

Where **N** is the number of sides in the assembly, **S** is the slope\* of the sides in degrees, **MG** is the miter gauge angle, and **BT** is the blade tilt needed to cut the compound miter:  
 $\tan \text{MG} = 1 \div [\cos S \times \tan(360 \div 2N)]$  (for all joints)

$\tan \text{BT} = \cos \text{MG} \times \tan S$  (for mitered joints)

$\tan \text{BT} = \cos \text{MG} \div \tan S$  (for butted joints)

\*The slope is measured from horizontal, with the assembly resting on a bench or worksurface.

"N" 4 Sides, Butted*		4 Sides, Mitered		5 Sides, Mitered		6 Sides, Mitered		8 Sides, Mitered	
"MG" MiterGauge	"BT" BladeTilt	MiterGauge	BladeTilt	MiterGauge	BladeTilt	MiterGauge	BladeTilt	MiterGauge	BladeTilt
"S" Slope									
0		45.00	0.00	54.00	0.00	60.00	0.00	67.50	0.00
5		45.11	3.53	54.10	2.94	60.09	2.50	67.58	1.91
10		45.44	7.05	54.42	5.86	60.38	4.98	67.81	3.81
15		45.99	10.55	54.94	8.75	60.85	7.44	68.19	5.68
20		46.78	14.00	55.68	11.60	61.52	9.85	68.73	7.52
25		47.81	17.39	56.64	14.38	62.38	12.20	69.42	9.31
30	49.11	48.59	20.70	57.82	17.09	63.43	14.48	70.27	11.03
35	50.68	42.15	23.93	59.24	19.70	64.69	16.67	71.26	12.68
40	52.55	35.93	27.03	60.90	22.20	66.14	18.75	72.40	14.24
45	54.74	30.00	30.00	62.81	24.56	67.79	20.70	73.68	15.70
50	57.27	24.40	32.80	64.97	26.76	69.64	22.52	75.09	17.05
55	60.16	19.21	35.40	67.38	28.78	71.68	24.18	76.64	18.27
60	63.43	14.48	37.76	70.04	30.60	73.90	25.66	78.30	19.35
65	67.09	10.29	39.86	72.93	32.19	76.29	26.95	80.07	20.29
70	71.12	6.72	41.64	76.05	33.53	78.83	28.02	81.94	21.08
75	75.49	3.84	43.08	79.35	34.59	81.50	28.88	83.88	21.69
80	80.15	1.73	44.14	82.81	35.37	84.27	29.50	85.89	22.14
85	85.02	0.44	44.78	86.38	35.84	87.12	29.87	87.93	22.41
90	90.00	0.00	45.00	90.00	36.00	90.00	30.00	90.00	22.50

\*Not practical for slopes less than 33 degrees because table saw blade won't tilt past 45 degrees.

	10 Sides, Mitered		12 Sides, Mitered		16 Sides, Mitered		20 Sides, Mitered		24 Sides, Mitered	
	MiterGauge	BladeTilt	MiterGauge	BladeTilt	MiterGauge	BladeTilt	MiterGauge	BladeTilt	MiterGauge	BladeTilt
Slope										
0	72.00	0.00	75.00	0.00	78.75	0.00	81.00	0.00	82.50	0.00
5	72.06	1.54	75.05	1.29	78.79	0.97	81.03	0.78	82.53	0.65
10	72.26	3.08	75.22	2.58	78.92	1.94	81.13	1.56	82.61	1.30
15	72.58	4.59	75.49	3.84	79.12	2.89	81.30	2.32	82.75	1.94
20	73.02	6.07	75.87	5.08	79.41	3.83	81.53	3.07	82.95	2.56
25	73.59	7.50	76.35	6.28	79.78	4.73	81.83	3.79	83.20	3.16
30	74.28	8.89	76.94	7.44	80.23	5.60	82.19	4.49	83.50	3.74
35	75.10	10.21	77.62	8.54	80.75	6.42	82.61	5.15	83.84	4.29
40	76.02	11.46	78.40	9.58	81.34	7.20	83.08	5.77	84.24	4.81
45	77.06	12.62	79.27	10.55	81.99	7.93	83.61	6.35	84.68	5.30
50	78.20	13.69	80.23	11.44	82.71	8.59	84.19	6.88	85.16	5.74
55	79.44	14.66	81.26	12.24	83.49	9.20	84.81	7.36	85.68	6.14
60	80.77	15.52	82.37	12.95	84.32	9.73	85.47	7.79	86.23	6.49
65	82.18	16.26	83.54	13.57	85.19	10.18	86.17	8.15	86.82	6.79
70	83.66	16.88	84.76	14.08	86.11	10.56	86.90	8.45	87.42	7.05
75	85.19	17.37	86.03	14.48	87.05	10.86	87.65	8.69	88.05	7.24
80	86.77	17.72	87.34	14.77	88.02	11.08	88.42	8.86	88.69	7.39
85	88.38	17.93	88.66	14.94	89.01	11.21	89.21	8.97	89.34	7.47
90	90.00	18.00	90.00	15.00	90.00	11.25	90.00	9.00	90.00	7.50