

Sprocket Formulas & Standard Keyways

Dimensions are in inches unless otherwise indicated.

Chain No.	35		40		50		60		80		100		120		140		160		200		Chain No.
	Pitch		1/2"		5/8"		3/4"		1"		1 1/4"		1 1/2"		1 3/4"		2"		2 1/2"		
Teeth	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Teeth
6	1/4		23/64		7/16		9/16	3/8	49/64	17/32	63/64	5/8	13/16	27/32	121/64	7/8	1 1/2	1 1/16	2	1 3/8	6
7	3/8		17/32	5/16	41/64	7/16	53/64	9/16	17/64	25/32	113/32	31/32	145/64	13/16	115/16	1 1/4	213/64	1 1/2	255/64	1 15/16	7
8	1/2	5/16	45/64	15/32	55/64	9/16	15/64	3/4	129/64	1	153/64	1 1/4	213/64	1 1/2	233/64	1 3/4	27/8	2	345/64	29/16	8
9	5/8	7/16	55/64	9/16	1 1/16	23/32	121/64	7/8	125/32	1 1/4	2 1/4	19/16	245/64	1 13/16	37/64	23/16	317/32	27/16	417/32	33/16	9
10	3/4	17/32	1 1/64	1 1/16	117/64	7/8	137/64	1 1/8	2 1/8	17/16	221/32	1 3/4	313/64	2 1/4	311/16	29/16	413/64	27/8	523/64	3 3/4	10
11	7/8	9/16	1 3/16	27/32	131/64	1	113/16	1 1/4	27/16	1 3/4	35/64	23/16	345/64	29/16	4 1/4	215/16	455/64	3 5/16	63/16	47/16	11
12	1	1 1/16	123/64	7/8	111/16	13/16	2 1/16	1 3/8	249/64	17/8	331/64	2 3/8	43/16	27/8	453/64	3 5/16	5 1/2	3 3/4	7	57/16	12
13	1 1/8	25/32	133/64	1 1/16	157/64	1 1/4	25/16	1 5/8	33/32	23/16	357/64	2 3/4	443/64	3 1/4	525/64	3 3/4	69/32	4 3/8	713/16	61/16	13
14	1 15/64	7/8	111/16	1 1/16	23/32	17/16	235/64	1 3/4	327/64	2 5/16	419/64	2 15/16	55/32	3 3/8	531/32	4 3/16	613/16	5 1/4	85/8	6 1/2	14
15	1 23/64	7/8	127/32	1 1/4	29/32	1 5/8	251/64	1 7/8	3 3/4	2 5/8	445/64	3 1/4	541/64	37/8	617/32	5	729/64	5 11/16	97/16	7	15
16	1 31/64	1	2	1 3/8	231/64	1 3/4	313/32	2 1/8	4 1/16	2 3/4	533/32	3 1/2	6 1/8	49/16	73/32	5 1/2	83/32	6 5/16	1015/64	79/16	16
17	1 39/64	1 1/8	211/64	1 1/2	211/16	1 13/16	39/32	2 1/4	425/64	3 1/16	5 1/2	3 3/4	639/64	5 1/16	721/32	5 7/8	8 3/4	7	113/64	8 3/8	17
18	1 23/32	1 3/16	221/64	1 5/8	257/64	2	333/64	2 3/8	449/64	3 1/4	529/32	4 1/8	73/32	5 1/2	87/32	67/16	925/64	7	1127/32	815/16	18
19	1 27/32	1 1/4	231/64	1 3/4	333/32	2 3/16	349/64	2 5/8	5 1/32	3 1/2	65/16	4 3/4	737/64	5 13/16	825/32	7	1013/32	7 1/2	1221/32	99/16	19
20	1 31/32	1 3/8	221/32	1 3/4	319/64	2 1/4	4	2 3/4	523/64	3 3/4	645/64	5 1/8	81/16	6 5/16	911/32	7	1043/64	8	1329/64	103/8	20
21	2 3/32	1 7/16	213/16	1 15/16	3 1/2	2 3/8	415/64	27/8	543/64	37/8	77/64	5 1/2	835/64	6 3/4	929/32	7 1/2	1151/16	89/16	141/4	1015/16	21
22	2 13/64	1 1/2	231/32	2 1/16	345/64	29/16	431/64	3 1/8	6	4 1/4	733/64	5 3/4	91/64	7	1015/32	8 1/16	1161/64	9	151/16	119/16	22
23	2 21/64	1 5/8	3 1/8	2 1/4	357/64	2 3/4	423/32	3 1/4	65/16	4 3/4	729/32	6 1/8	9 1/2	7 1/16	111/32	8 5/8	1219/32	9 3/8	1555/64	125/16	23
24	2 29/64	1 3/4	319/64	2 1/4	433/32	2 3/4	461/64	37/16	641/64	5 1/16	85/16	6 1/2	963/64	79/16	1119/32	9	1315/64	10 1/8	1621/32	1215/16	24
25	2 9/16	1 3/4	329/64	2 5/16	419/64	2 15/16	513/64	3 5/8	661/64	5 3/8	845/64	6 1/2	1015/32	8 1/16	125/32	9 5/16	137/8	103/16	1729/64	131/16	25

SPROCKET DIAMETER FORMULAS

$$\text{Suggested Maximum Hub Diameter} = \text{Cosine } \frac{180^\circ}{N} \times \text{P.D.} - (H + .050).$$

P.D. = Pitch diameter N = Number of teeth. H = Height of inside plate.

The above maximum bores are not approved for severe service conditions or for Cast Iron Sprockets.

For severe service conditions maximum bores should not be greater than 2/3 of the diameter of the hub.

Maximum bores for Cast Iron Sprockets should be about 15% less than for steel with 1/4" as the minimum difference.

Standard Keyways and Set Screw

Dimensions are in inches unless otherwise indicated.

Diameter of Shaft	Keyseat Width x Depth	*Diameter of Set Screw	Diameter of Shaft	Keyseat Width x Depth	*Diameter of Set Screw
5/16 — 7/16	3/32 X 3/64	8 — 32	2 13/16 — 3 1/4	3/4 X 3/8	3/4
1/2 — 9/16	1/8 X 1/16	10 — 24	3 5/16 — 3 3/4	7/8 X 7/16	3/4
5/8 — 7/8	3/16 X 3/32	1/4	3 13/16 — 4 1/2	1 X 1/2	3/4
15/16 — 1 1/4	1/4 X 1/8	5/16	4 9/16 — 5 1/2	1 1/4 X 5/8	3/4
1 5/16 — 1 3/8	5/16 X 5/32	5/16	5 9/16 — 6 1/2	1 1/2 X 3/4	1
1 7/16 — 1 3/4	3/8 X 3/16	3/8	6 9/16 — 7 1/2	1 3/4 X 7/8	1
1 13/16 — 2 1/4	1/2 X 1/4	1/2	7 9/16 — 8 15/16	2 X 1	1
2 5/16 — 2 3/4	5/8 X 5/16	5/8	9 — 10 15/16	2 1/2 X 1 1/4	1

NOTE: As a general rule, the hub wall over the keyway should be equal to or greater than the diameter of the set screw.

*Set screw size may vary depending on the hub wall thickness.