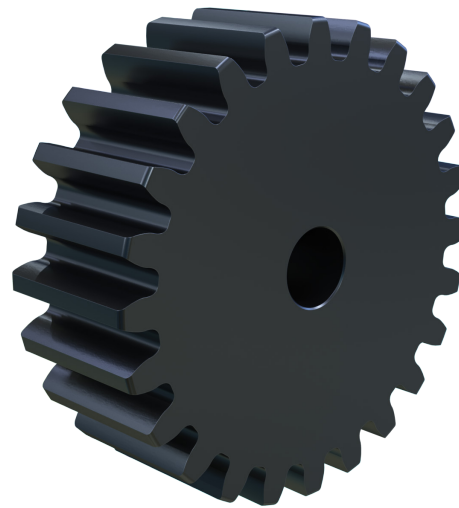


Martin stock spur gears are available in five different styles. Steel gears are furnished in plain style and plain style with hub. Cast gears are furnished, plain with hub, web with lightening holes, and spoke. Cast gears are machined on all operating surface. Martin cast gears are cast with larger hub to provide extra strength and to allow for larger bores.



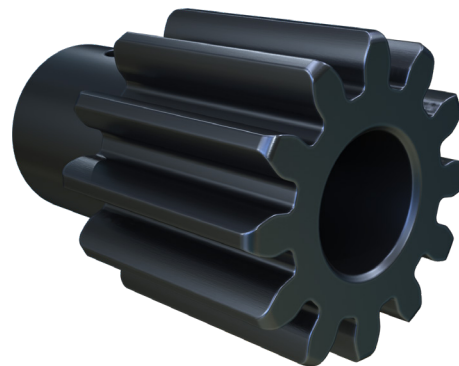
Type A

- Plain without hubs
- All steel



Type B₁

- Web
- All steel
- Cast



Type B

- Plain with hubs
- All steel
- Cast



Type B₂

- Web with lightening holes
- All steel
- Cast



Type B₃

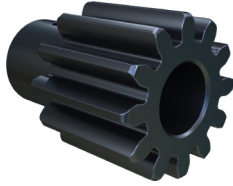
- Spoke style
- Cast

3 DP 3" Face

Steel Stock Spur Gears 14½° Pressure Angle



Type A
Plain without hubs



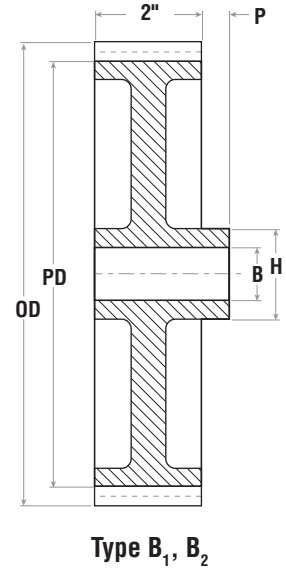
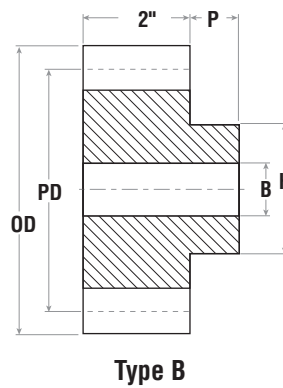
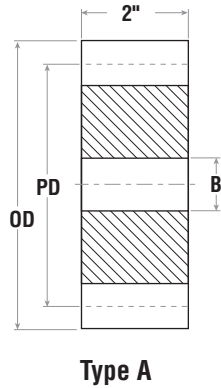
Type B
Plain with hubs



Type B₁
Web



Type B₂
Web with
lighten holes



Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	S311	14 1/2	4.000 • †	4.666	A	1 5/16	2	—	—	12.0
12	S312	14 1/2	4.000 •	4.666	A	1 5/16	2	—	—	11.0
13	S313	14 1/2	4.333	5.000	A	1 5/16	2 1/4	—	—	10.7
14	S314	14 1/2	4.667	5.333	A	1 5/16	2 3/8	—	—	12.8
15	S315	14 1/2	5.000	5.666	A	1 5/16	2 3/4	—	—	14.8
16	S316	14 1/2	5.333	6.000	A	1 5/16	2 13/16	—	—	17.0
18	S318	14 1/2	6.000	6.666	A	1 5/16	3 1/4	—	—	22.0
20	S320	14 1/2	6.667	7.333	A	1 7/16	3 5/8	—	—	27.4
21	S321	14 1/2	7.000	7.666	A	1 7/16	3 7/8	—	—	30.7
24	S324	14 1/2	8.000	8.666	B	1 7/16	3 1/4	5 1/2	1 1/4	48.2
30	S330	14 1/2	10.000	10.666	B	1 9/16	3 7/8	6 1/4	1 1/4	74.5
36	S336	14 1/2	12.000	12.666	B	1 9/16	4 1/8	6 1/2	1 3/4	114.0
42	S342	14 1/2	14.000	14.666	B1	1 9/16	4 1/8	6 1/2	1 3/4	106.0
48	S348	14 1/2	16.000	16.666	B1	1 9/16	4 1/8	6 1/2	1 3/4	120.0
54	S354	14 1/2	18.000	18.666	B2	1 9/16	4 1/8	6 1/2	1 3/4	134.0
60	S360	14 1/2	20.000	20.666	B2	1 9/16	4 1/8	6 1/2	1 3/4	150.0
72	S372	14 1/2	24.000	24.666	B2	1 9/16	4 1/2	7	1 3/4	180.0
84	S384	14 1/2	28.000	28.666	B2	1 9/16	4 1/2	7	1 3/4	215.0
96	S396	14 1/2	32.000	32.666	B2	1 11/16	4 1/2	7	1 3/4	264.0
108	S3108	14 1/2	36.000	36.666	B2	1 15/16	4 1/2	7	1 3/4	305.0
120	S3120	14 1/2	40.000	40.666	B2	1 15/16	5	7 1/2	1 3/4	367.0

* Recommended maximum bore with keyway and setscrew.
† Enlarged pitch diameter with special tooth form.

• 4" Face.

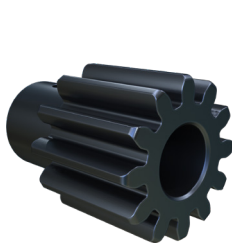
14½° P.A. gears will not operate with 20° P.A.



Cast Iron Stock Spur Gears

14½° Pressure Angle

3 DP 3" Face



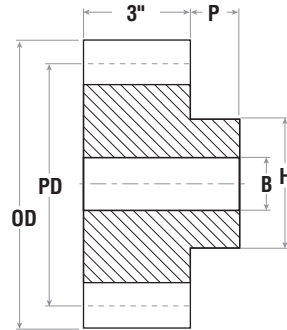
Type B
Plain with hubs



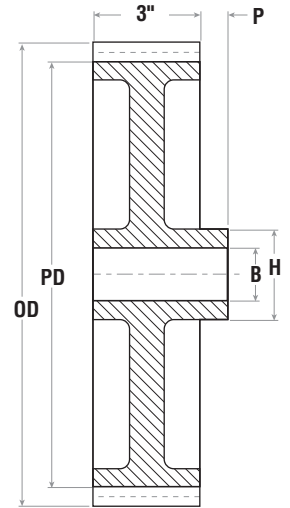
Type B₂
Web with
lighten holes



Type B₃
Spoke style



Type B



Type B₂, B₃

Cast — Style B

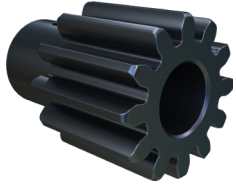
No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
24	C324	14 1/2	8.000	8.666	B	1 7/16	2 11/16	4 1/2	1 1/4	40.4
28	C328	14 1/2	9.333	10.000	B	1 7/16	3 3/16	5 1/4	1 1/4	54.2
30	C330	14 1/2	10.000	10.666	B	1 7/16	3 3/16	5 1/4	1 1/4	57.1
32	C332	14 1/2	10.667	11.333	B	1 7/16	3 3/16	5 1/4	1 1/4	62.4
36	C336	14 1/2	12.000	12.666	B ₂	1 7/16	3 1/4	5 1/2	1 3/4	71.3
40	C340	14 1/2	13.333	14.000	B ₂	1 7/16	3 1/4	5 1/2	1 3/4	75.9
42	C342	14 1/2	14.000	14.666	B ₂	1 7/16	3 1/4	5 1/2	1 3/4	79.5
45	C345	14 1/2	15.000	15.666	B ₂	1 7/16	3 1/4	5 1/2	1 3/4	85.0
48	C348	14 1/2	16.000	16.666	B ₃	1 9/16	3 1/4	5 1/2	1 3/4	92.9
54	C354	14 1/2	18.000	18.666	B ₃	1 9/16	3 1/4	5 1/2	1 3/4	104.0
60	C360	14 1/2	20.000	20.666	B ₃	1 9/16	3 1/4	5 1/2	1 3/4	115.0
72	C372	14 1/2	24.000	24.666	B ₃	1 9/16	3 11/16	6	1 3/4	153.0
75	C375	14 1/2	25.000	25.666	B ₃	1 9/16	3 11/16	6	1 3/4	155.0
84	C384	14 1/2	28.000	28.666	B ₃	1 11/16	3 11/16	6	1 3/4	178.0
90	C390	14 1/2	30.000	30.666	B ₃	1 11/16	3 11/16	6	1 3/4	185.0
96	C396	14 1/2	32.000	32.666	B ₃	1 11/16	3 11/16	6	1 3/4	205.0
105	C3105	14 1/2	35.000	35.666	B ₃	1 11/16	3 11/16	6	1 3/4	216.0
108	C3108	14 1/2	36.000	36.666	B ₃	1 15/16	3 11/16	6	1 3/4	228.0
120	C3120	14 1/2	40.000	40.666	B ₃	1 15/16	4 1/8	6 1/2	1 3/4	226.0

* Recommended maximum bore with keyway and setscrew.

14½° P.A. gears will not operate with 20° P.A.

4 DP 2" Face

Steel Stock Spur Gears 14½° Pressure Angle



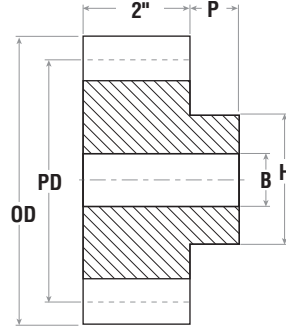
Type B
Plain with hubs



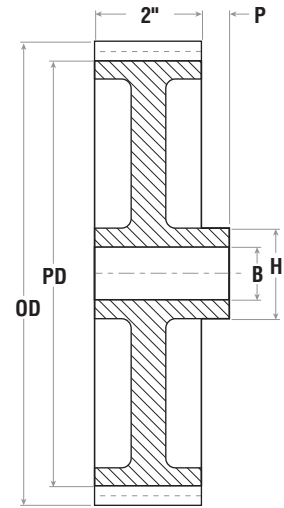
Type B₁
Web



Type B₂
Web with
lighten holes



Type B



Type B₁, B₂

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	S411	14 1/2	3.000 †	3.500	B	1 1/8	1 5/16	2 1/4	7/8	4.0
12	S412	14 1/2	3.000	3.500	B	1 1/8	1 5/16	2 1/4	7/8	3.9
13	S413	14 1/2	3.250	3.750	B	1 1/8	1 5/16	2 1/4	7/8	4.6
14	S414	14 1/2	3.500	4.000	B	1 1/8	1 5/8	2 3/4	7/8	5.7
15	S415	14 1/2	3.750	4.250	B	1 1/8	1 3/4	3	7/8	6.8
16	S416	14 1/2	4.000	4.500	B	1 1/8	1 3/4	3 1/4	7/8	8.0
17	S417	14 1/2	4.250	4.750	B	1 1/8	2	3 1/2	7/8	9.2
18	S418	14 1/2	4.500	5.000	B	1 1/8	2 1/4	3 3/4	7/8	10.4
19	S419	14 1/2	4.750	5.250	B	1 1/8	2 1/4	4	7/8	10.5
20	S420	14 1/2	5.000	5.500	B	1 1/8	2 3/8	4 1/4	7/8	13.4
21	S421	14 1/2	5.250	5.750	B	1 1/8	2 5/8	4 1/2	7/8	14.9
22	S422	14 1/2	5.500	6.000	B	1 1/8	2 3/4	4 3/4	7/8	16.5
24	S424	14 1/2	6.000	6.500	B	1 1/8	2 3/4	4 3/4	1 1/2	22.8
26	S426	14 1/2	6.500	7.000	B	1 1/8	2 3/4	4 3/4	1 1/2	24.8
28	S428	14 1/2	7.000	7.500	B	1 1/8	2 3/4	4 3/4	1 1/2	27.8
30	S430	14 1/2	7.500	8.000	B	1 1/4	2 3/4	4 3/4	1 1/2	31.0
32	S432	14 1/2	8.000	8.500	B	1 1/4	2 3/4	4 3/4	1 1/2	34.4
36	S436	14 1/2	9.000	9.500	B	1 1/4	2 3/4	4 3/4	1 1/2	41.7
40	S440	14 1/2	10.000	10.500	B	1 1/4	3 1/8	5 1/8	1 1/2	51.8
42	S442	14 1/2	10.500	11.000	B	1 1/4	3 1/8	5 1/8	1 1/2	56.0
44	S444	14 1/2	11.000	11.500	B	1 1/4	3 1/8	5 1/8	1 1/2	60.8
48	S448	14 1/2	12.000	12.500	B	1 1/4	3 1/8	5 1/8	1 1/2	70.8
54	S454	14 1/2	13.500	14.000	B1	1 1/4	3	5	1 1/2	57.4
56	S456	14 1/2	14.000	14.500	B1	1 1/4	3	5	1 1/2	59.9
60	S460	14 1/2	15.000	15.500	B2	1 1/4	3	5	1 1/2	62.8
64	S464	14 1/2	16.000	16.500	B2	1 1/4	3	5	1 1/2	66.2
72	S472	14 1/2	18.000	18.500	B2	1 1/4	3 1/4	5 1/2	1 1/2	82.9
80	S480	14 1/2	20.000	20.500	B2	1 3/8	3 1/4	5 1/2	1 1/2	95.0
84	S484	14 1/2	21.000	21.500	B2	1 3/8	3 1/4	5 1/2	1 1/2	92.0
88	S488	14 1/2	22.000	22.500	B2	1 3/8	3 3/4	6 1/8	1 3/4	95.8
96	S496	14 1/2	24.000	24.500	B2	1 3/8	3 3/4	6 1/8	1 3/4	124.0
120	S4120	14 1/2	30.000	30.500	B2	1 3/8	3 5/8	6	1 3/4	155.0
144	S4144	14 1/2	36.000	36.500	B2	1 3/8	4	6 1/2	1 3/4	208.0

* Recommended maximum bore with keyway and setscrew.

† Enlarged pitch diameter with special tooth form.

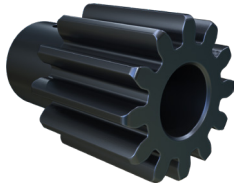
14½° P.A. gears will not operate with 20° P.A.



Cast Iron Stock Spur Gears

14½° Pressure Angle

4 DP 2" Face



Type B
Plain with hubs



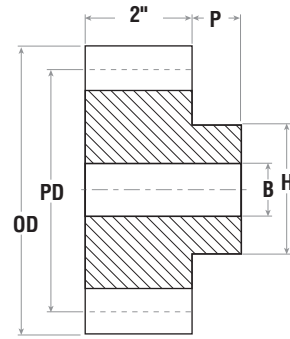
Type B₁
Web



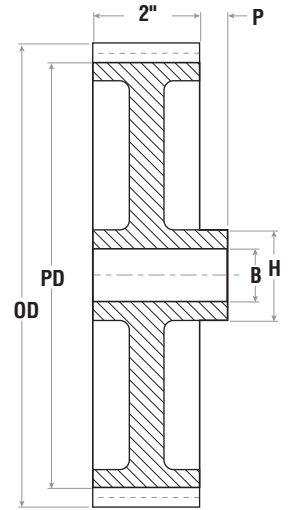
Type B₂
Web with
lighten holes



Type B₃
Spoke style



Type B



Type B₁, B₂, B₃

Cast — Style B

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
24	C424	14 1/2	6.000	6.500	B	1 1/8	2 1/8	3 1/2	1 1/2	17.0
28	C428	14 1/2	7.000	7.500	B1	1 1/4	2 1/8	3 1/2	1 1/2	20.2
30	C430	14 1/2	7.500	8.000	B1	1 1/4	2 1/8	3 1/2	1 1/2	21.1
32	C432	14 1/2	8.000	8.500	B1	1 1/4	2 1/8	3 1/2	1 1/2	23.2
36	C436	14 1/2	9.000	9.500	B2	1 1/4	2 1/4	3 3/4	1 1/2	30.5
40	C440	14 1/2	10.000	10.500	B2	1 1/4	2 1/2	4	1 1/2	26.4
42	C442	14 1/2	10.500	11.000	B2	1 1/4	2 1/2	4	1 1/2	33.9
44	C444	14 1/2	11.000	11.500	B2	1 1/4	2 1/2	4	1 1/2	32.0
48	C448	14 1/2	12.000	12.500	B3	1 1/4	2 1/2	4	1 1/2	38.4
52	C452	14 1/2	13.000	13.500	B3	1 1/4	2 1/2	4	1 1/2	42.5
54	C454	14 1/2	13.500	14.000	B3	1 1/4	2 1/2	4	1 1/2	44.7
56	C456	14 1/2	14.000	14.500	B3	1 1/4	2 1/2	4	1 1/2	46.7
60	C460	14 1/2	15.000	15.500	B3	1 1/4	2 1/2	4	1 1/2	49.5
64	C464	14 1/2	16.000	16.500	B3	1 1/4	2 1/2	4	1 1/2	54.5
68	C468	14 1/2	17.000	17.500	B3	1 1/4	2 1/2	4	1 1/2	56.0
72	C472	14 1/2	18.000	18.500	B3	1 1/4	2 11/16	4 1/2	1 1/2	63.0
80	C480	14 1/2	20.000	20.500	B3	1 3/8	2 11/16	4 1/2	1 1/2	72.0
84	C484	14 1/2	21.000	21.500	B3	1 3/8	2 11/16	4 1/2	1 1/2	73.0
88	C488	14 1/2	22.000	22.500	B3	1 3/8	2 11/16	4 1/2	1 3/4	75.0
96	C496	14 1/2	24.000	24.500	B3	1 3/8	2 11/16	4 1/2	1 3/4	86.0
100	C4100	14 1/2	25.000	25.500	B3	1 3/8	2 11/16	4 1/2	1 3/4	91.0
104	C4104	14 1/2	26.000	26.500	B3	1 3/8	2 11/16	4 1/2	1 3/4	105.0
112	C4112	14 1/2	28.000	28.500	B3	1 3/8	3 1/8	5	1 3/4	108.0
120	C4120	14 1/2	30.000	30.500	B3	1 3/8	3 1/8	5	1 3/4	115.0
132	C4132	14 1/2	33.000	33.500	B3	1 3/8	3 1/8	5	1 3/4	129.0
144	C4144	14 1/2	36.000	36.500	B3	1 3/8	3 1/4	5 1/2	1 3/4	140.0

* Recommended maximum bore with keyway and setscrew.

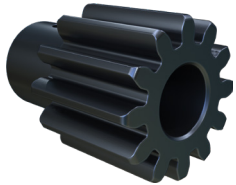
14½° P.A. gears will not operate with 20° P.A.

5 DP

1 3/4" Face

Steel Stock Spur Gears

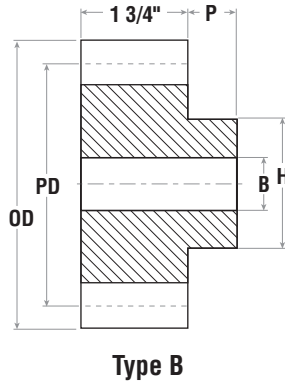
14 1/2° Pressure Angle



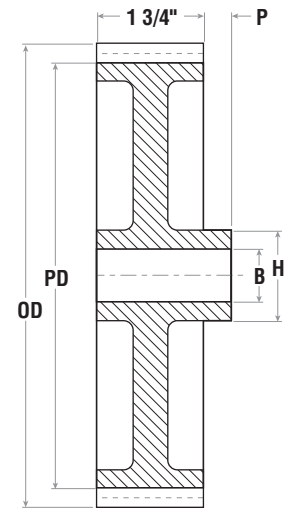
Type B
Plain with hubs



Type B₂
Web with
lighten holes



Type B



Type B₂

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	S511	14 1/2	2.400 †	2.800	B	1 1/16	1 1/16	1 25/32	7/8	2.0
12	S512	14 1/2	2.400	2.800	B	1 1/16	1 1/16	1 25/32	7/8	2.0
13	S513	14 1/2	2.600	3.000	B	1 1/16	1 1/4	2	7/8	2.6
14	S514	14 1/2	2.800	3.200	B	1 1/16	1 5/16	2 3/16	7/8	3.1
15	S515	14 1/2	3.000	3.400	B	1 1/16	1 7/16	2 3/8	7/8	3.7
16	S516	14 1/2	3.200	3.600	B	1 1/16	1 5/8	2 19/32	7/8	4.5
17	S517	14 1/2	3.400	3.800	B	1 1/16	1 13/16	2 7/8	7/8	5.2
18	S518	14 1/2	3.600	4.000	B	1 1/16	1 7/8	3	7/8	5.9
19	S519	14 1/2	3.800	4.200	B	1 1/16	2 1/8	3 1/4	7/8	6.7
20	S520	14 1/2	4.000	4.400	B	1 1/16	2 1/4	3 3/8	7/8	7.5
21	S521	14 1/2	4.200	4.600	B	1 1/16	2 1/4	3 3/8	7/8	8.1
22	S522	14 1/2	4.400	4.800	B	1 1/16	2 1/4	3 3/8	7/8	8.8
23	S523	14 1/2	4.600	5.000	B	1 1/16	2 1/4	3 3/8	7/8	9.5
24	S524	14 1/2	4.800	5.200	B	1 1/16	2 1/4	3 3/8	1 1/4	11.0
25	S525	14 1/2	5.000	5.400	B	1 1/16	2 1/4	3 3/8	1 1/4	11.8
26	S526	14 1/2	5.200	5.600	B	1 1/16	2 1/4	3 3/8	1 1/4	12.9
28	S528	14 1/2	5.600	6.000	B	1 1/16	2 1/4	3 3/8	1 1/4	14.3
30	S530	14 1/2	6.000	6.400	B	1 1/16	2 1/4	3 3/8	1 1/4	16.0
35	S535	14 1/2	7.000	7.400	B	1 3/16	2 5/8	4 1/4	1 1/4	22.8
40	S540	14 1/2	8.000	8.400	B	1 3/16	2 5/8	4 1/4	1 1/4	28.5
45	S545	14 1/2	9.000	9.400	B	1 3/16	2 11/16	4 5/8	1 1/4	35.0
50	S550	14 1/2	10.000	10.400	B	1 3/16	2 13/16	4 3/4	1 1/4	43.6
55	S555	14 1/2	11.000	11.400	B	1 3/16	2 13/16	4 3/4	1 1/4	52.0
60	S560	14 1/2	12.000	12.400	B	1 3/16	2 13/16	4 3/4	1 1/4	60.9
70	S570	14 1/2	14.000	14.400	B2	1 3/16	3 1/8	5	1 1/4	48.4
80	S580	14 1/2	16.000	16.400	B2	1 3/16	3 1/8	5	1 1/4	57.0
90	S590	14 1/2	18.000	18.400	B2	1 3/16	3 1/8	5	1 1/4	67.0
100	S5100	14 1/2	20.000	20.400	B2	1 5/16	3 1/4	5 1/2	1 1/2	62.0
110	S5110	14 1/2	22.000	22.400	B2	1 5/16	3 1/4	5 1/2	1 1/2	87.6
120	S5120	14 1/2	24.000	24.400	B2	1 5/16	3 1/2	6 1/8	1 1/2	113.0

* Recommended maximum bore with keyway and setscrew.

† Enlarged pitch diameter with special tooth form.

14 1/2° P.A. gears will not operate with 20° P.A.

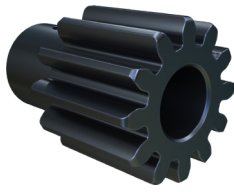


Cast Iron Stock Spur Gears

14½° Pressure Angle

5 DP

1¾" Face



Type B
Plain with hubs



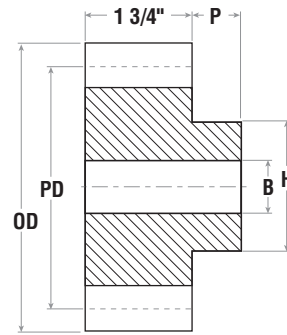
Type B₁
Web



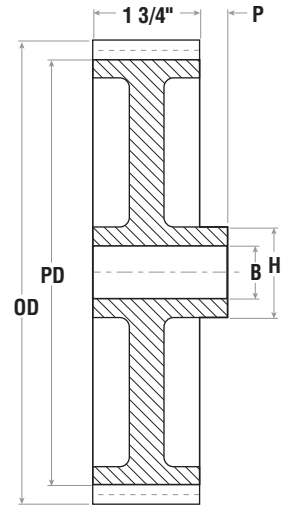
Type B₂
Web with
lighten holes



Type B₃
Spoke style



Type B



Type B₁, B₂, B₃

Cast — Style B

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
24	C524	14 1/2	4.800	5.200	B	1 1/16	2 1/16	3 1/4	1 1/4	9.9
25	C525	14 1/2	5.000	5.400	B	1 1/16	2 1/16	3 1/4	1 1/4	10.6
28	C528	14 1/2	5.600	6.000	B1	1 1/16	2 1/16	3 1/4	1 1/4	12.1
30	C530	14 1/2	6.000	6.400	B1	1 1/16	2 1/16	3 1/4	1 1/4	13.9
32	C532	14 1/2	6.400	6.800	B1	1 1/16	2 1/16	3 1/4	1 1/4	13.5
35	C535	14 1/2	7.000	7.400	B1	1 3/16	2 1/16	3 1/4	1 1/4	16.9
36	C536	14 1/2	7.200	7.600	B1	1 3/16	2 1/16	3 1/4	1 1/4	15.5
40	C540	14 1/2	8.000	8.400	B1	1 3/16	2 1/16	3 1/4	1 1/4	17.4
45	C545	14 1/2	9.000	9.400	B2	1 3/16	2 1/16	3 1/4	1 1/4	20.3
48	C548	14 1/2	9.600	10.000	B2	1 3/16	2 5/16	3 3/4	1 1/4	25.2
50	C550	14 1/2	10.000	10.400	B3	1 3/16	2 5/16	3 3/4	1 1/4	23.7
54	C554	14 1/2	10.800	11.200	B3	1 3/16	2 5/16	3 3/4	1 1/4	25.1
55	C555	14 1/2	11.000	11.400	B3	1 3/16	2 5/16	3 3/4	1 1/4	26.0
60	C560	14 1/2	12.000	12.400	B3	1 3/16	2 5/16	3 3/4	1 1/4	30.6
64	C564	14 1/2	12.800	13.200	B3	1 3/16	2 5/16	3 3/4	1 1/4	31.2
66	C566	14 1/2	13.200	13.600	B3	1 3/16	2 5/16	3 3/4	1 1/4	30.8
70	C570	14 1/2	14.000	14.400	B3	1 3/16	2 9/16	4	1 1/4	34.5
72	C572	14 1/2	14.400	14.800	B3	1 3/16	2 9/16	4	1 1/4	35.0
75	C575	14 1/2	15.000	15.400	B3	1 3/16	2 9/16	4	1 1/4	36.7
80	C580	14 1/2	16.000	16.400	B3	1 3/16	2 9/16	4	1 1/4	40.8
84	C584	14 1/2	16.800	17.200	B3	1 3/16	2 9/16	4	1 1/4	40.0
90	C590	14 1/2	18.000	18.400	B3	1 3/16	2 9/16	4	1 1/4	45.4
96	C596	14 1/2	19.200	19.600	B3	1 3/16	2 9/16	4	1 1/4	48.6
100	C5100	14 1/2	20.000	20.400	B3	1 5/16	2 5/8	4 1/2	1 1/2	54.4
120	C5120	14 1/2	24.000	24.400	B3	1 5/16	2 13/16	4 3/4	1 1/2	56.1
130	C5130	14 1/2	26.000	26.400	B3	1 5/16	2 13/16	4 3/4	1 1/2	70.2

* Recommended maximum bore with keyway and setscrew.
Quotes for large quantity discontinued cast iron sizes, contact your nearest Martin Facility.

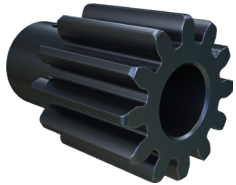
14½° P.A. gears will not operate with 20° P.A.

6 DP

1 1/2" Face

Steel Stock Spur Gears

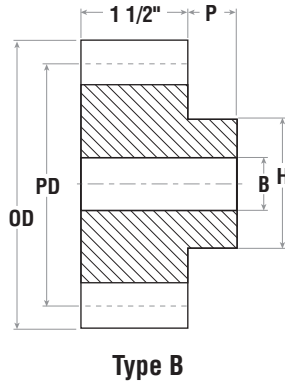
14 1/2° Pressure Angle



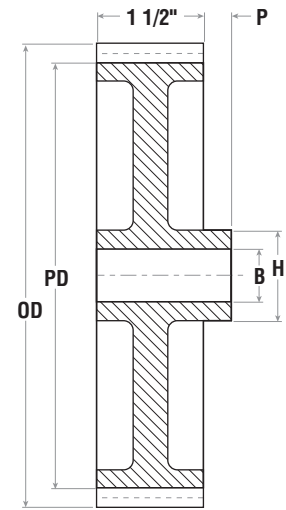
Type B
Plain with hubs



Type B₂
Web with
lighten holes



Type B



Type B₂

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	S611	14 1/2	2.000 †	2.333	B	1	**	1 1/2	7/8	1.1
12	S612	14 1/2	2.000	2.333	B	1	**	1 1/2	7/8	1.1
14	S614	14 1/2	2.333	2.666	B	1	1 1/16	1 13/16	7/8	1.8
15	S615	14 1/2	2.500	2.833	B	1	1 1/4	2	7/8	2.2
16	S616	14 1/2	2.666	3.000	B	1	1 5/16	2 5/32	7/8	2.6
18	S618	14 1/2	3.000	3.333	B	1	1 1/2	2 1/2	7/8	3.5
20	S620	14 1/2	3.333	3.666	B	1	1 3/4	2 27/32	7/8	4.6
21	S621	14 1/2	3.500	3.833	B	1	1 7/8	3	7/8	5.1
22	S622	14 1/2	3.666	4.000	B	1	1 7/8	3	7/8	5.5
24	S624	14 1/2	4.000	4.333	B	1 1/8	1 7/8	3	1	6.5
27	S627	14 1/2	4.500	4.833	B	1 1/8	1 7/8	3	1	6.6
28	S628	14 1/2	4.666	5.000	B	1 1/8	1 7/8	3	1	8.3
30	S630	14 1/2	5.000	5.333	B	1 1/8	2"	3 1/8	1	9.5
32	S632	14 1/2	5.333	5.666	B	1 1/8	2"	3 1/8	1	10.7
33	S633	14 1/2	5.500	5.833	B	1 1/8	2 1/8	3 1/4	1	11.3
36	S636	14 1/2	6.000	6.333	B	1 1/8	2 1/8	3 1/4	1	13.3
39	S639	14 1/2	6.500	6.833	B	1 1/8	2 1/2	4	1	16.6
40	S640	14 1/2	6.666	7.000	B	1 1/8	2 1/2	4	1	17.6
42	S642	14 1/2	7.000	7.333	B	1 1/8	2 1/2	4	1	18.9
45	S645	14 1/2	7.500	7.833	B	1 1/8	2 1/2	4	1	21.3
48	S648	14 1/2	8.000	8.333	B	1 1/8	2 1/2	4 1/8	1	24.3
52	S652	14 1/2	8.666	9.000	B	1 1/8	2 5/8	4 1/4	1	27.9
54	S654	14 1/2	9.000	9.333	B	1 1/8	2 5/8	4 3/8	1	30.4
58	S658	14 1/2	9.666	10.000	B	1 1/8	2 5/8	4 3/8	1	33.9
60	S660	14 1/2	10.000	10.333	B	1 1/4	2 5/8	4 3/8	1 1/4	34.3
64	S664	14 1/2	10.666	11.000	B	1 1/4	2 5/8	4 3/8	1 1/4	42.2
66	S666	14 1/2	11.000	11.333	B	1 1/4	2 5/8	4 3/8	1 1/4	50.0
72	S672	14 1/2	12.000	12.333	B	1 1/4	2 11/16	4 3/8	1 1/4	53.0
84	S684	14 1/2	14.000	14.333	B2	1 1/4	2 11/16	4 1/2	1 1/4	40.0
96	S696	14 1/2	16.000	16.333	B2	1 1/4	2 13/16	5 1/8	1 1/4	43.8
108	S6108	14 1/2	18.000	18.333	B2	1 1/4	2 13/16	5 1/8	1 1/4	53.0
120	S6120	14 1/2	20.000	20.333	B2	1 1/4	2 13/16	5 1/8	1 1/2	63.2
132	S6132	14 1/2	22.000	22.333	B2	1 1/4	2 13/16	5 1/8	1 1/2	68.3
144	S6144	14 1/2	24.000	24.333	B2	1 1/4	3 1/8	5	1 1/2	82.7

* Recommended maximum bore with keyway and setscrew.

** Check application with factory.

14 1/2° P.A. gears will not operate with 20° P.A.

† Enlarged pitch diameter with special tooth form.



Type B
Plain with hubs



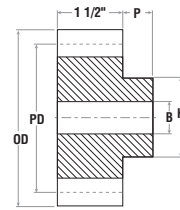
Type B₁
Web



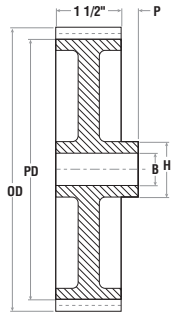
Type B₂
Web with
lighten holes



Type B₃
Spoke style



Type B



Type B₁, B₂, B₃

Cast — Style B

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
• 32	C632	14 1/2	5.333	5.666	B1	1 1/8	1 7/16	2 1/2	1	7.2
• 40	C640	14 1/2	6.666	7.000	B1	1 1/8	1 13/16	3	1	11.9
• 42	C642	14 1/2	7.000	7.333	B1	1 1/8	1 13/16	3	1	13.0
• 48	C648	14 1/2	8.000	8.333	B3	1 1/8	1 13/16	3	1	12.1
• 54	C654	14 1/2	9.000	9.333	B3	1 1/8	2 1/16	3 1/4	1	14.4
• 60	C660	14 1/2	10.000	10.333	B3	1 1/4	2 1/16	3 1/4	1 1/4	17.0
• 64	C664	14 1/2	10.666	11.000	B3	1 1/4	2 1/16	3 1/4	1 1/4	18.5
66	C666	14 1/2	11.000	11.333	B3	1 1/4	2 1/16	3 1/4	1 1/4	19.0
70	C670	14 1/2	11.666	12.000	B3	1 1/4	2 1/16	3 1/4	1 1/4	20.6
72	C672	14 1/2	12.000	12.333	B3	1 1/4	2 3/16	3 1/2	1 1/4	23.7
75	C675	14 1/2	12.500	12.833	B3	1 1/4	2 3/16	3 1/2	1 1/4	25.4
80	C680	14 1/2	13.333	13.666	B3	1 1/4	2 3/16	3 1/2	1 1/4	25.8
84	C684	14 1/2	14.000	14.333	B3	1 1/4	2 3/16	3 1/2	1 1/4	25.0
90	C690	14 1/2	15.000	15.333	B3	1 1/4	2 3/16	3 1/2	1 1/4	25.8
96	C696	14 1/2	16.000	16.333	B3	1 1/4	2 3/16	3 1/2	1 1/4	28.0
108	C6108	14 1/2	18.000	18.333	B3	1 1/4	2 5/16	3 3/4	1 1/4	32.0
120	C6120	14 1/2	20.000	20.333	B3	1 1/4	2 5/16	3 3/4	1 1/2	34.8
132	C6132	14 1/2	22.000	22.333	B3	1 1/4	2 5/16	3 3/4	1 1/2	43.4
144	C6144	14 1/2	24.000	24.333	B3	1 1/4	2 9/16	4	1 1/2	45.2
180	C6180	14 1/2	30.000	30.333	B3	1 1/4	2 9/16	4	1 1/2	58.3

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Keyway		Diameter	Projection	
11	S611BS 1	14 1/2	2.000	2.333	B	1	1/4 × 1/8	(1) 1/4-20 @ 90	1 1/2	7/8	1.10
12	S612BS 1	14 1/2	2.000	2.333	B	1	1/4 × 1/8	(1) 1/4-20 @ 90	1 1/2	7/8	1.10
14	S614BS 1	14 1/2	2.333	2.667	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 13/16	7/8	1.80
14	S614BS 1 1/8	14 1/2	2.333	2.667	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	1 13/16	7/8	1.80
15	S615BS 1	14 1/2	2.500	2.833	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2	7/8	2.20
15	S615BS 1 1/8	14 1/2	2.500	2.833	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	2	7/8	2.20
15	S615BS 1 3/16	14 1/2	2.500	2.833	B	1 3/16	1/4 × 1/8	(1) 5/16-18 @ 90	2	7/8	2.20
15	S615BS 1 1/4	14 1/2	2.500	2.833	B	1 1/4	1/4 × 1/8	(1) 5/16-18 @ 90	2	7/8	2.20
16	S616BS 1	14 1/2	2.667	3.000	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 5/32	7/8	2.60
16	S616BS 1 1/8	14 1/2	2.667	3.000	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	2 5/32	7/8	2.60
16	S616BS 1 3/16	14 1/2	2.667	3.000	B	1 3/16	1/4 × 1/8	(1) 5/16-18 @ 90	2 5/32	7/8	2.60
16	S616BS 1 1/4	14 1/2	2.667	3.000	B	1 1/4	1/4 × 1/8	(1) 5/16-18 @ 90	2 5/32	7/8	2.60
18	S618BS 1	14 1/2	3.000	3.333	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 1/2	7/8	3.50
18	S618BS 1 1/8	14 1/2	3.000	3.333	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	2 1/2	7/8	3.50
18	S618BS 1 3/16	14 1/2	3.000	3.333	B	1 3/16	1/4 × 1/8	(1) 5/16-18 @ 90	2 1/2	7/8	3.50
18	S618BS 1 1/4	14 1/2	3.000	3.333	B	1 1/4	1/4 × 1/8	(1) 5/16-18 @ 90	2 1/2	7/8	3.50
20	S620BS 1	14 1/2	3.333	3.667	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 27/32	7/8	4.60
20	S620BS 1 1/8	14 1/2	3.333	3.667	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	2 27/32	7/8	4.60
20	S620BS 1 3/16	14 1/2	3.333	3.667	B	1 3/16	1/4 × 1/8	(1) 5/16-18 @ 90	2 27/32	7/8	4.60
20	S620BS 1 1/4	14 1/2	3.333	3.667	B	1 1/4	1/4 × 1/8	(1) 5/16-18 @ 90	2 27/32	7/8	4.60

14½° P.A. gears will not operate with 20° P.A.

• Consult Factory.

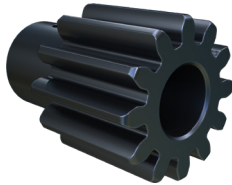
* Recommended maximum bore with keyway and setscrew.

8 DP

1 1/4" Face

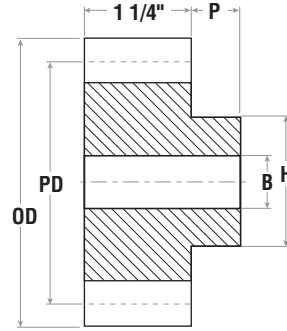
Steel Stock Spur Gears

14 1/2° Pressure Angle



Type B

Plain with hubs



Type B

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	S811	14 1/2	1.500 †	1.750	B	3/4	**	1 1/8	3/4	0.5
12	S812	14 1/2	1.500	1.750	B	3/4	**	1 1/8	3/4	0.5
13	S813	14 1/2	1.625	1.875	B	3/4	**	1 1/4	3/4	0.7
14	S814	14 1/2	1.750	2.000	B	3/4	13/16	1 3/8	3/4	0.9
15	S815	14 1/2	1.875	2.125	B	7/8	7/8	1 1/2	3/4	0.9
16	S816	14 1/2	2.000	2.250	B	7/8	15/16	1 5/8	3/4	1.1
17	S817	14 1/2	2.125	2.375	B	7/8	1	1 3/4	3/4	1.3
18	S818	14 1/2	2.250	2.500	B	7/8	1 1/8	1 7/8	3/4	1.6
19	S819	14 1/2	2.375	2.625	B	7/8	1 1/4	2	3/4	1.8
20	S820	14 1/2	2.500	2.750	B	7/8	1 5/16	2 1/8	3/4	2.0
21	S821	14 1/2	2.625	2.875	B	7/8	1 7/16	2 1/4	3/4	2.3
22	S822	14 1/2	2.750	3.000	B	7/8	1 5/8	2 3/8	3/4	2.6
24	S824	14 1/2	3.000	3.250	B	7/8	1 5/8	2 5/8	1	3.6
26	S826	14 1/2	3.250	3.500	B	7/8	1 5/8	2 5/8	1	3.9
28	S828	14 1/2	3.500	3.750	B	7/8	1 5/8	2 5/8	1	4.4
30	S830	14 1/2	3.750	4.000	B	7/8	1 3/4	2 3/4	1	5.1
32	S832	14 1/2	4.000	4.250	B	1	1 13/16	2 7/8	1	5.6
36	S836	14 1/2	4.500	4.750	B	1	1 7/8	3	1	7.0
40	S840	14 1/2	5.000	5.250	B	1	1 7/8	3	1	8.3
42	S842	14 1/2	5.250	5.500	B	1	1 7/8	3	1	9.0
44	S844	14 1/2	5.500	5.750	B	1	1 7/8	3	1	9.7
48	S848	14 1/2	6.000	6.250	B	1	1 7/8	3	1	11.3

* Recommended maximum bore with keyway and setscrew.

** Check application with factory.

14 1/2° P.A. gears will not operate with 20° P.A.

† Enlarged pitch diameter with special tooth form.



Cast Iron Stock Spur Gears

14½° Pressure Angle

8 DP 1¼" Face



Type B
Plain with hubs



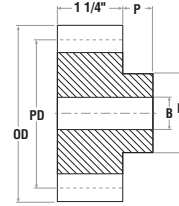
Type B₁
Web



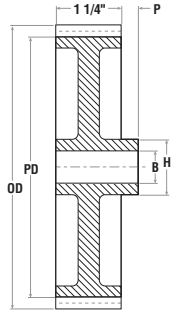
Type B₂
Web with
lighten holes



Type B₃
Spoke style



Type B



Type B₁, B₂, B₃

Cast — Style B

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
• 36	C836	14 1/2	4.500	4.750	B1	1	1 7/16	2 1/2	1	4.5
• 40	C840	14 1/2	5.000	5.250	B1	1	1 7/16	2 1/2	1	5.1
• 42	C842	14 1/2	5.250	5.500	B1	1	1 7/16	2 1/2	1	5.5
• 44	C844	14 1/2	5.500	5.750	B1	1	1 7/16	2 1/2	1	6.0
52	C852	14 1/2	6.500	6.750	B1	1	1 11/16	2 3/4	1	10.3
54	C854	14 1/2	6.750	7.000	B2	1	1 11/16	2 3/4	1	8.1
56	C856	14 1/2	7.000	7.250	B3	1	1 11/16	2 3/4	1	8.2
60	C860	14 1/2	7.500	7.750	B3	1	1 11/16	2 3/4	1	8.8
64	C864	14 1/2	8.000	8.250	B3	1	1 11/16	2 3/4	1	11.2
68	C868	14 1/2	8.500	8.750	B3	1	1 13/16	3	1	11.5
72	C872	14 1/2	9.000	9.250	B3	1	1 13/16	3	1	11.7
76	C876	14 1/2	9.500	9.750	B3	1	1 13/16	3	1	12.0
80	C880	14 1/2	10.000	10.250	B3	1 1/8	1 13/16	3	1 1/8	12.2
84	C884	14 1/2	10.500	10.750	B3	1 1/8	1 13/16	3	1 1/8	13.2
88	C888	14 1/2	11.000	11.250	B3	1 1/8	1 13/16	3	1 1/8	13.5
92	C892	14 1/2	11.500	11.750	B3	1 1/8	2 1/16	3 1/4	1 1/8	15.0
96	C896	14 1/2	12.000	12.250	B3	1 1/8	2 1/16	3 1/4	1 1/8	15.8
100	C8100	14 1/2	12.500	12.750	B3	1 1/8	2 1/16	3 1/4	1 1/8	16.5
112	C8112	14 1/2	14.000	14.250	B3	1 1/8	2 1/16	3 1/4	1 1/8	17.7
120	C8120	14 1/2	15.000	15.250	B3	1 1/8	2 1/16	3 1/4	1 1/8	18.4
128	C8128	14 1/2	16.000	16.250	B3	1 1/8	2 3/16	3 1/2	1 1/8	21.3
144	C8144	14 1/2	18.000	18.250	B3	1 1/8	2 3/16	3 1/2	1 1/8	24.2
160	C8160	14 1/2	20.000	20.250	B3	1 1/8	2 5/16	3 3/4	1 1/4	26.6
168	C8168	14 1/2	21.000	21.250	B3	1 1/8	2 5/16	3 3/4	1 1/4	28.9

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Keyway		Diameter	Projection	
11	S811BS 3/4	14 1/2	1.500	1.750	B	3/4	3/16 × 3/32	(1) 10-24 @ 90	1 1/8	3/4	0.50
12	S812BS 3/4	14 1/2	1.500	1.750	B	3/4	3/16 × 3/32	(1) 10-24 @ 90	1 1/8	3/4	0.50
14	S814BS 3/4	14 1/2	1.750	2.000	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 3/8	3/4	0.90
15	S815BS 7/8	14 1/2	1.875	2.125	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 1/2	3/4	1.00
16	S816BS 7/8	14 1/2	2.000	2.250	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 5/8	3/4	1.10
16	S816BS 1	14 1/2	2.000	2.250	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 5/8	3/4	1.10
18	S818BS 7/8	14 1/2	2.250	2.500	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 7/8	3/4	1.60
18	S818BS 1	14 1/2	2.250	2.500	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 7/8	3/4	1.60
18	S818BS 1-1/8	14 1/2	2.250	2.500	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	1 7/8	3/4	1.60
20	S820BS 7/8	14 1/2	2.500	2.750	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	2 1/8	3/4	2.00
20	S820BS 1	14 1/2	2.500	2.750	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 1/8	3/4	2.00
20	S820BS 1-1/8	14 1/2	2.500	2.750	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	2 1/8	3/4	2.00
22	S822BS 7/8	14 1/2	2.750	3.000	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	2 3/8	3/4	2.60
22	S822BS 1	14 1/2	2.750	3.000	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 3/8	3/4	2.60
22	S822BS 1-1/8	14 1/2	2.750	3.000	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	2 3/8	3/4	2.60

14½° P.A. gears will not operate with 20° P.A.

• Consult Factory.

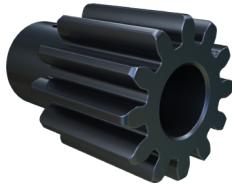
* Recommended maximum bore with keyway and setscrew.

10 DP

1" Face

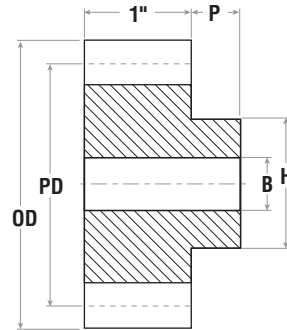
Steel Stock Spur Gears

14½° Pressure Angle



Type B

Plain with hubs



Type B

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	S1011	14 1/2	1.200 †	1.400	B	5/8	**	15/16	5/8	0.3
12	S1012	14 1/2	1.200	1.400	B	5/8	**	15/16	5/8	0.3
13	S1013	14 1/2	1.300	1.500	B	5/8	**	1	5/8	0.3
14	S1014	14 1/2	1.400	1.600	B	5/8	5/8	1 1/8	5/8	0.4
15	S1015	14 1/2	1.500	1.700	B	3/4	3/4	1 7/32	5/8	0.5
16	S1016	14 1/2	1.600	1.800	B	3/4	3/4	1 5/16	5/8	0.6
17	S1017	14 1/2	1.700	1.900	B	3/4	13/16	1 3/8	5/8	0.6
18	S1018	14 1/2	1.800	2.000	B	3/4	7/8	1 17/32	5/8	0.8
19	S1019	14 1/2	1.900	2.100	B	3/4	7/8	1 9/16	5/8	0.9
20	S1020	14 1/2	2.000	2.200	B	3/4	1	1 23/32	5/8	1.0
21	S1021	14 1/2	2.100	2.300	B	3/4	1	1 3/4	5/8	1.2
22	S1022	14 1/2	2.200	2.400	B	3/4	1 1/8	1 7/8	5/8	1.3
24	S1024	14 1/2	2.400	2.600	B	3/4	1 1/4	2 1/8	5/8	1.6
25	S1025	14 1/2	2.500	2.700	B	3/4	1 1/2	2 7/32	5/8	1.8
26	S1026	14 1/2	2.600	2.800	B	3/4	1 1/4	2 1/8	5/8	1.9
28	S1028	14 1/2	2.800	3.000	B	3/4	1 1/4	2 1/8	7/8	2.3
30	S1030	14 1/2	3.000	3.200	B	3/4	1 1/4	2 1/8	7/8	2.6
32	S1032	14 1/2	3.200	3.400	B	3/4	1 1/4	2 1/8	7/8	2.9
35	S1035	14 1/2	3.500	3.700	B	3/4	1 5/16	2 1/4	7/8	3.4
36	S1036	14 1/2	3.600	3.800	B	3/4	1 5/16	2 1/4	7/8	3.5
38	S1038	14 1/2	3.800	4.000	B	3/4	1 5/16	2 1/4	7/8	3.8
40	S1040	14 1/2	4.000	4.200	B	7/8	1 5/16	2 1/4	7/8	4.1
42	S1042	14 1/2	4.200	4.400	B	7/8	1 5/16	2 1/4	7/8	4.5
45	S1045	14 1/2	4.500	4.700	B	7/8	1 1/2	2 1/2	7/8	5.3
48	S1048	14 1/2	4.800	5.000	B	7/8	1 1/2	2 1/2	7/8	5.9
50	S1050	14 1/2	5.000	5.200	B	7/8	1 1/2	2 1/2	7/8	6.4
54	S1054	14 1/2	5.400	5.600	B	7/8	1 1/2	2 1/2	7/8	7.8
55	S1055	14 1/2	5.500	5.700	B	7/8	1 1/2	2 1/2	7/8	7.9
60	S1060	14 1/2	6.000	6.200	B	7/8	1 1/2	2 1/2	7/8	8.7

* Recommended maximum bore with keyway and setscrew.
† Enlarged pitch diameter with special tooth form.

** Check application with factory.

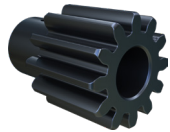
14½° P.A. gears will not operate with 20° P.A.



Cast Iron Stock Spur Gears

14½° Pressure Angle

10 DP 1" Face



Type B
Plain with hubs



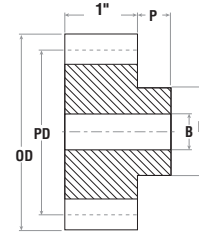
Type B₁
Web



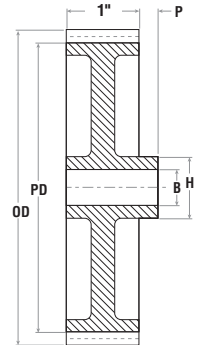
Type B₂
Web with
lighten holes



Type B₃
Spoke style



Type B



Type B₁, B₂, B₃

Cast — Style B

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
• 60	C1060	14 1/2	6.000	6.200	B3	7/8	1 3/16	2 1/8	7/8	4.3
64	C1064	14 1/2	6.400	6.600	B3	7/8	1 7/16	2 1/2	7/8	5.6
65	C1065	14 1/2	6.500	6.700	B3	7/8	1 7/16	2 1/2	7/8	5.6
70	C1070	14 1/2	7.000	7.200	B3	7/8	1 7/16	2 1/2	7/8	5.9
72	C1072	14 1/2	7.200	7.500	B3	7/8	1 7/16	2 1/2	7/8	6.3
75	C1075	14 1/2	7.500	7.700	B3	7/8	1 7/16	2 1/2	7/8	6.7
80	C1080	14 1/2	8.000	8.200	B3	7/8	1 7/16	2 1/2	7/8	7.0
84	C1084	14 1/2	8.400	8.600	B3	7/8	1 7/16	2 1/2	7/8	6.9
85	C1085	14 1/2	8.500	8.700	B3	7/8	1 7/16	2 1/2	7/8	7.3
90	C1090	14 1/2	9.000	9.200	B3	7/8	1 7/16	2 1/2	7/8	7.6
95	C1095	14 1/2	9.500	9.700	B3	7/8	1 7/16	2 1/2	7/8	8.1
96	C1096	14 1/2	9.600	9.800	B3	7/8	1 7/16	2 1/2	7/8	8.1
100	C10100	14 1/2	10.000	10.200	B3	1	1 7/16	2 1/2	7/8	10.3
105	C10105	14 1/2	10.500	10.700	B3	1	1 7/16	2 1/2	1	10.4
110	C10110	14 1/2	11.000	11.200	B3	1	1 11/16	2 3/4	1	10.0
112	C10112	14 1/2	11.200	11.400	B3	1	1 11/16	2 3/4	1	10.2
120	C10120	14 1/2	12.000	12.200	B3	1	1 11/16	2 3/4	1	11.1
130	C10130	14 1/2	13.000	13.200	B3	1	1 11/16	2 3/4	1	13.4
140	C10140	14 1/2	14.000	14.200	B1	1	1 11/16	2 3/4	1	30.8
150	C10150	14 1/2	15.000	15.200	B1	1	1 11/16	2 3/4	1	33.0
160	C10160	14 1/2	16.000	16.200	B1	1	1 11/16	2 3/4	1	38.3
180	C10180	14 1/2	18.000	18.200	B3	1	1 13/16	3	1	43.6

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Keyway		Diameter	Projection	
11	S1011BS 5/8	14 1/2	1.200	1.400	B	5/8	3/16 × 3/32	(1) 10-24 @ 90	15/16	5/8	0.30
12	S1012BS 5/8	14 1/2	1.200	1.400	B	5/8	3/16 × 3/32	(1) 10-24 @ 90	15/16	5/8	0.30
14	S1014BS 5/8	14 1/2	1.400	1.600	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 1/8	5/8	0.40
15	S1015BS 3/4	14 1/2	1.500	1.700	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 7/32	5/8	0.50
16	S1016BS 3/4	14 1/2	1.600	1.800	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 5/16	5/8	0.60
18	S1018BS 3/4	14 1/2	1.800	2.000	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 17/32	5/8	0.80
18	S1018BS 7/8	14 1/2	1.800	2.000	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 17/32	5/8	0.80
20	S1020BS 3/4	14 1/2	2.000	2.200	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 23/32	5/8	1.00
20	S1020BS 7/8	14 1/2	2.000	2.200	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 23/32	5/8	1.00
20	S1020BS 1	14 1/2	2.000	2.200	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 23/32	5/8	1.00
24	S1024BS 3/4	14 1/2	2.400	2.600	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	2 1/8	5/8	1.60
24	S1024BS 7/8	14 1/2	2.400	2.600	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	2 1/8	5/8	1.60
24	S1024BS 1	14 1/2	2.400	2.600	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 3/8	5/8	1.60

14½° P.A. gears will not operate with 20° P.A.

* Consult Factory.

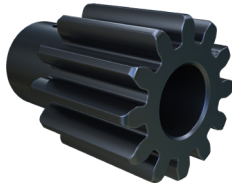
* Recommended maximum bore with keyway and setscrew.

12 DP

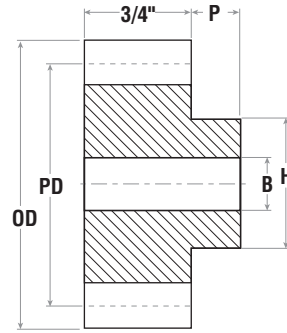
3/4" Face

Steel Stock Spur Gears

14½° Pressure Angle



Type B
Plain with hubs



Type B

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	S1211	14 1/2	1.000 †	1.167	B	1/2	**	3/4	1/2	0.14
12	S1212	14 1/2	1.000	1.167	B	1/2	**	3/4	1/2	0.16
13	S1213	14 1/2	1.083	1.250	B	1/2	**	13/16	1/2	0.20
14	S1214	14 1/2	1.167	1.333	B	1/2	**	29/32	1/2	0.24
15	S1215	14 1/2	1.250	1.417	B	5/8	**	1	1/2	0.27
16	S1216	14 1/2	1.333	1.500	B	5/8	5/8	1 1/16	1/2	0.34
17	S1217	14 1/2	1.417	1.580	B	5/8	5/8	1 1/8	1/2	0.36
18	S1218	14 1/2	1.500	1.667	B	5/8	11/16	1 1/4	1/2	0.42
19	S1219	14 1/2	1.583	1.750	B	5/8	3/4	1 5/16	1/2	0.48
20	S1220	14 1/2	1.667	1.833	B	5/8	13/16	1 13/32	1/2	0.56
21	S1221	14 1/2	1.750	1.917	B	5/8	7/8	1 1/2	1/2	0.64
22	S1222	14 1/2	1.833	2.000	B	5/8	7/8	1 9/16	1/2	0.70
23	S1223	14 1/2	1.917	2.083	B	5/8	15/16	1 5/8	1/2	0.78
24	S1224	14 1/2	2.000	2.166	B	5/8	1	1 3/4	1/2	0.88
25	S1225	14 1/2	2.083	2.250	B	5/8	1 1/16	1 27/32	1/2	0.96
26	S1226	14 1/2	2.167	2.333	B	5/8	1 3/16	1 15/16	5/8	1.14
28	S1228	14 1/2	2.333	2.500	B	5/8	1 1/2	2 1/16	5/8	1.34
30	S1230	14 1/2	2.500	2.667	B	5/8	1 5/16	2 1/4	5/8	1.60
32	S1232	14 1/2	2.667	2.833	B	5/8	1 5/16	2 1/4	5/8	1.72
34	S1234	14 1/2	2.833	3.000	B	5/8	1 5/16	2 1/4	5/8	1.88
36	S1236	14 1/2	3.000	3.167	B	5/8	1 1/2	2 1/2	5/8	2.20
38	S1238	14 1/2	3.167	3.333	B	5/8	1 1/2	2 1/2	5/8	2.38
40	S1240	14 1/2	3.333	3.500	B	5/8	1 1/2	2 1/2	5/8	2.54
42	S1242	14 1/2	3.500	3.666	B	5/8	1 1/2	2 1/2	5/8	2.72
44	S1244	14 1/2	3.667	3.833	B	5/8	1 1/2	2 1/2	5/8	2.94
48	S1248	14 1/2	4.000	4.166	B	5/8	1 1/2	2 1/2	3/4	3.50
54	S1254	14 1/2	4.500	4.666	B	3/4	1 3/4	2 3/4	3/4	4.40
56	S1256	14 1/2	4.667	4.833	B	3/4	1 3/4	2 3/4	3/4	4.60
60	S1260	14 1/2	5.000	5.166	B	3/4	1 3/4	2 3/4	3/4	5.14
64	S1264	14 1/2	5.333	5.500	B	3/4	1 3/4	2 3/4	3/4	5.74
66	S1266	14 1/2	5.500	5.666	B	3/4	1 3/4	2 3/4	3/4	6.02
72	S1272	14 1/2	6.000	6.166	B	3/4	1 3/4	2 3/4	3/4	7.02

* Recommended maximum bore with keyway and setscrew.
† Enlarged pitch diameter with special tooth form.

** Check application with factory.

14½° P.A. gears will not operate with 20° P.A.



Cast Iron Stock Spur Gears

14½° Pressure Angle

12 DP

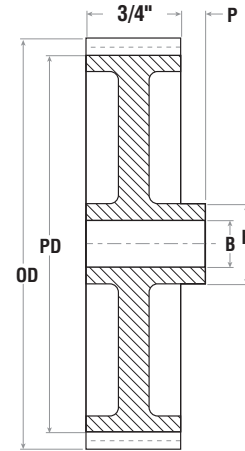
¾" Face



Type B₁
Web



Type B₃
Spoke style



Type B₁, B₃

Cast — Style B

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
78	C1278	14 1/2	6.500	6.666	B3	3/4	1 7/16	2 1/2	3/4	4.1
84	C1284	14 1/2	7.000	7.166	B3	3/4	1 7/16	2 1/2	3/4	4.4
90	C1290	14 1/2	7.500	7.666	B3	3/4	1 11/16	2 3/4	3/4	5.2
96	C1296	14 1/2	8.000	8.166	B3	3/4	1 11/16	2 3/4	3/4	5.5
102	C12102	14 1/2	8.500	8.666	B3	3/4	1 11/16	2 3/4	3/4	5.9
108	C12108	14 1/2	9.000	9.166	B3	3/4	1 11/16	2 3/4	3/4	6.4
112	C12112	14 1/2	9.333	9.500	B3	3/4	1 11/16	2 3/4	3/4	6.4
114	C12114	14 1/2	9.500	9.666	B3	3/4	1 11/16	2 3/4	3/4	6.4
120	C12120	14 1/2	10.000	10.166	B3	7/8	1 11/16	2 3/4	3/4	8.1
126	C12126	14 1/2	10.500	10.666	B3	7/8	1 13/16	3	3/4	7.4
144	C12144	14 1/2	12.000	12.166	B3	7/8	1 13/16	3	1	10.1
168	C12168	14 1/2	14.000	14.166	B1	7/8	1 13/16	3	1	10.6

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Keyway		Diameter	Projection	
11	S1211BS 1/2	14 1/2	1.000	1.167	B	1/2	NONE	(1) 10-24	3/4	1/2	0.14
12	S1212BS 1/2	14 1/2	1.000	1.167	B	1/2	NONE	(1) 10-24	3/4	1/2	0.16
13	S1213BS 1/2	14 1/2	1.083	1.250	B	1/2	NONE	(1) 10-24	13/16	1/2	0.20
14	S1214BS 1/2	14 1/2	1.167	1.333	B	1/2	NONE	(1) 10-24	29/32	5/8	0.24
15	S1215BS 5/8	14 1/2	1.250	1.417	B	5/8	3/16 × 3/32	(1) 10-24 @ 90	1	1/2	0.27
16	S1216BS 5/8	14 1/2	1.333	1.500	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 1/16	1/2	0.34
18	S1218BS 5/8	14 1/2	1.500	1.667	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 1/4	1/2	0.42
20	S1220BS 5/8	14 1/2	1.667	1.833	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 13/32	1/2	0.56
20	S1220BS 3/4	14 1/2	1.667	1.833	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 13/32	1/2	0.56
21	S1221BS 5/8	14 1/2	1.750	1.917	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 13/32	1/2	0.56
21	S1221BS 3/4	14 1/2	1.750	1.917	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 13/32	1/2	0.56
21	S1221BS 7/8	14 1/2	1.750	1.917	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 13/32	1/2	0.56
22	S1222BS 5/8	14 1/2	1.833	2.000	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 9/16	1/2	0.70
22	S1222BS 3/4	14 1/2	1.833	2.000	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 9/16	1/2	0.70
22	S1222BS 7/8	14 1/2	1.833	2.000	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 9/16	1/2	0.70
22	S1222BS 1	14 1/2	1.833	2.000	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 9/16	1/2	0.70
24	S1224BS 5/8	14 1/2	2.000	2.167	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 3/4	1/2	0.88
24	S1224BS 3/4	14 1/2	2.000	2.167	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 3/4	1/2	0.88
24	S1224BS 7/8	14 1/2	2.000	2.167	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 3/4	1/2	0.88
24	S1224BS 1	14 1/2	2.000	2.167	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 3/4	1/2	0.88

14½° P.A. gears will not operate with 20° P.A.

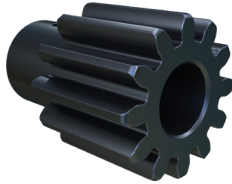
* Recommended maximum bore with keyway and setscrew.

16 DP

1/2" Face

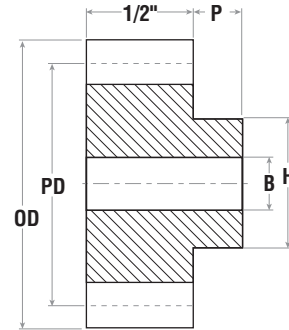
Steel Stock Spur Gears

14½° Pressure Angle



Type B

Plain with hubs



Type B

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	S1611	14 1/2	0.750†	0.875	B	3/8	**	9/16	7/16	0.06
12	S1612	14 1/2	0.750	0.875	B	3/8	**	9/16	7/16	0.06
13	S1613	14 1/2	0.812	0.937	B	3/8	**	5/8	7/16	0.08
14	S1614	14 1/2	0.875	1.000	B	3/8	**	11/16	7/16	0.08
15	S1615	14 1/2	0.937	1.062	B	1/2	**	3/4	7/16	0.10
16	S1616	14 1/2	1.000	1.125	B	1/2	**	13/16	7/16	0.12
17	S1617	14 1/2	1.062	1.187	B	1/2	**	7/8	7/16	0.14
18	S1618	14 1/2	1.125	1.250	B	1/2	**	15/16	7/16	0.16
19	S1619	14 1/2	1.187	1.312	B	1/2	1/2	1	7/16	0.20
20	S1620	14 1/2	1.250	1.375	B	1/2	9/16	1 1/16	7/16	0.22
21	S1621	14 1/2	1.312	1.438	B	1/2	5/8	1 1/8	7/16	0.24
22	S1622	14 1/2	1.375	1.500	B	1/2	5/8	1 3/16	7/16	0.28
23	S1623	14 1/2	1.437	1.562	B	1/2	11/16	1 1/4	7/16	0.32
24	S1624	14 1/2	1.500	1.625	B	1/2	3/4	1 5/16	7/16	0.34
26	S1626	14 1/2	1.625	1.750	B	1/2	7/8	1 7/16	7/16	0.42
28	S1628	14 1/2	1.750	1.875	B	1/2	7/8	1 1/2	1/2	0.52
30	S1630	14 1/2	1.875	2.000	B	1/2	15/16	1 5/8	1/2	0.60
32	S1632	14 1/2	2.000	2.125	B	1/2	1	1 3/4	1/2	0.70
34	S1634	14 1/2	2.125	2.250	B	1/2	1 1/8	1 7/8	1/2	0.80
36	S1636	14 1/2	2.250	2.375	B	1/2	1 1/4	2	1/2	0.92
38	S1638	14 1/2	2.375	2.500	B	1/2	1 1/4	2	1/2	0.98
40	S1640	14 1/2	2.500	2.626	B	1/2	1 1/4	2	1/2	1.10
44	S1644	14 1/2	2.750	2.875	B	1/2	1 1/4	2	1/2	1.20
48	S1648	14 1/2	3.000	3.125	B	1/2	1 1/4	2	1/2	1.40
52	S1652	14 1/2	3.250	3.375	B	1/2	1 1/4	2	1/2	1.50
54	S1654	14 1/2	3.375	3.500	B	1/2	1 1/4	2	1/2	1.60
56	S1656	14 1/2	3.500	3.625	B	1/2	1 1/4	2	1/2	1.70
60	S1660	14 1/2	3.750	3.875	B	1/2	1 1/4	2	1/2	1.30
64	S1664	14 1/2	4.000	4.125	B	5/8	1 1/4	2	5/8	2.20
68	S1668	14 1/2	4.250	4.375	B	5/8	1 5/16	2 1/4	5/8	2.50
72	S1672	14 1/2	4.500	4.625	B	5/8	1 5/16	2 1/4	5/8	2.80
80	S1680	14 1/2	5.000	5.125	B	5/8	1 5/16	2 1/4	5/8	3.40
84	S1684	14 1/2	5.250	5.375	B	5/8	1 5/16	2 1/4	5/8	3.60
88	S1688	14 1/2	5.500	5.625	B	5/8	1 5/16	2 1/4	5/8	3.90
96	S1696	14 1/2	6.000	6.125	B	5/8	1 5/16	2 1/4	5/8	4.60
104	S16104	14 1/2	6.500	6.625	B	5/8	1 5/16	2 1/4	5/8	5.20

* Recommended maximum bore with keyway and setscrew.

** Check application with factory.

14½° P.A. gears will not operate with 20° P.A.

† Enlarged pitch diameter with special tooth form.



Cast Iron Stock Spur Gears

14½° Pressure Angle

16 DP

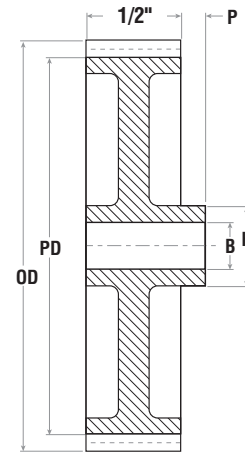
½" Face



Type B₁
Web



Type B₃
Spoke style



Type B₁, B₃

Cast — Style B

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
112	C16112	14 1/2	7.000	7.125	B3	5/8	1 7/16	2 1/2	5/8	3.4
120	C16120	14 1/2	7.500	7.625	B3	5/8	1 7/16	2 1/2	5/8	3.5
128	C16128	14 1/2	8.000	8.125	B3	5/8	1 7/16	2 1/2	5/8	3.7
144	C16144	14 1/2	9.000	9.125	B3	5/8	1 11/16	2 3/4	3/4	5.0
160	C16160	14 1/2	10.000	10.125	B3	5/8	1 11/16	2 3/4	3/4	5.2
192	C16192	14 1/2	12.000	12.125	B1	5/8	1 11/16	2 3/4	3/4	8.1

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Keyway		Diameter	Projection	
11	S1611BS 3/8	14 1/2	0.750	0.875	B	3/8	None	(1) 8-32	9/16	7/16	0.06
12	S1612BS 3/8	14 1/2	0.752	0.875	B	3/8	None	(1) 8-32	9/16	7/16	0.06
13	S1613BS 3/8	14 1/2	0.812	0.937	B	3/8	None	(1) 8-32	5/8	7/16	0.08
14	S1614BS 3/8	14 1/2	0.875	1.000	B	3/8	None	(1) 10-24	11/16	7/16	0.08
15	S1615BS 1/2	14 1/2	0.937	1.062	B	1/2	None	(1) 10-24	3/4	7/16	0.10
16	S1616BS 1/2	14 1/2	1.000	1.125	B	1/2	None	(1) 10-24	13/16	7/16	0.12
18	S1618BS 1/2	14 1/2	1.125	1.250	B	1/2	None	(1) 1/4-20	15/16	7/16	0.16
20	S1620BS 1/2	14 1/2	1.250	1.375	B	1/2	None	(1) 1/4-20	1 1/16	7/16	0.22
20	S1620BS 5/8	14 1/2	1.250	1.375	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 1/16	7/16	0.22
22	S1622BS 1/2	14 1/2	1.375	1.500	B	1/2	None	(1) 1/4-20	1 3/16	7/16	0.28
22	S1622BS 5/8	14 1/2	1.375	1.500	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 3/16	7/16	0.28
24	S1624BS 1/2	14 1/2	1.500	1.625	B	1/2	None	(1) 1/4-20	1 5/16	7/16	0.34
24	S1624BS 5/8	14 1/2	1.500	1.625	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 5/16	7/16	0.34
24	S1624BS 3/4	14 1/2	1.500	1.625	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 5/16	7/16	0.34
26	S1626BS 1/2	14 1/2	1.625	1.750	B	1/2	None	(1) 1/4-20	1 7/16	7/16	0.42
26	S1626BS 5/8	14 1/2	1.625	1.750	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 7/16	7/16	0.42
26	S1626BS 3/4	14 1/2	1.625	1.750	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 7/16	7/16	0.42
28	S1628BS 1/2	14 1/2	1.750	1.875	B	1/2	None	(1) 1/4-20	1 1/2	1/2	0.52
28	S1628BS 5/8	14 1/2	1.750	1.875	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 1/2	1/2	0.52
28	S1628BS 3/4	14 1/2	1.750	1.875	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 1/2	1/2	0.52
28	S1628BS 7/8	14 1/2	1.750	1.875	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 1/2	1/2	0.52
30	S1630BS 1/2	14 1/2	1.875	2.000	B	1/2	None	(1) 1/4-20	1 5/8	1/2	0.60
30	S1630BS 5/8	14 1/2	1.875	2.000	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 5/8	1/2	0.60
30	S1630BS 3/4	14 1/2	1.875	2.000	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 5/8	1/2	0.60
30	S1630BS 7/8	14 1/2	1.875	2.000	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 5/8	1/2	0.60
30	S1630BS 1	14 1/2	1.875	2.000	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 5/8	1/2	0.60
32	S1632BS 1/2	14 1/2	2.000	2.125	B	1/2	None	(1) 1/4-20	1 3/4	1/2	0.70
32	S1632BS 5/8	14 1/2	2.000	2.125	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 3/4	1/2	0.70
32	S1632BS 3/4	14 1/2	2.000	2.125	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 3/4	1/2	0.70
32	S1632BS 7/8	14 1/2	2.000	2.125	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 3/4	1/2	0.70
32	S1632BS 1	14 1/2	2.000	2.125	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 3/4	1/2	0.70

14½° P.A. gears will not operate with 20° P.A.

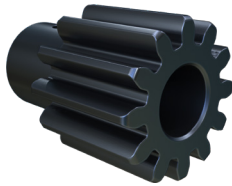
* Recommended maximum bore with keyway and setscrew.

20 DP

3/8" Face

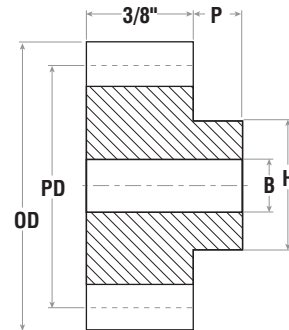
Steel Stock Spur Gears

14½° Pressure Angle



Type B

Plain with hubs



Type B

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	S2011	14 1/2	0.600 †	0.700	B	5/16	**	15/32	3/8	0.02
12	S2012	14 1/2	0.600	0.700	B	5/16	**	15/32	3/8	0.02
13	S2013	14 1/2	0.650	0.750	B	5/16	**	1/2	3/8	0.04
14	S2014	14 1/2	0.700	0.800	B	5/16	**	35/64	3/8	0.04
15	S2015	14 1/2	0.750	0.850	B	3/8	**	39/64	3/8	0.04
16	S2016	14 1/2	0.800	0.900	B	3/8	**	21/32	3/8	0.04
17	S2017	14 1/2	0.850	0.950	B	3/8	**	45/64	3/8	0.08
18	S2018	14 1/2	0.900	1.000	B	3/8	**	3/4	3/8	0.08
19	S2019	14 1/2	0.950	1.050	B	3/8	**	51/64	3/8	0.10
20	S2020	14 1/2	1.000	1.100	B	3/8	**	55/64	3/8	0.12
21	S2021	14 1/2	1.050	1.150	B	3/8	**	7/8	3/8	0.12
22	S2022	14 1/2	1.100	1.200	B	3/8	**	31/32	3/8	0.14
23	S2023	14 1/2	1.150	1.250	B	3/8	**	31/32	3/8	0.16
24	S2024	14 1/2	1.200	1.300	B	3/8	9/16	1 1/16	3/8	0.19
25	S2025	14 1/2	1.250	1.350	B	3/8	5/8	1 7/64	3/8	0.20
28	S2028	14 1/2	1.400	1.500	B	3/8	11/16	1 17/64	3/8	0.26
30	S2030	14 1/2	1.500	1.600	B	3/8	13/16	1 23/64	3/8	0.30
32	S2032	14 1/2	1.600	1.700	B	3/8	7/8	1 7/16	1/2	0.40
35	S2035	14 1/2	1.750	1.850	B	3/8	7/8	1 9/16	1/2	0.50
36	S2036	14 1/2	1.800	1.900	B	3/8	15/16	1 5/8	1/2	0.52
40	S2040	14 1/2	2.000	2.100	B	3/8	1 1/16	1 13/16	1/2	0.64
45	S2045	14 1/2	2.250	2.350	B	3/8	1 1/4	2	1/2	0.82
48	S2048	14 1/2	2.400	2.500	B	3/8	1 1/4	2	1/2	0.88
50	S2050	14 1/2	2.500	2.600	B	3/8	1 1/4	2	1/2	0.90
55	S2055	14 1/2	2.750	2.850	B	3/8	1 1/4	2	1/2	1.04
60	S2060	14 1/2	3.000	3.100	B	3/8	1 1/4	2	1/2	1.16
64	S2064	14 1/2	3.200	3.300	B	3/8	1 1/4	2	1/2	1.26
70	S2070	14 1/2	3.500	3.600	B	3/8	1 1/4	2	1/2	1.40
72	S2072	14 1/2	3.600	3.700	B	3/8	1 5/16	2 1/4	1/2	1.60
75	S2075	14 1/2	3.750	3.850	B	3/8	1 5/16	2 1/4	1/2	1.70
80	S2080	14 1/2	4.000	4.100	B	1/2	1 5/16	2 1/4	1/2	1.82
84	S2084	14 1/2	4.200	4.300	B	1/2	1 5/16	2 1/4	1/2	1.96
90	S2090	14 1/2	4.500	4.600	B	1/2	1 5/16	2 1/4	1/2	2.20
96	S2096	14 1/2	4.800	4.900	B	1/2	1 5/16	2 1/4	1/2	2.42
100	S20100	14 1/2	5.000	5.100	B	1/2	1 5/16	2 1/4	1/2	2.60
112	S20112	14 1/2	5.600	5.700	B	1/2	1	1 3/4	1/2	2.86
120	S20120	14 1/2	6.000	6.100	B1	1/2	1	1 3/4	1/2	3.24
132	S20132	14 1/2	6.600	6.700	B	1/2	1	1 3/4	1/2	3.80

* Recommended maximum bore with keyway and setscrew.
† Enlarged pitch diameter with special tooth form.

** Check application with factory.

14½° P.A. gears will not operate with 20° P.A.



Cast Iron Stock Spur Gears

14½° Pressure Angle

20 DP

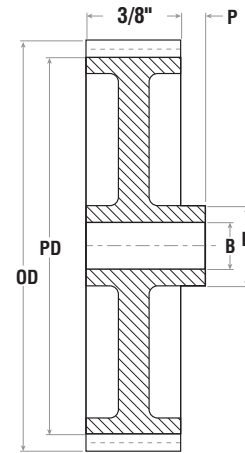
3/8" Face



Type B₁
Web



Type B₃
Spoke style



Type B₁, B₃

Cast — Style B

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
• 48	C2048	14 1/2	2.400	2.500	B1	3/8	9/16	1 1/8	1/2	0.50
• 64	C2064	14 1/2	3.200	3.300	B1	3/8	9/16	1 1/8	1/2	0.68
140	C20140	14 1/2	7.000	7.100	B1	1/2	1	1 3/4	1/2	2.00
160	C20160	14 1/2	8.000	8.100	B1	1/2	1	1 3/4	5/8	2.34
180	C20180	14 1/2	9.000	9.100	B1	1/2	1	1 3/4	5/8	2.66
200	C20200	14 1/2	10.000	10.100	B1	1/2	1	1 3/4	5/8	2.84

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Keyway		Diameter	Projection	
11	S2011BS 5/16	14 1/2	0.600	0.700	B	5/16	None	#35 P.H.	15/32	3/8	0.02
12	S2012BS 5/16	14 1/2	0.600	0.700	B	5/16	None	#35 P.H.	15/32	3/8	0.02
13	S2013BS 5/16	14 1/2	0.650	0.750	B	5/16	None	#35 P.H.	1/2	3/8	0.04
14	S2014BS 5/16	14 1/2	0.700	0.800	B	5/16	None	#35 P.H.	35/64	3/8	0.04
15	S2015BS 3/8	14 1/2	0.750	0.850	B	3/8	None	(1) 8-32	39/64	3/8	0.04
16	S2016BS 3/8	14 1/2	1.800	0.900	B	3/8	None	(1) 8-32	21/32	3/8	0.04
18	S2018BS 3/8	14 1/2	1.900	1.000	B	3/8	None	(1) 10-24	3/4	3/8	0.08
20	S2020BS 3/8	14 1/2	1.000	1.100	B	3/8	None	(1) 10-24	55/64	3/8	0.12
20	S2020BS 1/2	14 1/2	1.000	1.100	B	1/2	None	(1) 10-24	55/64	3/8	0.12
22	S2022BS 3/8	14 1/2	1.100	1.200	B	3/8	None	(1) 1/4-20	31/32	3/8	0.14
22	S2022BS 1/2	14 1/2	1.100	1.200	B	1/2	None	(1) 1/4-20	31/32	3/8	0.14
24	S2024BS 3/8	14 1/2	1.200	1.300	B	3/8	None	(1) 1/4-20	1 1/16	3/8	0.19
24	S2024BS 1/2	14 1/2	1.200	1.300	B	1/2	None	(1) 1/4-20	1 1/16	3/8	0.19
25	S2025BS 3/8	14 1/2	1.250	1.350	B	3/8	None	(1) 1/4-20	1 7/64	3/8	0.20
25	S2025BS 1/2	14 1/2	1.250	1.350	B	1/2	None	(1) 1/4-20	1 7/64	3/8	0.20
28	S2028BS 3/8	14 1/2	1.400	1.500	B	3/8	None	(1) 1/4-20	1 17/64	3/8	0.26
28	S2028BS 1/2	14 1/2	1.400	1.500	B	1/2	None	(1) 1/4-20	1 17/64	3/8	0.26
30	S2030BS 3/8	14 1/2	1.500	1.600	B	3/8	None	(1) 1/4-20	1 23/64	3/8	0.30
30	S2030BS 1/2	14 1/2	1.500	1.600	B	1/2	None	(1) 1/4-20	1 23/64	3/8	0.30
32	S2032BS 3/8	14 1/2	1.600	1.700	B	3/8	None	(1) 1/4-20	1 7/16	1/2	0.40
32	S2032BS 1/2	14 1/2	1.600	1.700	B	1/2	None	(1) 1/4-20	1 7/16	1/2	0.40
35	S2035BS 3/8	14 1/2	1.750	1.850	B	3/8	None	(1) 1/4-20	1 9/16	1/2	0.50
35	S2035BS 1/2	14 1/2	1.750	1.850	B	1/2	None	(1) 1/4-20	1 9/16	1/2	0.50
36	S2036BS 3/8	14 1/2	1.800	1.900	B	3/8	None	(1) 1/4-20	1 5/8	1/2	0.52
36	S2036BS 1/2	14 1/2	1.800	1.900	B	1/2	None	(1) 1/4-20	1 5/8	1/2	0.52
40	S2040BS 3/8	14 1/2	2.000	2.100	B	3/8	None	(1) 1/4-20	1 13/16	1/2	0.64
40	S2040BS 1/2	14 1/2	2.000	2.100	B	1/2	None	(1) 1/4-20	1 13/16	1/2	0.64
40	S2040BS 5/8	14 1/2	2.000	2.100	B	5/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 13/16	1/2	0.64
40	S2040BS 3/4	14 1/2	2.000	2.100	B	3/4	3/16 x 3/32	(1) 1/4-20 @ 90	1 13/16	1/2	0.64

14½° P.A. gears will not operate with 20° P.A.

* Consult Factory.

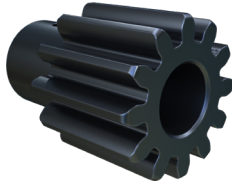
* Recommended maximum bore with keyway and setscrew.

24 DP

1/4" Face

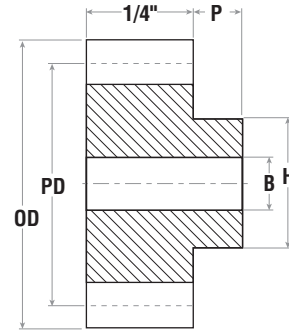
Steel Stock Spur Gears

14½° Pressure Angle



Type B

Plain with hubs



Type B

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	S2411	14 1/2	0.500 †	0.583	B	1/4	**	3/8	5/16	0.02
12	S2412	14 1/2	0.500	0.583	B	1/4	**	3/8	5/16	0.02
14	S2414	14 1/2	0.583	0.666	B	1/4	**	15/32	5/16	0.04
15	S2415	14 1/2	0.625	0.708	B	1/4	**	1/2	5/16	0.04
16	S2416	14 1/2	0.666	0.750	B	5/16	**	35/64	5/16	0.04
17	S2417	14 1/2	0.709	0.791	B	5/16	**	9/16	5/16	0.04
18	S2418	14 1/2	0.750	0.833	B	5/16	**	5/8	5/16	0.04
19	S2419	14 1/2	0.791	0.875	B	5/16	**	5/8	5/16	0.06
20	S2420	14 1/2	0.833	0.917	B	5/16	**	23/32	5/16	0.06
21	S2421	14 1/2	0.875	0.959	B	3/8	**	3/4	5/16	0.06
22	S2422	14 1/2	0.917	1.000	B	3/8	**	3/4	5/16	0.06
24	S2424	14 1/2	1.000	1.083	B	3/8	**	7/8	3/8	0.10
26	S2426	14 1/2	1.083	1.166	B	3/8	**	7/8	3/8	0.10
27	S2427	14 1/2	1.125	1.208	B	3/8	**	7/8	3/8	0.12
30	S2430	14 1/2	1.250	1.333	B	3/8	1/2	1	3/8	0.16
32	S2432	14 1/2	1.333	1.416	B	3/8	1/2	1	3/8	0.20
33	S2433	14 1/2	1.375	1.458	B	3/8	5/8	1 1/8	3/8	0.20
36	S2436	14 1/2	1.500	1.583	B	3/8	5/8	1 1/8	3/8	0.20
40	S2440	14 1/2	1.666	1.750	B	3/8	5/8	1 1/8	3/8	0.24
42	S2442	14 1/2	1.750	1.833	B	3/8	11/16	1 1/4	3/8	0.28
44	S2444	14 1/2	1.833	1.917	B	3/8	11/16	1 1/4	3/8	0.30
45	S2445	14 1/2	1.875	1.959	B	3/8	11/16	1 1/4	3/8	0.30
48	S2448	14 1/2	2.000	2.083	B	3/8	11/16	1 1/4	3/8	0.32
54	S2454	14 1/2	2.250	2.333	B	3/8	11/16	1 1/4	3/8	0.38
56	S2456	14 1/2	2.333	2.416	B	3/8	11/16	1 1/4	3/8	0.40
60	S2460	14 1/2	2.500	2.583	B	3/8	11/16	1 1/4	3/8	0.46
66	S2466	14 1/2	2.750	2.833	B	3/8	11/16	1 1/4	3/8	0.52
72	S2472	14 1/2	3.000	3.083	B	1/2	13/16	1 3/8	1/2	0.64
84	S2484	14 1/2	3.500	3.583	B	1/2	7/8	1 1/2	1/2	0.88
96	S2496	14 1/2	4.000	4.083	B	1/2	7/8	1 1/2	1/2	1.08
120	S24120	14 1/2	5.000	5.083	B	1/2	7/8	1 1/2	1/2	2.60
144	S24144	14 1/2	6.000	6.083	B	1/2	15/16	1 5/8	17/32	2.28

* Recommended maximum bore with keyway and setscrew.
† Enlarged pitch diameter with special tooth form.

** Check application with factory.

14½° P.A. gears will not operate with 20° P.A.



14½° Spur Gear Horsepower Ratings

(S) = Steel (CI) = Cast Iron

3 D.P. — 3" Face

No. Teeth	50 RPM		100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
12	6.14		11.37		19.8		26.3		39.14		46.74		51.78			
15	8.76		15.96		27.06		35.24		50.49		59.01					
18	11.37		20.38		33.75		43.2		60		68.93					
21	13.92		24.59		39.84		50.24		67.96							
24	16.32	9.67	28.53	16.84	45.16	26.76	56.19	33.3	74.34	44.05						
48	32.28	19.5	51.3	30.98	72.69	43.9	84.44	51.39								
72	45.01	27.06	66.98	40.29	88.62	53.32										
96	54.74	32.95	77.57	46.7	98.01	59.01										
120	62.89	37.74	85.79	51.48	104.88	62.93										

4 D.P. — 2" Face

No. Teeth	50 RPM		100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
12	2.35		4.42		7.92		10.77		16.8		20.65		23.33		27	
16	3.81		6.85		11.92		15.82		23.6		28.18		31.23			
20	5.06		9.22		15.65		20.38		29.19		31.11					
24	6.27	3.77	11.25	6.75	18.64	11.19	23.86	14.32	33.14	19.88	38.17	22.84				
36	10.03	5.96	17.23	10.24	28.01	15.98	33.05	16.94	42.89	25.49						
48	12.94	7.82	21.44	12.95	31.91	19.28	38.12	23.02	47.31	28.58						
72		11.1		17.32		24.05		27.65								
96		13.78		20.5		27.12										
144		18		25		31										

5 D.P. — 1 3/4" Face

No. Teeth	50 RPM		100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
12	1.32		2.54		4.63		6.4		10.33		12.98		14.9		17.48	
18	2.5		4.66		8.22		11		16.67		20.13		22.45			
24	3.64	2.16	6.55	3.95	11.18	6.73	14.62	8.79	21.09	12.69	24.74	14.88				
30	4.68	2.79	8.45	5.02	14	8.31	17.92	10.65	24.88	14.79	28.58	17				
45	7.59	4.32	12.2	7.43	19.03	11.59	23.41	14.27	30.38	18.52						
60		5.62		9.31		13.86		16.56		20.55						
80	11.96	7.25	19	11.54	26.92	16.35	31.28	18.99								
100		8.51		13.07		17.84										
120	16.23	9.74	24.16	14.49	31.95	19.18										
160		11.77		16.68		21.09										

Note:

1. Pitch line velocities exceeding 1000 feet per minute are not recommended. They should be used for interpolation purposes only.
2. Non-metallic gears are most commonly used for the driving pinion of a pair of gears, with mating gear made of cast iron or steel, where pitch line velocities exceed 1000 FPM and are not subjected to shock loads.

14½° Spur Gear Horsepower Ratings



(S) = Steel (CI) = Cast Iron

6 D.P. — 1 1/2" Face

No. Teeth	100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
12	1.54		2.83		3.97		6.57		8.4		9.78		11.69	
18	2.83		5.09		6.91		10.8		13.28		14.98		17.22	
24	4.02		7.02		9.32		13.86		16.56		18.35			
30	5.16		8.75		11.41		16.35		19.1					
36	6.26	3.77	10.37	6.24	13.28	7.98	18.44	11.09						
48	7.56	4.88	12.91	7.75	15.98	9.64	20.66	12.75						
84	12.86	7.6	17.62	11.02	20.51	12.96								
120	15.99	9.5	20.86	12.95										
180		12		15										

8 D.P. — 1 1/4" Face

No. Teeth	100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
12	0.72		1.37		1.95		3.32		4.36		5.21		6.38	
18	1.37		2.52		3.49		5.69		7.2		8.30		9.8	
24	1.98	1.18	3.59	2.13	4.81	2.86	7.55	4.48	9.25	5.49	10.48	6.22	12.08	7.17
36	3.02		5.13		6.73		9.85							
48	4.08	2.5	6.76	4.14	8.58	5.26	11.91	7.29						
60		2.98		4.79		5.98								
72		3.47		5.45		6.67								
96		4.4		6.49		7.75								
112		4.83		7.01										
120		5.05		7.22										
160		6.02		8.21										

10 D.P. — 1" Face

No. Teeth	100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
12	0.38		0.75		1.08		1.88		2.50		3.00		3.75	
18	0.72		1.33		1.87		3.15		4.07		4.76		5.75	
24	1.08		1.98		2.71		4.33		5.41		7.21		7.21	
28	1.24	0.80	2.24	1.44	3.06	1.94	4.83	3.03	5.98	3.71	6.79	4.85	7.85	
48	2.26	1.31	3.77	2.23	4.94	2.91	7.13	4.2	8.23	4.92				
60	2.68	1.61	4.45	2.66	5.65	3.41	7.84	4.73	9.04	5.43				
72		1.88		3.02		3.80		5.16						
96		2.37		3.65		4.46		5.73						
120		2.80		4.17		4.98		6.18						
140		3.12		4.52		5.33								
180		3.63		5.04		5.81								
200		3.88		5.29		6.02								

Note:

1. Pitch line velocities exceeding 1000 feet per minute are not recommended. They should be used for interpolation purposes only.
2. Non-metallic gears are most commonly used for the driving pinion of a pair of gears, with mating gear made of cast iron or steel, where pitch line velocities exceed 1000 FPM and are not subjected to shock loads.



14½° Spur Gear Horsepower Ratings

12 D.P. — 3/4" Face

No. Teeth	100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
12	0.21		0.39		0.55		0.99		1.33		1.64		2.09	
18	0.38		0.71		1.01		1.73		2.28		2.70		3.32	
24	0.56		1.05		1.43		2.37		3.01		3.50		4.17	
36	0.88	0.53	1.57	0.95	2.13	1.28	3.33	2.01	4.09	2.46	4.62	2.46	5.31	3.21
48	1.16	0.70	2.02	1.22	2.70	1.62	3.99	2.41	4.76	2.88	4.76	3.19		
60	1.46	0.87	2.44	1.47	3.19	1.91	4.61	2.74	5.32	3.21				
72	1.71	1.04	2.84	1.72	3.60	2.18	5.00	3.03	5.76	3.49				
96		1.30		2.06		2.56		3.39						
120		1.54		2.37		2.90		3.68						
200		2.19		3.08		3.56								

16 D.P. — 1/2" Face

No. Teeth	100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
12	0.08		0.14		0.21		0.40		0.53		0.66		0.87	
18	0.14		0.27		0.39		0.70		0.94		1.14		1.44	
24	0.21		0.39		0.56		0.96		1.26		1.50		1.84	
36	0.32	0.14	0.60	0.27	0.82	0.37	1.35	0.60	1.71	0.68	1.97	0.87	2.33	1.03
48	0.45		0.82		1.10		1.72		2.11		2.39		2.75	
60		0.34		0.60		0.80		1.20		1.44		1.60		
72		0.40		0.69		0.91		1.33		1.57				
80	0.76	0.45	1.26	0.75	1.65	0.99	2.38	1.43	2.75	1.64				
120		0.63		1.00		1.25		1.68						
160		0.78		1.21		1.48		1.78						
200		0.93		1.34		1.60		1.78						

20 D.P. — 3/8" Face

No. Teeth	100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
12	0.05		0.07		0.10		0.19		0.27		0.33		0.46	
18	0.07		0.13		0.19		0.35		0.48		0.59		0.76	
24	0.11		0.20		0.29		0.51		0.68		0.81		1.02	
48	0.22	0.14	0.43	0.26	0.58	0.35	0.93	0.56	1.16	0.70	1.34	0.81	1.55	0.94
60	0.28		0.50		0.67		1.06		1.29		1.47		1.69	
80		0.22		0.39		0.52		0.76		0.91		1.01		
96	0.46	0.26	0.76		0.99		1.44		1.66		1.70			
120		0.32		0.53		0.66		0.92		1.06				
160		0.40		0.64		0.79		1.05		1.16				
200		0.47		0.73		0.89		1.08		1.14				

24 D.P. — 1/4" Face

No. Teeth	100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
12	0.017		0.033		0.049		0.092		0.131		0.165	
18	0.030		0.060		0.090		0.170		0.230		0.290	
24	0.047		0.091		0.132		0.236		0.321		0.391	
36	0.080		0.150		0.210		0.360		0.470		0.550	
48	0.105		0.197		0.275		0.455		0.583		0.679	
60	0.130		0.240		0.330		0.530		0.670		0.760	
96	0.210		0.360		0.480		0.710		0.850		0.940	
144	0.291		0.482		0.617		0.857		0.984			

Note:

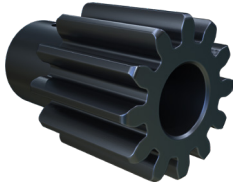
1. Pitch line velocities exceeding 1000 feet per minute are not recommended. They should be used for interpolation purposes only.
2. Non-metallic gears are most commonly used for the driving pinion of a pair of gears, with mating gear made of cast iron or steel, where pitch line velocities exceed 1000 FPM and are not subjected to shock loads.

4 DP

3 1/2" Face

Steel Stock Spur Gears

20° Pressure Angle



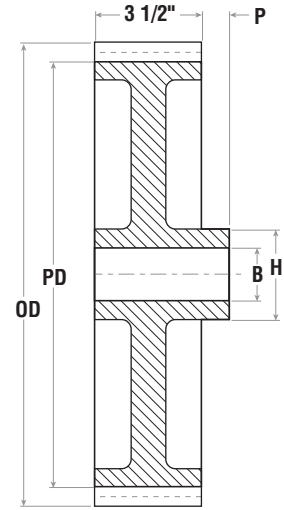
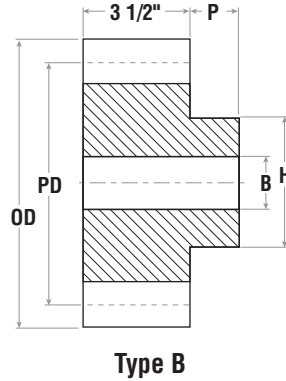
Type B
Plain with hubs



Type B₁
Web



Type B₂
Web with
lightening holes



Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
12	TS412	20	3.000	3.500	B	1 1/8	1 5/16	2 17/64	7/8	6.8
14	TS414	20	3.500	4.000	B	1 1/8	1 3/4	2 49/64	7/8	9.8
15	TS415	20	3.750	4.250	B	1 1/8	1 7/8	3 1/64	7/8	11.5
16	TS416	20	4.000	4.500	B	1 1/8	2 1/8	3 17/64	7/8	13.3
18	TS418	20	4.500	5.000	B	1 1/8	2 3/8	3 49/64	7/8	17.3
20	TS420	20	5.000	5.500	B	1 1/8	2 3/4	4 17/64	7/8	21.8
22	TS422	20	5.500	6.000	B	1 1/8	3	4 49/64	7/8	26.7
24	TS424	20	6.000	6.500	B	1 1/8	3 1/8	5	1 1/4	33.7
28	TS428	20	7.000	7.500	B	1 1/8	3 1/8	5	1 1/4	43.8
30	TS430	20	7.500	8.000	B	1 1/8	3 1/8	5	1 1/4	49.4
32	TS432	20	8.000	8.500	B	1 1/4	3 1/8	5	1 1/2	56.8
36	TS436	20	9.000	9.500	B	1 1/4	3 1/8	5	1 1/2	70.0
40	TS440	20	10.000	10.500	B	1 1/4	3 1/8	5 1/8	1 1/2	85.2
44	TS444	20	11.000	11.500	B	1 1/4	3 1/8	5 1/8	1 1/2	101.6
48	TS448	20	12.000	12.500	B	1 1/4	3 1/8	5 1/8	1 1/2	119.5
56	TS456	20	14.000	14.500	B1	1 1/4	3 1/4	5 1/2	1 1/2	96.9
60	TS460	20	15.000	15.500	B2	1 1/4	3 1/4	5 1/2	1 1/2	88.1
64	TS464	20	16.000	16.500	B2	1 1/4	3 1/4	5 1/2	1 1/2	86.9
72	TS472	20	18.000	18.500	B2	1 1/4	3 1/4	5 1/2	1 1/2	86.5
80	TS480	20	20.000	20.500	B2	1 1/4	3 1/4	5 1/2	1 1/2	90.9

* Recommended maximum bore with keyway and setscrew.

20° P.A. gears will not operate with 14 1/2° P.A.

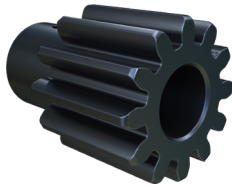


Steel Stock Spur Gears

20° Pressure Angle

5 DP

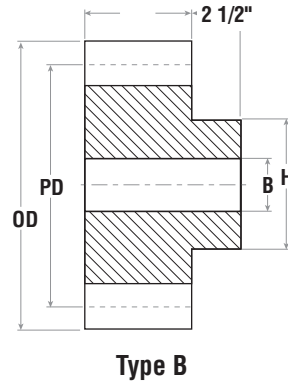
2 1/2" Face



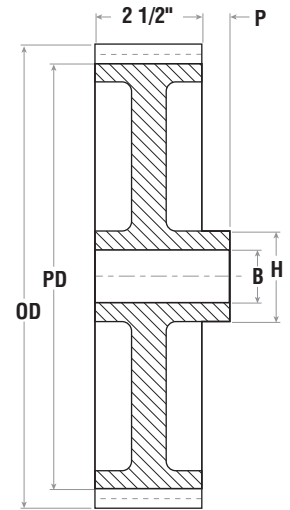
Type B
Plain with hubs



Type B₂
Web with
lighten holes



Type B



Type B₂

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
12	TS512	20	2.400	2.800	B	1 1/8	1 1/8	1 25/32	7/8	2.9
14	TS514	20	2.800	3.200	B	1 1/8	1 5/16	2 3/16	7/8	4.3
15	TS515	20	3.000	3.400	B	1 1/8	1 7/16	2 3/8	7/8	5.2
16	TS516	20	3.200	3.600	B	1 1/8	1 5/8	2 19/32	7/8	6.1
18	TS518	20	3.600	4.000	B	1 1/8	1 7/8	3	7/8	8.0
20	TS520	20	4.000	4.400	B	1 1/8	2 1/4	3 3/8	7/8	10.2
24	TS524	20	4.800	5.200	B	1 1/8	2 3/8	3 3/4	1 1/4	15.7
25	TS525	20	5.000	5.400	B	1 1/8	2 3/8	3 3/4	1 1/4	20.3
28	TS528	20	5.600	6.000	B	1 1/8	2 3/8	3 3/4	1 1/4	22.9
30	TS530	20	6.000	6.400	B	1 1/8	2 3/8	3 3/4	1 1/4	23.9
35	TS535	20	7.000	7.400	B	1 1/4	2 3/8	3 3/4	1 1/4	29.9
40	TS540	20	8.000	8.400	B	1 1/4	2 3/8	3 3/4	1 1/4	38.2
45	TS545	20	9.000	9.400	B	1 1/4	2 3/8	3 3/4	1 1/4	47.7
50	TS550	20	10.000	10.400	B	1 1/4	2 13/16	4 5/8	1 1/4	60.3
60	TS560	20	12.000	12.400	B	1 1/4	2 13/16	4 5/8	1 1/4	84.7
70	TS570	20	14.000	14.400	B2	13/16	3 1/8	5 1/4	1 1/4	51.6
80	TS580	20	16.000	16.400	B2	13/16	3 1/8	5 1/4	1 1/4	55.8
90	TS590	20	18.000	18.400	B2	13/16	3 1/8	5 1/4	1 1/4	59.7
100	TS5100	20	20.000	20.400	B2	15/16	3 1/4	5 3/4	1 1/2	69.2
110	TS5110	20	22.000	22.400	B2	15/16	3 1/4	5 3/4	1 1/2	72.3
120	TS5120	20	24.000	24.400	B2	15/16	3 1/2	6 1/4	1 1/2	80.2

* Recommended maximum bore with keyway and setscrew.

20° P.A. gears will not operate with 14 1/2° P.A.

6 DP 2" Face

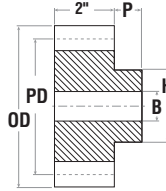
Steel Stock Spur Gears 20° Pressure Angle



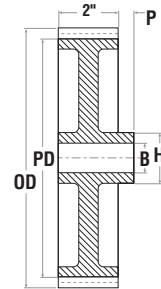
Type B
Plain with hubs



Type B₂
Web with
lighten holes



Type B



Type B₂

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
11	TS611†	20	2.000	2.333	B	1	1	1 1/2	7/8	1.6
12	TS612	20	2.000	2.333	B	1	1	1 1/2	7/8	1.6
14	TS614	20	2.333	2.666	B	1	1	1 13/16	7/8	2.4
15	TS615	20	2.500	2.833	B	1	1 1/4	2	7/8	2.9
16	TS616	20	2.666	3.000	B	1	1 5/16	2 1/8	7/8	3.4
18	TS618	20	3.000	3.333	B	1	1 1/2	2 1/2	7/8	4.6
21	TS621	20	3.500	3.833	B	1	1 7/8	3	7/8	6.6
24	TS624	20	4.000	4.333	B	1 1/8	1 7/8	3	7/8	8.1
27	TS627	20	4.500	4.833	B	1 1/8	2 1/8	3 1/2	7/8	10.6
30	TS630	20	5.000	5.333	B	1 1/8	2 1/2	4	7/8	13.4
33	TS633	20	5.500	5.833	B	1 1/8	2 1/2	4	1 1/2	17.8
36	TS636	20	6.000	6.333	B	1 1/8	2 1/2	4	1 1/2	20.4
42	TS642	20	7.000	7.333	B	1 1/8	2 1/2	4	1 1/2	26.2
48	TS648	20	8.000	8.333	B	1 1/8	2 1/2	4	1 1/2	32.8
54	TS654	20	9.000	9.333	B	1 1/8	2 1/2	4	1 1/2	40.4
60	TS660	20	10.000	10.333	B	1 1/4	2 11/16	4 5/8	1 1/2	50.0
64	TS664	20	10.666	11.000	B	1 1/4	2 11/16	4 5/8	1 1/2	56.5
66	TS666	20	11.000	11.333	B	1 1/4	2 11/16	4 5/8	1 1/2	59.8
72	TS672	20	12.000	12.333	B	1 1/4	2 11/16	4 5/8	1 1/2	70.0
84	TS684	20	14.000	14.333	B2	1 1/4	2 13/16	5	1 1/2	42.8
96	TS696	20	16.000	16.333	B2	1 1/4	2 13/16	5	1 1/2	46.0
108	TS6108	20	18.000	18.333	B2	1 1/4	2 13/16	5	1 1/2	48.8
120	TS6120	20	20.000	20.333	B2	1 1/4	2 13/16	5	1 1/2	51.3

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Keyway		Diameter	Projection	
12	TS612BS 1	20	2.000	2.333	B	1	1/4 × 1/8	(1) 1/4-20 @90	1 1/2	7/8	1.60
14	TS614BS 1	20	2.333	2.667	B	1	1/4 × 1/8	(1) 5/16-18 @90	1 13/16	7/8	2.40
14	TS614BS 1-1/8	20	2.333	2.667	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @90	1 13/16	7/8	2.40
15	TS615BS 1	20	2.500	2.833	B	1	1/4 × 1/8	(1) 5/16-18 @90	2	7/8	2.90
15	TS615BS 1-1/8	20	2.500	2.833	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @90	2	7/8	2.90
15	TS615BS 1-3/16	20	2.500	2.833	B	1 3/16	1/4 × 1/8	(1) 5/16-18 @90	2	7/8	2.90
15	TS615BS 1-1/4	20	2.500	2.833	B	1 1/4	1/4 × 1/8	(1) 5/16-18 @90	2	7/8	2.90
16	TS616BS 1	20	2.667	3.000	B	1	1/4 × 1/8	(1) 5/16-18 @90	2 1/8	7/8	3.40
16	TS616BS 1-1/8	20	2.667	3.000	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @90	2 1/8	7/8	3.40
16	TS616BS 1-3/16	20	2.667	3.000	B	1 3/16	1/4 × 1/8	(1) 5/16-18 @90	2 1/8	7/8	3.40
16	TS616BS 1-1/4	20	2.667	3.000	B	1 1/4	1/4 × 1/8	(1) 5/16-18 @90	2 1/8	7/8	3.40
18	TS618BS 1	20	3.000	3.333	B	1	1/4 × 1/8	(1) 5/16-18 @90	2 1/2	7/8	4.60
18	TS618BS 1-1/8	20	3.000	3.333	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @90	2 1/2	7/8	4.60
18	TS618BS 1-3/16	20	3.000	3.333	B	1 3/16	1/4 × 1/8	(1) 5/16-18 @90	2 1/2	7/8	4.60
18	TS618BS 1-1/4	20	3.000	3.333	B	1 1/4	1/4 × 1/8	(1) 5/16-18 @90	3	7/8	4.60
21	TS621BS 1	20	3.500	3.833	B	1	1/4 × 1/8	(1) 5/16-18 @90	3	7/8	6.60
21	TS621BS 1-1/8	20	3.500	3.833	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @90	3	7/8	6.60
21	TS621BS 1-3/16	20	3.500	3.833	B	1 3/16	1/4 × 1/8	(1) 5/16-18 @90	3	7/8	6.60
21	TS621BS 1-1/4	20	3.500	3.833	B	1 1/4	1/4 × 1/8	(1) 5/16-18 @90	3	7/8	6.60

20° P.A. gears will not operate with 14 1/2° P.A.

* Recommended maximum bore with keyway and setscrew.



Steel & Cast Stock Spur Gears

20° Pressure Angle

8 DP

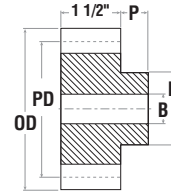
1 1/2" Face



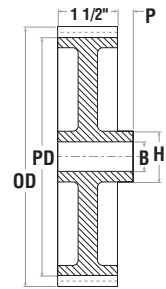
Type B
Plain with hubs



Type B₃
Spoke style



Type B



Type B₃

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
12	TS812	20	1.500	1.750	B	3/4	3/4	1 1/8	3/4	0.7
14	TS814	20	1.750	2.000	B	3/4	13/16	1 5/16	3/4	1.0
15	TS815	20	1.875	2.125	B	3/4	7/8	1 7/16	3/4	1.2
16	TS816	20	2.000	2.250	B	7/8	15/16	1 9/16	7/8	1.4
18	TS818	20	2.250	2.500	B	7/8	1 1/8	1 13/16	7/8	1.9
19	TS819	20	2.375	2.625	B	7/8	1 1/4	2	7/8	2.3
20	TS820	20	2.500	2.750	B	7/8	1 5/16	2 1/16	7/8	2.5
22	TS822	20	2.750	3.000	B	7/8	1 1/2	2 5/16	7/8	3.2
24	TS824	20	3.000	3.250	B	7/8	1 5/8	2 9/16	7/8	3.9
26	TS826	20	3.250	3.500	B	7/8	1 3/4	2 3/4	7/8	4.6
28	TS828	20	3.500	3.750	B	7/8	1 3/4	2 3/4	7/8	5.2
30	TS830	20	3.750	4.000	B	1	1 3/4	2 3/4	7/8	5.6
32	TS832	20	4.000	4.250	B	1	1 7/8	3 1/4	7/8	6.6
36	TS836	20	4.500	4.750	B	1	2 1/8	3 1/2	7/8	8.6
40	TS840	20	5.000	5.250	B	1	2 1/8	3 1/2	7/8	10.2
42	TS842	20	5.250	5.500	B	1	2 1/8	3 1/2	1	11.4
44	TS844	20	5.500	5.750	B	1	2 1/8	3 1/2	1	12.3
48	TS848	20	6.000	6.250	B	1	2 1/8	3 1/2	1	14.2

Cast

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
52	TC852	20	6.500	6.750	B	1	1 7/8	3	1	11.9
56	TC856	20	7.000	7.250	B	1	1 7/8	3	1	13.0
60	TC860	20	7.500	7.750	B2	1	1 7/8	3	1	12.0
64	TC864	20	8.000	8.250	B3	1	1 7/8	3	1	12.1
72	TC872	20	9.000	9.250	B3	1	2 1/16	3 1/4	1	14.4
80	TC880	20	10.000	10.250	B3	1 1/8	2 1/16	3 1/4	1 1/4	17.0
88	TC888	20	11.000	11.250	B3	1 1/8	2 1/16	3 1/4	1 1/4	19.0
96	TC896	20	12.000	12.250	B3	1 1/8	2 1/8	3 1/2	1 1/4	23.7
112	TC8112	20	14.000	14.250	B3	1 1/8	2 1/8	3 1/2	1 1/4	25.0
120	TC8120	20	15.000	15.250	B3	1 1/8	2 1/8	3 1/2	1 1/4	25.8
128	TC8128	20	16.000	16.250	B3	1 1/8	2 1/8	3 1/2	1 1/4	28.0
144	TC8144	20	18.000	18.250	B3	1 1/8	2 1/4	3 3/4	1 1/4	32.0
160	TC8160	20	20.000	20.250	B3	1 1/4	2 1/4	3 3/4	1 1/2	34.8

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Keyway		Diameter	Projection	
12	TS812BS 3/4	20	1.500	1.750	B	3/4	3/16 × 3/32	(1) 10-24 @ 90	1 1/8	3/4	0.70
14	TS814BS 3/4	20	1.750	2.000	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 5/16	3/4	1.00
15	TS815BS 3/4	20	1.875	2.125	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 7/16	3/4	1.20
15	TS815BS 7/8	20	1.875	2.125	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 7/16	3/4	1.20
16	TS816BS 7/8	20	2.000	2.250	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 9/16	7/8	1.40
16	TS816BS 1	20	2.000	2.250	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 9/16	7/8	1.40
18	TS818BS 7/8	20	2.250	2.500	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 13/16	7/8	1.90
18	TS818BS 1	20	2.250	2.500	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 13/16	7/8	1.90
18	TS818BS 1-1/8	20	2.250	2.500	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	1 13/16	7/8	1.90
20	TS820BS 7/8	20	2.500	2.750	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	2 1/16	7/8	2.50
20	TS820BS 1	20	2.500	2.750	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 1/16	7/8	2.50
20	TS820BS 1-1/8	20	2.500	2.750	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	2 1/16	7/8	2.50
22	TS822BS 7/8	20	2.750	3.000	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	2 5/16	7/8	3.20
22	TS822BS 1	20	2.750	3.000	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 5/16	7/8	3.20
22	TS822BS 1-1/8	20	2.750	3.000	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	2 5/16	7/8	3.20
24	TS824BS 7/8	20	3.000	3.250	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	2 9/16	7/8	3.90
24	TS824BS 1	20	3.000	3.250	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 9/16	7/8	3.90
24	TS824BS 1-1/8	20	3.000	3.250	B	1 1/8	1/4 × 1/8	(1) 5/16-18 @ 90	2 9/16	7/8	3.90

20° P.A. gears will not operate with 14 1/2° P.A.

* Recommended maximum bore with keyway and setscrew.

10 DP

1 1/4" Face

Steel & Cast Stock Spur Gears

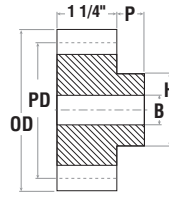
20° Pressure Angle



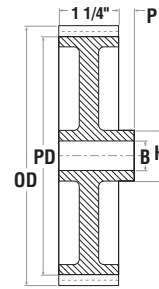
Type B
Plain with hubs



Type B₃
Spoke style



Type B



Type B₃

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
12	TS1012	20	1.200	1.400	B	5/8	5/8	29/32	5/8	0.4
14	TS1014	20	1.400	1.600	B	5/8	5/8	1 7/64	5/8	0.6
15	TS1015	20	1.500	1.700	B	3/4	3/4	1 7/32	5/8	0.6
16	TS1016	20	1.600	1.800	B	3/4	3/4	1 5/16	5/8	0.7
18	TS1018	20	1.800	2.000	B	3/4	13/16	1 11/32	5/8	0.9
20	TS1020	20	2.000	2.200	B	7/8	7/8	1 39/64	5/8	1.2
22	TS1022	20	2.200	2.400	B	7/8	1 1/16	1 13/16	5/8	1.5
24	TS1024	20	2.400	2.600	B	7/8	1 3/16	2 1/64	5/8	1.8
25	TS1025	20	2.500	2.700	B	7/8	1 1/4	2 7/64	5/8	2.0
26	TS1026	20	2.600	2.800	B	7/8	1 1/4	2 1/8	5/8	2.2
28	TS1028	20	2.800	3.000	B	7/8	1 5/16	2 13/32	5/8	2.7
30	TS1030	20	3.000	3.200	B	7/8	1 3/8	2 1/2	7/8	3.4
32	TS1032	20	3.200	3.400	B	7/8	1 3/8	2 1/2	7/8	3.7
35	TS1035	20	3.500	3.700	B	1	1 3/8	2 1/2	7/8	4.2
36	TS1036	20	3.600	3.800	B	1	1 3/8	2 1/2	7/8	4.3
40	TS1040	20	4.000	4.200	B	1	2 1/8	3 1/2	7/8	6.4
45	TS1045	20	4.500	4.700	B	1	2 1/8	3 1/2	7/8	7.5
48	TS1048	20	4.800	5.000	B	1	2 3/8	3 3/4	7/8	8.7
50	TS1050	20	5.000	5.200	B	1	2 1/2	4	7/8	9.6
55	TS1055	20	5.500	5.700	B	1	2 1/2	4	1	11.5
60	TS1060	20	6.000	6.200	B	1	2 1/2	4	1	13.1

Cast

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
70	TC1070	20	7.000	7.200	B3	1	1 11/16	2 3/4	1	8.2
80	TC1080	20	8.000	8.200	B3	1	1 11/16	2 3/4	1	11.2
90	TC1090	20	9.000	9.200	B3	1	1 13/16	3	1	11.7
100	TC10100	20	10.000	10.200	B3	1 1/8	1 13/16	3	1 1/8	12.2

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Keyway		Diameter	Projection	
12	TS1012BS 5/8	20	1.200	1.400	B	5/8	3/16 × 3/32	(1) 10-24 @ 90	29/32	5/8	0.40
14	TS1014BS 5/8	20	1.400	1.600	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 7/64	5/8	0.60
15	TS1015BS 3/4	20	1.500	1.700	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 7/32	5/8	0.60
16	TS1016BS 3/4	20	1.600	1.800	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 5/16	5/8	0.70
18	TS1018BS 3/4	20	1.800	2.000	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 11/32	5/8	0.88
18	TS1018BS 7/8	20	1.800	2.000	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 11/32	5/8	0.90
20	TS1020BS 7/8	20	2.000	2.200	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 39/64	5/8	1.20
20	TS1020BS 1	20	2.000	2.200	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 39/64	5/8	1.20
24	TS1024BS 7/8	20	2.400	2.600	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 13/16	5/8	1.50
24	TS1024BS 1	20	2.400	2.600	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	1 13/16	5/8	1.50
25	TS1025BS 7/8	20	2.500	2.700	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	2 7/64	5/8	2.00
25	TS1025BS 1	20	2.500	2.700	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 7/64	5/8	2.00
28	TS1028BS 7/8	20	2.800	3.000	B	7/8	3/16 × 3/32	(1) 1/4-20 @ 90	2 13/32	5/8	2.70
28	TS1028BS 1	20	2.800	3.000	B	1	1/4 × 1/8	(1) 5/16-18 @ 90	2 13/32	5/8	2.70

20° P.A. gears will not operate with 14 1/2° P.A.

* Recommended maximum bore with keyway and setscrew.



Steel & Cast Stock Spur Gears

20° Pressure Angle

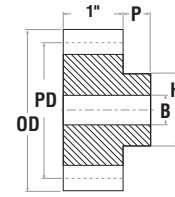
12 DP 1" Face



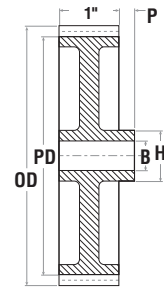
Type B
Plain with hubs



Type B₃
Spoke style



Type B



Type B₃

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
12	TS1212	20	1.000	1.167	B	1/2	1/2	3/4	5/8	0.21
13	TS1213	20	1.083	1.250	B	5/8	5/8	13/16	5/8	0.21
14	TS1214	20	1.167	1.333	B	5/8	5/8	29/32	5/8	0.28
15	TS1215	20	1.250	1.417	B	5/8	5/8	63/64	5/8	0.34
16	TS1216	20	1.333	1.500	B	5/8	5/8	1 1/16	5/8	0.41
18	TS1218	20	1.500	1.667	B	3/4	3/4	1 1/4	5/8	0.51
19	TS1219	20	1.583	1.750	B	3/4	3/4	1 5/16	5/8	0.59
20	TS1220	20	1.667	1.833	B	3/4	3/4	1 5/16	5/8	0.65
21	TS1221	20	1.750	1.917	B	3/4	13/16	1 25/64	5/8	0.75
22	TS1222	20	1.833	2.000	B	3/4	7/8	1 9/16	5/8	0.88
24	TS1224	20	2.000	2.166	B	3/4	15/16	1 41/64	5/8	1.06
25	TS1225	20	2.083	2.250	B	3/4	1 1/16	1 13/16	5/8	1.22
26	TS1226	20	2.167	2.333	B	3/4	1 1/8	1 7/8	5/8	1.33
28	TS1228	20	2.333	2.500	B	3/4	1 1/4	2 1/16	5/8	1.60
30	TS1230	20	2.500	2.667	B	3/4	1 5/16	2 5/32	5/8	1.83
32	TS1232	20	2.667	2.833	B	3/4	1 5/16	2 1/4	5/8	2.08
36	TS1236	20	3.000	3.167	B	3/4	1 3/8	2 1/2	7/8	2.98
42	TS1242	20	3.500	3.666	B	3/4	1 3/8	2 1/2	7/8	3.71
48	TS1248	20	4.000	4.166	B	7/8	1 7/8	3	7/8	4.99
54	TS1254	20	4.500	4.666	B	7/8	2 1/8	3 1/2	7/8	6.57
60	TS1260	20	5.000	5.166	B	7/8	2 1/8	3 1/2	7/8	7.63
66	TS1266	20	5.500	5.666	B	7/8	2 1/8	3 1/2	7/8	8.80
72	TS1272	20	6.000	6.166	B	7/8	2 1/8	3 1/2	7/8	10.08

Cast

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
84	TC1284	20	7.000	7.166	B3	7/8	1 7/16	2 1/2	7/8	5.9
96	TC1296	20	8.000	8.166	B3	7/8	1 7/16	2 1/2	7/8	7.0
108	TC12108	20	9.000	9.166	B3	7/8	1 7/16	2 1/2	7/8	7.6
120	TC12120	20	10.000	10.166	B3	1	1 7/16	2 1/2	7/8	10.3
144	TC12144	20	12.000	12.166	B3	1	1 11/16	2 3/4	1	10.4

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *		Diameter	Projection	
12	TS1212BS 1/2	20	1.000	1.167	B	1/2	NONE	(1) 10-24	3/4	5/8	0.21
13	TS1213BS 5/8	20	1.083	1.250	B	5/8	NONE	(1) 1/4-20 @ 90	13/16	5/8	0.21
14	TS1214BS 5/8	20	1.167	1.333	B	5/8	3/16 x 3/32	(1) 10-24 @ 90	29/32	5/8	0.28
15	TS1215BS 5/8	20	1.250	1.417	B	5/8	3/16 x 3/32	(1) 10-24 @ 90	63/64	5/8	0.34
16	TS1216BS 5/8	20	1.333	1.500	B	5/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 1/16	5/8	0.41
18	TS1218BS 3/4	20	1.500	1.667	B	3/4	3/16 x 3/32	(1) 1/4-20 @ 90	1 1/4	5/8	0.51
20	TS1220BS 3/4	20	1.667	1.833	B	3/4	3/16 x 3/32	(1) 1/4-20 @ 90	1 5/16	5/8	0.65
21	TS1221BS 3/4	20	1.750	1.917	B	3/4	3/16 x 3/32	(1) 1/4-20 @ 90	1 25/64	5/8	0.75
21	TS1221BS 7/8	20	1.750	1.917	B	7/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 25/64	5/8	0.75
24	TS1224BS 3/4	20	2.000	2.167	B	3/4	3/16 x 3/32	(1) 1/4-20 @ 90	1 41/64	5/8	1.06
24	TS1224BS 7/8	20	2.000	2.167	B	7/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 41/64	5/8	1.06
24	TS1224BS 1	20	2.000	2.167	B	1	1/4 x 1/8	(1) 5/16-18 @ 90	1 41/64	5/8	1.06
28	TS1228BS 3/4	20	2.333	2.500	B	3/4	3/16 x 3/32	(1) 1/4-20 @ 90	2 1/16	5/8	1.60
28	TS1228BS 7/8	20	2.333	2.500	B	7/8	3/16 x 3/32	(1) 1/4-20 @ 90	2 1/16	5/8	1.60
28	TS1228BS 1	20	2.333	2.500	B	1	1/4 x 1/8	(1) 5/16-18 @ 90	2 1/16	5/8	1.60

20° P.A. gears will not operate with 14 1/2° P.A.

* Recommended maximum bore with keyway and setscrew.

16 DP

3/4" Face

Steel & Cast Stock Spur Gears

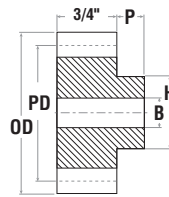
20° Pressure Angle



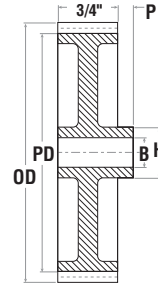
Type B
Plain with hubs



Type B₃
Spoke style



Type B



Type B₃

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
12	TS1612	20	0.750	0.875	B	3/8	3/8	9/16	1/2	0.09
13	TS1613	20	0.812	0.938	B	3/8	3/8	5/8	1/2	0.11
14	TS1614	20	0.875	1.000	B	3/8	3/8	11/16	1/2	0.14
15	TS1615	20	0.937	1.063	B	3/8	1/2	3/4	1/2	0.17
16	TS1616	20	1.000	1.125	B	1/2	1/2	13/16	1/2	0.17
17	TS1617	20	1.062	1.188	B	1/2	1/2	7/8	1/2	0.20
18	TS1618	20	1.125	1.250	B	1/2	1/2	15/16	1/2	0.24
20	TS1620	20	1.250	1.375	B	5/8	5/8	11/16	1/2	0.28
21	TS1621	20	1.312	1.438	B	5/8	5/8	11/8	1/2	0.32
22	TS1622	20	1.375	1.500	B	5/8	5/8	13/16	1/2	0.36
24	TS1624	20	1.500	1.625	B	5/8	3/4	15/16	1/2	0.46
26	TS1626	20	1.625	1.750	B	5/8	7/8	1 7/16	1/2	0.56
28	TS1628	20	1.750	1.875	B	5/8	7/8	1 1/2	1/2	0.65
30	TS1630	20	1.875	2.000	B	5/8	15/16	1 5/8	1/2	0.77
32	TS1632	20	2.000	2.125	B	5/8	1	1 3/4	1/2	0.90
36	TS1636	20	2.250	2.375	B	5/8	1 1/4	2	1/2	1.18
40	TS1640	20	2.500	2.625	B	5/8	1 1/4	2	5/8	1.48
48	TS1648	20	3.000	3.125	B	5/8	1 1/4	2	5/8	1.94
56	TS1656	20	3.500	3.625	B	5/8	1 3/8	2 1/2	5/8	2.79
60	TS1660	20	3.750	3.875	B	5/8	1 1/2	2 3/4	5/8	3.28
64	TS1664	20	4.000	4.125	B	3/4	1 1/2	2 3/4	3/4	3.74
72	TS1672	20	4.500	4.625	B	3/4	1 7/8	3	3/4	4.69
80	TS1680	20	5.000	5.125	B	3/4	2 1/8	3 1/2	3/4	6.03
84	TS1684	20	5.250	5.375	B	3/4	2 1/8	3 1/2	3/4	6.46
96	TS1696	20	6.000	6.125	B	3/4	2 1/8	3 1/2	3/4	7.86

Cast

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
112	TC16112	20	7.000	7.125	B3	3/4	1 7/16	2 1/2	3/4	4.4
128	TC16128	20	8.000	8.125	B3	3/4	1 11/16	2 3/4	3/4	5.5
144	TC16144	20	9.000	9.125	B3	3/4	1 11/16	2 3/4	3/4	6.4
160	TC16160	20	10.000	10.125	B3	7/8	1 11/16	2 3/4	3/4	8.1
192	TC16192	20	12.000	12.125	B3	7/8	1 13/16	3	1	10.1

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *		Diameter	Projection	
12	TS1612BS 3/8	20	0.750	0.875	B	3/8	NONE	(1) 8-32	9/16	1/2	0.09
14	TS1614BS 3/8	20	0.875	1.000	B	3/8	NONE	(1) 10-24	11/16	1/2	0.14
15	TS1615BS 3/8	20	0.937	1.063	B	3/8	NONE	(1) 10-24	3/4	1/2	0.17
15	TS1615BS 1/2	20	0.937	1.063	B	1/2	NONE	(1) 10-24	3/4	1/2	0.17
16	TS1616BS 1/2	20	1.000	1.125	B	1/2	NONE	(1) 10-24	13/16	1/2	0.17
18	TS1618BS 1/2	20	1.125	1.250	B	1/2	NONE	(1) 1/4-20	15/16	1/2	0.24
20	TS1620BS 5/8	20	1.250	1.375	B	5/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 1/16	1/2	0.28
24	TS1624BS 5/8	20	1.500	1.625	B	5/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 5/16	1/2	0.46
24	TS1624BS 3/4	20	1.500	1.625	B	3/4	3/16 x 3/32	(1) 1/4-20 @ 90	1 5/16	1/2	0.46
28	TS1628BS 5/8	20	1.750	1.875	B	5/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 1/2	1/2	0.65
28	TS1628BS 3/4	20	1.750	1.875	B	3/4	3/16 x 3/32	(1) 1/4-20 @ 90	1 1/2	1/2	0.65
30	TS1630BS 5/8	20	1.875	2.000	B	5/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 5/8	1/2	0.77
30	TS1630BS 3/4	20	1.875	2.000	B	3/4	3/16 x 3/32	(1) 1/4-20 @ 90	1 5/8	1/2	0.77
30	TS1630BS 7/8	20	1.875	2.000	B	7/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 5/8	1/2	0.77
32	TS1632BS 5/8	20	2.000	2.125	B	5/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 3/4	1/2	0.90
32	TS1632BS 3/4	20	2.000	2.125	B	3/4	3/16 x 3/32	(1) 1/4-20 @ 90	1 3/4	1/2	0.90
32	TS1632BS 7/8	20	2.000	2.125	B	7/8	3/16 x 3/32	(1) 1/4-20 @ 90	1 3/4	1/2	0.90
32	TS1632BS 1	20	2.000	2.125	B	1	1/4 x 1/8	(1) 5/16-18 @ 90	1 3/4	1/2	0.90

20° P.A. gears will not operate with 14 1/2° P.A.

* Recommended maximum bore with keyway and setscrew.



Steel Stock Spur Gears

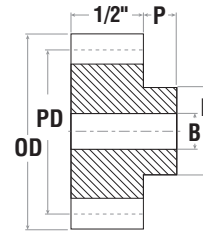
20° Pressure Angle

20 DP

1/2" Face



Type B
Plain with hubs



Type B

Steel

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Max. *	Diameter	Projection	
12	TS2012	20	0.600	0.700	B	5/16	5/16	15/32	7/16	0.04
14	TS2014	20	0.700	0.800	B	5/16	5/16	35/64	7/16	0.06
15	TS2015	20	0.750	0.850	B	3/8	3/8	39/64	7/16	0.07
16	TS2016	20	0.800	0.900	B	3/8	3/8	21/32	7/16	0.08
18	TS2018	20	0.900	1.000	B	3/8	3/8	3/4	7/16	0.12
20	TS2020	20	1.000	1.100	B	1/2	1/2	55/64	7/16	0.13
21	TS2021	20	1.050	1.150	B	1/2	1/2	7/8	7/16	0.15
22	TS2022	20	1.100	1.200	B	1/2	1/2	31/32	7/16	0.17
24	TS2024	20	1.200	1.300	B	1/2	9/16	1 1/16	7/16	0.22
25	TS2025	20	1.250	1.350	B	1/2	5/8	1 7/64	7/16	0.24
28	TS2028	20	1.400	1.500	B	1/2	11/16	1 17/64	7/16	0.32
30	TS2030	20	1.500	1.600	B	1/2	13/16	1 23/64	7/16	0.38
32	TS2032	20	1.600	1.700	B	1/2	7/8	1 7/16	1/2	0.46
35	TS2035	20	1.750	1.850	B	1/2	7/8	1 9/16	1/2	0.56
36	TS2036	20	1.800	1.900	B	1/2	15/16	1 5/8	1/2	0.60
40	TS2040	20	2.000	2.100	B	1/2	1 1/16	1 13/16	1/2	0.76
45	TS2045	20	2.250	2.350	B	1/2	1 1/4	2	1/2	0.95
50	TS2050	20	2.500	2.600	B	1/2	1 1/4	2	1/2	1.08
60	TS2060	20	3.000	3.100	B	1/2	1 5/16	2 1/8	1/2	1.45
70	TS2070	20	3.500	3.600	B	1/2	1 7/16	2 3/8	1/2	1.93
72	TS2072	20	3.600	3.700	B	1/2	1 7/16	2 3/8	1/2	2.01
80	TS2080	20	4.000	4.100	B	5/8	1 1/2	2 1/2	5/8	2.35
84	TS2084	20	4.200	4.300	B	5/8	1 1/2	2 1/2	5/8	2.53
90	TS2090	20	4.500	4.600	B	5/8	1 1/2	2 1/2	5/8	2.82
96	TS2096	20	4.800	4.900	B	5/8	1 1/2	2 1/2	5/8	3.14
100	TS20100	20	5.000	5.100	B	5/8	1 1/2	2 1/2	5/8	3.35
120	TS20120	20	6.000	6.100	B	5/8	1 1/2	2 1/2	5/8	4.58

Bored-To-Size

No. Teeth	Part Number	Pressure Angle	Diameter		Type	Bore (Inches)		Setscrew	Hub (Inches)		Weight Lb. (Approx.)
			Pitch	Outside		Stock	Keyway		Diameter	Projection	
12	TS2012BS 5/16	20	0.600	0.700	B	5/16	NONE	#35 P.H.	15/32	7/16	0.04
14	TS2014BS 5/16	20	0.700	0.800	B	5/16	NONE	#35 P.H.	35/64	7/16	0.06
15	TS2015BS 3/8	20	0.750	0.850	B	3/8	NONE	(1) 8-32	39/64	7/16	0.07
16	TS2016BS 3/8	20	0.800	0.900	B	3/8	NONE	(1) 8-32	21/32	7/16	0.08
18	TS2018BS 3/8	20	0.900	1.000	B	3/8	NONE	(1) 10-24	3/4	7/16	0.12
20	TS2020BS 1/2	20	1.000	1.100	B	1/2	NONE	(1) 10-24	55/64	7/16	0.13
24	TS2024BS 1/2	20	1.200	1.300	B	1/2	NONE	(1) 1/4-20	1 1/16	7/16	0.22
25	TS2025BS 1/2	20	1.250	1.350	B	1/2	NONE	(1) 1/4-20	1 7/64	7/16	0.24
30	TS2030BS 1/2	20	1.500	1.600	B	1/2	NONE	(1) 1/4-20	1 23/64	7/16	0.38
35	TS2035BS 1/2	20	1.750	1.850	B	1/2	NONE	(1) 1/4-20	1 9/16	1/2	0.56
40	TS2040BS 1/2	20	2.000	2.100	B	1/2	NONE	(1) 1/4-20	1 13/16	1/2	0.76
40	TS2040BS 5/8	20	2.000	2.100	B	5/8	3/16 × 3/32	(1) 1/4-20 @ 90	1 13/16	1/2	0.76
40	TS2040BS 3/4	20	2.000	2.100	B	3/4	3/16 × 3/32	(1) 1/4-20 @ 90	1 13/16	1/2	0.76

20° P.A. gears will not operate with 14 1/2° P.A.

* Recommended maximum bore with keyway and setscrew.

20° Horsepower Ratings (Approximate)



For Class I Service (Service Factor = 1.0)

4 Diametral Pitch

20° Pressure Angle

3 1/2" Face

No. Teeth	25 RPM		50 RPM		100 RPM		200 RPM		300 RPM		500 RPM		600 RPM		900 RPM		1200 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
11	2.62		5.09		9.64		17.41		23.81		33.72		37.64		46.69		53.06	
12 •	3.10		6.02		11.40		20.59		28.15		39.88		44.52		55.21		62.75	
13	3.62		7.03		13.30		24.03		32.86		46.55		51.97		64.45		73.25	
14 •	4.07		7.91		14.98		27.06		37.00		52.41		58.51		72.57		82.48	
15 •	4.57		8.88		16.80		30.35		41.51		58.80		65.64		81.41		92.53	
16 •	4.97		9.67		18.30		33.05		45.20		64.03		71.47		88.64		100.75	
17	5.41		10.51		19.90		35.95		49.16		69.64		77.74		96.42			
18 •	5.84		11.35		21.49		38.82		53.09		75.20		83.95		104.12			
19	6.29		12.22		23.13		41.77		57.13		80.93		90.33		112.04			
20 •	6.74		13.11		24.81		44.81		61.29		86.81		96.91					
21	7.19		13.98		26.46		47.79		65.36		92.58		103.34					
22 •	7.65		14.87		28.14		50.83		69.52		98.48		109.93					
24 •	8.52		16.56		31.35		56.63		77.45		109.71		122.47					
25	8.96		17.41		32.95		59.52		81.39		115.30		128.70					
26	9.43		18.32		34.67		62.63		85.65		121.32		135.43					
27	9.90		19.24		36.42		65.79		89.97		127.45		142.27					
28 •	10.39		20.18		38.21		69.01		94.38		133.69		149.24					
30 •	11.32		22.00		41.63		75.20		102.84		145.69							
32 •	12.27		23.85		45.15		81.56		111.54		158.00							
33	12.76		24.80		46.95		84.80		115.97		164.28							
35	13.79		26.81		50.74		91.66		125.35		177.56							
36 •	14.30		27.79		52.61		95.03		129.96		184.10							
40 •	16.40		31.87		60.32		108.95		149.00									
42	17.39		33.80		63.98		115.58		158.06									
44 •	18.41		35.77		67.71		122.31		167.27									
45	18.92		36.77		69.60		125.72		171.93									
48 •	20.54		39.91		75.54		136.46		186.61									
50	21.50		41.78		79.08		142.84		195.35									
52	22.52		43.77		82.85		149.65		204.66									
54	23.56		45.78		86.66		156.54		214.08									
55	24.00		46.63		88.26		159.44		218.04									
56 •	24.49		47.59		90.09		162.73											
60 •	26.62		51.73		97.92		176.87											
64 •	28.60		55.57		105.19		190.01											
66	29.63		57.58		108.99		196.87											
70	31.65		61.50		116.41		210.27											
72 •	32.55		63.26		119.73		216.28											
80 •	36.76		71.43		135.21		244.23											
84	38.86		75.52		142.94		258.21											
88	40.80		79.30		150.09													
90	41.83		81.28		153.85													
96	44.92		87.29		165.23													
100	46.90		91.13		172.50													
108	50.87		98.87		187.14													
110	51.93		100.92		191.03													
112	52.88		102.76		194.50													
120	57.03		110.84		209.79													
144	54.18		105.28		199.28													
160	77.39		150.40		284.68													
200	97.58		189.64		358.95													

**ALL
STEEL**

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Pitch line velocities exceeding 1000 feet per minute are not recommended. They should be used for interpolation purposes only.

2. Non-metallic gears are most commonly used for the driving pinion of a pair of gears, with mating gear made of cast iron or steel, where pitch line velocities exceed 1000 FPM and are not subjected to shock loads.



20° Horsepower Ratings (Approximate)

For Class I Service (Service Factor = 1.0)

5 Diametral Pitch

20° Pressure Angle

2 1/2" Face

No. Teeth	25 RPM		50 RPM		100 RPM		200 RPM		300 RPM		500 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
11 •	1.20		2.35		4.50		8.28		11.49		16.67		18.78		23.82		27.50		32.54	
12	1.42		2.78		5.32		9.79		13.59		19.71		22.21		28.17		32.53			
13 •	1.66		3.25		6.21		11.43		15.86		23.01		25.93		32.88		37.97			
14 •	1.87		3.66		7.00		12.87		17.86		25.90		29.19		37.02		42.75			
15 •	2.10		4.10		7.85		14.44		20.04		29.06		32.75		41.53		47.96			
16	2.29		4.47		8.55		15.72		21.82		31.64		35.66		45.22		52.22			
17 •	2.49		4.86		9.30		17.10		23.73		34.42		38.79		49.19		56.80			
18	2.69		5.25		10.04		18.46		25.63		37.17		41.88		53.11		61.34			
19 •	2.89		5.65		10.80		19.87		27.58		40.00		45.07		57.16		66.01			
20	3.10		6.06		11.59		21.31		29.58		42.91		48.35		61.31					
21	3.31		6.46		12.36		22.73		31.55		45.76		51.56		65.39					
22 •	3.52		6.87		13.15		24.18		33.56		48.67		54.85		69.55					
24 •	3.92		7.66		14.65		26.93		37.39		54.22		61.10		77.49					
25	4.12		8.05		15.39		28.30		39.29		56.98		64.21		81.43					
26	4.33		8.47		16.20		29.78		41.34		59.96		67.57							
27 •	4.55		8.90		17.02		31.29		43.43		62.99		70.98							
28 •	4.78		9.33		17.85		32.82		45.56		66.08		74.46							
30	5.20		10.17		19.45		35.76		49.64		72.00		81.14							
32	5.64		11.03		21.09		38.79		53.84		78.09		88.00							
33 •	5.87		11.47		21.93		40.33		55.98		81.19		91.49							
35	6.34		12.40		23.70		43.59		60.51		87.76		98.89							
36 •	6.58		12.85		24.58		45.19		62.73		90.99									
40	7.54		14.73		28.18		51.81		71.92		104.32									
42	8.00		15.63		29.89		54.96		76.30		110.66									
44 •	8.46		16.54		31.63		58.17		80.74		117.11									
45	8.70		17.00		32.51		59.79		82.99											
48 •	9.44		18.45		35.29		64.89		90.08											
50	9.89		19.32		36.94		67.93		94.30											
52	10.36		20.24		38.70		71.17		98.79											
54	10.83		21.17		40.48		74.44		103.34											
55	11.03		21.56		41.23		75.82		105.25											
56 •	11.26		22.01		42.08		77.39		107.42											
60	12.24		23.92		45.74		84.11		116.76											
64	13.15		25.70		49.14		90.36		125.43											
66 •	13.62		26.62		50.91		93.62		129.96											
70	14.55		28.44		54.38		100.00		138.81											
72 •	14.97		29.25		55.93		102.85													
80	16.90		33.03		63.16		116.15													
84	17.87		34.92		66.78		122.79													
88 •	18.76		36.67		70.12		128.93													
90	19.23		37.58		71.87		132.16													
96 •	20.65		40.36		77.19		141.93													
100	21.56		42.14		80.58															
108 •	23.39		45.71		87.42															
110	23.88		46.67		89.24															
112 •	24.31		47.51																	
120	26.23		51.25																	
144	24.91		48.68																	
160	35.59		69.54																	
200	44.87		87.69																	

**ALL
STEEL**

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Pitch line velocities exceeding 1000 feet per minute are not recommended. They should be used for interpolation purposes only.

2. Non-metallic gears are most commonly used for the driving pinion of a pair of gears, with mating gear made of cast iron or steel, where pitch line velocities exceed 1000 FPM and are not subjected to shock loads.

20° Horsepower Ratings (Approximate)



For Class I Service (Service Factor = 1.0)

6 Diametral Pitch

20° Pressure Angle

2" Face

No. Teeth	25 RPM		50 RPM		100 RPM		200 RPM		300 RPM		500 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
11 •	0.67		1.32		2.54		4.73		6.63		9.79		11.11		14.34		16.78		20.21	
12 •	0.79		1.56		3.00		5.59		7.84		11.58		13.14		16.96		19.84		23.91	
13	0.93		1.82		3.50		6.52		9.15		13.51		15.34		19.80		23.16		27.91	
14 •	1.04		2.05		3.94		7.35		10.31		15.21		17.27		22.29		26.08		31.42	
15 •	1.17		2.30		4.43		8.24		11.56		17.07		19.37		25.01		29.26		35.25	
16 •	1.28		2.50		4.82		8.97		12.59		18.58		21.10		27.23		31.85		38.38	
17	1.39		2.72		5.24		9.76		13.69		20.21		22.95		29.61		34.65			
18 •	1.50		2.94		5.66		10.54		14.79		21.83		24.78		31.98		37.42			
19	1.61		3.16		6.09		11.34		15.91		23.49		26.66		34.41		40.26			
20	1.73		3.39		6.53		12.17		17.07		25.20		28.60		36.92		43.19			
21 •	1.84		3.62		6.97		12.97		18.21		26.87		30.50		39.37		46.06			
22	1.96		3.85		7.41		13.80		19.37		28.59		32.45		41.88		49.00			
24 •	2.19		4.29		8.26		15.38		21.57		31.85		36.15		46.65		54.59			
25	2.30		4.51		8.68		16.16		22.67		33.47		37.99		49.03					
26	2.42		4.74		9.13		17.00		23.86		35.22		39.97		51.59					
27 •	2.54		4.98		9.59		17.86		25.06		37.00		41.99		54.20					
28	2.66		5.22		10.06		18.74		26.29		38.81		44.05		56.85					
30 •	2.90		5.69		10.97		20.42		28.65		42.29		48.00		61.95					
32	3.15		6.17		11.89		22.14		31.07		45.86		52.06							
33 •	3.27		6.42		12.36		23.02		32.31		47.69		54.13							
35	3.54		6.94		13.36		24.88		34.92		51.54		58.50							
36 •	3.67		7.19		13.86		25.80		36.20		53.44		60.66							
40	4.21		8.25		15.89		29.58		41.51		61.27		69.54							
42 •	4.46		8.75		16.85		31.38		44.03		64.99		73.77							
44	4.72		9.26		17.83		33.21		46.59		68.78		78.07							
45	4.85		9.52		18.33		34.13		47.89		70.70		80.25							
48 •	5.27		10.33		19.90		37.05		51.98		76.73									
50	5.51		10.81		20.83		38.78		54.42		80.32									
52	5.78		11.33		21.82		40.63		57.01		84.15									
54 •	6.04		11.85		22.82		42.50		59.63		88.02									
55	6.15		12.07		23.25		43.29		60.74											
56	6.28		12.32		23.73		44.18		61.99											
60 •	6.83		13.39		25.79		48.02		67.38											
64 •	7.33		14.39		27.70		51.59		72.38											
66 •	7.60		14.91		28.71		53.45		75.00											
70	8.12		15.92		30.66		57.09		80.10											
72 •	8.35		16.37		31.54		58.72		82.39											
80	9.43		18.49		35.61		66.31		93.04											
84 •	9.97		19.55		37.65		70.10		98.36											
88	10.46		20.53		39.53		73.61		103.28											
90	10.73		21.04		40.52		75.45													
96 •	11.52		22.60		43.52		81.03													
100	12.03		23.59		45.43		84.60													
108 •	13.05		25.59		49.29		91.77													
110	13.32		26.12		50.31		93.68													
112	13.56		26.60		51.23		95.39													
120 •	14.63		28.69		55.25															
144	13.89		27.25		52.49															
160	19.85		38.93		74.98															
200	25.03		49.09		94.54															

**ALL
STEEL**

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Pitch line velocities exceeding 1000 feet per minute are not recommended. They should be used for interpolation purposes only.

2. Non-metallic gears are most commonly used for the driving pinion of a pair of gears, with mating gear made of cast iron or steel, where pitch line velocities exceed 1000 FPM and are not subjected to shock loads.



20° Horsepower Ratings (Approximate)

For Class I Service (Service Factor = 1.0)

8 Diametral Pitch

20° Pressure Angle

1 1/2" Face

No. Teeth	25 RPM		50 RPM		100 RPM		200 RPM		300 RPM		500 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
11	0.28		0.56		1.09		2.06		2.94		4.45		5.10		6.76		8.07		10.00	
12 •	0.34		0.66		1.29		2.44		3.48		5.26		6.03		7.99		9.54		11.83	
13	0.39		0.78		1.51		2.85		4.06		6.14		7.04		9.33		11.14		13.81	
14 •	0.44		0.87		1.70		3.21		4.57		6.91		7.93		10.50		12.54		15.55	
15 •	0.50		0.98		1.90		3.60		5.13		7.76		8.90		11.78		14.07		17.45	
16 •	0.54		1.07		2.07		3.92		5.58		8.44		9.69		12.83		15.31		18.99	
17	0.59		1.16		2.25		4.26		6.07		9.18		10.53		13.95		16.66		20.66	
18 •	0.64		1.25		2.43		4.61		6.56		9.92		11.38		15.07		17.99		22.31	
19 •	0.68		1.35		2.62		4.96		7.06		10.67		12.24		16.22		19.36		24.01	
20 •	0.73		1.45		2.81		5.32		7.57		11.45		13.13		17.40		20.77		25.76	
21	0.78		1.54		3.00		5.67		8.07		12.21		14.00		18.55		22.14			
22 •	0.83		1.64		3.19		6.03		8.59		12.99		14.90		19.73		23.56			
24 •	0.93		1.83		3.55		6.72		9.56		14.47		16.60		21.98		26.24			
25	0.97		1.92		3.73		7.06		10.05		15.21		17.44		23.10		27.58			
26 •	1.02		2.02		3.93		7.43		10.58		16.00		18.35		24.31		29.02			
27	1.08		2.12		4.12		7.80		11.11		16.81		19.28		25.54		30.49			
28 •	1.13		2.23		4.33		8.19		11.66		17.63		20.22		26.79		31.98			
30 •	1.23		2.43		4.71		8.92		12.70		19.21		22.04		29.19		34.85			
32 •	1.33		2.63		5.11		9.68		13.77		20.84		23.90		31.66					
33	1.39		2.73		5.31		10.06		14.32		21.67		24.85		32.92					
35	1.50		2.96		5.74		10.87		15.48		23.42		26.86		35.58					
36 •	1.56		3.06		5.96		11.27		16.05		24.28		27.85		36.89					
40 •	1.78		3.51		6.83		12.92		18.40		27.84		31.93		42.29					
42 •	1.89		3.73		7.24		13.71		19.52		29.53		33.87		44.86					
44 •	2.00		3.94		7.67		14.51		20.66		31.25		35.84		47.48					
45	2.06		4.05		7.88		14.91		21.23		32.12		36.84							
48 •	2.23		4.40		8.55		16.19		23.05		34.86		39.99							
50		1.12		2.21		4.30		8.13		11.58		17.52		20.09						
52 •		1.18		2.32		4.50		8.52		12.13		18.35		21.05						
54		1.23		2.42		4.71		8.91		12.69		19.20		22.02						
55		1.25		2.47		4.80		9.08		12.93		19.55		22.43						
56 •		1.28		2.52		4.90		9.27		13.19		19.96		22.89						
60 •		1.39		2.74		5.32		10.07		14.34		21.69		24.88						
64 •		1.49		2.94		5.72		10.82		15.40		23.30								
66		1.55		3.05		5.92		11.21		15.96		24.14								
70		1.65		3.26		6.33		11.97		17.05		25.79								
72 •		1.70		3.35		6.51		12.32		17.53										
80 •		1.92		3.78		7.35		13.91		19.80										
84		2.03		4.00		7.77		14.70		20.93										
88 •		2.13		4.20		8.16		15.44		21.98										
90		2.18		4.30		8.36		15.82		22.53										
96 •		2.34		4.62		8.98		16.99		24.20										
100		2.45		4.82		9.37		17.74		25.26										
108		2.66		5.23		10.17		19.25		27.40										
110		2.71		5.34		10.38		19.65		27.97										
112 •		2.76		5.44		10.57		20.01		28.48										
120 •		2.98		5.87		11.40		21.58		30.72										
144 •		2.83		5.57		10.83		20.50												
160 •		4.04		7.96		15.47		29.28												
200		5.09		10.04		19.51		36.92												

STEEL

CAST

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Pitch line velocities exceeding 1000 feet per minute are not recommended. They should be used for interpolation purposes only.

2. Non-metallic gears are most commonly used for the driving pinion of a pair of gears, with mating gear made of cast iron or steel, where pitch line velocities exceed 1000 FPM and are not subjected to shock loads.

20° Horsepower Ratings (Approximate)



For Class I Service (Service Factor = 1.0)

10 Diametral Pitch

20° Pressure Angle

1 1/4" Face

No. Teeth	25 RPM		50 RPM		100 RPM		200 RPM		300 RPM		500 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
11	0.15		0.30		0.59		1.13		1.62		2.49		2.87		3.88		4.70		5.95	
12 •	0.18		0.36		0.70		1.33		1.91		2.94		3.40		4.58		5.55		7.04	
13	0.21		0.42		0.81		1.55		2.23		3.43		3.97		5.35		6.48		8.22	
14 •	0.24		0.47		0.91		1.75		2.51		3.87		4.47		6.02		7.30		9.25	
15 •	0.27		0.53		1.03		1.96		2.82		4.34		5.01		6.76		8.19		10.38	
16 •	0.29		0.57		1.12		2.14		3.07		4.72		5.45		7.36		8.91		11.30	
17	0.31		0.62		1.22		2.32		3.34		5.14		5.93		8.00		9.70		12.30	
18 •	0.34		0.67		1.31		2.51		3.61		5.55		6.41		8.64		10.47		13.28	
19	0.37		0.72		1.41		2.70		3.88		5.97		6.89		9.30		11.27		14.29	
20 •	0.39		0.78		1.52		2.90		4.16		6.40		7.40		9.98		12.09		15.33	
21	0.42		0.83		1.62		3.09		4.44		6.83		7.89		10.64		12.89		16.35	
22 •	0.44		0.88		1.72		3.29		4.72		7.26		8.39		11.32		13.71		17.39	
24 •	0.50		0.98		1.91		3.66		5.26		8.09		9.35		12.61		15.28		19.37	
25 •	0.52		1.03		2.01		3.85		5.53		8.50		9.82		13.25		16.05		20.36	
26 •	0.55		1.08		2.12		4.05		5.82		8.95		10.34		13.94		16.89			
27	0.58		1.14		2.22		4.25		6.11		9.40		10.86		14.65		17.75			
28 •	0.60		1.19		2.33		4.46		6.41		9.86		11.39		15.37		18.61			
30 •	0.66		1.30		2.54		4.86		6.99		10.74		12.41		16.74		20.28			
32 •	0.71		1.41		2.76		5.27		7.58		11.65		13.46		18.16		22.00			
33	0.74		1.47		2.87		5.48		7.88		12.11		14.00		18.88		22.87			
35 •	0.80		1.59		3.10		5.93		8.52		13.09		15.13		20.41		24.72			
36 •	0.83		1.64		3.21		6.14		8.83		13.58		15.68		21.16		25.63			
40 •	0.95		1.88		3.68		7.04		10.12		15.56		17.98		24.26					
42	1.01		2.00		3.91		7.47		10.74		16.51		19.07		25.73					
44	1.07		2.12		4.14		7.91		11.36		17.47		20.19		27.23					
45 •	1.10		2.18		4.25		8.13		11.68		17.96		20.75		27.99					
48 •	1.19		2.36		4.61		8.82		12.68		19.49		22.52		30.38					
50 •	1.25		2.47		4.83		9.24		13.27		20.41		23.57							
52	1.31		2.59		5.06		9.68		13.90		21.38		24.70							
54	1.37		2.71		5.29		10.12		14.54		22.36		25.83							
55 •	1.40		2.76		5.39		10.31		14.81		22.78		26.31							
56	1.42		2.82		5.50		10.52		15.12		23.25		26.86							
60 •	1.55		3.06		5.98		11.44		16.43		25.27		29.19							
64		0.80		1.58		3.08		5.90		8.47		13.03		15.05						
66		0.83		1.63		3.19		6.11		8.78		13.50		15.60						
70 •		0.88		1.75		3.41		6.53		9.38		14.42		16.66						
72		0.91		1.80		3.51		6.71		9.65		14.83		17.13						
80 •		1.03		2.03		3.96		7.58		10.89		16.75								
84		1.08		2.14		4.19		8.01		11.52		17.71								
88		1.14		2.25		4.40		8.41		12.09		18.59								
90 •		1.17		2.31		4.51		8.62		12.39		19.06								
96		1.25		2.48		4.84		9.26		13.31										
100 •		1.31		2.59		5.06		9.67		13.90										
108		1.42		2.81		5.49		10.49		15.08										
110		1.45		2.87		5.60		10.71		15.39										
112		1.48		2.92		5.70		10.90		15.67										
120		1.59		3.15		6.15		11.76		16.90										
144		1.51		2.99		5.84		11.17		16.05										
160		2.16		4.27		8.35		15.96		22.93										
200		2.72		5.38		10.52		20.12		28.92										

STEEL
CAST

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Pitch line velocities exceeding 1000 feet per minute are not recommended. They should be used for interpolation purposes only.

2. Non-metallic gears are most commonly used for the driving pinion of a pair of gears, with mating gear made of cast iron or steel, where pitch line velocities exceed 1000 FPM and are not subjected to shock loads.



20° Horsepower Ratings (Approximate)

For Class I Service (Service Factor = 1.0)

12 Diametral Pitch

20° Pressure Angle

1" Face

No. Teeth	25 RPM		50 RPM		100 RPM		200 RPM		300 RPM		500 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
11	0.08		0.17		0.33		0.63		0.92		1.43		1.66		2.27		2.78		3.58	
12 •	0.10		0.20		0.39		0.75		1.09		1.69		1.96		2.68		3.28		4.24	
13 •	0.12		0.23		0.45		0.88		1.27		1.97		2.29		3.13		3.83		4.95	
14 •	0.13		0.26		0.51		0.99		1.43		2.22		2.58		3.52		4.32		5.57	
15 •	0.15		0.29		0.57		1.11		1.60		2.49		2.89		3.95		4.84		6.25	
16 •	0.16		0.32		0.63		1.20		1.74		2.71		3.15		4.30		5.27		6.81	
17	0.18		0.35		0.68		1.31		1.90		2.95		3.42		4.68		5.74		7.40	
18 •	0.19		0.37		0.73		1.42		2.05		3.18		3.70		5.06		6.19		7.99	
19 •	0.20		0.40		0.79		1.52		2.20		3.43		3.98		5.44		6.67		8.60	
20 •	0.22		0.43		0.85		1.63		2.36		3.68		4.27		5.84		7.15		9.23	
21 •	0.23		0.46		0.90		1.74		2.52		3.92		4.55		6.22		7.63		9.84	
22 •	0.25		0.49		0.96		1.85		2.68		4.17		4.84		6.62		8.11		10.47	
24 •	0.28		0.55		1.07		2.06		2.99		4.64		5.39		7.38		9.04		11.66	
25 •	0.29		0.57		1.13		2.17		3.14		4.88		5.67		7.75		9.50		12.26	
26 •	0.31		0.60		1.19		2.28		3.30		5.14		5.96		8.16		9.99		12.90	
27	0.32		0.63		1.25		2.40		3.47		5.40		6.27		8.57		10.50		13.55	
28 •	0.34		0.67		1.31		2.52		3.64		5.66		6.57		8.99		11.01		14.21	
30 •	0.37		0.73		1.42		2.74		3.96		6.17		7.16		9.79		12.00		15.49	
32 •	0.40		0.79		1.54		2.97		4.30		6.69		7.77		10.62		13.01			
33	0.41		0.82		1.61		3.09		4.47		6.95		8.08		11.05		13.53			
35	0.45		0.88		1.73		3.34		4.83		7.52		8.73		11.94		14.63			
36 •	0.46		0.92		1.80		3.46		5.01		7.79		9.05		12.38		15.16			
40	0.53		1.05		2.06		3.97		5.74		8.94		10.38		14.19		17.39			
42 •	0.56		1.12		2.19		4.21		6.09		9.48		11.01		15.05		18.44			
44	0.60		1.18		2.32		4.46		6.45		10.03		11.65		15.93		19.52			
45	0.61		1.21		2.38		4.58		6.63		10.31		11.97		16.37		20.06			
48 •	0.66		1.32		2.58		4.97		7.19		11.19		13.00		17.77					
50	0.70		1.38		2.70		5.21		7.53		11.71		13.60		18.60					
52	0.73		1.44		2.83		5.45		7.89		12.27		14.25		19.49					
54 •	0.76		1.51		2.96		5.71		8.25		12.84		14.91		20.39					
55	0.78		1.54		3.02		5.81		8.41		13.08		15.18		20.77					
56	0.79		1.57		3.08		5.93		8.58		13.35		15.50		21.19					
60 •	0.86		1.71		3.35		6.45		9.33		14.51		16.84		23.04					
64	0.93		1.83		3.60		6.93		10.02		15.58		18.10		24.75					
66 •	0.96		1.90		3.73		7.18		10.38		16.15		18.75							
70	1.02		2.03		3.98		7.66		11.09		17.24		20.03							
72 •	1.05		2.09		4.09		7.88		11.40											
80		0.57		1.13		2.22		4.27		6.18		9.61		11.16						
84 •		0.60		1.20		2.35		4.52		6.53		10.16		11.80						
88		0.63		1.26		2.46		4.74		6.86		10.67		12.39						
90		0.65		1.29		2.52		4.86		7.03		10.94								
96 •		0.70		1.38		2.71		5.22		7.55		11.75								
100		0.73		1.44		2.83		5.45		7.89		12.27								
108 •		0.79		1.57		3.07		5.91		8.55		13.31								
110		0.81		1.60		3.13		6.04		8.73		13.58								
112		0.82		1.63		3.19		6.15		8.89										
120 •		0.89		1.76		3.44		6.63		9.59										
144 •		0.84		1.67		3.27		6.30		9.11										
160		1.20		2.38		4.67		9.00		13.01										
200		1.52		3.00		5.89		11.34		16.41										

**STEEL
CAST**

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Pitch line velocities exceeding 1000 feet per minute are not recommended. They should be used for interpolation purposes only.

2. Non-metallic gears are most commonly used for the driving pinion of a pair of gears, with mating gear made of cast iron or steel, where pitch line velocities exceed 1000 FPM and are not subjected to shock loads.

20° Horsepower Ratings (Approximate)



For Class I Service (Service Factor = 1.0)

16 Diametral Pitch

20° Pressure Angle

3/4" Face

No. Teeth	25 RPM		50 RPM		100 RPM		200 RPM		300 RPM		500 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
11	0.04		0.07		0.14		0.27		0.40		0.63		0.73		1.02		1.28		1.69	
12•	0.04		0.08		0.17		0.32		0.47		0.74		0.87		1.21		1.51		2.00	
13•	0.05		0.10		0.19		0.38		0.55		0.87		1.01		1.41		1.76		2.33	
14•	0.06		0.11		0.22		0.42		0.62		0.98		1.14		1.59		1.98		2.63	
15•	0.06		0.12		0.24		0.48		0.69		1.10		1.28		1.79		2.22		2.95	
16•	0.07		0.14		0.27		0.52		0.76		1.19		1.40		1.94		2.42		3.21	
17•	0.07		0.15		0.29		0.56		0.82		1.30		1.52		2.12		2.63		3.49	
18•	0.08		0.16		0.31		0.61		0.89		1.40		1.64		2.28		2.84		3.77	
19	0.09		0.17		0.34		0.65		0.95		1.51		1.76		2.46		3.06		4.05	
20•	0.09		0.18		0.36		0.70		1.02		1.62		1.89		2.64		3.28		4.35	
21•	0.10		0.20		0.39		0.75		1.09		1.73		2.02		2.81		3.50		4.64	
22•	0.10		0.21		0.41		0.80		1.16		1.84		2.15		2.99		3.72		4.93	
24•	0.12		0.23		0.46		0.89		1.29		2.04		2.39		3.33		4.15		5.50	
25	0.12		0.24		0.48		0.93		1.36		2.15		2.51		3.50		4.36		5.78	
26•	0.13		0.26		0.50		0.98		1.43		2.26		2.64		3.69		4.59		6.08	
27	0.14		0.27		0.53		1.03		1.50		2.38		2.78		3.87		4.82		6.38	
28•	0.14		0.28		0.56		1.08		1.58		2.49		2.91		4.06		5.06		6.70	
30•	0.15		0.31		0.61		1.18		1.72		2.72		3.18		4.43		5.51		7.30	
32•	0.17		0.33		0.66		1.28		1.86		2.94		3.44		4.80		5.98		7.91	
33	0.17		0.35		0.68		1.33		1.94		3.06		3.58		4.99		6.21		8.23	
35	0.19		0.37		0.74		1.44		2.09		3.31		3.87		5.39		6.72		8.89	
36•	0.20		0.39		0.77		1.49		2.17		3.43		4.01		5.59		6.96		9.22	
40•	0.22		0.45		0.88		1.71		2.49		3.93		4.60		6.41		7.98		10.57	
42	0.24		0.47		0.93		1.81		2.64		4.17		4.88		6.80		8.47			
44	0.25		0.50		0.99		1.92		2.80		4.42		5.16		7.20		8.96			
45	0.26		0.51		1.01		1.97		2.87		4.54		5.31		7.40		9.21			
48•	0.28		0.56		1.10		2.14		3.12		4.93		5.76		8.03		10.00			
50	0.29		0.58		1.15		2.24		3.26		5.16		6.03		8.41		10.47			
52	0.31		0.61		1.21		2.34		3.42		5.40		6.32		8.81		10.96			
54	0.32		0.64		1.26		2.45		3.58		5.65		6.61		9.21		11.47			
55	0.33		0.65		1.29		2.50		3.64		5.76		6.73		9.38		11.68			
56•	0.34		0.67		1.31		2.55		3.72		5.88		6.87		9.58					
60•	0.36		0.72		1.43		2.77		4.04		6.39		7.47		10.41					
64•	0.39		0.78		1.53		2.98		4.34		6.86		8.02		11.18					
66	0.41		0.81		1.59		3.08		4.50		7.11		8.31		11.58					
70	0.43		0.86		1.70		3.29		4.81		7.59		8.88		12.37					
72•	0.45		0.88		1.74		3.39		4.94		7.81		9.13		12.73					
80•	0.50		1.00		1.97		3.83		5.58		8.82		10.31		14.37					
84•	0.53		1.06		2.08		4.05		5.90		9.32		10.90		15.19					
88•	0.56		1.11		2.19		4.25		6.20		9.79		11.45							
90	0.57		1.14		2.24		4.35		6.35		10.03		11.73							
96•	0.62		1.22		2.41		4.68		6.82		10.78		12.60							
100	0.64		1.27		2.51		4.88		7.12		11.25		13.16							
108		0.33		0.66		1.31		2.54		3.71		5.86		6.85						
110		0.34		0.68		1.34		2.60		3.79		5.98		6.99						
112•		0.35		0.69		1.36		2.64		3.85		6.09		7.12						
120		0.37		0.74		1.47		2.85		4.16		6.57		7.68						
144•		0.36		0.71		1.39		2.71		3.95		6.24								
160•		0.51		1.01		1.99		3.87		5.64		8.91								
200		0.64		1.27		2.51		4.88		7.11		11.24								

STEEL
CAST

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Pitch line velocities exceeding 1000 feet per minute are not recommended. They should be used for interpolation purposes only.

2. Non-metallic gears are most commonly used for the driving pinion of a pair of gears, with mating gear made of cast iron or steel, where pitch line velocities exceed 1000 FPM and are not subjected to shock loads.



20° Horsepower Ratings (Approximate)

For Class I Service (Service Factor = 1.0)

20 Diametral Pitch

20° Pressure Angle

1/2" Face

No. Teeth	25 RPM		50 RPM		100 RPM		200 RPM		300 RPM		500 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI	S	CI
11	0.02		0.03		0.06		0.12		0.17		0.28		0.32		0.46		0.57		0.78	
12 •	0.02		0.04		0.07		0.14		0.20		0.33		0.38		0.54		0.68		0.92	
13	0.02		0.04		0.08		0.16		0.24		0.38		0.45		0.63		0.79		1.07	
14 •	0.02		0.05		0.09		0.18		0.27		0.43		0.50		0.71		0.89		1.20	
15 •	0.03		0.05		0.11		0.21		0.30		0.48		0.56		0.80		1.00		1.35	
16 •	0.03		0.06		0.11		0.22		0.33		0.52		0.61		0.87		1.09		1.47	
17	0.03		0.06		0.12		0.24		0.36		0.57		0.67		0.94		1.19		1.60	
18 •	0.03		0.07		0.13		0.26		0.38		0.61		0.72		1.02		1.28		1.73	
19	0.04		0.07		0.14		0.28		0.41		0.66		0.78		1.10		1.38		1.86	
20 •	0.04		0.08		0.16		0.30		0.44		0.71		0.83		1.18		1.48		2.00	
21 •	0.04		0.08		0.17		0.32		0.47		0.76		0.89		1.25		1.58		2.13	
22 •	0.04		0.09		0.18		0.34		0.50		0.80		0.94		1.33		1.68		2.26	
24 •	0.05		0.10		0.20		0.38		0.56		0.90		1.05		1.49		1.87		2.52	
25 •	0.05		0.10		0.21		0.40		0.59		0.94		1.11		1.56		1.96		2.65	
26	0.06		0.11		0.22		0.42		0.62		0.99		1.16		1.64		2.07		2.79	
27	0.06		0.12		0.23		0.44		0.65		1.04		1.22		1.73		2.17		2.93	
28 •	0.06		0.12		0.24		0.47		0.68		1.09		1.28		1.81		2.28		3.07	
30 •	0.07		0.13		0.26		0.51		0.75		1.19		1.40		1.97		2.48		3.35	
32 •	0.07		0.14		0.28		0.55		0.81		1.29		1.52		2.14		2.69		3.63	
33	0.07		0.15		0.29		0.57		0.84		1.34		1.58		2.22		2.80		3.78	
35 •	0.08		0.16		0.32		0.62		0.91		1.45		1.70		2.40		3.03		4.08	
36 •	0.08		0.17		0.33		0.64		0.94		1.50		1.77		2.49		3.14		4.23	
40 •	0.10		0.19		0.38		0.74		1.08		1.72		2.02		2.86		3.60		4.85	
42	0.10		0.20		0.40		0.78		1.15		1.83		2.15		3.03		3.81		5.15	
44	0.11		0.21		0.42		0.83		1.21		1.93		2.27		3.21		4.04		5.45	
45 •	0.11		0.22		0.44		0.85		1.25		1.99		2.34		3.30		4.15		5.60	
48	0.12		0.24		0.47		0.92		1.35		2.16		2.54		3.58		4.50		6.08	
50 •	0.13		0.25		0.49		0.97		1.42		2.26		2.65		3.75		4.71		6.36	
52	0.13		0.26		0.52		1.01		1.48		2.37		2.78		3.92		4.94		6.66	
54	0.14		0.27		0.54		1.06		1.55		2.48		2.91		4.10		5.17			
55	0.14		0.28		0.55		1.08		1.58		2.52		2.96		4.18		5.26			
56	0.14		0.28		0.56		1.10		1.61		2.57		3.02		4.27		5.37			
60 •	0.16		0.31		0.61		1.20		1.75		2.80		3.29		4.64		5.84			
64	0.17		0.33		0.66		1.28		1.88		3.01		3.53		4.98		6.27			
66	0.17		0.34		0.68		1.33		1.95		3.11		3.66		5.16		6.50			
70 •	0.19		0.37		0.73		1.42		2.08		3.33		3.91		5.51		6.94			
72 •	0.19		0.38		0.75		1.46		2.14		3.42		4.02		5.67		7.14			
80 •	0.22		0.43		0.85		1.65		2.42		3.86		4.54		6.40					
84 •	0.23		0.45		0.89		1.75		2.56		4.08		4.80		6.77					
88	0.24		0.47		0.94		1.83		2.69		4.29		5.04		7.11					
90 •	0.24		0.49		0.96		1.88		2.76		4.40		5.16		7.29					
96 •	0.26		0.52		1.03		2.02		2.96		4.72		5.55		7.83					
100 •	0.27		0.55		1.08		2.11		3.09		4.93		5.79		8.17					
108	0.30		0.59		1.17		2.29		3.35		5.35		6.28							
110	0.30		0.60		1.19		2.33		3.42		5.46		6.41							
112	0.31		0.62		1.22		2.38		3.48		5.56		6.53							
120 •	0.33		0.66		1.31		2.56		3.76		5.99		7.04							
144	0.32		0.63		1.25		2.43		3.57		5.69		6.69							
160	0.45		0.90		1.78		3.48		5.10		8.13		9.56							
200	0.57		1.14		2.24		4.38		6.43		10.26		12.05							

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

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