

Final Glide Table (SZD-50-3 Puchacz at 1100 lb 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	
		40	30	20	10	0	-10	-20	-30	-40	mph	
0	Altitude Required To Go	5 mi	3,400	2,800	2,400	2,100	1,900	1,700	1,600	1,500	1,500	feet
		10 mi	5,800	4,600	3,700	3,100	2,700	2,500	2,200	2,100	2,000	feet
		20 mi	10,600	8,100	6,500	5,200	4,400	4,000	3,500	3,200	2,900	feet
		30 mi	15,400	11,700	9,200	7,400	6,200	5,500	4,700	4,300	3,900	feet
		40 mi	20,200	15,300	12,000	9,500	7,900	7,000	5,900	5,300	4,900	feet
		50 mi	24,900	18,800	14,700	11,600	9,600	8,500	7,100	6,400	5,900	feet
	Speed To Fly	65	57	52	48	46	44	43	42	41	knots	
	Set Speed Ring To	3.2	1.8	0.9	0.3	0	-0.2	-0.4	-0.5	-0.6	knots	
	Velocity Over the Ground	30	31	35	40	46	53	60	68	76	knots	
	Average Cruise Speed	0	0	0	0	0	0	0	0	0	knots	
	Glide Ratio	11	15	19	25	31	35	43	49	54		
	Sink Rate	-2.7	-2.1	-1.8	-1.6	-1.5	-1.5	-1.4	-1.4	-1.4	knots	
	MacCready knots		Headwind				Wind				Tailwind	Units
40			30	20	10	0	-10	-20	-30	-40	mph	
1	Altitude Required To Go	5 mi	3,500	2,800	2,400	2,100	1,900	1,800	1,600	1,600	1,500	feet
		10 mi	6,000	4,700	3,800	3,200	2,800	2,500	2,300	2,200	2,000	feet
		20 mi	11,000	8,300	6,600	5,500	4,600	4,100	3,600	3,300	3,000	feet
		30 mi	15,900	12,000	9,500	7,700	6,400	5,600	4,900	4,500	4,000	feet
		40 mi	20,900	15,700	12,300	9,900	8,200	7,100	6,200	5,600	5,000	feet
		50 mi	25,900	19,400	15,100	12,200	10,000	8,600	7,400	6,800	5,900	feet
	Speed To Fly	74	66	60	56	53	50	48	47	45	knots	
	Set Speed Ring To	5.2	3.5	2.3	1.6	1	0.6	0.3	0.1	-0.1	knots	
	Velocity Over the Ground	39	40	43	47	53	59	66	73	80	knots	
	Average Cruise Speed	8	11	13	16	19	22	25	28	32	knots	
	Glide Ratio	11	14	19	24	29	35	41	45	53		
	Sink Rate	-3.7	-2.8	-2.3	-2	-1.8	-1.7	-1.6	-1.6	-1.5	knots	

MacCready knots		Wind									Tailwind -40	Units mph
		Headwind 40	30	20	10	0	-10	-20	-30			
2	Altitude Required To Go 5 mi	3,600	3,000	2,600	2,200	2,000	1,800	1,700	1,600	1,500	feet	
	10 mi	6,300	5,000	4,200	3,500	3,000	2,600	2,400	2,200	2,100	feet	
	20 mi	11,600	9,000	7,300	5,900	5,000	4,300	3,700	3,300	3,100	feet	
	30 mi	16,900	12,900	10,500	8,400	7,000	5,900	5,100	4,500	4,200	feet	
	40 mi	22,200	16,900	13,600	10,800	8,900	7,600	6,400	5,700	5,300	feet	
	50 mi	27,500	20,900	16,800	13,300	10,900	9,200	7,800	6,800	6,300	feet	
	Speed To Fly	82	74	67	62	59	55	53	51	49	knots	
	Set Speed Ring To	7	5.1	3.7	2.7	2	1.5	1.1	0.7	0.5	knots	
	Velocity Over the Ground	47	48	50	54	59	64	70	77	84	knots	
	Average Cruise Speed	14	17	20	24	28	32	37	42	45	knots	
	Glide Ratio	10	13	17	22	27	32	39	45	49		
	Sink Rate	-4.7	-3.6	-3	-2.5	-2.2	-2	-1.8	-1.7	-1.7	knots	
MacCready knots		Wind									Tailwind -40	Units mph
		Headwind 40	30	20	10	0	-10	-20	-30			
3	Altitude Required To Go 5 mi	3,800	3,200	2,700	2,300	2,100	1,900	1,700	1,700	1,500	feet	
	10 mi	6,600	5,400	4,400	3,700	3,100	2,800	2,500	2,300	2,100	feet	
	20 mi	12,300	9,800	7,800	6,300	5,300	4,500	4,000	3,600	3,200	feet	
	30 mi	17,900	14,200	11,100	9,000	7,400	6,300	5,400	4,900	4,200	feet	
	40 mi	23,500	18,500	14,500	11,600	9,600	8,000	6,900	6,200	5,300	feet	
	50 mi	29,200	22,900	17,900	14,300	11,700	9,800	8,400	7,500	6,400	feet	
	Speed To Fly	88	80	74	68	64	60	57	55	53	knots	
	Set Speed Ring To	8.7	6.6	5	3.9	3	2.3	1.8	1.4	1.1	knots	
	Velocity Over the Ground	53	54	56	60	64	69	75	81	88	knots	
	Average Cruise Speed	18	22	26	30	34	39	44	49	55	knots	
	Glide Ratio	9	12	16	20	25	30	36	41	49		
	Sink Rate	-5.7	-4.5	-3.6	-3	-2.6	-2.3	-2.1	-2	-1.8	knots	
MacCready knots		Wind									Tailwind -40	Units mph
		Headwind 40	30	20	10	0	-10	-20	-30			
4	Altitude Required To Go 5 mi	3,900	3,300	2,800	2,500	2,200	2,000	1,800	1,700	1,600	feet	
	10 mi	6,900	5,700	4,700	3,900	3,400	2,900	2,600	2,400	2,200	feet	
	20 mi	12,800	10,300	8,300	6,900	5,800	4,900	4,200	3,700	3,400	feet	
	30 mi	18,700	15,000	12,000	9,800	8,100	6,800	5,800	5,100	4,600	feet	
	40 mi	24,500	19,700	15,700	12,700	10,500	8,700	7,400	6,500	5,800	feet	
	50 mi	30,400	24,400	19,400	15,700	12,900	10,700	9,000	7,800	7,100	feet	
	Speed To Fly	94	86	79	74	69	65	62	59	57	knots	
	Set Speed Ring To	10.2	8	6.3	5	4	3.2	2.6	2.1	1.7	knots	
	Velocity Over the Ground	59	60	62	65	69	74	79	85	92	knots	
	Average Cruise Speed	22	26	30	34	39	44	49	55	60	knots	
	Glide Ratio	9	11	14	18	22	27	33	39	44		
	Sink Rate	-6.6	-5.3	-4.3	-3.6	-3.1	-2.7	-2.4	-2.2	-2.1	knots	

MacCready knots		Headwind				Wind				Tailwind	Units	
		40	30	20	10	0	-10	-20	-30	-40	mph	
5	Altitude Required To Go	5 mi	4,100	3,500	3,000	2,600	2,300	2,000	1,900	1,700	1,600	feet
		10 mi	7,200	6,000	4,900	4,200	3,600	3,100	2,800	2,500	2,300	feet
		20 mi	13,400	11,000	8,900	7,400	6,200	5,200	4,600	4,000	3,600	feet
		30 mi	19,700	16,100	12,800	10,500	8,800	7,300	6,300	5,500	4,800	feet
		40 mi	25,900	21,100	16,800	13,700	11,400	9,400	8,100	6,900	6,100	feet
		50 mi	32,100	26,100	20,700	16,900	13,900	11,500	9,900	8,400	7,400	feet
	Speed To Fly		99	91	84	78	73	69	66	63	60	knots
	Set Speed Ring To		11.8	9.5	7.6	6.1	5	4.1	3.4	2.8	2.3	knots
	Velocity Over the Ground		65	65	67	70	73	78	83	89	95	knots
	Average Cruise Speed		26	29	33	38	43	48	53	59	65	knots
Glide Ratio		8	11	13	17	20	25	30	36	41		
Sink Rate		-7.6	-6.2	-5	-4.2	-3.6	-3.1	-2.8	-2.5	-2.3	knots	
MacCready knots		Headwind				Wind				Tailwind	Units	
		40	30	20	10	0	-10	-20	-30	-40	mph	
6	Altitude Required To Go	5 mi	4,300	3,600	3,100	2,700	2,400	2,200	2,000	1,800	1,700	feet
		10 mi	7,500	6,300	5,300	4,400	3,800	3,300	2,900	2,700	2,400	feet
		20 mi	14,100	11,600	9,500	7,800	6,600	5,600	4,900	4,300	3,800	feet
		30 mi	20,600	16,800	13,800	11,200	9,300	7,900	6,800	6,000	5,200	feet
		40 mi	27,200	22,100	18,100	14,600	12,100	10,300	8,800	7,600	6,600	feet
		50 mi	33,700	27,400	22,400	18,100	14,900	12,600	10,700	9,300	8,000	feet
	Speed To Fly		104	96	89	83	78	73	70	66	64	knots
	Set Speed Ring To		13.3	10.8	8.9	7.3	6	5	4.2	3.5	3	knots
	Velocity Over the Ground		69	70	72	74	78	82	87	93	98	knots
	Average Cruise Speed		29	32	36	41	46	51	57	62	69	knots
Glide Ratio		8	10	12	15	19	23	27	32	38		
Sink Rate		-8.6	-7	-5.8	-4.8	-4.1	-3.6	-3.2	-2.9	-2.6	knots	
MacCready knots		Headwind				Wind				Tailwind	Units	
		40	30	20	10	0	-10	-20	-30	-40	mph	
7	Altitude Required To Go	5 mi	4,400	3,800	3,300	2,800	2,500	2,300	2,000	1,900	1,800	feet
		10 mi	7,900	6,600	5,500	4,700	4,000	3,500	3,100	2,800	2,500	feet
		20 mi	14,700	12,200	10,000	8,400	7,100	6,000	5,200	4,500	4,000	feet
		30 mi	21,600	17,800	14,500	12,100	10,100	8,600	7,300	6,300	5,500	feet
		40 mi	28,400	23,400	19,000	15,800	13,100	11,100	9,400	8,000	7,000	feet
		50 mi	35,300	29,000	23,600	19,500	16,200	13,600	11,500	9,800	8,500	feet
	Speed To Fly		109	101	93	87	82	77	73	70	67	knots
	Set Speed Ring To		14.8	12.2	10.1	8.4	7	5.9	5	4.2	3.6	knots
	Velocity Over the Ground		74	75	76	79	82	86	91	96	102	knots
	Average Cruise Speed		31	35	39	44	49	54	60	66	72	knots
Glide Ratio		8	9	12	14	17	21	25	30	35		
Sink Rate		-9.6	-7.9	-6.5	-5.5	-4.7	-4.1	-3.6	-3.2	-2.9	knots	

MacCready knots		Headwind				Wind				Tailwind	Units	
		40	30	20	10	0	-10	-20	-30	-40	mph	
8	Altitude Required To Go	5 mi	4,600	3,900	3,400	3,000	2,600	2,400	2,100	2,000	1,800	feet
		10 mi	8,100	6,900	5,800	5,000	4,300	3,700	3,200	2,900	2,600	feet
		20 mi	15,300	12,800	10,600	8,900	7,500	6,400	5,500	4,800	4,200	feet
		30 mi	22,400	18,700	15,400	12,900	10,800	9,100	7,700	6,700	5,800	feet
		40 mi	29,600	24,600	20,200	16,800	14,000	11,800	10,000	8,700	7,400	feet
		50 mi	36,700	30,500	25,000	20,800	17,300	14,500	12,200	10,600	9,100	feet
	Speed To Fly		113	105	98	91	86	81	77	73	70	knots
	Set Speed Ring To		16.3	13.6	11.3	9.5	8	6.8	5.8	5	4.3	knots
	Velocity Over the Ground		78	79	80	83	86	90	94	99	105	knots
	Average Cruise Speed		34	38	42	47	52	57	63	69	75	knots
Glide Ratio		7	9	11	13	16	19	24	28	33		
Sink Rate		-10.6	-8.8	-7.3	-6.2	-5.3	-4.6	-4	-3.6	-3.2	knots	
MacCready knots		Headwind				Wind				Tailwind	Units	
		40	30	20	10	0	-10	-20	-30	-40	mph	
9	Altitude Required To Go	5 mi	4,700	4,100	3,500	3,100	2,700	2,400	2,200	2,000	1,900	feet
		10 mi	8,400	7,200	6,100	5,200	4,500	3,900	3,400	3,100	2,800	feet
		20 mi	15,900	13,400	11,200	9,400	8,000	6,800	5,900	5,100	4,500	feet
		30 mi	23,300	19,500	16,200	13,600	11,400	9,700	8,300	7,200	6,300	feet
		40 mi	30,700	25,700	21,300	17,800	14,900	12,500	10,700	9,200	8,000	feet
		50 mi	38,200	31,900	26,400	22,100	18,400	15,400	13,200	11,300	9,800	feet
	Speed To Fly		117	109	102	95	90	85	80	77	73	knots
	Set Speed Ring To		17.7	14.9	12.5	10.6	9	7.7	6.6	5.7	4.9	knots
	Velocity Over the Ground		82	83	84	86	90	93	98	103	108	knots
	Average Cruise Speed		36	40	44	49	54	60	65	71	77	knots
Glide Ratio		7	9	10	13	15	18	22	26	30		
Sink Rate		-11.6	-9.7	-8.1	-6.9	-5.9	-5.1	-4.5	-4	-3.6	knots	
MacCready knots		Headwind				Wind				Tailwind	Units	
		40	30	20	10	0	-10	-20	-30	-40	mph	
10	Altitude Required To Go	5 mi	4,900	4,200	3,700	3,200	2,800	2,500	2,300	2,100	1,900	feet
		10 mi	8,700	7,500	6,300	5,400	4,700	4,100	3,600	3,200	2,900	feet
		20 mi	16,400	13,900	11,700	9,900	8,400	7,100	6,100	5,400	4,700	feet
		30 mi	24,100	20,400	17,000	14,300	12,100	10,200	8,700	7,600	6,600	feet
		40 mi	31,800	26,800	22,300	18,800	15,700	13,200	11,200	9,800	8,400	feet
		50 mi	39,600	33,300	27,700	23,200	19,400	16,300	13,800	12,000	10,300	feet
	Speed To Fly		121	113	105	99	93	88	84	80	76	knots
	Set Speed Ring To		19.1	16.2	13.7	11.7	10	8.6	7.4	6.4	5.6	knots
	Velocity Over the Ground		86	87	88	90	93	97	101	106	111	knots
	Average Cruise Speed		38	42	47	51	56	62	68	73	80	knots
Glide Ratio		7	8	10	12	14	17	21	24	28		
Sink Rate		-12.6	-10.6	-8.9	-7.6	-6.5	-5.6	-4.9	-4.4	-3.9	knots	