30	3.5	4.0	4.2	4.4	4.7	3.7	4.2	4.4	4.7	4.9	3.9	4.5	4.7	5.0	5.3	4.1	4.8	5.0	5.3	5.6	4.4	5.1	5.3	5.6	5.9
0	-25	3.5	4.0	4.2	4.4	4.6	3.7	4.2	4.4	4.7	4.9	3.9	4.5	4.7	5.0	5.2	4.2	4.8	5.0	5.3	5.6	4.4	5.1	5.3	5.6	5.9
0	-20	3.5	4.0	4.2	4.4	4.6	3.7	4.2	4.4	4.7	4.9	3.9	4.5	4.7	5.0	5.2	4.2	4.8	5.0	5.3	5.6	4.4	5.1	5.3	5.6	5.9
	-15	3.5	4.0	4.2	4.4	4.6	3.7	4.2	4.4	4.7	4.9	3.9	4.5	4.7	5.0	5.2	4.2	4.8	5.0	5.3	5.6	4.4	5.1	5.3	5.6	5.9
	-10	3.5	4.0	4.2	4.4	4.6	3.7	4.2	4.4	4.6	4.9	3.9	4.5	4.7	4.9	5.2	4.1	4.8	5.0	5.2	5.5	4.4	5.0	5.3	5.6	5.9
	-5	3.3	3.7	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.6	3.7	4.2	4.4	4.7	4.9	3.9	4.5	4.7	5.0	5.2	4.2	4.8	5.0	5.3	5.6
	0	2.9	3.3	3.5	3.7	3.9	3.1	3.6	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.8	5.1
	5	1.9	2.2	2.4	2.5	2.6	2.1	2.4	2.6	2.7	2.9	2.3	2.7	2.8	3.0	3.1	2.5	2.9	3.1	3.3	3.4	2.8	3.2	3.4	3.5	3.7
	10	1.1	1.3	1.4	1.4	1.5	1.2	1.5	1.6	1.7	1.8	1.4	1.7	1.8	1.9	2.0	1.6	1.9	2.0	2.2	2.3	1.9	2.2	2.3	2.4	2.6
4	-35	3.5	4.0	4.2	4.4	4.7	3.7	4.3	4.5	4.7	5.0	4.0	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0
0	-30	3.5	4.0	4.2	4.4	4.7	3.7	4.3	4.5	4.7	5.0	4.0	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0
0	-25	3.5	4.0	4.2	4.4	4.7	3.7	4.2	4.5	4.7	4.9	4.0	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0
0	-20	3.5	4.0	4.2	4.4	4.7	3.7	4.3	4.5	4.7	4.9	4.0	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0
	-15	3.5	4.0	4.2	4.4	4.7	3.7	4.3	4.5	4.7	4.9	4.0	4.5	4.8	5.0	5.3	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.7	6.0
	-10	3.4	3.9	4.0	4.3	4.5	3.6	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.1	5.4	4.3	5.0	5.2	5.5	5.7
	-5	3.1	3.6	3.8	3.9	4.2	3.3	3.8	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.7	3.8	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.1	5.4
	0	2.4	2.8	2.9	3.1	3.2	2.6	3.0	3.1	3.3	3.5	2.8	3.2	3.4	3.6	3.8	3.1	3.5	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.4
	5	1.4	1.7	1.8	1.9	2.0	1.6	1.9	2.0	2.1	2.3	1.8	2.1	2.3	2.4	2.5	2.1	2.4	2.5	2.7	2.8	2.3	2.6	2.8	2.9	3.1
	10	.6	.8	.8	.9	1.0	.8	1.0	1.0	1.1	1.2	1.0	1.2	1.3	1.4	1.5	1.2	1.4	1.5	1.6	1.7	1.4	1.7	1.8	1.9	2.0
5	-35	3.5	4.1	4.3	4.5	4.7	3.7	4.3	4.5	4.7	5.0	4.0	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.7	4.5	5.2	5.4	5.7	6.0
0	-30	3.5	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.7	5.0	4.0	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.4	5.7	4.5	5.2	5.4	5.7	6.0
0	-25	3.5	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.7	5.0	4.0	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0
0	-20	3.5	4.0	4.2	4.5	4.7	3.8	4.3	4.5	4.7	5.0	4.0	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0
	-15	3.5	4.0	4.2	4.5	4.7	3.8	4.3	4.5	4.7	5.0	4.0	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.4	5.6	4.5	5.2	5.4	5.7	6.0
	-10	3.2	3.7	3.9	4.1	4.3	3.5	4.0	4.1	4.3	4.6	3.7	4.2	4.4	4.7	4.9	4.0	4.5	4.7	5.0	5.2	4.2	4.8	5.1	5.3	5.6
	-5	2.9	3.4	3.5	3.7	3.9	3.2	3.6	3.8	4.0	4.2	3.4	3.9	4.1	4.3	4.5	3.6	4.2	4.4	4.6	4.8	3.9	4.5	4.7	4.9	5.2
	0	1.9	2.2	2.3	2.4	2.6	2.1	2.4	2.5	2.7	2.8	2.3	2.6	2.8	2.9	3.1	2.5	2.9	3.1	3.2	3.4	2.8	3.2	3.3	3.5	3.7
	5	1.0	1.2	1.3	1.3	1.4	1.2	1.4	1.5	1.6	1.7	1.4	1.6	1.7	1.8	1.9	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.3	2.5
	10	.2	.3	.3	.4	.4	.4	.5	.5	.6	.6	.6	.7	.8	.8	.9	.8	.9	1.0	1.1	1.1	1.0	1.2	1.2	1.3	1.4

Figure 4-35 (Sheet 1 of 6)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - ON
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																									
		11400					11000					10500					9500					8500					
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	
0	-35	4.8	5.6	5.9	6.2	6.6	5.4	6.2	6.5	6.9	7.3	6.1	7.1	7.5	7.9	8.4	7.9	9.1	9.6	10.2	10.8	10.0	11.6	12.2	12.9	13.7	
	-30	4.8	5.5	5.8	6.2	6.5	5.4	6.2	6.5	6.9	7.3	6.1	7.1	7.5	7.9	8.4	7.9	9.1	9.6	10.2	10.8	10.0	11.6	12.2	12.9	13.7	
	-25	4.8	5.5	5.8	6.2	6.5	5.4	6.2	6.5	6.9	7.3	6.1	7.1	7.5	7.9	8.3	7.9	9.1	9.6	10.1	10.7	10.1	11.6	12.2	12.9	13.7	
	-20	4.8	5.5	5.8	6.2	6.5	5.4	6.2	6.5	6.9	7.3	6.2	7.1	7.5	7.9	8.3	7.9	9.1	9.6	10.1	10.7	10.1	11.6	12.2	12.9	13.7	
	-15	4.8	5.6	5.8	6.2	6.5	5.4	6.2	6.5	6.9	7.3	6.2	7.1	7.5	7.9	8.3	7.9	9.1	9.6	10.1	10.7	10.1	11.6	12.2	12.9	13.6	
	-10	4.8	5.6	5.9	6.2	6.5	5.4	6.2	6.6	6.9	7.3	6.2	7.1	7.5	7.9	8.3	8.0	9.2	9.6	10.1	10.7	10.1	11.6	12.2	12.9	13.6	
	-5	4.9	5.6	5.9	6.2	6.5	5.4	6.2	6.6	6.9	7.3	6.2	7.1	7.5	7.9	8.3	8.0	9.2	9.6	10.2	10.7	10.1	11.6	12.2	12.9	13.6	
	0	4.7	5.4	5.7	6.0	6.3	5.3	6.1	6.4	6.7	7.1	6.1	7.0	7.3	7.7	8.1	7.8	9.0	9.5	10.0	10.5	10.0	11.5	12.0	12.7	13.4	
	5	4.6	5.3	5.6	5.8	6.2	5.2	5.9	6.2	6.6	6.9	5.9	6.8	7.2	7.5	7.9	7.7	8.8	9.3	9.8	10.3	9.8	11.3	11.8	12.5	13.2	
	10	3.6	4.1	4.3	4.6	4.8	4.1	4.7	5.0	5.2	5.5	4.8	5.6	5.8	6.2	6.5	6.5	7.5	7.8	8.3	8.7	8.5	9.8	10.3	10.8	11.4	
1	-35	4.7	5.4	5.7	6.0	6.4	5.2	6.1	6.4	6.8	7.2	6.0	7.0	7.3	7.7	8.2	7.8	9.0	9.5	10.0	10.6	9.9	11.4	12.0	12.7	13.5	
0	-30	4.7	5.4	5.7	6.0	6.4	5.2	6.1	6.4	6.7	7.1	6.0	6.9	7.3	7.7	8.2	7.8	9.0	9.4	10.0	10.5	9.9	11.4	12.0	12.7	13.4	
0	-25	4.7	5.4	5.7	6.0	6.4	5.3	6.1	6.4	6.7	7.1	6.0	6.9	7.3	7.7	8.2	7.8	9.0	9.4	10.0	10.5	9.9	11.4	12.0	12.7	13.4	
0	-20	4.7	5.4	5.7	6.0	6.3	5.3	6.1	6.4	6.7	7.1	6.0	6.9	7.3	7.7	8.1	7.8	9.0	9.4	9.9	10.5	9.9	11.4	12.0	12.7	13.4	
	-15	4.7	5.4	5.7	6.0	6.3	5.3	6.1	6.4	6.7	7.1	6.1	7.0	7.3	7.7	8.1	7.8	9.0	9.4	10.0	10.5	10.0	11.4	12.0	12.7	13.4	
	-10	4.7	5.4	5.7	6.0	6.3	5.3	6.1	6.4	6.7	7.1	6.1	7.0	7.3	7.7	8.1	7.8	9.0	9.5	10.0	10.5	10.0	11.5	12.0	12.7	13.4	
	-5	4.7	5.4	5.7	5.9	6.3	5.3	6.0	6.3	6.7	7.0	6.0	6.9	7.3	7.6	8.1	7.8	8.9	9.4	9.9	10.4	9.9	11.4	12.0	12.6	13.3	
	0	4.5	5.2	5.5	5.8	6.1	5.1	5.9	6.2	6.5	6.8	5.9	6.7	7.1	7.5	7.9	7.6	8.7	9.2	9.7	10.2	9.8	11.2	11.7	12.4	13.0	
	5	4.1	4.7	4.9	5.2	5.4	4.6	5.3	5.6	5.9	6.2	5.3	6.1	6.5	6.8	7.2	7.1	8.1	8.5	8.9	9.4	9.1	10.5	11.0	11.6	12.2	
	10	3.1	3.6	3.7	3.9	4.2	3.6	4.1	4.3	4.6	4.8	4.3	4.9	5.2	5.5	5.8	5.9	6.8	7.1	7.5	7.9	7.8	9.0	9.5	10.0	10.5	
2	-35	4.6	5.3	5.6	5.9	6.3	5.2	6.0	6.3	6.7	7.0	6.0	6.9	7.2	7.6	8.1	7.7	8.9	9.4	9.9	10.4	9.8	11.3	11.9	12.6	13.3	
0	-30	4.6	5.3	5.6	5.9	6.3	5.2	6.0	6.3	6.6	7.0	6.0	6.9	7.2	7.6	8.0	7.7	8.9	9.3	9.8	10.4	9.8	11.3	11.9	12.6	13.3	
0	-25	4.6	5.3	5.6	5.9	6.2	5.2	6.0	6.3	6.6	7.0	6.0	6.9	7.2	7.6	8.0	7.7	8.9	9.3	9.8	10.4	9.8	11.3	11.9	12.6	13.3	
0	-20	4.6	5.3	5.6	5.9	6.2	5.2	6.0	6.3	6.6	7.0	6.0	6.9	7.2	7.6	8.0	7.7	8.9	9.3	9.8	10.4	9.9	11.3	11.9	12.5	13.3	
	-15	4.7	5.3	5.6	5.9	6.2	5.2	6.0	6.3	6.6	7.0	6.0	6.9	7.2	7.6	8.0	7.8	8.9	9.3	9.8	10.4	9.9	11.3	11.9	12.5	13.2	
	-10	4.7	5.4	5.6	5.9	6.2	5.2	6.0	6.3	6.6	7.0	6.0	6.9	7.2	7.6	8.0	7.8	8.9	9.3	9.8	10.4	9.9	11.4	11.9	12.6	13.2	
	-5	4.5	5.2	5.5	5.8	6.1	5.1	5.9	6.2	6.5	6.8	5.9	6.7	7.1	7.4	7.8	7.6	8.7	9.2	9.6	10.2	9.8	11.2	11.7	12.3	13.0	
	0	4.4	5.0	5.3	5.6	5.9	5.0	5.7	6.0	6.3	6.6	5.7	6.5	6.9	7.2	7.6	7.5	8.5	8.9	9.4	9.9	9.6	10.9	11.5	12.1	12.7	
	5	3.5	4.1	4.3	4.5	4.7	4.1	4.7	4.9	5.2	5.4	4.8	5.5	5.8	6.1	6.4	6.4	7.4	7.7	8.2	8.6	8.4	9.7	10.2	10.7	11.3	
	10	2.6	3.0	3.1	3.3	3.5	3.1	3.5	3.7	3.9	4.2	3.7	4.3	4.5	4.8	5.0	5.3	6.1	6.4	6.7	7.1	7.2	8.2	8.7	9.1	9.7	
3	-35	4.7	5.4	5.7	6.0	6.3	5.2	6.0	6.3	6.7	7.1	6.0	6.9	7.3	7.7	8.1	7.8	8.9	9.4	9.9	10.5	9.9	11.4	12.0	12.6	13.3	
0	-30	4.7	5.4	5.7	6.0	6.3	5.2	6.0	6.3	6.7	7.1	6.0	6.9	7.3	7.7	8.1	7.8	8.9	9.4	9.9	10.4	9.9	11.4	12.0	12.6	13.3	
0	-25	4.7	5.4	5.7	6.0	6.3	5.2	6.0	6.3	6.7	7.0	6.0	6.9	7.3	7.6	8.1	7.8	8.9	9.4	9.9	10.4	9.9	11.4	12.0	12.6	13.3	
0	-20	4.7	5.4	5.7	6.0	6.3	5.3	6.0	6.3	6.7	7.0	6.0	6.9	7.3	7.6	8.1	7.8	8.9	9.4	9.9	10.4	9.9	11.4	12.0	12.6	13.3	
	-15	4.7	5.4	5.7	6.0	6.3	5.3	6.0	6.3	6.7	7.0	6.1	6.9	7.3	7.6	8.1	7.8	8.9	9.4	9.9	10.4	10.0	11.4	12.0	12.6	13.3	
	-10	4.7	5.4	5.6	5.9	6.2	5.2	6.0	6.3	6.6	7.0	6.0	6.9	7.2	7.6	8.0	7.8	8.9	9.3	9.8	10.3	9.9	11.3	11.9	12.5	13.2	
	-5	4.5	5.1	5.4	5.6	5.9	5.0	5.7	6.0	6.3	6.7	5.8	6.6	6.9	7.3	7.7	7.5	8.6	9.0	9.5	10.0	9.7	11.0	11.6	12.2	12.8	
	0	4.1	4.7	4.9	5.2	5.4	4.6	5.3	5.6	5.8	6.2	5.4	6.1	6.5	6.8	7.1	7.1	8.1	8.5	8.9	9.4	9.2	10.5	11.0	11.5	12.2	
	5	3.0	3.5	3.7	3.8	4.1	3.5	4.0	4.3	4.5	4.7	4.2	4.8	5.1	5.3	5.6	5.8	6.7	7.0	7.4	7.8	7.8	8.9	9.3	9.8	10.4	
	10	2.1	2.4	2.6	2.7	2.9	2.6	3.0	3.1	3.3	3.5	3.2	3.7	3.9	4.1	4.3	4.7	5.4	5.7	6.0	6.3	6.5	7.5	7.9	8.3	8.8	
4	-35	4.7	5.4	5.7	6.0	6.4	5.3	6.1	6.4	6.7	7.1	6.1	7.0	7.3	7.7	8.1	7.8	9.0	9.4	9.9	10.5	10.0	11.4	12.0	12.7	13.4	
0	-30	4.7	5.4	5.7	6.0	6.3	5.3	6.1	6.4	6.7	7.1	6.1	7.0	7.3	7.7	8.1	7.8	9.0	9.4	9.9	10.5	10.0	11.4	12.0	12.6	13.3	
0	-25	4.7	5.4	5.7	6.0	6.3	5.3	6.1	6.4	6.7	7.1	6.1	7.0	7.3	7.7	8.1	7.9	9.0	9.4	9.9	10.4	10.0	11.4	12.0	12.6	13.3	
0	-20	4.7	5.4	5.7	6.0	6.3	5.3	6.1	6.4	6.7	7.1	6.1	7.0	7.3	7.7	8.1	7.9	9.0	9.4	9.9	10.4	10.0	11.4	12.0	12.6	13.3	
	-15	4.8	5.4	5.7	6.0	6.3	5.3	6.1	6.4	6.7	7.1	6.1	7.0	7.3	7.7	8.1	7.9	9.0	9.4	9.9	10.4	10.0	11.4	12.0	12.6	13.3	
	-10	4.6	5.3	5.5	5.8	6.1	5.2	5.9	6.2	6.5	6.8	5.9	6.8	7.1	7.5	7.9	7.7	8.8	9.2	9.7	10.2	9.8	11.2	11.8	12.4	13.0	
	-5	4.3	5.0	5.2	5.5	5.8	4.9	5.6	5.9	6.2	6.5	5.7	6.5	6.8	7.1	7.5	7.4	8.4	8.8	9.3	9.8	9.5	10.8	11.4	11.9	12.6	
	0	3.6	4.1	4.3	4.5	4.7	4.1	4.7	4.9	5.1	5.4	4.8	5.5	5.8	6.0	6.4	6.4	7.4	7.7	8.1	8.6	8.5	9.7	10.1	10.7	11.2	
	5	2.5	2.9	3.1	3.2	3.4	3.0	3.5	3.6	3.8	4.0	3.7	4.2	4.4	4.7	4.9	5.2	6.0	6.3	6.6	7.0	7.1	8.1	8.5	9.0	9.5	
	10	1.6	1.9	2.0	2.1	2.3	2.1	2.4	2.6	2.7	2.9	2.7	3.1	3.3	3.5	3.7	4.1	4.8	5.0	5.3	5.6	5.9	6.8	7.2	7.5	8.0	
5	-35	4.8	5.5	5.8	6.1	6.4	5.4	6.2	6.5	6.8	7.2	6.2	7.0	7.4	7.8	8.2	7.9	9.1	9.5	10.0	10.5	10.1	11.5	12.1	12.7	13.4	
0	-30	4.8	5.5	5.8	6.1	6.4	5.4	6.1	6.4	6.8	7.1	6.1	7.0	7.4	7.7	8.2	7.9	9.0	9.5	10.0	10.5	10.1	11.5	12.1	12.7	13.4	
0	-25	4.8	5.5	5.8	6.0	6.4	5.4	6.1	6.4	6.8	7.1	6.2	7.0	7.4	7.7	8.1	7.9	9.0	9.5	10.0	10.5	10.1	11.5	12.1	12.7	13.4	
0	-20	4.8	5.5	5.8	6.0	6.4	5.4	6.1	6.4	6.8	7.1	6.2	7.0	7.4	7.7	8.1	7.9	9.0	9.5	10.0	10.5	10.1	11.5	12.1	12.7	13.3	
	-15	4.8	5.5	5.8	6.0	6.4	5.4	6.1	6.4	6.8	7.1	6.2	7.0	7.4	7.7	8.1	8.0	9.1	9.5	10.0	10.5	10.1	11.5	12.1	12.7	13.3	
	-10	4.5	5.1	5.4	5.6	5.9	5.1	5.8	6.0	6.3	6.7	5.8	6.6	7.0	7.3	7.7	7.6	8.6	9.0	9.5	10.0	9.7	11.0	11.6	12.1	12.8	
	-5	4.2	4.8	5.0	5.2	5.5	4.7	5.4	5.6	5.9	6.2	5.5	6.2	6.5	6.9	7.2	7.2	8.2	8.6	9.0	9.5	9.3	10.6	11.1	11.6	12.2	
	0	3.0	3.5	3.6	3.8	4.0	3.5	4.0	4.2	4.4	4.7	4.2	4.8	5.0	5.3	5.6	5.8	6.6	7.0	7.3	7.7	7.8	8.9	9.3	9.8	10.3	
	5	2.0	2.4	2.5	2.6	2.8	2.5	2.9	3.0	3.2	3.4	3.1	3.6	3.8	4.0	4.2	4.6	5.3	5.6	5.9	6.2	6.4	7.4	7.8	8.2	8.6	
	10	1.2	1.4	1.5	1.6	1.7	1.6	1.9	2.0	2.1	2.3	2.2	2.6	2.7	2.9	3.0	3.6	4.1	4.4	4.6	4.9	5.3	6.1	6.4	6.8	7.2	

Figure 4-35 (Sheet 2)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - ON
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		12375					12200					12000					11800					11600				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
6	-35	3.6	4.1	4.3	4.5	4.7	3.8	4.3	4.5	4.8	5.0	4.0	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.5	5.7	6.0
0	-30	3.6	4.1	4.3	4.5	4.7	3.8	4.3	4.5	4.7	5.0	4.0	4.6	4.8	5.1	5.3	4.3	4.9	5.1	5.4	5.7	4.5	5.2	5.4	5.7	6.0
0	-25	3.6	4.1	4.3	4.5	4.7	3.8	4.3	4.5	4.7	5.0	4.0	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.4	5.7	4.6	5.2	5.4	5.7	6.0
0	-20	3.6	4.1	4.3	4.5	4.7	3.8	4.3	4.5	4.7	5.0	4.0	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.4	5.6	4.6	5.2	5.4	5.7	6.0
	-15	3.4	3.9	4.1	4.3	4.5	3.6	4.2	4.4	4.6	4.8	3.9	4.4	4.6	4.9	5.1	4.2	4.7	5.0	5.2	5.5	4.4	5.0	5.3	5.5	5.8
	-10	3.1	3.5	3.7	3.9	4.1	3.3	3.8	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.7	3.8	4.3	4.5	4.7	5.0	4.1	4.6	4.8	5.1	5.3
	-5	2.5	2.8	3.0	3.1	3.3	2.7	3.0	3.2	3.4	3.5	2.9	3.3	3.5	3.6	3.8	3.1	3.6	3.8	3.9	4.1	3.4	3.9	4.1	4.3	4.5
	0	1.4	1.7	1.8	1.9	2.0	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.4	2.5	2.1	2.4	2.5	2.6	2.8	2.3	2.6	2.8	2.9	3.1
	5	.5	.7	.7	.8	.9	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.3	1.3	1.1	1.3	1.4	1.5	1.6	1.3	1.6	1.7	1.8	1.9
	10	-.2	-.2	-.1	-.1	-.1	-.1	.0	.0	.1	.1	.1	.2	.3	.3	.4	.3	.4	.5	.5	.6	.5	.7	.7	.8	.9
7	-35	3.5	4.0	4.2	4.4	4.7	3.7	4.3	4.5	4.7	5.0	4.0	4.6	4.8	5.0	5.3	4.3	4.9	5.1	5.3	5.6	4.5	5.2	5.4	5.7	6.0
0	-30	3.5	4.0	4.2	4.4	4.6	3.7	4.2	4.5	4.7	4.9	4.0	4.5	4.7	5.0	5.2	4.2	4.8	5.1	5.3	5.6	4.5	5.1	5.4	5.6	5.9
0	-25	3.5	4.0	4.1	4.3	4.6	3.7	4.2	4.4	4.6	4.8	3.9	4.5	4.7	4.9	5.2	4.2	4.8	5.0	5.2	5.5	4.5	5.1	5.3	5.6	5.9
0	-20	3.4	3.9	4.1	4.3	4.5	3.6	4.1	4.3	4.5	4.8	3.9	4.4	4.6	4.9	5.1	4.1	4.7	4.9	5.2	5.4	4.4	5.0	5.2	5.5	5.8
	-15	3.2	3.6	3.8	4.0	4.2	3.4	3.8	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.8	3.9	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.2	5.4
	-10	2.9	3.3	3.4	3.6	3.8	3.1	3.5	3.7	3.8	4.0	3.3	3.8	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.7	3.8	4.3	4.5	4.8	5.0
	-5	1.9	2.2	2.4	2.5	2.6	2.1	2.5	2.6	2.7	2.9	2.4	2.7	2.9	3.0	3.2	2.6	3.0	3.1	3.3	3.5	2.8	3.3	3.4	3.6	3.8
	0	.9	1.1	1.2	1.3	1.4	1.1	1.3	1.4	1.5	1.6	1.3	1.6	1.6	1.7	1.8	1.5	1.8	1.9	2.0	2.1	1.8	2.0	2.2	2.3	2.4
	5	.1	.2	.2	.3	.3	.3	.4	.4	.5	.5	.5	.6	.7	.7	.8	.7	.8	.9	1.0	1.0	.9	1.1	1.1	1.2	1.3
	10	-.6	-.6	-.6	-.6	-.6	-.5	-.4	-.4	-.4	-.4	-.3	-.2	-.2	-.2	-.2	-.1	.0	.0	.0	.1	.1	.2	.2	.3	.3
8	-35	3.5	3.9	4.1	4.3	4.6	3.7	4.2	4.4	4.6	4.8	3.9	4.5	4.7	4.9	5.1	4.2	4.8	5.0	5.2	5.5	4.4	5.1	5.3	5.6	5.8
0	-30	3.4	3.9	4.1	4.3	4.5	3.6	4.1	4.3	4.5	4.8	3.9	4.4	4.6	4.9	5.1	4.1	4.7	4.9	5.2	5.4	4.4	5.0	5.2	5.5	5.8
0	-25	3.4	3.9	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.7	3.8	4.4	4.6	4.8	5.0	4.1	4.7	4.9	5.1	5.4	4.4	5.0	5.2	5.4	5.7
0	-20	3.3	3.7	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.6	3.7	4.3	4.5	4.7	4.9	4.0	4.5	4.8	5.0	5.2	4.3	4.8	5.1	5.3	5.6
	-15	2.9	3.3	3.5	3.6	3.8	3.1	3.5	3.7	3.9	4.1	3.4	3.8	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.7	3.9	4.4	4.6	4.8	5.0
	-10	2.4	2.8	2.9	3.0	3.2	2.6	3.0	3.1	3.3	3.5	2.9	3.3	3.4	3.6	3.8	3.1	3.5	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.4
	-5	1.5	1.7	1.8	1.9	2.0	1.6	1.9	2.0	2.1	2.2	1.9	2.1	2.3	2.4	2.5	2.1	2.4	2.5	2.6	2.8	2.3	2.7	2.8	2.9	3.1
	0	.5	.6	.7	.7	.8	.7	.8	.9	.9	1.0	.9	1.0	1.1	1.2	1.3	1.1	1.3	1.4	1.4	1.5	1.3	1.5	1.6	1.7	1.8
	5	-.3	-.3	-.3	-.2	-.2	-.2	-.1	-.1	.0	.0	.0	.1	.1	.2	.2	.2	.3	.4	.4	.5	.4	.5	.6	.7	.7
	10	-1.0	-1.0	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.5	-.5	-.3	-.3	-.3	-.2	-.2
9	-35	3.2	3.7	3.9	4.1	4.3	3.5	3.9	4.1	4.3	4.5	3.7	4.2	4.4	4.6	4.9	4.0	4.5	4.7	4.9	5.2	4.2	4.8	5.0	5.3	5.5
0	-30	3.1	3.6	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.4	3.6	4.1	4.3	4.5	4.7	3.8	4.3	4.6	4.8	5.0	4.1	4.6	4.9	5.1	5.3
0	-25	3.0	3.4	3.6	3.7	3.9	3.2	3.6	3.8	4.0	4.2	3.4	3.9	4.1	4.3	4.5	3.7	4.2	4.4	4.6	4.8	4.0	4.5	4.7	4.9	5.2
0	-20	2.6	3.0	3.1	3.3	3.4	2.8	3.2	3.3	3.5	3.7	3.0	3.5	3.6	3.8	4.0	3.3	3.7	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.6
	-15	2.0	2.3	2.4	2.5	2.6	2.2	2.5	2.6	2.7	2.9	2.4	2.7	2.9	3.0	3.2	2.6	3.0	3.2	3.3	3.5	2.9	3.3	3.4	3.6	3.8
	-10	1.2	1.5	1.5	1.6	1.7	1.4	1.7	1.7	1.8	1.9	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.4	2.5	2.1	2.4	2.5	2.6	2.8
	-5	.3	.5	.5	.6	.6	.5	.6	.7	.8	.8	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.6
	0	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.3	-.2	-.2	-.1	-.1	-.1	.0	.0	.0	.1	.2	.2	.2	.2	.3	.4	.4	.5
	5	-1.2	-1.2	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.5	-.5
	10	-1.8	-1.9	-2.0	-2.0	-2.1	-1.7	-1.8	-1.8	-1.9	-1.9	-1.5	-1.6	-1.6	-1.7	-1.7	-1.4	-1.4	-1.4	-1.5	-1.5	-1.2	-1.2	-1.3	-1.3	-1.3
1	-35	3.0	3.4	3.6	3.7	3.9	3.2	3.6	3.8	4.0	4.2	3.4	3.9	4.1	4.3	4.5	3.7	4.2	4.4	4.6	4.8	3.9	4.5	4.7	4.9	5.1
0	-30	2.8	3.2	3.3	3.5	3.7	3.0	3.4	3.6	3.7	3.9	3.2	3.7	3.8	4.0	4.2	3.5	4.0	4.1	4.3	4.5	3.7	4.2	4.4	4.6	4.9
0	-25	2.6	3.0	3.1	3.3	3.4	2.8	3.2	3.3	3.5	3.7	3.0	3.5	3.6	3.8	4.0	3.3	3.7	3.9	4.1	4.3	3.5	4.0	4.2	4.4	4.6
0	-20	1.9	2.2	2.3	2.4	2.5	2.1	2.4	2.5	2.6	2.8	2.3	2.6	2.8	2.9	3.0	2.5	2.9	3.0	3.2	3.3	2.8	3.2	3.3	3.5	3.6
0	-15	1.1	1.3	1.4	1.5	1.6	1.3	1.5	1.6	1.7	1.8	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.1	2.2	2.4	2.0	2.3	2.4	2.5	2.7
	-10	.2	.3	.3	.4	.4	.4	.5	.5	.6	.6	.5	.7	.7	.8	.9	.8	.9	1.0	1.0	1.1	1.0	1.1	1.2	1.3	1.4
	-5	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.5	-.5	-.3	-.3	-.3	-.3	-.2	-.2	-.1	-.1	.0	.0	.0	.1	.2	.2	.2
	0	-1.4	-1.4	-1.5	-1.5	-1.5	-1.2	-1.3	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7
	5	-2.0	-2.1	-2.2	-2.2	-2.3	-1.9	-2.0	-2.0	-2.1	-2.1	-1.7	-1.8	-1.9	-1.9	-1.9	-1.6	-1.6	-1.7	-1.7	-1.7	-1.4	-1.5	-1.5	-1.5	-1.5
	10	-2.6	-2.8	-2.8	-2.9	-3.0	-2.5	-2.6	-2.7	-2.8	-2.8	-2.3	-2.5	-2.5	-2.6	-2.7	-2.2	-2.3	-2.3	-2.4	-2.5	-2.0	-2.1	-2.2	-2.2	-2.3
1	-35	2.5	2.9	3.0	3.2	3.3	2.7	3.1	3.3	3.4	3.6	3.0	3.4	3.5	3.7	3.9	3.2	3.6	3.8	4.0	4.2	3.5	3.9	4.1	4.3	4.5
1	-30	2.3	2.7	2.8	2.9	3.1	2.5	2.9	3.0	3.2	3.3	2.8	3.2	3.3	3.5	3.6	3.0	3.4	3.6	3.8	3.9	3.3	3.7	3.9	4.1	4.3
0	-25	2.0	2.3	2.4	2.5	2.7	2.2	2.5	2.6	2.8	2.9	2.4	2.8	2.9	3.0	3.2	2.7	3.0	3.2	3.3	3.5	2.9	3.3	3.5	3.6	3.8
0	-20	1.4	1.6	1.7	1.8	1.9	1.6	1.8	1.9	2.0	2.2	1.8	2.1	2.2	2.3	2.4	2.0	2.3	2.4	2.6	2.7	2.3	2.6	2.7	2.9	3.0
0	-15	.7	.8	.9	1.0	1.0	.9	1.0	1.1	1.2	1.2	1.1	1.3	1.3	1.4	1.5	1.3	1.5	1.6	1.7	1.8	1.5	1.7	1.8	1.9	2.0
	-10	-.2	-.2	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.1	.2	.2	.3	.3	.3	.4	.5	.5	.6	.5	.6	.7	.8	.8
	-5	-1.1	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.6	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.3
	0	-1.8	-1.8	-1.9	-1.9	-2.0	-1.6	-1.7	-1.7	-1.8	-1.8	-1.5	-1.5	-1.5	-1.6	-1.6	-1.3	-1.3	-1.4	-1.4	-1.4	-1.1	-1.1	-1.2	-1.2	-1.2
	5	-2.4	-2.5	-2.6	-2.6	-2.7	-2.2	-2.4	-2.4	-2.5	-2.6	-2.1	-2.2	-2.3	-2.3	-2.4	-1.9	-2.0	-2.1	-2.1	-2.2	-1.8	-1.9	-1.9	-1.9	-2.0
	10	-2.9	-3.1	-3.2	-3.3	-3.4	-2.8	-3.0	-3.1	-3.2	-3.2	-2.7	-2.8	-2.9	-3.0	-3.1	-2.5	-2.7	-2.7	-2.8	-2.9	-2.4	-2.5	-2.6	-2.6	-2.7

Figure 4-35 (Sheet 3)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - ON
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		11400					11000					10500					9500					8500				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
6	-35	4.8	5.5	5.8	6.1	6.4	5.4	6.2	6.5	6.8	7.2	6.2	7.1	7.4	7.8	8.2	8.0	9.1	9.6	10.0	10.6	10.1	11.6	12.1	12.8	13.4
0	-30	4.8	5.5	5.8	6.1	6.4	5.4	6.2	6.5	6.8	7.2	6.2	7.1	7.4	7.8	8.2	8.0	9.1	9.5	10.0	10.5	10.1	11.6	12.1	12.7	13.4
0	-25	4.8	5.5	5.8	6.1	6.4	5.4	6.2	6.5	6.8	7.1	6.2	7.1	7.4	7.8	8.2	8.0	9.1	9.5	10.0	10.5	10.2	11.6	12.1	12.7	13.4
0	-20	4.8	5.5	5.8	6.1	6.4	5.4	6.2	6.5	6.8	7.1	6.2	7.1	7.4	7.8	8.2	8.0	9.1	9.5	10.0	10.5	10.2	11.6	12.1	12.7	13.4
	-15	4.7	5.3	5.6	5.9	6.2	5.3	6.0	6.3	6.6	6.9	6.1	6.9	7.2	7.6	8.0	7.8	8.9	9.3	9.8	10.3	10.0	11.3	11.9	12.5	13.1
	-10	4.3	4.9	5.2	5.4	5.7	4.9	5.6	5.8	6.1	6.4	5.7	6.4	6.7	7.1	7.4	7.4	8.4	8.8	9.2	9.7	9.5	10.8	11.3	11.9	12.5
	-5	3.6	4.2	4.4	4.6	4.8	4.2	4.8	5.0	5.3	5.5	4.9	5.6	5.9	6.2	6.5	6.6	7.5	7.8	8.2	8.7	8.6	9.8	10.3	10.8	11.3
	0	2.5	2.9	3.1	3.2	3.4	3.0	3.5	3.6	3.8	4.0	3.7	4.2	4.4	4.7	4.9	5.2	6.0	6.3	6.6	6.9	7.1	8.1	8.5	9.0	9.5
	5	1.6	1.8	1.9	2.0	2.2	2.0	2.4	2.5	2.6	2.8	2.6	3.0	3.2	3.4	3.6	4.1	4.7	4.9	5.2	5.4	5.8	6.7	7.0	7.4	7.8
	10	.7	.9	1.0	1.0	1.1	1.2	1.4	1.5	1.6	1.7	1.7	2.0	2.2	2.3	2.4	3.1	3.6	3.7	3.9	4.2	4.7	5.4	5.7	6.0	6.4
7	-35	4.8	5.5	5.7	6.0	6.3	5.4	6.1	6.4	6.8	7.1	6.2	7.0	7.4	7.7	8.1	8.0	9.1	9.5	10.0	10.5	10.1	11.5	12.1	12.7	13.3
0	-30	4.8	5.4	5.7	6.0	6.3	5.4	6.1	6.4	6.7	7.1	6.2	7.0	7.3	7.7	8.1	7.9	9.0	9.5	9.9	10.4	10.1	11.5	12.0	12.6	13.3
0	-25	4.7	5.4	5.6	5.9	6.2	5.3	6.0	6.3	6.6	7.0	6.1	6.9	7.3	7.6	8.0	7.9	9.0	9.4	9.8	10.3	10.0	11.4	12.0	12.5	13.2
0	-20	4.7	5.3	5.6	5.8	6.1	5.3	6.0	6.3	6.6	6.9	6.1	6.9	7.2	7.5	7.9	7.8	8.9	9.3	9.8	10.2	10.0	11.3	11.9	12.4	13.1
	-15	4.4	5.0	5.2	5.5	5.8	5.0	5.7	5.9	6.2	6.5	5.8	6.5	6.8	7.2	7.5	7.5	8.5	8.9	9.4	9.8	9.6	10.9	11.4	12.0	12.6
	-10	4.1	4.6	4.8	5.1	5.3	4.6	5.3	5.5	5.8	6.1	5.4	6.1	6.4	6.7	7.1	7.1	8.1	8.4	8.9	9.3	9.2	10.4	10.9	11.4	12.0
	-5	3.1	3.5	3.7	3.9	4.1	3.6	4.1	4.3	4.5	4.8	4.3	4.9	5.2	5.4	5.7	5.9	6.8	7.1	7.4	7.8	7.9	9.0	9.4	9.9	10.4
	0	2.0	2.3	2.4	2.6	2.7	2.5	2.9	3.0	3.2	3.3	3.1	3.6	3.8	4.0	4.2	4.6	5.3	5.5	5.8	6.1	6.4	7.4	7.7	8.1	8.5
	5	1.1	1.3	1.4	1.5	1.6	1.5	1.8	1.9	2.0	2.1	2.1	2.5	2.6	2.8	2.9	3.5	4.0	4.3	4.5	4.7	5.2	6.0	6.3	6.6	7.0
	10	.3	.4	.5	.5	.6	.7	.9	.9	1.0	1.1	1.3	1.5	1.6	1.7	1.8	2.6	3.0	3.1	3.3	3.5	4.2	4.8	5.0	5.3	5.6
8	-35	4.7	5.4	5.6	5.9	6.2	5.3	6.0	6.3	6.6	7.0	6.1	6.9	7.2	7.6	8.0	7.9	8.9	9.4	9.8	10.3	10.1	11.4	12.0	12.5	13.2
0	-30	4.7	5.3	5.6	5.8	6.1	5.3	6.0	6.3	6.6	6.9	6.0	6.9	7.2	7.5	7.9	7.8	8.9	9.3	9.8	10.2	10.0	11.4	11.9	12.5	13.1
0	-25	4.6	5.3	5.5	5.8	6.1	5.2	5.9	6.2	6.5	6.8	6.0	6.8	7.1	7.5	7.8	7.8	8.8	9.2	9.7	10.2	10.0	11.3	11.8	12.4	13.0
0	-20	4.5	5.2	5.4	5.7	5.9	5.1	5.8	6.1	6.4	6.7	5.9	6.7	7.0	7.3	7.7	7.7	8.7	9.1	9.5	10.0	9.8	11.1	11.7	12.2	12.8
	-15	4.1	4.7	4.9	5.1	5.4	4.7	5.3	5.6	5.8	6.1	5.5	6.2	6.5	6.8	7.1	7.2	8.2	8.5	8.9	9.4	9.3	10.5	11.0	11.5	12.1
	-10	3.6	4.1	4.3	4.5	4.7	4.1	4.7	4.9	5.2	5.4	4.9	5.5	5.8	6.1	6.4	6.6	7.5	7.8	8.2	8.6	8.6	9.8	10.2	10.7	11.2
	-5	2.5	2.9	3.1	3.2	3.4	3.1	3.5	3.7	3.8	4.0	3.7	4.3	4.5	4.7	4.9	5.3	6.0	6.3	6.6	7.0	7.2	8.2	8.6	9.0	9.5
	0	1.5	1.8	1.9	2.0	2.1	2.0	2.3	2.4	2.5	2.7	2.6	3.0	3.2	3.3	3.5	4.0	4.6	4.9	5.1	5.4	5.8	6.6	7.0	7.3	7.7
	5	.6	.8	.8	.9	1.0	1.1	1.3	1.3	1.4	1.5	1.6	1.9	2.0	2.1	2.3	3.0	3.4	3.6	3.8	4.0	4.6	5.3	5.6	5.9	6.2
	10	-.1	-.1	.0	.0	.0	.3	.4	.4	.5	.5	.8	1.0	1.1	1.1	1.2	2.1	2.4	2.5	2.7	2.8	3.6	4.1	4.4	4.6	4.9
9	-35	4.5	5.1	5.3	5.6	5.9	5.1	5.8	6.0	6.3	6.6	5.8	6.6	6.9	7.3	7.6	7.6	8.6	9.0	9.5	9.9	9.8	11.1	11.6	12.2	12.8
0	-30	4.4	4.9	5.2	5.4	5.7	4.9	5.6	5.9	6.1	6.4	5.7	6.5	6.8	7.1	7.4	7.5	8.5	8.8	9.3	9.7	9.6	10.9	11.4	11.9	12.5
0	-25	4.2	4.8	5.0	5.3	5.5	4.8	5.4	5.7	6.0	6.2	5.6	6.3	6.6	6.9	7.2	7.3	8.3	8.7	9.1	9.5	9.4	10.7	11.2	11.7	12.3
0	-20	3.8	4.3	4.5	4.7	5.0	4.3	4.9	5.2	5.4	5.7	5.1	5.8	6.0	6.3	6.6	6.8	7.7	8.1	8.4	8.9	8.9	10.0	10.5	11.0	11.6
	-15	3.1	3.6	3.7	3.9	4.1	3.6	4.2	4.3	4.6	4.8	4.4	5.0	5.2	5.4	5.7	6.0	6.8	7.1	7.5	7.9	8.0	9.1	9.5	10.0	10.5
	-10	2.3	2.7	2.8	2.9	3.1	2.8	3.2	3.4	3.5	3.7	3.5	4.0	4.2	4.4	4.6	5.0	5.7	6.0	6.3	6.6	6.9	7.9	8.2	8.6	9.1
	-5	1.3	1.6	1.7	1.8	1.9	1.8	2.1	2.2	2.3	2.5	2.4	2.8	2.9	3.1	3.3	3.9	4.4	4.6	4.9	5.1	5.6	6.4	6.7	7.1	7.4
	0	.4	.6	.6	.7	.7	.9	1.1	1.1	1.2	1.3	1.5	1.7	1.8	1.9	2.0	2.8	3.2	3.4	3.6	3.7	4.4	5.0	5.3	5.6	5.9
	5	-.3	-.3	-.3	-.2	-.2	.1	.2	.2	.2	.3	.6	.8	.8	.9	1.0	1.9	2.2	2.3	2.4	2.6	3.4	3.9	4.1	4.3	4.5
	10	-1.0	-1.0	-1.0	-1.1	-1.1	-.6	-.6	-.6	-.6	-.6	-.1	-.1	.0	.0	.0	1.0	1.3	1.3	1.4	1.5	2.4	2.8	3.0	3.2	3.4
1	-35	4.2	4.8	5.0	5.2	5.5	4.8	5.4	5.7	5.9	6.2	5.5	6.3	6.6	6.9	7.2	7.3	8.2	8.6	9.0	9.5	9.4	10.6	11.1	11.7	12.2
0	-30	4.0	4.5	4.7	5.0	5.2	4.6	5.2	5.4	5.7	5.9	5.3	6.0	6.3	6.6	6.9	7.0	8.0	8.3	8.7	9.2	9.1	10.3	10.8	11.3	11.9
0	-25	3.8	4.3	4.5	4.7	4.9	4.3	4.9	5.1	5.4	5.7	5.1	5.8	6.0	6.3	6.6	6.8	7.7	8.0	8.4	8.8	8.9	10.0	10.5	11.0	11.5
0	-20	3.0	3.4	3.6	3.8	4.0	3.5	4.0	4.2	4.4	4.6	4.2	4.8	5.0	5.3	5.6	5.9	6.7	7.0	7.3	7.7	7.9	8.9	9.3	9.8	10.3
0	-15	2.2	2.5	2.7	2.8	2.9	2.7	3.1	3.2	3.4	3.6	3.4	3.8	4.0	4.2	4.4	4.9	5.6	5.9	6.2	6.5	6.8	7.7	8.1	8.5	8.9
	-10	1.2	1.4	1.5	1.6	1.7	1.6	1.9	2.0	2.1	2.2	2.3	2.6	2.7	2.9	3.0	3.7	4.2	4.4	4.6	4.9	5.4	6.2	6.5	6.8	7.2
	-5	.2	.3	.4	.4	.5	.7	.8	.9	.9	1.0	1.2	1.5	1.5	1.6	1.7	2.5	2.9	3.1	3.3	3.4	4.1	4.7	5.0	5.2	5.5
	0	-.5	-.5	-.5	-.5	-.5	-.1	-.1	.0	.0	.0	.4	.5	.6	.6	.7	1.6	1.9	2.0	2.1	2.3	3.1	3.6	3.8	4.0	4.2
	5	-1.2	-1.3	-1.3	-1.3	-1.3	-.9	-.9	-.9	-.9	-.9	-.4	-.3	-.3	-.3	-.2	.8	1.0	1.1	1.1	1.2	2.2	2.6	2.7	2.8	3.0
	10	-1.8	-1.9	-2.0	-2.0	-2.1	-1.5	-1.6	-1.6	-1.6	-1.7	-1.0	-1.0	-1.0	-1.1	-1.1	.1	.2	.2	.2	.3	1.4	1.6	1.7	1.8	2.0
1	-35	3.7	4.2	4.4	4.6	4.9	4.3	4.8	5.1	5.3	5.6	5.0	5.7	5.9	6.2	6.5	6.7	7.6	7.9	8.3	8.7	8.8	9.9	10.4	10.9	11.4
1	-30	3.5	4.0	4.2	4.4	4.6	4.0	4.6	4.8	5.0	5.3	4.8	5.4	5.7	5.9	6.2	6.5	7.3	7.7	8.0	8.4	8.5	9.6	10.1	10.5	11.1
0	-25	3.1	3.6	3.7	3.9	4.1	3.7	4.2	4.4	4.6	4.8	4.4	5.0	5.2	5.5	5.7	6.0	6.8	7.2	7.5	7.9	8.0	9.1	9.5	10.0	10.5
0	-20	2.5	2.9	3.0	3.1	3.3	3.0	3.4	3.6	3.8	3.9	3.7	4.2	4.4	4.6	4.8	5.3	6.0	6.3	6.6	6.9	7.2	8.2	8.5	9.0	9.4
0	-15	1.7	2.0	2.1	2.2	2.3	2.2	2.5	2.6	2.8	2.9	2.8	3.2	3.4	3.6	3.8	4.3	4.9	5.2	5.4	5.7	6.2	7.0	7.3	7.7	8.1
	-10	.7	.9	.9	1.0	1.1	1.2	1.4	1.4	1.5	1.6	1.7	2.0	2.1	2.3	2.4	3.1	3.6	3.8	4.0	4.2	4.8	5.5	5.8	6.0	6.4
	-5	-.2	-.1	-.1	-.1	.0	.2	.3	.4	.4	.5	.8	1.0	1.0	1.1	1.2	2.1	2.4	2.5	2.6	2.8	3.6	4.1	4.3	4.6	4.8
	0	-.9	-.9	-.9	-1.0	-1.0	-.6	-.5	-.5	-.5	-.5	.0	.0	.1	.1	.1	1.2	1.4	1.5	1.6	1.7	2.6	3.0	3.2	3.3	3.5
	5	-1.6	-1.7	-1.7	-1.7	-1.8	-1.2	-1.3	-1.3	-1.3	-1.3	-.8	-.8	-.7	-.7	-.7	.4	.5	.5	.6	.7	1.7	2.0	2.1	2.3	2.4
	10	-2.2	-2.3	-2.4	-2.5	-2.5	-1.9	-2.0	-2.0	-2.1	-2.1	-1.4	-1.5	-1.5	-1.5	-1.6	-.4	-.3	-.3	-.3	-.3	.9	1.1	1.2	1.3	1.4

Figure 4-35 (Sheet 4)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - ON
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																									
		12375					12200					12000					11800					11600					
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	
1	-35	2.1	2.4	2.5	2.6	2.8	2.3	2.6	2.7	2.9	3.0	2.5	2.8	3.0	3.1	3.3	2.7	3.1	3.3	3.4	3.6	3.0	3.4	3.5	3.7	3.9	
2	-30	1.9	2.2	2.3	2.4	2.5	2.1	2.4	2.5	2.7	2.8	2.3	2.7	2.8	2.9	3.1	2.6	2.9	3.1	3.2	3.4	2.8	3.2	3.3	3.5	3.7	
0	-25	1.5	1.7	1.8	1.9	2.0	1.7	1.9	2.0	2.1	2.3	1.9	2.2	2.3	2.4	2.5	2.1	2.4	2.6	2.7	2.8	2.4	2.7	2.8	3.0	3.1	
0	-20	1.0	1.2	1.3	1.3	1.4	1.2	1.4	1.5	1.6	1.6	1.4	1.6	1.7	1.8	1.9	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.3	2.5	
0	-15	.2	.3	.4	.4	.4	.4	.5	.5	.6	.6	.6	.7	.8	.8	.9	.8	.9	1.0	1.1	1.1	1.0	1.2	1.2	1.3	1.4	
	-10	-.7	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.2	-.2	-.1	-.1	.0	.0	.0	.1	.1	.2	.2	.3	
	-5	-1.4	-1.5	-1.5	-1.6	-1.6	-1.3	-1.4	-1.4	-1.4	-1.4	-1.1	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	
	0	-2.1	-2.2	-2.3	-2.3	-2.4	-2.0	-2.1	-2.1	-2.2	-2.2	-1.8	-1.9	-2.0	-2.0	-2.1	-1.7	-1.8	-1.8	-1.8	-1.9	-1.5	-1.6	-1.6	-1.6	-1.7	
	5	-2.7	-2.9	-2.9	-3.0	-3.1	-2.6	-2.7	-2.8	-2.9	-3.0	-2.4	-2.6	-2.6	-2.7	-2.8	-2.3	-2.4	-2.5	-2.5	-2.6	-2.1	-2.2	-2.3	-2.3	-2.4	
	10	-3.2	-3.5	-3.6	-3.7	-3.8	-3.1	-3.4	-3.4	-3.5	-3.6	-3.0	-3.2	-3.3	-3.4	-3.5	-2.9	-3.1	-3.1	-3.2	-3.3	-2.7	-2.9	-3.0	-3.0	-3.1	
1	-35	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.3	2.4	2.0	2.3	2.4	2.6	2.7	2.3	2.6	2.7	2.8	3.0	2.5	2.8	3.0	3.1	3.3	
3	-30	1.4	1.7	1.8	1.9	2.0	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.3	2.5	2.1	2.4	2.5	2.6	2.7	2.3	2.6	2.7	2.9	3.0	
0	-25	1.0	1.2	1.3	1.4	1.5	1.2	1.4	1.5	1.6	1.7	1.4	1.7	1.7	1.8	1.9	1.6	1.9	2.0	2.1	2.2	1.9	2.1	2.2	2.4	2.5	
0	-20	.6	.7	.8	.8	.9	.7	.9	1.0	1.0	1.1	.9	1.1	1.2	1.3	1.3	1.2	1.4	1.4	1.5	1.6	1.4	1.6	1.7	1.8	1.9	
0	-15	-.2	-.2	-.1	-.1	-.1	-.1	.0	.0	.1	.1	.1	.2	.2	.3	.3	.3	.4	.5	.5	.6	.5	.7	.7	.8	.8	
	-10	-1.1	-1.1	-1.1	-1.1	-1.1	-.9	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.6	-.5	-.5	-.4	-.4	-.3	-.3	-.3	
	-5	-1.9	-2.0	-2.0	-2.0	-2.1	-1.7	-1.8	-1.8	-1.9	-1.9	-1.6	-1.6	-1.7	-1.7	-1.7	-1.4	-1.5	-1.5	-1.5	-1.5	-1.2	-1.3	-1.3	-1.3	-1.3	
	0	-2.5	-2.6	-2.7	-2.8	-2.8	-2.3	-2.5	-2.6	-2.6	-2.7	-2.2	-2.3	-2.4	-2.4	-2.5	-2.0	-2.2	-2.2	-2.3	-2.3	-1.9	-2.0	-2.0	-2.1	-2.1	
	5	-3.0	-3.2	-3.3	-3.4	-3.5	-2.9	-3.1	-3.2	-3.3	-3.4	-2.8	-3.0	-3.0	-3.1	-3.2	-2.6	-2.8	-2.9	-2.9	-3.0	-2.5	-2.6	-2.7	-2.8	-2.8	
	10	-3.6	-3.8	-3.9	-4.0	-4.2	-3.5	-3.7	-3.8	-3.9	-4.0	-3.3	-3.6	-3.7	-3.8	-3.9	-3.2	-3.4	-3.5	-3.6	-3.7	-3.1	-3.3	-3.4	-3.4	-3.5	
1	-35	1.2	1.4	1.5	1.6	1.7	1.4	1.6	1.7	1.8	1.9	1.6	1.8	1.9	2.0	2.1	1.8	2.1	2.2	2.3	2.4	2.0	2.3	2.5	2.6	2.7	
4	-30	1.0	1.1	1.2	1.3	1.4	1.1	1.3	1.4	1.5	1.6	1.3	1.6	1.6	1.7	1.8	1.6	1.8	1.9	2.0	2.1	1.8	2.0	2.1	2.3	2.4	
0	-25	.6	.7	.8	.9	.9	.8	.9	1.0	1.1	1.1	1.0	1.2	1.2	1.3	1.4	1.2	1.4	1.5	1.5	1.6	1.4	1.6	1.7	1.8	1.9	
0	-20	.1	.2	.2	.3	.3	.3	.4	.4	.4	.5	.5	.6	.6	.7	.7	.7	.8	.9	.9	1.0	.9	1.0	1.1	1.2	1.2	
0	-15	-.7	-.7	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.4	-.3	-.3	-.3	-.2	-.2	-.1	-.1	-.1	.0	.0	.0	.1	.2	.2	.2	
	-10	-1.5	-1.6	-1.6	-1.6	-1.6	-1.3	-1.4	-1.4	-1.4	-1.5	-1.2	-1.2	-1.2	-1.2	-1.3	-1.0	-1.0	-1.0	-1.0	-1.1	-.8	-.8	-.8	-.8	-.8	
	-5	-2.2	-2.4	-2.4	-2.5	-2.5	-2.1	-2.2	-2.3	-2.3	-2.4	-1.9	-2.0	-2.1	-2.1	-2.2	-1.8	-1.9	-1.9	-1.9	-2.0	-1.6	-1.7	-1.7	-1.7	-1.8	
	0	-2.8	-3.0	-3.1	-3.2	-3.2	-2.7	-2.9	-2.9	-3.0	-3.1	-2.6	-2.7	-2.8	-2.9	-2.9	-2.4	-2.6	-2.6	-2.7	-2.7	-2.2	-2.4	-2.4	-2.5	-2.6	
	5	-3.4	-3.6	-3.7	-3.8	-3.9	-3.3	-3.5	-3.6	-3.7	-3.8	-3.1	-3.3	-3.4	-3.5	-3.6	-3.0	-3.2	-3.3	-3.4	-3.4	-2.8	-3.0	-3.1	-3.2	-3.3	
	10	-3.9	-4.2	-4.3	-4.4	-4.5	-3.8	-4.0	-4.1	-4.3	-4.4	-3.6	-3.9	-4.0	-4.1	-4.2	-3.5	-3.8	-3.9	-4.0	-4.1	-3.4	-3.6	-3.7	-3.8	-3.9	
1	-35	.5	.7	.7	.8	.8	.7	.8	.9	1.0	1.0	.9	1.1	1.1	1.2	1.3	1.1	1.3	1.4	1.4	1.5	1.3	1.5	1.6	1.7	1.8	
5	-30	.2	.3	.4	.4	.4	.4	.5	.5	.6	.6	.6	.7	.8	.8	.9	.8	.9	1.0	1.1	1.1	1.0	1.2	1.2	1.3	1.4	
5	-25	-.1	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.3	.4	.4	.5	.4	.6	.6	.6	.7	.6	.8	.8	.9	.9	
0	-20	-.6	-.6	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.3	-.2	-.2	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.1	.2	.3	.3	.3	
0	-15	-1.3	-1.4	-1.4	-1.4	-1.4	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.6	-.6	-.6	
	-10	-2.1	-2.2	-2.2	-2.3	-2.3	-1.9	-2.1	-2.1	-2.1	-2.2	-1.8	-1.9	-1.9	-2.0	-2.0	-1.6	-1.7	-1.7	-1.8	-1.8	-1.5	-1.5	-1.5	-1.6	-1.6	
	-5	-2.8	-2.9	-3.0	-3.1	-3.2	-2.6	-2.8	-2.9	-2.9	-3.0	-2.5	-2.7	-2.7	-2.8	-2.8	-2.3	-2.5	-2.5	-2.6	-2.7	-2.2	-2.3	-2.4	-2.4	-2.5	
	0	-3.3	-3.5	-3.6	-3.7	-3.8	-3.2	-3.4	-3.5	-3.6	-3.7	-3.1	-3.3	-3.4	-3.4	-3.5	-2.9	-3.1	-3.2	-3.3	-3.4	-2.8	-3.0	-3.0	-3.1	-3.2	
	5	-3.9	-4.1	-4.2	-4.4	-4.5	-3.8	-4.0	-4.1	-4.2	-4.3	-3.6	-3.9	-4.0	-4.1	-4.2	-3.5	-3.7	-3.8	-3.9	-4.0	-3.4	-3.6	-3.7	-3.8	-3.9	
	10	-4.3	-4.6	-4.7	-4.9	-5.0	-4.2	-4.5	-4.6	-4.8	-4.9	-4.1	-4.4	-4.5	-4.6	-4.8	-4.0	-4.3	-4.4	-4.5	-4.6	-3.8	-4.1	-4.2	-4.3	-4.5	

Figure 4-35 (Sheet 5)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT
FLAPS - UP

CONDITIONS: ANTI-ICE SYSTEMS - ON
LANDING GEAR - DOWN
AIRSPEED - V2

SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		11400					11000					10500					9500					8500				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
1	-35	3.2	3.7	3.8	4.0	4.2	3.7	4.3	4.4	4.7	4.9	4.5	5.1	5.3	5.5	5.8	6.1	6.9	7.2	7.6	8.0	8.1	9.2	9.6	10.1	10.6
2	-30	3.0	3.5	3.6	3.8	4.0	3.6	4.0	4.2	4.4	4.6	4.3	4.8	5.1	5.3	5.6	5.9	6.7	7.0	7.3	7.7	7.9	8.9	9.3	9.8	10.3
0	-25	2.6	3.0	3.1	3.3	3.4	3.1	3.5	3.7	3.9	4.1	3.8	4.3	4.5	4.7	4.9	5.4	6.1	6.4	6.7	7.0	7.3	8.3	8.7	9.1	9.5
0	-20	2.1	2.4	2.5	2.6	2.7	2.5	2.9	3.0	3.2	3.4	3.2	3.7	3.8	4.0	4.2	4.7	5.4	5.6	5.9	6.2	6.6	7.5	7.8	8.2	8.6
0	-15	1.2	1.4	1.5	1.6	1.7	1.7	1.9	2.0	2.1	2.3	2.3	2.6	2.7	2.9	3.0	3.7	4.2	4.4	4.6	4.9	5.5	6.2	6.5	6.8	7.2
	-10	.3	.4	.4	.5	.5	.7	.8	.9	1.0	1.0	1.2	1.5	1.6	1.6	1.7	2.6	3.0	3.1	3.3	3.4	4.2	4.8	5.0	5.3	5.6
	-5	-.6	-.6	-.6	-.6	-.6	-.2	-.1	-.1	-.1	-.1	.3	.4	.5	.5	.6	1.5	1.8	1.9	2.0	2.1	3.1	3.5	3.7	3.9	4.1
	0	-1.3	-1.4	-1.4	-1.4	-1.4	-1.0	-1.0	-1.0	-1.0	-1.0	-.5	-.4	-.4	-.4	-.4	.7	.8	.9	1.0	1.1	2.1	2.4	2.6	2.7	2.9
	5	-2.0	-2.1	-2.1	-2.2	-2.2	-1.6	-1.7	-1.7	-1.8	-1.8	-1.1	-1.2	-1.2	-1.2	-1.2	-.1	.0	.0	.1	.1	1.2	1.5	1.6	1.7	1.8
	10	-2.6	-2.7	-2.8	-2.9	-2.9	-2.2	-2.4	-2.4	-2.5	-2.6	-1.8	-1.9	-1.9	-2.0	-2.0	-.8	-.8	-.8	-.8	-.8	.4	.6	.6	.7	.8
1	-35	2.7	3.1	3.3	3.4	3.6	3.2	3.7	3.9	4.0	4.2	3.9	4.5	4.7	4.9	5.1	5.5	6.3	6.6	6.9	7.2	7.5	8.5	8.9	9.3	9.7
3	-30	2.5	2.9	3.0	3.2	3.3	3.0	3.5	3.6	3.8	4.0	3.7	4.2	4.4	4.6	4.8	5.3	6.0	6.3	6.6	6.9	7.2	8.2	8.6	9.0	9.4
0	-25	2.1	2.4	2.5	2.6	2.8	2.6	2.9	3.1	3.2	3.4	3.2	3.7	3.9	4.0	4.2	4.8	5.4	5.7	5.9	6.2	6.7	7.5	7.9	8.2	8.7
0	-20	1.6	1.8	1.9	2.0	2.1	2.1	2.4	2.5	2.6	2.7	2.7	3.1	3.2	3.4	3.5	4.2	4.7	5.0	5.2	5.5	6.0	6.8	7.1	7.4	7.8
0	-15	.7	.9	.9	1.0	1.1	1.2	1.4	1.5	1.5	1.6	1.8	2.0	2.1	2.3	2.4	3.1	3.6	3.8	3.9	4.1	4.8	5.5	5.8	6.1	6.4
	-10	-.2	-.1	-.1	-.1	-.1	.2	.3	.3	.4	.4	.8	.9	1.0	1.0	1.1	2.0	2.3	2.5	2.6	2.7	3.6	4.1	4.3	4.5	4.8
	-5	-1.0	-1.1	-1.1	-1.1	-1.1	-.7	-.7	-.6	-.6	-.6	-.2	-.1	-.1	.0	.0	1.0	1.2	1.3	1.4	1.5	2.5	2.9	3.0	3.2	3.3
	0	-1.7	-1.8	-1.8	-1.9	-1.9	-1.4	-1.4	-1.4	-1.5	-1.5	-.9	-.9	-.9	-.9	-.9	.2	.3	.4	.4	.5	1.6	1.8	1.9	2.1	2.2
	5	-2.3	-2.5	-2.5	-2.6	-2.7	-2.0	-2.1	-2.2	-2.2	-2.3	-1.5	-1.6	-1.7	-1.7	-1.7	-.5	-.5	-.5	-.5	-.4	.8	.9	1.0	1.1	1.2
	10	-2.9	-3.1	-3.2	-3.3	-3.4	-2.6	-2.8	-2.8	-2.9	-3.0	-2.2	-2.3	-2.4	-2.4	-2.5	-1.2	-1.3	-1.3	-1.3	-1.3	.0	.1	.1	.1	.2
1	-35	2.3	2.6	2.7	2.9	3.0	2.8	3.1	3.3	3.5	3.6	3.4	3.9	4.1	4.3	4.5	5.0	5.6	5.9	6.2	6.5	6.9	7.8	8.1	8.5	8.9
4	-30	2.0	2.3	2.4	2.5	2.7	2.5	2.8	3.0	3.1	3.3	3.1	3.6	3.7	3.9	4.1	4.7	5.3	5.5	5.8	6.1	6.5	7.4	7.7	8.1	8.5
0	-25	1.6	1.9	2.0	2.1	2.2	2.1	2.4	2.5	2.6	2.8	2.7	3.1	3.3	3.4	3.6	4.2	4.8	5.0	5.2	5.5	6.0	6.8	7.1	7.5	7.8
0	-20	1.1	1.3	1.3	1.4	1.5	1.5	1.8	1.9	2.0	2.1	2.1	2.4	2.6	2.7	2.8	3.5	4.0	4.2	4.4	4.6	5.3	6.0	6.3	6.6	6.9
0	-15	.2	.4	.4	.4	.5	.7	.8	.9	.9	1.0	1.2	1.5	1.5	1.6	1.7	2.6	2.9	3.1	3.2	3.4	4.2	4.8	5.0	5.3	5.5
	-10	-.6	-.6	-.6	-.6	-.6	-.3	-.2	-.2	-.2	-.1	.3	.4	.4	.5	.5	1.5	1.8	1.8	2.0	2.1	3.0	3.5	3.6	3.8	4.0
	-5	-1.4	-1.5	-1.5	-1.5	-1.6	-1.1	-1.1	-1.1	-1.1	-1.1	-.6	-.6	-.6	-.5	-.5	.6	.7	.8	.8	.9	2.0	2.3	2.4	2.5	2.7
	0	-2.1	-2.2	-2.3	-2.3	-2.4	-1.8	-1.8	-1.9	-1.9	-2.0	-1.3	-1.3	-1.4	-1.4	-1.4	-.2	-.2	-.2	-.1	-.1	1.1	1.3	1.4	1.5	1.5
	5	-2.7	-2.9	-2.9	-3.0	-3.1	-2.4	-2.5	-2.6	-2.6	-2.7	-1.9	-2.1	-2.1	-2.1	-2.2	-1.0	-1.0	-1.0	-1.0	-1.0	.3	.4	.4	.5	.5
	10	-3.2	-3.5	-3.6	-3.6	-3.7	-2.9	-3.1	-3.2	-3.3	-3.4	-2.5	-2.7	-2.8	-2.8	-2.9	-1.6	-1.7	-1.7	-1.8	-1.8	-.5	-.4	-.4	-.4	-.4
1	-35	1.5	1.8	1.9	2.0	2.1	2.0	2.3	2.4	2.5	2.6	2.6	3.0	3.1	3.3	3.4	4.1	4.6	4.8	5.1	5.3	5.9	6.7	7.0	7.3	7.6
5	-30	1.2	1.4	1.5	1.6	1.6	1.6	1.9	2.0	2.1	2.2	2.3	2.6	2.7	2.8	3.0	3.7	4.2	4.4	4.6	4.8	5.4	6.2	6.4	6.8	7.1
5	-25	.8	1.0	1.1	1.1	1.2	1.3	1.5	1.6	1.7	1.8	1.9	2.2	2.3	2.4	2.5	3.3	3.7	3.9	4.1	4.3	5.0	5.6	5.9	6.2	6.5
0	-20	.3	.5	.5	.5	.6	.8	.9	1.0	1.1	1.1	1.3	1.6	1.6	1.7	1.8	2.7	3.1	3.2	3.4	3.5	4.3	4.9	5.1	5.4	5.6
0	-15	-.4	-.4	-.4	-.4	-.4	-.1	.0	.1	.1	.1	.5	.6	.7	.7	.8	1.7	2.0	2.1	2.2	2.3	3.3	3.7	3.9	4.1	4.3
	-10	-1.3	-1.3	-1.4	-1.4	-1.4	-.9	-.9	-.9	-.9	-.9	-.4	-.4	-.4	-.4	-.3	.7	.9	1.0	1.0	1.1	2.2	2.5	2.6	2.7	2.9
	-5	-2.0	-2.1	-2.2	-2.2	-2.3	-1.7	-1.8	-1.8	-1.8	-1.9	-1.2	-1.3	-1.3	-1.3	-1.3	-.2	-.1	-.1	.0	.0	1.2	1.4	1.5	1.5	1.6
	0	-2.6	-2.8	-2.9	-2.9	-3.0	-2.3	-2.5	-2.5	-2.6	-2.6	-1.9	-2.0	-2.0	-2.1	-2.1	-.9	-.9	-.9	-.9	-.9	.3	.5	.5	.6	.6
	5	-3.2	-3.4	-3.5	-3.6	-3.7	-2.9	-3.1	-3.2	-3.3	-3.4	-2.5	-2.7	-2.8	-2.8	-2.9	-1.6	-1.7	-1.7	-1.7	-1.8	-.4	-.4	-.4	-.4	-.4
	10	-3.7	-4.0	-4.1	-4.2	-4.3	-3.4	-3.7	-3.8	-3.9	-4.0	-3.1	-3.3	-3.4	-3.5	-3.5	-2.2	-2.3	-2.4	-2.4	-2.5	-1.1	-1.1	-1.2	-1.2	-1.2

Figure 4-35 (Sheet 6)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT

FLAPS - 15°

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		12375					12200					12000					11800					11600				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
0	-25	3.1	3.6	3.8	4.1	4.4	3.3	3.9	4.1	4.4	4.6	3.6	4.2	4.4	4.7	5.0	3.8	4.5	4.7	5.0	5.3	4.1	4.8	5.1	5.4	5.7
	-20	3.1	3.6	3.9	4.1	4.4	3.3	3.9	4.1	4.4	4.6	3.6	4.2	4.4	4.7	5.0	3.8	4.5	4.7	5.0	5.3	4.1	4.8	5.1	5.4	5.7
	-15	3.1	3.7	3.9	4.1	4.4	3.3	3.9	4.1	4.4	4.7	3.6	4.2	4.4	4.7	5.0	3.8	4.5	4.8	5.0	5.4	4.1	4.8	5.1	5.4	5.7
	-10	3.1	3.7	3.9	4.1	4.4	3.4	3.9	4.1	4.4	4.7	3.6	4.2	4.5	4.7	5.0	3.9	4.5	4.8	5.1	5.4	4.1	4.8	5.1	5.4	5.7
	-5	3.2	3.7	3.9	4.1	4.4	3.4	3.9	4.2	4.4	4.7	3.6	4.2	4.5	4.7	5.0	3.9	4.5	4.8	5.1	5.4	4.2	4.8	5.1	5.4	5.7
	0	3.2	3.7	3.9	4.1	4.4	3.4	4.0	4.2	4.4	4.7	3.6	4.2	4.5	4.7	5.0	3.9	4.6	4.8	5.1	5.4	4.2	4.9	5.1	5.4	5.8
	5	3.2	3.7	3.9	4.2	4.4	3.4	4.0	4.2	4.4	4.7	3.7	4.3	4.5	4.8	5.1	3.9	4.6	4.8	5.1	5.4	4.2	4.9	5.2	5.5	5.8
	10	3.2	3.7	4.0	4.2	4.4	3.4	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.8	5.1	4.0	4.6	4.8	5.1	5.4	4.2	4.9	5.2	5.5	5.8
	15	3.2	3.8	4.0	4.2	4.4	3.5	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.8	5.1	4.0	4.6	4.9	5.1	5.4	4.2	4.9	5.2	5.5	5.8
	20	3.3	3.8	4.0	4.2	4.5	3.5	4.0	4.3	4.5	4.8	3.7	4.3	4.6	4.8	5.1	4.0	4.6	4.9	5.2	5.5	4.3	4.9	5.2	5.5	5.8
	25	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.1	4.4	3.4	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.8	5.1	4.0	4.6	4.9	5.1	5.4
	30	2.2	2.6	2.8	2.9	3.1	2.4	2.8	3.0	3.2	3.4	2.7	3.1	3.3	3.5	3.7	2.9	3.4	3.6	3.8	4.0	3.2	3.7	3.9	4.1	4.4
	35	1.5	1.7	1.9	2.0	2.1	1.6	2.0	2.1	2.2	2.4	1.9	2.2	2.4	2.5	2.7	2.1	2.5	2.6	2.8	3.0	2.4	2.8	2.9	3.1	3.3
	40	.7	.9	.9	1.0	1.1	.9	1.1	1.1	1.2	1.3	1.1	1.3	1.4	1.5	1.6	1.3	1.6	1.7	1.8	1.9	1.5	1.8	1.9	2.1	2.2
	45	-.1	.0	.0	.0	.1	.1	.2	.2	.3	.3	.3	.4	.5	.5	.6	.5	.6	.7	.8	.8	.7	.9	1.0	1.0	1.1
	50	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.4	-.4	-.3	-.3	-.2	-.2	-.2	-.1	.0	.0	.0	.1
	55	-1.5	-1.6	-1.7	-1.7	-1.8	-1.4	-1.5	-1.5	-1.5	-1.6	-1.2	-1.3	-1.3	-1.3	-1.3	-1.0	-1.1	-1.1	-1.1	-1.1	-.8	-.8	-.8	-.8	-.9
1	-25	3.0	3.5	3.7	3.9	4.2	3.2	3.7	4.0	4.2	4.5	3.4	4.0	4.3	4.5	4.8	3.7	4.3	4.6	4.9	5.2	4.0	4.6	4.9	5.2	5.5
0	-20	3.0	3.5	3.7	3.9	4.2	3.2	3.7	4.0	4.2	4.5	3.5	4.0	4.3	4.5	4.8	3.7	4.3	4.6	4.9	5.2	4.0	4.6	4.9	5.2	5.5
0	-15	3.0	3.5	3.7	3.9	4.2	3.2	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.8	3.7	4.4	4.6	4.9	5.2	4.0	4.7	4.9	5.2	5.5
0	-10	3.0	3.5	3.7	4.0	4.2	3.2	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.6	4.8	3.8	4.4	4.6	4.9	5.2	4.0	4.7	4.9	5.2	5.6
	-5	3.1	3.6	3.8	4.0	4.2	3.3	3.8	4.0	4.3	4.5	3.5	4.1	4.3	4.6	4.9	3.8	4.4	4.6	4.9	5.2	4.0	4.7	5.0	5.3	5.6
	0	3.1	3.6	3.8	4.0	4.2	3.3	3.8	4.0	4.3	4.5	3.5	4.1	4.3	4.6	4.9	3.8	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.3	5.6
	5	3.1	3.6	3.8	4.0	4.3	3.3	3.9	4.1	4.3	4.6	3.6	4.1	4.4	4.6	4.9	3.8	4.4	4.7	4.9	5.2	4.1	4.8	5.0	5.3	5.6
	10	3.1	3.6	3.8	4.0	4.3	3.3	3.9	4.1	4.3	4.5	3.6	4.1	4.4	4.6	4.9	3.8	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.3	5.6
	15	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.2	4.4	3.5	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.8	5.1	4.0	4.6	4.9	5.1	5.4
	20	2.8	3.2	3.4	3.6	3.8	3.0	3.5	3.7	3.9	4.1	3.2	3.7	4.0	4.2	4.4	3.5	4.0	4.3	4.5	4.8	3.7	4.3	4.6	4.8	5.1
	25	2.4	2.7	2.9	3.1	3.3	2.6	3.0	3.1	3.3	3.5	2.8	3.3	3.4	3.6	3.8	3.0	3.5	3.7	3.9	4.2	3.3	3.8	4.0	4.3	4.5
	30	1.7	2.0	2.1	2.2	2.4	1.9	2.2	2.3	2.5	2.6	2.1	2.5	2.6	2.8	2.9	2.3	2.7	2.9	3.1	3.3	2.6	3.0	3.2	3.4	3.6
	35	1.0	1.2	1.3	1.4	1.5	1.1	1.4	1.5	1.6	1.7	1.4	1.6	1.7	1.9	2.0	1.6	1.9	2.0	2.1	2.3	1.8	2.2	2.3	2.4	2.6
	40	.2	.3	.4	.4	.5	.4	.5	.6	.6	.7	.6	.7	.8	.9	1.0	.8	1.0	1.1	1.1	1.2	1.0	1.2	1.3	1.4	1.5
	45	-.6	-.6	-.5	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.2	-.2	-.1	-.1	-.1	.0	.1	.1	.2	.2	.2	.3	.4	.4	.5
	50	-1.3	-1.4	-1.4	-1.4	-1.4	-1.1	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.5	-.5	-.5
	52	-1.7	-1.8	-1.8	-1.9	-1.9	-1.5	-1.6	-1.7	-1.7	-1.7	-1.4	-1.4	-1.5	-1.5	-1.5	-1.2	-1.2	-1.2	-1.3	-1.3	-1.0	-1.0	-1.0	-1.0	-1.0
2	-25	2.9	3.4	3.6	3.8	4.1	3.1	3.7	3.9	4.1	4.4	3.4	4.0	4.2	4.4	4.7	3.6	4.2	4.5	4.8	5.1	3.9	4.6	4.8	5.1	5.4
0	-20	2.9	3.4	3.6	3.8	4.1	3.1	3.7	3.9	4.1	4.4	3.4	4.0	4.2	4.4	4.7	3.7	4.3	4.5	4.8	5.1	3.9	4.6	4.8	5.1	5.4
0	-15	3.0	3.4	3.6	3.9	4.1	3.2	3.7	3.9	4.1	4.4	3.4	4.0	4.2	4.4	4.7	3.7	4.3	4.5	4.8	5.1	3.9	4.6	4.8	5.1	5.4
0	-10	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.1	4.4	3.4	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.8	5.1	4.0	4.6	4.9	5.1	5.4
	-5	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.2	4.4	3.5	4.0	4.2	4.5	4.8	3.7	4.3	4.6	4.8	5.1	4.0	4.6	4.9	5.2	5.5
	0	3.0	3.5	3.7	3.9	4.1	3.2	3.8	4.0	4.2	4.4	3.5	4.0	4.3	4.5	4.8	3.7	4.3	4.6	4.8	5.1	4.0	4.6	4.9	5.2	5.5
	5	3.0	3.5	3.7	3.9	4.2	3.3	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.9	5.1	4.0	4.7	4.9	5.2	5.5
	10	3.1	3.6	3.7	4.0	4.2	3.3	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.9	5.2	4.1	4.7	4.9	5.2	5.5
	15	2.8	3.2	3.4	3.6	3.8	3.0	3.4	3.6	3.8	4.1	3.2	3.7	3.9	4.2	4.4	3.5	4.0	4.2	4.5	4.7	3.7	4.3	4.6	4.8	5.1
	20	2.3	2.7	2.9	3.1	3.2	2.5	3.0	3.1	3.3	3.5	2.8	3.2	3.4	3.6	3.8	3.0	3.5	3.7	3.9	4.2	3.3	3.8	4.0	4.3	4.5
	25	1.8	2.1	2.2	2.4	2.5	2.0	2.3	2.5	2.6	2.8	2.2	2.6	2.7	2.9	3.1	2.5	2.9	3.0	3.2	3.4	2.7	3.2	3.3	3.5	3.7
	30	1.2	1.4	1.5	1.6	1.8	1.4	1.7	1.8	1.9	2.0	1.6	1.9	2.0	2.2	2.3	1.8	2.2	2.3	2.4	2.6	2.1	2.4	2.6	2.7	2.9
	35	.5	.6	.7	.8	.8	.7	.8	.9	1.0	1.1	.9	1.1	1.1	1.2	1.3	1.1	1.3	1.4	1.5	1.6	1.3	1.6	1.7	1.8	1.9
	40	-.3	-.2	-.2	-.2	-.1	-.1	.0	.0	.0	.1	.1	.2	.2	.3	.3	.3	.4	.5	.5	.6	.5	.7	.7	.8	.9
	45	-1.0	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.4	-.4	-.3	-.2	-.2	-.2	-.2
	50	-1.7	-1.8	-1.9	-1.9	-2.0	-1.6	-1.7	-1.7	-1.8	-1.8	-1.4	-1.5	-1.5	-1.5	-1.6	-1.2	-1.3	-1.3	-1.3	-1.3	-1.0	-1.1	-1.1	-1.1	-1.1
3	-30	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.1	4.4	3.4	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.8	5.1	3.9	4.6	4.9	5.1	5.5
0	-25	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.1	4.4	3.4	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.8	5.1	3.9	4.6	4.9	5.1	5.4
0	-20	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.1	4.4	3.4	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.8	5.1	4.0	4.6	4.9	5.1	5.5
0	-15	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.2	4.4	3.5	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.8	5.1	4.0	4.6	4.9	5.2	5.5
	-10	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.2	4.4	3.5	4.0	4.3	4.5	4.8	3.7	4.3	4.6	4.8	5.1	4.0	4.6	4.9	5.2	5.5
	-5	3.0	3.5	3.7	3.9	4.2	3.2	3.8	4.0	4.2	4.4	3.5	4.1	4.3	4.5	4.8	3.8	4.3	4.6	4.8	5.1	4.0	4.7	4.9	5.2	5.5
	0	3.0	3.5	3.7	3.9	4.1	3.2	3.7	4.0	4.2	4.4	3.5	4.0	4.3	4.5	4.7	3.7	4.3	4.6	4.8	5.1	4.0	4.6	4.9	5.2	5.5
	5	2.9	3.3	3.5	3.7	3.9	3.1	3.6	3.8	4.0	4.2	3.3	3.9	4.1	4.3	4.5	3.6	4.1	4.4	4.6	4.9	3.8	4.4	4.7	4.9	5.2
	10	2.6	3.0	3.2	3.4	3.6	2.8	3.3	3.4	3.6	3.9	3.1	3.5	3.7	3.9	4.2	3.3	3.8	4.0	4.3	4.5	3.6	4.1	4.4	4.6	4.9
	15	2.3	2.6	2.8	2.9	3.1	2.5	2.9	3.0	3.2	3.4	2.7	3.1	3.3	3.5	3.7	3.0	3.4	3.6	3.8	4.0	3.2	3.7	3.9	4.1	4.4
	20	1.8	2.1	2.3	2.4	2.5	2.0	2.4	2.5	2.6	2.8	2.2	2.6	2.8	2.9	3.1	2.5	2.9	3.0	3.2	3.4	2.7	3.2	3.3	3.5	3.7
	25	1.3	1.6	1.7	1.8	1.9	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.2	2.3	2.4	2.0	2.3	2.4	2.6	2.7	2.2	2.6	2.7	2.9	3.0
	30	.8	.9	1.0	1.1	1.2	.9	1.2	1.2	1.3	1.4	1.2	1.4	1.5	1.6	1.7	1.4	1.6	1.8	1.9	2.0	1.6	1.9	2.0	2.2	2.3
	35	.0	.1	.1	.2	.2	.2	.3	.3	.4	.4	.4	.5	.6	.6	.7	.6	.8	.8	.9	1.0	.8	1.0	1.1	1.2	1.2
	40	-.8	-.8	-.7	-.7	-.7	-.6	-.6	-.6	-.5	-.5	-.4	-.4	-.3	-.3	-.3	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.2	.2
	45	-1.5	-1.6	-1.6	-1.6	-1.7	-1.3	-1.4	-1.4	-1.4	-1.5	-1.1	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8
	48	-2.0	-2.1	-2.1	-2.2	-2.3	-1.8	-1.9	-2.0	-2.0	-2.1	-1.6	-1.7	-1.8	-1.8	-1.9	-1.5	-1.5	-1.6	-1.6	-1.6	-1.3	-1.3	-1.4	-1.4	-1.4

Figure 4-36 (Sheet 1 of 8)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT

FLAPS - 15°

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		11400					11000					10500					9500					8500				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
0	-25	4.4	5.1	5.4	5.7	6.1	4.9	5.8	6.1	6.5	6.9	5.7	6.7	7.1	7.5	8.0	7.6	8.9	9.4	10.0	10.6	9.9	11.5	12.2	12.9	13.8
	-20	4.4	5.1	5.4	5.7	6.1	5.0	5.8	6.1	6.5	6.9	5.7	6.7	7.1	7.5	8.0	7.6	8.9	9.4	10.0	10.6	9.9	11.5	12.2	12.9	13.8
	-15	4.4	5.1	5.4	5.8	6.1	5.0	5.8	6.1	6.5	6.9	5.8	6.7	7.1	7.6	8.0	7.7	8.9	9.4	10.0	10.6	9.9	11.6	12.2	12.9	13.8
	-10	4.4	5.1	5.4	5.8	6.1	5.0	5.8	6.2	6.5	6.9	5.8	6.8	7.1	7.6	8.0	7.7	8.9	9.5	10.0	10.6	10.0	11.6	12.2	13.0	13.8
	-5	4.4	5.2	5.5	5.8	6.1	5.0	5.8	6.2	6.5	6.9	5.8	6.8	7.2	7.6	8.1	7.7	9.0	9.5	10.0	10.7	10.0	11.6	12.2	13.0	13.8
	0	4.5	5.2	5.5	5.8	6.1	5.0	5.9	6.2	6.6	7.0	5.8	6.8	7.2	7.6	8.1	7.8	9.0	9.5	10.0	10.7	10.0	11.6	12.3	13.0	13.8
	5	4.5	5.2	5.5	5.8	6.2	5.1	5.9	6.2	6.6	7.0	5.9	6.8	7.2	7.6	8.1	7.8	9.0	9.5	10.1	10.7	10.1	11.7	12.3	13.0	13.8
	10	4.5	5.2	5.5	5.8	6.2	5.1	5.9	6.2	6.6	7.0	5.9	6.8	7.2	7.6	8.1	7.8	9.0	9.5	10.1	10.7	10.1	11.7	12.3	13.0	13.8
	15	4.5	5.2	5.5	5.8	6.2	5.1	5.9	6.3	6.6	7.0	5.9	6.9	7.2	7.6	8.1	7.8	9.1	9.6	10.1	10.7	10.1	11.7	12.3	13.0	13.8
	20	4.6	5.3	5.6	5.9	6.2	5.2	6.0	6.3	6.6	7.0	6.0	6.9	7.3	7.7	8.1	7.9	9.1	9.6	10.1	10.7	10.2	11.7	12.4	13.1	13.8
	25	4.3	4.9	5.2	5.5	5.8	4.8	5.6	5.9	6.2	6.6	5.6	6.5	6.9	7.2	7.7	7.5	8.7	9.1	9.6	10.2	9.8	11.3	11.9	12.5	13.3
	30	3.4	4.0	4.2	4.4	4.7	4.0	4.6	4.9	5.2	5.5	4.7	5.5	5.8	6.1	6.5	6.5	7.5	7.9	8.4	8.9	8.7	10.0	10.6	11.2	11.9
	35	2.6	3.1	3.2	3.4	3.6	3.1	3.7	3.9	4.1	4.3	3.8	4.5	4.7	5.0	5.3	5.5	6.4	6.7	7.1	7.6	7.6	8.8	9.3	9.8	10.4
	40	1.8	2.1	2.2	2.4	2.5	2.3	2.7	2.8	3.0	3.2	2.9	3.4	3.6	3.9	4.1	4.5	5.2	5.5	5.9	6.2	6.4	7.5	7.9	8.4	8.9
	45	.9	1.1	1.2	1.3	1.4	1.4	1.7	1.8	1.9	2.0	2.0	2.4	2.5	2.7	2.9	3.5	4.1	4.3	4.6	4.9	5.3	6.2	6.6	7.0	7.4
	50	.1	.2	.3	.3	.4	.5	.7	.8	.9	.9	1.1	1.4	1.5	1.6	1.7	2.5	3.0	3.2	3.4	3.6	4.2	5.0	5.2	5.6	5.9
	55	-.6	-.6	-.6	-.6	-.6	-.2	-.2	-.1	-.1	-.1	.3	.5	.5	.6	.7	1.6	2.0	2.1	2.3	2.4	3.2	3.8	4.1	4.3	4.6
1	-25	4.2	5.0	5.2	5.6	5.9	4.8	5.6	6.0	6.3	6.7	5.6	6.5	6.9	7.4	7.8	7.5	8.7	9.2	9.8	10.4	9.7	11.3	12.0	12.7	13.5
0	-20	4.3	5.0	5.2	5.6	5.9	4.8	5.6	6.0	6.3	6.7	5.6	6.6	6.9	7.4	7.8	7.5	8.7	9.2	9.8	10.4	9.7	11.3	12.0	12.7	13.5
0	-15	4.3	5.0	5.3	5.6	5.9	4.9	5.7	6.0	6.3	6.7	5.6	6.6	7.0	7.4	7.8	7.5	8.8	9.2	9.8	10.4	9.8	11.4	12.0	12.7	13.5
0	-10	4.3	5.0	5.3	5.6	5.9	4.9	5.7	6.0	6.3	6.7	5.7	6.6	7.0	7.4	7.8	7.6	8.8	9.3	9.8	10.4	9.8	11.4	12.0	12.7	13.5
	-5	4.3	5.0	5.3	5.6	5.9	4.9	5.7	6.0	6.4	6.8	5.7	6.6	7.0	7.4	7.9	7.6	8.8	9.3	9.8	10.4	9.9	11.4	12.0	12.7	13.5
	0	4.3	5.0	5.3	5.6	6.0	4.9	5.7	6.0	6.4	6.8	5.7	6.6	7.0	7.4	7.9	7.6	8.8	9.3	9.8	10.4	9.9	11.4	12.1	12.8	13.5
	5	4.4	5.1	5.3	5.7	6.0	5.0	5.8	6.1	6.4	6.8	5.8	6.7	7.0	7.4	7.9	7.7	8.9	9.3	9.9	10.5	9.9	11.5	12.1	12.8	13.5
	10	4.4	5.1	5.3	5.6	6.0	5.0	5.7	6.1	6.4	6.8	5.8	6.7	7.0	7.4	7.9	7.7	8.9	9.3	9.9	10.4	9.9	11.5	12.1	12.8	13.5
	15	4.3	4.9	5.2	5.5	5.8	4.9	5.6	5.9	6.2	6.6	5.6	6.5	6.9	7.3	7.7	7.5	8.7	9.2	9.7	10.2	9.8	11.3	11.9	12.6	13.3
	20	4.0	4.7	4.9	5.2	5.5	4.6	5.3	5.6	5.9	6.3	5.4	6.2	6.6	6.9	7.3	7.2	8.3	8.8	9.3	9.8	9.5	10.9	11.5	12.1	12.9
	25	3.6	4.1	4.4	4.6	4.9	4.1	4.8	5.0	5.3	5.6	4.9	5.7	6.0	6.3	6.7	6.7	7.7	8.1	8.6	9.1	8.9	10.2	10.8	11.4	12.1
	30	2.8	3.3	3.5	3.7	3.9	3.4	3.9	4.1	4.4	4.6	4.1	4.8	5.0	5.3	5.6	5.8	6.7	7.1	7.5	7.9	7.9	9.1	9.6	10.2	10.8
	35	2.1	2.4	2.6	2.7	2.9	2.6	3.0	3.2	3.4	3.6	3.3	3.8	4.0	4.3	4.5	4.9	5.7	6.0	6.3	6.7	6.8	8.0	8.4	8.9	9.4
	40	1.2	1.5	1.6	1.7	1.8	1.7	2.0	2.2	2.3	2.5	2.4	2.8	3.0	3.1	3.3	3.9	4.5	4.8	5.1	5.4	5.7	6.7	7.0	7.5	7.9
	45	.4	.6	.6	.7	.7	.8	1.1	1.1	1.2	1.3	1.5	1.8	1.9	2.0	2.2	2.9	3.4	3.6	3.8	4.1	4.6	5.4	5.7	6.1	6.4
	50	-.4	-.3	-.3	-.3	-.3	.0	.2	.2	.2	.3	.6	.8	.9	1.0	1.0	2.0	2.3	2.5	2.6	2.8	3.6	4.2	4.5	4.7	5.1
	52	-.8	-.8	-.8	-.8	-.8	-.4	-.3	-.3	-.3	-.3	.2	.3	.3	.4	.5	1.5	1.8	1.9	2.0	2.2	3.0	3.6	3.8	4.0	4.3
2	-25	4.2	4.9	5.2	5.5	5.8	4.8	5.5	5.9	6.2	6.6	5.5	6.5	6.8	7.2	7.7	7.4	8.6	9.1	9.6	10.3	9.7	11.2	11.9	12.6	13.3
0	-20	4.2	4.9	5.2	5.5	5.8	4.8	5.6	5.9	6.2	6.6	5.6	6.5	6.8	7.2	7.7	7.4	8.6	9.1	9.6	10.2	9.7	11.2	11.9	12.6	13.3
0	-15	4.2	4.9	5.2	5.5	5.8	4.8	5.6	5.9	6.2	6.6	5.6	6.5	6.9	7.3	7.7	7.5	8.7	9.1	9.7	10.3	9.7	11.3	11.9	12.6	13.3
0	-10	4.2	4.9	5.2	5.5	5.8	4.8	5.6	5.9	6.2	6.6	5.6	6.5	6.9	7.3	7.7	7.5	8.7	9.2	9.7	10.3	9.7	11.3	11.9	12.6	13.3
	-5	4.3	4.9	5.2	5.5	5.8	4.8	5.6	5.9	6.3	6.6	5.6	6.5	6.9	7.3	7.7	7.5	8.7	9.2	9.7	10.3	9.8	11.3	11.9	12.6	13.4
	0	4.3	5.0	5.2	5.5	5.9	4.9	5.6	5.9	6.3	6.7	5.7	6.6	6.9	7.3	7.7	7.6	8.7	9.2	9.7	10.3	9.8	11.3	11.9	12.6	13.4
	5	4.3	5.0	5.3	5.6	5.9	4.9	5.7	6.0	6.3	6.7	5.7	6.6	6.9	7.3	7.8	7.6	8.8	9.2	9.7	10.3	9.9	11.4	12.0	12.6	13.4
	10	4.3	5.0	5.3	5.6	5.9	4.9	5.7	6.0	6.3	6.7	5.7	6.6	7.0	7.3	7.8	7.6	8.8	9.2	9.8	10.3	9.9	11.4	12.0	12.7	13.4
	15	4.0	4.6	4.9	5.2	5.5	4.6	5.3	5.6	5.9	6.2	5.4	6.2	6.5	6.9	7.3	7.2	8.3	8.8	9.3	9.8	9.5	10.9	11.5	12.1	12.8
	20	3.6	4.1	4.3	4.6	4.9	4.1	4.8	5.0	5.3	5.6	4.9	5.6	5.9	6.3	6.6	6.7	7.7	8.1	8.6	9.1	8.9	10.2	10.8	11.4	12.0
	25	3.0	3.4	3.6	3.8	4.1	3.5	4.1	4.3	4.5	4.8	4.2	4.9	5.2	5.5	5.8	5.9	6.8	7.2	7.6	8.1	8.1	9.3	9.8	10.4	11.0
	30	2.3	2.7	2.9	3.1	3.2	2.8	3.3	3.5	3.7	3.9	3.5	4.1	4.3	4.6	4.9	5.2	6.0	6.3	6.7	7.1	7.2	8.3	8.8	9.3	9.8
	35	1.5	1.8	2.0	2.1	2.2	2.0	2.4	2.5	2.7	2.9	2.7	3.2	3.3	3.5	3.8	4.2	4.9	5.2	5.5	5.8	6.1	7.1	7.5	8.0	8.4
	40	.7	.9	1.0	1.1	1.1	1.2	1.4	1.5	1.6	1.8	1.8	2.1	2.3	2.4	2.6	3.3	3.8	4.0	4.3	4.5	5.0	5.9	6.2	6.6	7.0
	45	-.1	.0	.0	.1	.1	.3	.5	.5	.6	.7	.9	1.1	1.2	1.3	1.4	2.3	2.7	2.9	3.0	3.2	3.9	4.6	4.9	5.2	5.5
	50	-.8	-.8	-.9	-.9	-.9	-.4	-.4	-.4	-.4	-.3	.1	.2	.3	.3	.4	1.4	1.7	1.8	1.9	2.1	3.0	3.5	3.7	3.9	4.2
3	-30	4.2	4.9	5.2	5.5	5.8	4.8	5.6	5.9	6.3	6.6	5.6	6.5	6.9	7.3	7.7	7.5	8.7	9.2	9.7	10.3	9.7	11.3	11.9	12.6	13.4
0	-25	4.2	4.9	5.2	5.5	5.8	4.8	5.6	5.9	6.2	6.6	5.6	6.5	6.9	7.3	7.7	7.5	8.7	9.1	9.7	10.3	9.7	11.3	11.9	12.6	13.3
0	-20	4.2	4.9	5.2	5.5	5.8	4.8	5.6	5.9	6.2	6.6	5.6	6.5	6.9	7.3	7.7	7.5	8.7	9.2	9.7	10.3	9.7	11.3	11.9	12.6	13.3
0	-15	4.3	4.9	5.2	5.5	5.8	4.8	5.6	5.9	6.3	6.6	5.6	6.5	6.9	7.3	7.7	7.5	8.7	9.2	9.7	10.3	9.8	11.3	11.9	12.6	13.3
	-10	4.3	5.0	5.2	5.5	5.8	4.9	5.6	5.9	6.3	6.6	5.7	6.5	6.9	7.3	7.7	7.5	8.7	9.2	9.7	10.3	9.8	11.3	11.9	12.6	13.3
	-5	4.3	5.0	5.2	5.5	5.9	4.9	5.7	6.0	6.3	6.7	5.7	6.6	6.9	7.3	7.7	7.6	8.7	9.2	9.7	10.3	9.8	11.4	12.0	12.6	13.4
	0	4.3	5.0	5.2	5.5	5.8	4.9	5.6	5.9	6.3	6.6	5.7	6.6	6.9	7.3	7.7	7.6	8.7	9.2	9.7	10.2	9.8	11.3	11.9	12.6	13.3
	5	4.1	4.8	5.0	5.3	5.6	4.7	5.4	5.7	6.0	6.4	5.5	6.3	6.7	7.0	7.4	7.4	8.5	8.9	9.4	10.0	9.6	11.1	11.6	12.3	13.0
	10	3.8	4.4	4.7	4.9	5.2	4.4	5.1	5.4	5.7	6.0	5.2	6.0	6.3	6.7	7.0	7.0	8.1	8.5	9.0	9.5	9.3	10.6	11.2	11.8	12.5
	15	3.5	4.0	4.2	4.5	4.7	4.0	4.7	4.9	5.2	5.5	4.8	5.5	5.8	6.1	6.5	6.5	7.6	8.0	8.4	8.9	8.7	10.1	10.6	11.2	11.8
	20	3.0	3.5	3.6	3.9	4.1	3.5	4.1	4.3	4.5	4.8	4.3	4.9	5.2	5.5	5.8	5.9	6.9	7.2	7.6	8.1	8.1	9.3	9.8	10.4	11.0
	25	2.4	2.8	3.0	3.2	3.4	3.0	3.4	3.6	3.8	4.1	3.7	4.3	4.5	4.7	5.0	5.3	6.1	6.5	6.8	7.2	7.3	8.5	8.9	9.4	10.0
	30	1.8	2.2	2.3	2.4	2.6	2.3	2.7	2.9	3.1	3.3	3.0	3.5	3.7	3.9	4.2	4.6	5.3	5.6	5.9	6.3	6.5	7.6	8.0	8.4	9.0
	35	1.0	1.3	1.3	1.4	1.5	1.5	1.8	1.9	2.0	2.2	2.1	2.5	2.7	2.8	3.0	3.6	4.2	4.5	4.7	5.0	5.4	6.3	6.7	7.1	7.5
	40	.2	.3	.4	.4	.5	.7	.8	.9	1.0	1.1	1.3	1.5	1.6	1.7	1.9	2.6	3.1	3.3	3.5	3.7	4.4	5.1	5.4	5.7	6.0
	45	-.6	-.5	-.5	-.5	-.5	-.2	-.1	.0	.0	.0	.4	.6	.6	.7	.8	1.7	2.1	2.2	2.3	2.5	3.3	3.9	4.1	4.4	4.7
	48	-1.1	-1.1	-1.1	-1.2	-1.2	-.7	-.7	-.7	-.7	-.7	-.2	-.1	.0	.0	.0	1.1	1.3	1.4	1.6	1.7	2.6	3.1	3.3	3.5	3.7

Figure 4-36 (Sheet 2)

FIRST SEGMENT TAKEOFF NET CLIMB GRADIENT - PERCENT

FLAPS - 15°

CONDITIONS: ANTI-ICE SYSTEMS - OFF
LANDING GEAR - DOWN
AIRSPEED - V2
SPEEDBRAKES - RETRACT
INOPERATIVE ENGINE - WINDMILLING
OPERATIVE ENGINE - TAKEOFF THRUST

ALT FT	TEMP DEG C	WEIGHT - POUNDS																								
		12375					12200					12000					11800					11600				
		WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS					WIND KNOTS				
		-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30	-10	0	10	20	30
4	-30	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.2	4.4	3.5	4.0	4.2	4.5	4.8	3.7	4.3	4.6	4.8	5.1	4.0	4.6	4.9	5.2	5.5
0	-25	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.2	4.4	3.5	4.0	4.2	4.5	4.8	3.7	4.3	4.6	4.8	5.1	4.0	4.6	4.9	5.2	5.5
0	-20	3.0	3.5	3.7	3.9	4.1	3.2	3.7	4.0	4.2	4.4	3.5	4.0	4.3	4.5	4.8	3.7	4.3	4.6	4.8	5.1	4.0	4.6	4.9	5.2	5.5
0	-15	3.0	3.5	3.7	3.9	4.1	3.2	3.8	4.0	4.2	4.4	3.5	4.0	4.3	4.5	4.8	3.8	4.3	4.6	4.8	5.1	4.0	4.7	4.9	5.2	5.5
	-10	3.0	3.5	3.7	3.9	4.2	3.3	3.8	4.0	4.2	4.4	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.8	5.1	4.0	4.7	4.9	5.2	5.5
	-5	3.1	3.6	3.7	3.9	4.2	3.3	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.9	5.1	4.1	4.7	4.9	5.2	5.5
	0	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.2	4.4	3.5	4.0	4.2	4.5	4.7	3.7	4.3	4.5	4.8	5.1	4.0	4.6	4.9	5.1	5.4
	5	2.7	3.1	3.3	3.5	3.7	2.9	3.4	3.5	3.7	3.9	3.1	3.6	3.8	4.0	4.3	3.4	3.9	4.1	4.4	4.6	3.7	4.2	4.4	4.7	5.0
	10	2.2	2.6	2.7	2.9	3.0	2.4	2.8	3.0	3.1	3.3	2.6	3.1	3.2	3.4	3.6	2.9	3.4	3.5	3.7	3.9	3.1	3.6	3.8	4.0	4.3
	15	1.7	2.1	2.2	2.3	2.5	1.9	2.3	2.4	2.6	2.7	2.2	2.5	2.7	2.8	3.0	2.4	2.8	3.0	3.1	3.3	2.7	3.1	3.3	3.4	3.6
	20	1.3	1.6	1.7	1.8	1.9	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.2	2.3	2.4	2.0	2.3	2.4	2.6	2.7	2.2	2.6	2.7	2.9	3.0
	25	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.6	1.3	1.5	1.6	1.7	1.9	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.2	2.3	2.4
	30	.3	.4	.4	.5	.5	.4	.6	.6	.7	.8	.6	.8	.9	1.0	1.0	.9	1.1	1.1	1.2	1.3	1.1	1.3	1.4	1.5	1.6
	35	-.5	-.4	-.4	-.4	-.4	-.3	-.3	-.2	-.2	-.2	-.1	.0	.0	.0	.1	.1	.2	.2	.3	.3	.3	.4	.5	.5	.6
	40	-1.2	-1.3	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.4	-.4
	45	-1.9	-2.0	-2.1	-2.1	-2.2	-1.8	-1.9	-1.9	-2.0	-2.0	-1.6	-1.7	-1.7	-1.7	-1.8	-1.4	-1.5	-1.5	-1.5	-1.6	-1.2	-1.3	-1.3	-1.3	-1.3
	46	-2.1	-2.2	-2.3	-2.4	-2.4	-1.9	-2.1	-2.1	-2.2	-2.3	-1.8	-1.9	-1.9	-2.0	-2.0	-1.6	-1.7	-1.7	-1.8	-1.8	-1.4	-1.5	-1.5	-1.6	-1.6
5	-35	3.0	3.5	3.7	4.0	4.2	3.3	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.9	5.2	4.0	4.7	4.9	5.2	5.5
0	-30	3.0	3.5	3.7	3.9	4.2	3.3	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.9	5.1	4.0	4.7	4.9	5.2	5.5
0	-25	3.0	3.5	3.7	3.9	4.2	3.3	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.9	5.1	4.0	4.7	4.9	5.2	5.5
0	-20	3.1	3.5	3.7	3.9	4.2	3.3	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.9	5.1	4.1	4.7	4.9	5.2	5.5
	-15	3.1	3.6	3.7	4.0	4.2	3.3	3.8	4.0	4.2	4.5	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.9	5.1	4.1	4.7	4.9	5.2	5.5
	-10	3.0	3.4	3.6	3.8	4.0	3.2	3.7	3.9	4.1	4.3	3.4	4.0	4.2	4.4	4.6	3.7	4.2	4.5	4.7	5.0	3.9	4.6	4.8	5.0	5.3
	-5	2.8	3.3	3.5	3.7	3.9	3.1	3.5	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.5	3.6	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.9	5.2
	0	2.6	3.0	3.2	3.3	3.5	2.8	3.2	3.4	3.6	3.8	3.0	3.5	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.5	3.6	4.1	4.3	4.6	4.8
	5	2.2	2.5	2.6	2.8	3.0	2.4	2.7	2.9	3.0	3.2	2.6	3.0	3.2	3.3	3.5	2.8	3.3	3.5	3.7	3.9	3.1	3.6	3.8	4.0	4.2
	10	1.7	2.0	2.1	2.2	2.4	1.9	2.2	2.3	2.5	2.6	2.1	2.5	2.6	2.8	2.9	2.4	2.7	2.9	3.1	3.2	2.6	3.0	3.2	3.4	3.6
	15	1.2	1.5	1.6	1.7	1.8	1.4	1.7	1.8	1.9	2.0	1.7	2.0	2.1	2.2	2.3	1.9	2.2	2.3	2.5	2.6	2.1	2.5	2.6	2.8	2.9
	20	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.6	1.3	1.5	1.6	1.7	1.8	1.5	1.8	1.9	2.0	2.1	1.7	2.0	2.2	2.3	2.4
	25	.5	.7	.7	.8	.9	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.3	1.4	1.1	1.3	1.4	1.5	1.6	1.3	1.6	1.7	1.8	1.9
	30	-.2	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.1	.1	.3	.3	.4	.4	.4	.5	.5	.6	.7	.6	.7	.8	.9	.9
	35	-1.0	-1.0	-1.0	-1.0	-1.0	-.8	-.8	-.8	-.8	-.8	-.6	-.6	-.6	-.6	-.6	-.4	-.4	-.3	-.3	-.3	-.2	-.1	-.1	-.1	-.1
	40	-1.7	-1.8	-1.8	-1.8	-1.9	-1.5	-1.6	-1.6	-1.7	-1.7	-1.3	-1.4	-1.4	-1.4	-1.5	-1.2	-1.2	-1.2	-1.2	-1.2	-1.0	-1.0	-1.0	-1.0	-1.0
	44	-2.2	-2.4	-2.5	-2.5	-2.6	-2.1	-2.2	-2.3	-2.4	-2.4	-1.9	-2.0	-2.1	-2.2	-2.2	-1.7	-1.9	-1.9	-1.9	-2.0	-1.6	-1.7	-1.7	-1.7	-1.8
6	-35	3.1	3.6	3.8	4.0	4.2	3.3	3.8	4.0	4.3	4.5	3.6	4.1	4.3	4.6	4.9	3.8	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.3	5.6
0	-30	3.1	3.6	3.8	4.0	4.2	3.3	3.8	4.0	4.3	4.5	3.6	4.1	4.3	4.6	4.8	3.8	4.4	4.6	4.9	5.2	4.1	4.7	5.0	5.2	5.5
0	-25	3.1	3.6	3.8	4.0	4.2	3.3	3.8	4.0	4.3	4.5	3.6	4.1	4.3	4.6	4.8	3.8	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.2	5.5
0	-20	3.1	3.6	3.8	4.0	4.2	3.3	3.8	4.0	4.3	4.5	3.6	4.1	4.3	4.6	4.8	3.8	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.2	5.5
	-15	3.1	3.5	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.4	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.2	5.5
	-10	2.9	3.4	3.5	3.7	3.9	3.1	3.6	3.8	4.0	4.2	3.4	3.9	4.1	4.3	4.5	3.6	4.2	4.4	4.6	4.9	3.9	4.5	4.7	5.0	5.2
	-5	2.6	3.0	3.2	3.4	3.6	2.8	3.3	3.4	3.6	3.8	3.1	3.5	3.7	3.9	4.2	3.3	3.8	4.0	4.2	4.5	3.6	4.1	4.3	4.6	4.8
	0	2.1	2.5	2.6	2.7	2.9	2.3	2.7	2.8	3.0	3.2	2.6	3.0	3.1	3.3	3.5	2.8	3.2	3.4	3.6	3.8	3.0	3.5	3.7	3.9	4.1
	5	1.6	1.9	2.0	2.2	2.3	1.8	2.1	2.3	2.4	2.5	2.1	2.4	2.5	2.7	2.8	2.3	2.7	2.8	3.0	3.2	2.5	3.0	3.1	3.3	3.5
	10	1.2	1.4	1.5	1.6	1.7	1.4	1.6	1.7	1.8	2.0	1.6	1.9	2.0	2.1	2.3	1.8	2.1	2.3	2.4	2.6	2.1	2.4	2.6	2.7	2.9
	15	.8	1.0	1.0	1.1	1.2	1.0	1.2	1.3	1.3	1.4	1.2	1.4	1.5	1.6	1.7	1.4	1.7	1.8	1.9	2.0	1.6	1.9	2.0	2.2	2.3
	20	.4	.5	.6	.7	.7	.6	.7	.8	.9	1.0	.8	1.0	1.1	1.1	1.2	1.0	1.2	1.3	1.4	1.5	1.2	1.5	1.6	1.7	1.8
	25	-.1	.0	.0	.1	.1	.1	.2	.2	.3	.3	.3	.4	.5	.5	.6	.5	.7	.7	.8	.8	.7	.9	1.0	1.0	1.1
	30	-.8	-.7	-.7	-.7	-.7	-.6	-.6	-.6	-.5	-.5	-.4	-.4	-.3	-.3	-.3	-.2	-.1	-.1	-.1	.0	.0	.1	.1	.2	.2
	35	-1.4	-1.5	-1.5	-1.6	-1.6	-1.3	-1.3	-1.4	-1.4	-1.4	-1.1	-1.1	-1.1	-1.2	-1.2	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7
	40	-2.1	-2.2	-2.3	-2.3	-2.4	-1.9	-2.1	-2.1	-2.2	-2.2	-1.8	-1.9	-1.9	-2.0	-2.0	-1.6	-1.7	-1.7	-1.8	-1.8	-1.4	-1.5	-1.5	-1.5	-1.6
	42	-2.4	-2.5	-2.6	-2.7	-2.8	-2.2	-2.4	-2.5	-2.5	-2.6	-2.1	-2.2	-2.3	-2.3	-2.4	-1.9	-2.0	-2.1	-2.1	-2.2	-1.7	-1.8	-1.9	-1.9	-2.0
7	-35	3.1	3.6	3.8	4.0	4.3	3.3	3.9	4.1	4.3	4.5	3.6	4.2	4.4	4.6	4.9	3.9	4.5	4.7	4.9	5.2	4.1	4.8	5.0	5.3	5.6
0	-30	3.1	3.6	3.8	4.0	4.2	3.3	3.8	4.0	4.3	4.5	3.6	4.1	4.3	4.6	4.8	3.8	4.4	4.7	4.9	5.2	4.1	4.7	5.0	5.2	5.5
0	-25	3.1	3.5	3.7	3.9	4.1	3.3	3.8	4.0	4.2	4.4	3.5	4.1	4.3	4.5	4.8	3.8	4.4	4.6	4.8	5.1	4.1	4.7	4.9	5.2	5.5
0	-20	3.0	3.5	3.7	3.9	4.1	3.2	3.7	3.9	4.1	4.4	3.5	4.0	4.2	4.4	4.7	3.7	4.3	4.5	4.8	5.0	4.0	4.6	4.8	5.1	5.4
	-15	2.8	3.2	3.4	3.6	3.8	3.0	3.5	3.7	3.9	4.1	3.3	3.8	3.9	4.2	4.4	3.5	4.0	4.3	4.5	4.7	3.8	4.3	4.6	4.8	5.1
	-10	2.5	2.9	3.1	3.3	3.4	2.7	3.2	3.3	3.5	3.7	3.0	3.4	3.6	3.8	4.0	3.2	3.7	3.9	4.1	4.4	3.5	4.0	4.2	4.5	4.7
	-5	2.1	2.4	2.6	2.7	2.9	2.3	2.7	2.8	3.0	3.1	2.5	2.9	3.1	3.2	3.4	2.8	3.2	3.4	3.5	3.7	3.0	3.5	3.7	3.9	4.1
	0	1.6	1.9	2.0	2.1	2.2	1.8	2.1	2.2	2.3	2.5	2.0	2.4	2.5	2.6	2.8	2.3	2.6	2.8	2.9	3.1	2.5	2.9	3.1	3.2	3.4
	5	1.1	1.4	1.5	1.5	1.7	1.3	1.6	1.7	1.8	1.9	1.5	1.8	1.9	2.1	2.2	1.8	2.1	2.2	2.3	2.5	2.0	2.4	2.5	2.6	2.8
	10	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.6	1.3	1.6	1.7	1.8	1.9	1.6	1.8	1.9	2.1	2.2
	15	.3	.4	.5	.6	.6	.5	.6	.7	.8	.8	.7	.9	.9	1.0	1.1	.9	1.1	1.2	1.3	1.4	1.1	1.4	1.5	1.6	1.7
	20	-.1	.0	.1	.1	.1	.1	.2	.3	.3	.4	.3	.4	.5	.5	.6	.5	.7	.7	.8	.9	.7	.9	1.0	1.1	1.1
	25	-.6	-.6	-.6	-.6	-.6	-.5	-.4	-.4	-.4	-.4	-.3	-.2	-.2	-.2	-.1	-.1	.0	.1	.1	.1	.1	.2	.3	.3	.4
	30	-1.2	-1.3	-1.3	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.2	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.7	-.7	-.7	-.5	-.5	-.5	-.5	-.4
	35	-1.9	-2.0	-2.0	-2.1	-2.1	-1.7	-1.8	-1.9	-1.9	-1.9	-1.5	-1.6	-1.7	-1.7	-1.7	-1.4	-1.4	-1.4	-1.5	-1.5	-1.2	-1.2	-1.2	-1.3	-1.3
	40	-2.5	-2.7	-2.8	-2.8	-2.9	-2.4	-2.5	-2.6	-2.7	-2.7	-2.2	-2.4	-2.4	-2.5	-2.5	-2.0	-2.2	-2.2	-2.3	-2.3	-1.9	-2.0	-2.0	-2.1	-2.1

Figure 4-36 (Sheet 3)