

GULFSTREAM AEROSPACE

GIV AIRPLANE FLIGHT MANUAL

FLEX EPR
SPECIAL PERFORMANCE
APPENDIX A

TAKEOFF PLANNING CHART

GIV-SP		AIRPORT PRESSURE ALTITUDE = 6,000 FEET							TAKEOFF FLAP 20°			
74,600 LB MTOGW	OAT (°C)	38	35	30	25	20	15	10	5	-5	-15	-25
	OAT (°F)	101	95	86	77	68	59	50	41	23	5	-13
	RATED EPR	1.64	1.65	1.68	1.71	1.72	1.73	1.74	1.74	1.75	1.75	1.75
-- 74,600 LB --												
V _{FS} = 177 KCAS	FLD LNTH	*****	*****	*****	9,280	8,830	8,480	8,160	7,970	7,600	7,340	7,070
V _{SE} = 184 KCAS	V ₁ KCAS	*****	*****	*****	148	147	146	146	146	145	145	146
V _{REF} = 159 KCAS	V _R KCAS	*****	*****	*****	148	148	148	148	148	148	148	148
MAX TEMP = 29°C	V ₂ KCAS	*****	*****	*****	152	152	152	152	152	152	152	152
-- 74,000 LB --												
V _{FS} = 176 KCAS	FLD LNTH	*****	*****	*****	9,090	8,670	8,330	8,020	7,830	7,470	7,210	6,950
V _{SE} = 183 KCAS	V ₁ KCAS	*****	*****	*****	147	146	146	145	145	145	145	145
V _{REF} = 159 KCAS	V _R KCAS	*****	*****	*****	148	148	148	148	148	148	148	148
MAX TEMP = 29°C	V ₂ KCAS	*****	*****	*****	152	152	152	152	152	152	152	152
-- 72,000 LB --												
V _{FS} = 174 KCAS	FLD LNTH	*****	*****	9,170	8,540	8,160	7,850	7,560	7,380	7,050	6,800	6,560
V _{SE} = 181 KCAS	V ₁ KCAS	*****	*****	145	144	143	143	142	142	142	142	142
V _{REF} = 157 KCAS	V _R KCAS	*****	*****	146	146	146	146	146	146	146	146	146
MAX TEMP = 32°C	V ₂ KCAS	*****	*****	150	150	150	150	150	150	150	150	150
-- 70,000 LB --												
V _{FS} = 171 KCAS	FLD LNTH	*****	9,410	8,540	8,030	7,680	7,400	7,130	6,960	6,650	6,410	6,180
V _{SE} = 178 KCAS	V ₁ KCAS	*****	144	143	141	141	140	140	139	139	139	139
V _{REF} = 154 KCAS	V _R KCAS	*****	144	144	144	144	144	144	144	144	144	144
MAX TEMP = 35°C	V ₂ KCAS	*****	148	148	148	148	148	148	148	148	148	148
-- 68,000 LB --												
V _{FS} = 169 KCAS	FLD LNTH	9,260	8,700	7,990	7,530	7,220	6,950	6,710	6,550	6,260	6,040	5,820
V _{SE} = 175 KCAS	V ₁ KCAS	141	141	140	138	138	137	137	136	136	136	137
V _{REF} = 152 KCAS	V _R KCAS	142	142	142	142	142	141	141	141	141	141	141
MAX TEMP = 38°C	V ₂ KCAS	146	146	146	146	146	146	146	146	146	146	146
-- 66,000 LB --												
V _{FS} = 166 KCAS	FLD LNTH	8,470	8,070	7,480	7,060	6,770	6,530	6,310	6,160	5,900	5,690	5,480
V _{SE} = 173 KCAS	V ₁ KCAS	139	138	137	135	135	134	134	134	134	134	134
V _{REF} = 150 KCAS	V _R KCAS	139	139	139	139	139	139	139	139	139	139	139
MAX TEMP = 38°C	V ₂ KCAS	143	143	143	143	143	143	143	143	143	143	143
-- 64,000 LB --												
V _{FS} = 163 KCAS	FLD LNTH	7,890	7,530	7,000	6,620	6,360	6,140	5,930	5,800	5,550	5,350	5,160
V _{SE} = 170 KCAS	V ₁ KCAS	136	135	134	133	132	131	131	131	131	131	131
V _{REF} = 148 KCAS	V _R KCAS	137	137	137	137	137	137	137	136	136	136	136
MAX TEMP = 38°C	V ₂ KCAS	141	141	141	141	141	141	141	141	141	141	141
-- 62,000 LB --												
V _{FS} = 161 KCAS	FLD LNTH	7,350	7,030	6,550	6,210	5,970	5,760	5,570	5,450	5,210	5,030	4,850
V _{SE} = 167 KCAS	V ₁ KCAS	133	132	131	130	129	129	128	128	128	128	128
V _{REF} = 145 KCAS	V _R KCAS	135	135	135	135	134	134	134	134	134	134	134
MAX TEMP = 38°C	V ₂ KCAS	139	139	139	139	139	139	139	139	139	139	139

CAUTION: DO NOT REDUCE TAKEOFF EPR BY MORE THAN .15 OR BELOW A MINIMUM VALUE OF 1.56.

NOTES:

- HEADWIND: Increase available field length 2% for each 5 knots (up to 40 knots).
- TAILWIND: Not permitted using this data at this pressure altitude.
- UPHILL SLOPE: Decrease available field length 20% for each 1% (up to 2%).
- DOWNHILL SLOPE: Not permitted using this data at this pressure altitude.
- GROUND SPOILERS INOP: Decrease available field length 800 feet.

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TAKEOFF PLANNING CHART

GIV-SP		AIRPORT PRESSURE ALTITUDE = 6,000 FEET								TAKEOFF FLAP 20°			
74,600 LB MTOGW	OAT (°C)	38	35	30	25	20	15	10	5	-5	-15	-25	
	OAT (°F)	101	95	86	77	68	59	50	41	23	5	-13	
	RATED EPR	1.64	1.65	1.68	1.71	1.72	1.73	1.74	1.74	1.75	1.75	1.75	
-- 60,000 LB --													
V _{FS} = 158 KCAS	FLD LNTH	6,850	6,560	6,130	5,820	5,600	5,410	5,230	5,110	4,890	4,720	4,550	
V _{SE} = 165 KCAS	V ₁ KCAS	130	129	128	127	126	126	125	125	125	125	125	
V _{REF} = 143 KCAS	V _R KCAS	133	133	133	132	132	132	132	131	131	131	131	
MAX TEMP = 38°C	V ₂ KCAS	137	137	137	137	137	137	137	137	137	137	137	
-- 58,000 LB --													
V _{FS} = 156 KCAS	FLD LNTH	6,370	6,110	5,720	5,440	5,230	5,060	4,890	4,790	4,580	4,420	4,260	
V _{SE} = 162 KCAS	V ₁ KCAS	127	126	125	124	123	123	122	122	122	122	122	
V _{REF} = 140 KCAS	V _R KCAS	130	130	130	130	129	129	129	129	129	129	129	
MAX TEMP = 38°C	V ₂ KCAS	134	134	134	134	134	134	134	134	134	134	134	
-- 56,000 LB --													
V _{FS} = 153 KCAS	FLD LNTH	5,920	5,690	5,340	5,080	4,890	4,730	4,570	4,480	4,290	4,140	3,990	
V _{SE} = 159 KCAS	V ₁ KCAS	124	123	122	121	120	120	119	119	119	119	119	
V _{REF} = 138 KCAS	V _R KCAS	128	128	127	127	127	126	126	126	126	126	126	
MAX TEMP = 38°C	V ₂ KCAS	132	132	132	132	132	132	132	132	132	132	132	
-- 54,000 LB --													
V _{FS} = 150 KCAS	FLD LNTH	5,600	5,390	5,070	4,820	4,640	4,490	4,350	4,250	4,070	3,930	3,790	
V _{SE} = 156 KCAS	V ₁ KCAS	122	121	120	119	118	118	117	117	117	117	117	
V _{REF} = 135 KCAS	V _R KCAS	127	126	126	125	125	125	125	125	124	124	124	
MAX TEMP = 38°C	V ₂ KCAS	131	131	131	131	131	131	131	131	131	131	131	
-- 52,000 LB --													
V _{FS} = 147 KCAS	FLD LNTH	5,400	5,200	4,890	4,650	4,480	4,340	4,200	4,110	3,950	3,820	3,690	
V _{SE} = 153 KCAS	V ₁ KCAS	121	120	119	118	118	117	117	117	117	117	117	
V _{REF} = 133 KCAS	V _R KCAS	126	126	126	125	125	125	124	124	124	124	124	
MAX TEMP = 38°C	V ₂ KCAS	131	131	131	131	131	131	131	131	131	131	131	
-- 50,000 LB --													
V _{FS} = 145 KCAS	FLD LNTH	5,200	5,010	4,710	4,480	4,320	4,200	4,100	4,020	3,880	3,740	3,610	
V _{SE} = 150 KCAS	V ₁ KCAS	120	120	118	117	117	117	117	117	117	117	117	
V _{REF} = 130 KCAS	V _R KCAS	126	126	125	125	124	124	124	124	124	124	124	
MAX TEMP = 38°C	V ₂ KCAS	131	131	131	131	131	131	131	131	131	131	131	
-- 48,000 LB --													
V _{FS} = 141 KCAS	FLD LNTH	5,000	4,820	4,530	4,320	4,190	4,100	4,010	3,940	3,800	3,670	3,540	
V _{SE} = 147 KCAS	V ₁ KCAS	120	119	118	117	117	117	117	117	117	117	118	
V _{REF} = 128 KCAS	V _R KCAS	126	125	125	124	124	124	123	123	123	123	123	
MAX TEMP = 38°C	V ₂ KCAS	131	131	131	131	131	131	131	131	131	131	131	
-- 46,000 LB --													
V _{FS} = 138 KCAS	FLD LNTH	4,810	4,630	4,360	4,200	4,100	4,010	3,930	3,860	3,720	3,590	3,470	
V _{SE} = 144 KCAS	V ₁ KCAS	119	118	117	117	117	117	117	117	117	118	118	
V _{REF} = 125 KCAS	V _R KCAS	125	125	124	124	124	123	123	123	123	123	123	
MAX TEMP = 38°C	V ₂ KCAS	131	131	131	131	131	131	131	131	131	131	131	

CAUTION: DO NOT REDUCE TAKEOFF EPR BY MORE THAN .15 OR BELOW A MINIMUM VALUE OF 1.56.

NOTES:

- HEADWIND: Increase available field length 2% for each 5 knots (up to 40 knots).
- TAILWIND: Not permitted using this data at this pressure altitude.
- UPHILL SLOPE: Decrease available field length 20% for each 1% (up to 2%).
- DOWNHILL SLOPE: Not permitted using this data at this pressure altitude.
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TAKEOFF PLANNING CHART

GIV-SP		AIRPORT PRESSURE ALTITUDE = 8,000 FEET						TAKEOFF FLAP 20°					
74,600 LB MTOGW	OAT (°C)	34	30	25	20	15	10	5	0	-10	-20	-30	
	OAT (°F)	93	86	77	68	59	50	41	32	14	-4	-22	
	RATED EPR	1.66	1.68	1.70	1.71	1.72	1.73	1.74	1.75	1.75	1.75	1.75	
-- 74,600 LB --													
V _{FS} = 179 KCAS	FLD LNTH	*****	*****	*****	*****	*****	10,130	9,770	9,370	8,950	8,630	8,310	
V _{SE} = 186 KCAS	V ₁ KCAS	*****	*****	*****	*****	*****	150	150	149	149	149	150	
V _{REF} = 161 KCAS	V _R KCAS	*****	*****	*****	*****	*****	150	150	150	150	150	150	
MAX TEMP = 10°C	V ₂ KCAS	*****	*****	*****	*****	*****	154	154	154	154	154	154	
-- 74,000 LB --													
V _{FS} = 178 KCAS	FLD LNTH	*****	*****	*****	*****	*****	9,890	9,560	9,190	8,780	8,470	8,160	
V _{SE} = 185 KCAS	V ₁ KCAS	*****	*****	*****	*****	*****	149	149	149	148	148	149	
V _{REF} = 160 KCAS	V _R KCAS	*****	*****	*****	*****	*****	149	149	149	149	149	149	
MAX TEMP = 12°C	V ₂ KCAS	*****	*****	*****	*****	*****	153	153	153	153	153	153	
-- 72,000 LB --													
V _{FS} = 176 KCAS	FLD LNTH	*****	*****	*****	*****	9,670	9,240	8,960	8,640	8,260	7,970	7,670	
V _{SE} = 183 KCAS	V ₁ KCAS	*****	*****	*****	*****	147	146	146	146	145	145	146	
V _{REF} = 158 KCAS	V _R KCAS	*****	*****	*****	*****	147	147	147	147	147	147	147	
MAX TEMP = 19°C	V ₂ KCAS	*****	*****	*****	*****	151	151	151	151	151	151	151	
-- 70,000 LB --													
V _{FS} = 173 KCAS	FLD LNTH	*****	*****	10,010	9,450	9,040	8,670	8,420	8,130	7,770	7,490	7,220	
V _{SE} = 180 KCAS	V ₁ KCAS	*****	*****	145	145	144	144	143	143	143	143	143	
V _{REF} = 156 KCAS	V _R KCAS	*****	*****	145	145	145	145	145	145	145	145	145	
MAX TEMP = 25°C	V ₂ KCAS	*****	*****	149	149	149	149	149	149	149	149	149	
-- 68,000 LB --													
V _{FS} = 171 KCAS	FLD LNTH	*****	*****	9,250	8,820	8,460	8,130	7,900	7,630	7,300	7,040	6,780	
V _{SE} = 178 KCAS	V ₁ KCAS	*****	*****	143	142	141	141	140	140	140	140	140	
V _{REF} = 154 KCAS	V _R KCAS	*****	*****	143	143	143	143	143	143	143	143	143	
MAX TEMP = 29°C	V ₂ KCAS	*****	*****	147	147	147	147	147	147	147	147	147	
-- 66,000 LB --													
V _{FS} = 168 KCAS	FLD LNTH	*****	9,230	8,610	8,250	7,920	7,620	7,410	7,150	6,850	6,600	6,360	
V _{SE} = 175 KCAS	V ₁ KCAS	*****	141	139	139	138	138	137	137	137	137	137	
V _{REF} = 151 KCAS	V _R KCAS	*****	141	141	141	141	141	141	141	141	141	141	
MAX TEMP = 33°C	V ₂ KCAS	*****	145	145	145	145	145	145	145	145	145	145	
-- 64,000 LB --													
V _{FS} = 166 KCAS	FLD LNTH	9,210	8,560	8,040	7,710	7,420	7,140	6,940	6,710	6,420	6,190	5,960	
V _{SE} = 172 KCAS	V ₁ KCAS	138	137	136	136	135	135	134	134	134	134	134	
V _{REF} = 149 KCAS	V _R KCAS	139	139	139	139	139	138	138	138	138	138	138	
MAX TEMP = 34°C	V ₂ KCAS	143	143	143	143	143	143	143	143	143	143	143	
-- 62,000 LB --													
V _{FS} = 163 KCAS	FLD LNTH	8,460	7,960	7,510	7,210	6,940	6,680	6,510	6,290	6,030	5,810	5,600	
V _{SE} = 169 KCAS	V ₁ KCAS	136	135	133	133	132	132	131	131	131	131	131	
V _{REF} = 147 KCAS	V _R KCAS	136	136	136	136	136	136	136	136	136	136	136	
MAX TEMP = 34°C	V ₂ KCAS	140	140	140	140	140	140	140	140	140	140	140	

CAUTION: DO NOT REDUCE TAKEOFF EPR BY MORE THAN .15 OR BELOW A MINIMUM VALUE OF 1.56.

NOTES:

- HEADWIND: Increase available field length 2% for each 5 knots (up to 40 knots).
- TAILWIND: Not permitted using this data at this pressure altitude.
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TAKEOFF PLANNING CHART

GIV-SP	AIRPORT PRESSURE ALTITUDE = 8,000 FEET								TAKEOFF FLAP 20°			
74,600 LB MTOGW	OAT (°C)	34	30	25	20	15	10	5	0	-10	-20	-30
	OAT (°F)	93	86	77	68	59	50	41	32	14	-4	-22
	RATED EPR	1.66	1.68	1.70	1.71	1.72	1.73	1.74	1.75	1.75	1.75	1.75
-- 60,000 LB --												
V _{FS} = 160 KCAS	FLD LNGTH	7,860	7,420	7,010	6,730	6,480	6,250	6,090	5,900	5,650	5,450	5,250
V _{SE} = 167 KCAS	V ₁ KCAS	133	131	130	130	129	129	128	128	128	128	128
V _{REF} = 144 KCAS	V _R KCAS	134	134	134	134	134	134	134	134	133	133	133
MAX TEMP = 34°C	V ₂ KCAS	138	138	138	138	138	138	138	138	138	138	138
-- 58,000 LB --												
V _{FS} = 158 KCAS	FLD LNGTH	7,290	6,890	6,530	6,270	6,050	5,830	5,690	5,510	5,280	5,090	4,900
V _{SE} = 164 KCAS	V ₁ KCAS	129	128	127	127	126	126	125	125	125	125	125
V _{REF} = 142 KCAS	V _R KCAS	132	132	132	131	131	131	131	131	131	131	131
MAX TEMP = 34°C	V ₂ KCAS	136	136	136	136	136	136	136	136	136	136	136
-- 56,000 LB --												
V _{FS} = 155 KCAS	FLD LNGTH	6,750	6,390	6,070	5,840	5,640	5,440	5,300	5,140	4,920	4,750	4,580
V _{SE} = 161 KCAS	V ₁ KCAS	126	125	124	124	123	122	122	122	122	122	122
V _{REF} = 139 KCAS	V _R KCAS	129	129	129	129	129	128	128	128	128	128	128
MAX TEMP = 34°C	V ₂ KCAS	133	133	133	133	133	133	133	133	133	133	133
-- 54,000 LB --												
V _{FS} = 152 KCAS	FLD LNGTH	6,350	6,020	5,730	5,520	5,330	5,140	5,010	4,860	4,660	4,490	4,330
V _{SE} = 158 KCAS	V ₁ KCAS	124	123	122	121	121	120	120	120	120	120	120
V _{REF} = 137 KCAS	V _R KCAS	128	128	127	127	127	127	126	126	126	126	126
MAX TEMP = 34°C	V ₂ KCAS	132	132	132	132	132	132	132	132	132	132	132
-- 52,000 LB --												
V _{FS} = 149 KCAS	FLD LNGTH	6,070	5,770	5,490	5,290	5,110	4,930	4,810	4,660	4,470	4,310	4,150
V _{SE} = 155 KCAS	V ₁ KCAS	123	122	121	120	120	119	119	119	119	119	119
V _{REF} = 134 KCAS	V _R KCAS	127	127	127	126	126	126	126	125	125	125	125
MAX TEMP = 34°C	V ₂ KCAS	131	131	131	131	131	131	131	131	131	131	131
-- 50,000 LB --												
V _{FS} = 146 KCAS	FLD LNGTH	5,800	5,520	5,250	5,060	4,890	4,720	4,600	4,460	4,280	4,120	3,970
V _{SE} = 152 KCAS	V ₁ KCAS	121	121	120	119	119	118	118	117	117	117	118
V _{REF} = 132 KCAS	V _R KCAS	127	126	126	125	125	125	125	125	124	124	124
MAX TEMP = 34°C	V ₂ KCAS	131	131	131	131	131	131	131	131	131	131	131
-- 48,000 LB --												
V _{FS} = 143 KCAS	FLD LNGTH	5,570	5,300	5,050	4,870	4,700	4,540	4,430	4,290	4,120	3,970	3,830
V _{SE} = 149 KCAS	V ₁ KCAS	121	120	119	118	118	117	117	117	117	117	117
V _{REF} = 129 KCAS	V _R KCAS	126	126	125	125	125	125	124	124	124	124	124
MAX TEMP = 34°C	V ₂ KCAS	131	131	131	131	131	131	131	131	131	131	131
-- 46,000 LB --												
V _{FS} = 140 KCAS	FLD LNGTH	5,350	5,090	4,850	4,680	4,520	4,370	4,280	4,180	4,030	3,890	3,750
V _{SE} = 146 KCAS	V ₁ KCAS	120	119	118	117	117	116	116	117	117	117	117
V _{REF} = 126 KCAS	V _R KCAS	126	125	125	125	124	124	124	124	124	124	124
MAX TEMP = 34°C	V ₂ KCAS	131	131	131	131	131	131	131	131	131	131	131

CAUTION: DO NOT REDUCE TAKEOFF EPR BY MORE THAN .15 OR BELOW A MINIMUM VALUE OF 1.56.

NOTES:

- HEADWIND: Increase available field length 2% for each 5 knots (up to 40 knots).
- TAILWIND: Not permitted using this data at this pressure altitude.
- UPHILL SLOPE: Decrease available field length 20% for each 1% (up to 2%).
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