

Final Glide Table (ASK-21 at 570 kg all-up-weight)

by Paul E. Remde

Instructions

Use the value of the last or current thermal to determine when to begin your final glide.
 For example: Assume you are climbing at 800 ft/min.
 Look-up the altitude required using a MacCready setting of 800.
 If you cannot make it home using this MacCready setting,
 you should continue on to the next thermal rather than flying home at a slower MacCready setting.
 This will maximize your speed around the course.

ENTER **Reserve Altitude for Pattern 1000 feet**
Note: If your altimeter is set to MSL altitude, be sure to add the destination elevation to the altitude required.

MacCready knots		Headwind		Wind						Tailwind		Units mph
		40	30	20	10	0	-10	-20	-30	-40		
0	Altitude Required To Go											
	5 mi	2,900	2,500	2,200	1,900	1,800	1,700	1,600	1,500	1,500	feet	
	10 mi	4,900	3,900	3,400	2,900	2,600	2,400	2,200	2,000	1,900	feet	
	20 mi	8,700	6,800	5,800	4,700	4,300	3,700	3,400	3,000	2,800	feet	
	30 mi	12,600	9,800	8,100	6,600	5,900	5,100	4,600	4,000	3,700	feet	
	40 mi	16,500	12,700	10,500	8,500	7,600	6,500	5,800	5,100	4,700	feet	
	50 mi	20,400	15,600	12,900	10,400	9,200	7,800	7,100	6,100	5,600	feet	
	Speed To Fly	69	62	57	54	51	49	48	47	46	knots	
	Set Speed Ring To	2.5	1.4	0.8	0.3	0	-0.2	-0.4	-0.5	-0.6	knots	
	Velocity Over the Ground	34	36	40	45	51	58	65	73	81	knots	
	Average Cruise Speed	0	0	0	0	0	0	0	0	0	knots	
Glide Ratio	14	18	22	28	32	39	44	52	58			
Sink Rate	-2.5	-2	-1.8	-1.6	-1.6	-1.5	-1.5	-1.4	-1.4	knots		
1	Altitude Required To Go											
	5 mi	3,000	2,500	2,200	2,000	1,900	1,700	1,600	1,500	1,500	feet	
	10 mi	5,000	4,100	3,500	3,000	2,700	2,400	2,300	2,100	1,900	feet	
	20 mi	9,000	7,200	5,900	4,900	4,400	3,800	3,500	3,200	2,800	feet	
	30 mi	13,000	10,200	8,400	6,900	6,100	5,100	4,800	4,200	3,800	feet	
	40 mi	17,000	13,300	10,800	8,900	7,800	6,500	6,000	5,300	4,700	feet	
	50 mi	21,000	16,400	13,300	10,800	9,500	7,900	7,300	6,400	5,600	feet	
	Speed To Fly	80	72	67	62	59	56	54	52	51	knots	
	Set Speed Ring To	4.4	3.1	2.2	1.5	1	0.6	0.3	0.1	0	knots	
	Velocity Over the Ground	45	46	49	54	59	65	72	79	86	knots	
	Average Cruise Speed	10	13	15	18	20	24	26	30	34	knots	
Glide Ratio	13	17	21	27	31	38	42	49	57			
Sink Rate	-3.4	-2.7	-2.3	-2	-1.9	-1.7	-1.7	-1.6	-1.5	knots		

MacCready knots		Headwind				Wind					Tailwind	Units
		40	30	20	10	0	-10	-20	-30	-40	mph	
2	Altitude Required To Go	5 mi	3,100	2,700	2,300	2,100	1,900	1,700	1,600	1,600	1,500	feet
		10 mi	5,300	4,400	3,700	3,200	2,800	2,500	2,300	2,100	2,000	feet
		20 mi	9,500	7,800	6,300	5,300	4,500	4,000	3,600	3,300	3,000	feet
		30 mi	13,800	11,100	9,000	7,500	6,300	5,500	4,900	4,400	4,000	feet
		40 mi	18,000	14,500	11,700	9,600	8,100	6,900	6,200	5,500	5,000	feet
		50 mi	22,300	17,900	14,400	11,800	9,800	8,400	7,500	6,700	6,000	feet
	Speed To Fly		88	81	75	70	66	62	60	58	56	knots
	Set Speed Ring To		6.1	4.6	3.5	2.6	2	1.5	1.1	0.8	0.6	knots
	Velocity Over the Ground		53	55	57	61	66	71	77	84	91	knots
	Average Cruise Speed		17	20	23	27	31	36	40	44	49	knots
Glide Ratio		12	16	20	24	30	36	41	47	53		
Sink Rate		-4.3	-3.5	-2.9	-2.5	-2.2	-2	-1.9	-1.8	-1.7	knots	
MacCready knots		Headwind				Wind					Tailwind	Units
		40	30	20	10	0	-10	-20	-30	-40	mph	
3	Altitude Required To Go	5 mi	3,300	2,800	2,500	2,200	2,000	1,800	1,700	1,600	1,500	feet
		10 mi	5,500	4,700	4,000	3,400	3,000	2,600	2,400	2,200	2,100	feet
		20 mi	10,000	8,300	6,900	5,800	5,000	4,300	3,800	3,400	3,100	feet
		30 mi	14,500	12,000	9,900	8,300	6,900	5,900	5,200	4,600	4,200	feet
		40 mi	19,100	15,700	12,800	10,700	8,900	7,600	6,600	5,800	5,200	feet
		50 mi	23,600	19,300	15,800	13,100	10,900	9,200	8,000	7,000	6,300	feet
	Speed To Fly		96	88	82	76	72	68	65	63	60	knots
	Set Speed Ring To		7.7	6.1	4.8	3.8	3	2.4	1.9	1.5	1.2	knots
	Velocity Over the Ground		61	62	64	68	72	77	82	89	95	knots
	Average Cruise Speed		22	25	29	33	38	43	48	53	58	knots
Glide Ratio		12	14	18	22	27	32	37	44	50		
Sink Rate		-5.2	-4.3	-3.6	-3.1	-2.7	-2.4	-2.2	-2	-1.9	knots	
MacCready knots		Headwind				Wind					Tailwind	Units
		40	30	20	10	0	-10	-20	-30	-40	mph	
4	Altitude Required To Go	5 mi	3,400	3,000	2,600	2,300	2,100	1,900	1,800	1,700	1,600	feet
		10 mi	5,900	4,900	4,100	3,600	3,200	2,800	2,500	2,300	2,200	feet
		20 mi	10,700	8,900	7,300	6,200	5,400	4,600	4,000	3,600	3,300	feet
		30 mi	15,600	12,800	10,400	8,700	7,500	6,400	5,500	4,900	4,500	feet
		40 mi	20,400	16,700	13,600	11,300	9,700	8,200	7,000	6,200	5,700	feet
		50 mi	25,300	20,700	16,700	13,900	11,900	10,000	8,500	7,500	6,800	feet
	Speed To Fly		102	94	88	82	78	73	70	67	65	knots
	Set Speed Ring To		9.3	7.5	6	4.9	4	3.3	2.7	2.2	1.8	knots
	Velocity Over the Ground		67	68	71	74	78	82	87	93	99	knots
	Average Cruise Speed		26	30	34	39	43	48	54	59	64	knots
Glide Ratio		11	13	17	20	24	29	35	41	45		
Sink Rate		-6.2	-5.1	-4.2	-3.6	-3.2	-2.8	-2.5	-2.3	-2.2	knots	

MacCready knots		Headwind				Wind				Tailwind		Units
		40	30	20	10	0	-10	-20	-30	-40	mph	
5	Altitude Required To Go	5 mi	3,600	3,100	2,700	2,400	2,200	2,000	1,800	1,700	1,600	feet
		10 mi	6,100	5,200	4,500	3,800	3,400	3,000	2,700	2,500	2,300	feet
		20 mi	11,200	9,400	7,900	6,600	5,700	5,000	4,300	3,900	3,500	feet
		30 mi	16,300	13,600	11,400	9,400	8,100	7,000	6,000	5,400	4,800	feet
		40 mi	21,400	17,800	14,800	12,200	10,400	9,000	7,600	6,800	6,100	feet
		50 mi	26,500	22,000	18,300	15,000	12,800	11,000	9,300	8,300	7,400	feet
		Speed To Fly	108	100	94	88	83	78	75	72	69	knots
		Set Speed Ring To	10.7	8.8	7.3	6	5	4.2	3.5	2.9	2.5	knots
		Velocity Over the Ground	73	74	76	79	83	87	92	98	104	knots
		Average Cruise Speed	30	34	38	43	48	53	58	63	69	knots
	Glide Ratio	10	13	15	19	22	26	32	36	41		
	Sink Rate	-7.1	-5.9	-5	-4.2	-3.7	-3.3	-2.9	-2.7	-2.5	knots	
6	Altitude Required To Go	5 mi	3,700	3,200	2,800	2,500	2,300	2,100	1,900	1,800	1,700	feet
		10 mi	6,400	5,400	4,700	4,100	3,500	3,100	2,800	2,600	2,400	feet
		20 mi	11,800	9,900	8,400	7,100	6,100	5,300	4,600	4,100	3,700	feet
		30 mi	17,300	14,300	12,100	10,200	8,600	7,400	6,400	5,700	5,100	feet
		40 mi	22,700	18,700	15,700	13,300	11,100	9,500	8,200	7,200	6,500	feet
		50 mi	28,100	23,200	19,400	16,300	13,600	11,600	10,000	8,800	7,900	feet
		Speed To Fly	114	106	99	93	88	83	79	76	73	knots
		Set Speed Ring To	12.2	10.1	8.5	7.1	6	5.1	4.3	3.7	3.2	knots
		Velocity Over the Ground	79	80	82	84	88	92	97	102	108	knots
		Average Cruise Speed	34	38	42	46	52	57	62	68	73	knots
	Glide Ratio	10	12	14	17	21	25	29	34	38		
	Sink Rate	-8.1	-6.7	-5.7	-4.9	-4.2	-3.7	-3.3	-3	-2.8	knots	
7	Altitude Required To Go	5 mi	3,800	3,400	2,900	2,600	2,400	2,200	2,000	1,800	1,700	feet
		10 mi	6,600	5,700	4,900	4,300	3,700	3,300	3,000	2,700	2,500	feet
		20 mi	12,300	10,400	8,800	7,500	6,500	5,600	5,000	4,400	3,900	feet
		30 mi	17,900	15,200	12,700	10,800	9,200	7,900	7,000	6,100	5,400	feet
		40 mi	23,600	19,900	16,600	14,000	12,000	10,200	9,000	7,800	6,900	feet
		50 mi	29,200	24,600	20,500	17,300	14,700	12,500	10,900	9,500	8,300	feet
		Speed To Fly	119	111	104	98	92	88	84	80	77	knots
		Set Speed Ring To	13.6	11.5	9.7	8.2	7	6	5.1	4.4	3.9	knots
		Velocity Over the Ground	84	85	87	89	92	96	101	106	111	knots
		Average Cruise Speed	37	41	45	50	55	60	65	71	77	knots
	Glide Ratio	9	11	14	16	19	23	27	31	36		
	Sink Rate	-9	-7.6	-6.4	-5.5	-4.8	-4.2	-3.8	-3.4	-3.1	knots	

MacCready knots		Headwind				Wind				Tailwind		Units
		40	30	20	10	0	-10	-20	-30	-40	mph	
8	Altitude Required To Go	5 mi	4,000	3,500	3,100	2,700	2,500	2,200	2,100	1,900	1,800	feet
		10 mi	6,900	5,900	5,200	4,500	3,900	3,500	3,100	2,800	2,600	feet
		20 mi	12,900	10,900	9,300	8,000	6,900	5,900	5,200	4,700	4,100	feet
		30 mi	18,800	15,800	13,500	11,500	9,800	8,400	7,300	6,500	5,700	feet
		40 mi	24,700	20,800	17,600	15,000	12,800	10,900	9,400	8,300	7,200	feet
		50 mi	30,700	25,700	21,800	18,500	15,700	13,300	11,600	10,100	8,800	feet
	Speed To Fly		124	116	109	102	97	92	88	84	80	knots
	Set Speed Ring To		15	12.8	10.9	9.3	8	6.9	6	5.2	4.6	knots
	Velocity Over the Ground		89	90	91	94	97	101	105	110	115	knots
	Average Cruise Speed		40	44	48	53	58	63	69	74	81	knots
Glide Ratio		9	11	13	15	18	21	25	29	34		
Sink Rate		-10	-8.4	-7.2	-6.2	-5.4	-4.7	-4.2	-3.8	-3.4	knots	
9	Altitude Required To Go	5 mi	4,100	3,600	3,200	2,900	2,600	2,300	2,100	2,000	1,800	feet
		10 mi	7,100	6,200	5,400	4,700	4,100	3,700	3,300	3,000	2,700	feet
		20 mi	13,300	11,400	9,800	8,400	7,300	6,300	5,600	4,900	4,400	feet
		30 mi	19,400	16,600	14,200	12,100	10,400	9,000	7,800	6,900	6,100	feet
		40 mi	25,600	21,800	18,600	15,800	13,500	11,700	10,100	8,800	7,800	feet
		50 mi	31,700	27,000	23,000	19,600	16,700	14,400	12,400	10,800	9,400	feet
	Speed To Fly		128	120	113	107	101	96	92	88	84	knots
	Set Speed Ring To		16.4	14.1	12.1	10.4	9	7.8	6.8	6	5.3	knots
	Velocity Over the Ground		94	94	96	98	101	105	109	114	119	knots
	Average Cruise Speed		42	46	51	56	61	66	72	77	84	knots
Glide Ratio		9	10	12	14	17	20	23	27	31		
Sink Rate		-10.9	-9.3	-8	-6.9	-6	-5.3	-4.7	-4.2	-3.8	knots	
10	Altitude Required To Go	5 mi	4,200	3,700	3,300	3,000	2,700	2,400	2,200	2,100	1,900	feet
		10 mi	7,400	6,500	5,600	4,900	4,300	3,800	3,400	3,100	2,800	feet
		20 mi	13,800	11,900	10,300	8,800	7,600	6,600	5,900	5,200	4,600	feet
		30 mi	20,200	17,400	14,900	12,800	10,900	9,400	8,300	7,300	6,400	feet
		40 mi	26,600	22,800	19,500	16,700	14,200	12,300	10,700	9,500	8,300	feet
		50 mi	33,000	28,300	24,200	20,600	17,600	15,100	13,200	11,600	10,100	feet
	Speed To Fly		133	125	118	111	105	100	95	91	88	knots
	Set Speed Ring To		17.8	15.3	13.3	11.5	10	8.7	7.7	6.7	6	knots
	Velocity Over the Ground		98	99	100	102	105	109	113	117	122	knots
	Average Cruise Speed		45	49	53	58	63	69	74	80	86	knots
Glide Ratio		8	10	11	13	16	19	22	25	29		
Sink Rate		-11.9	-10.2	-8.8	-7.6	-6.6	-5.8	-5.2	-4.7	-4.2	knots	