

# 3 DP 3" Face

## Steel Stock Spur Gears 14½° Pressure Angle

# Martin



**Type A**  
Plain Without Hub



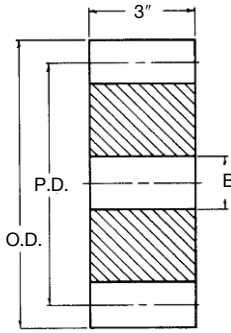
**Type B**  
Plain With Hub



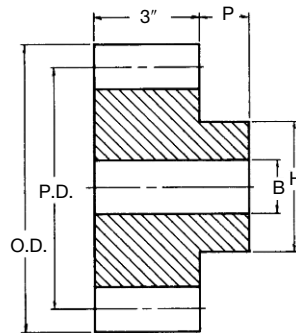
**Type B<sub>1</sub>**  
Web



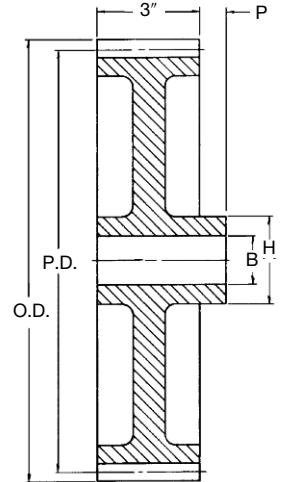
**Type B<sub>2</sub>**  
Web With  
Lighten Holes



**Type A**



**Type B**



**Type B<sub>1</sub>, B<sub>2</sub>**

### Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
11	S311	14½	4.000†	4.666	A	1⅞	2			12.0
12	S312	14½	4.000‡	4.666	A	1⅞	2			11.0
13	S313	14½	4.333	5.000	A	1⅞	2¼			10.7
14	S314	14½	4.667	5.333	A	1⅞	2½			12.8
15	S315	14½	5.000	5.666	A	1⅞	2¾			14.8
16	S316	14½	5.333	6.000	A	1⅞	2⅞			17.0
18	S318	14½	6.000	6.666	A	1⅞	3¼			22.0
20	S320	14½	6.667	7.333	A	1⅞	3½			27.4
21	S321	14½	7.000	7.666	A	1⅞	3¾			30.7
24	S324	14½	8.000	8.666	B	1⅞	3	5½	1¼	48.2
30	S330	14½	10.000	10.666	B	1⅞	3¾	6	1¼	74.5
36	S336	14½	12.000	12.666	B	1⅞	4¼	6½	1¼	114
42	S342	14½	14.000	14.666	B1	1⅞	4½	6½	1¼	106
48	S348	14½	16.000	16.666	B1	1⅞	4¾	6½	1¼	120
54	S354	14½	18.000	18.666	B2	1⅞	4¾	6½	1¼	134
60	S360	14½	20.000	20.666	B2	1⅞	4¾	6½	1¼	150
72	S372	14½	24.000	24.666	B2	1⅞	4½	7	1¼	180
84	S384	14½	28.000	28.666	B2	1⅞	4½	7	1¼	215
96	S396	14½	32.000	32.666	B2	1⅞	4½	7	1¼	264
108	S3108	14½	36.000	36.666	B2	1⅞	4½	7	1¼	305
120	S3120	14½	40.000	40.666	B2	1⅞	5	7½	1¼	367

\* Recommended Maximum Bore With Keyway and Setscrew.

† Enlarged Pitch Diameter with Special Tooth Form.

‡ 4" Face.

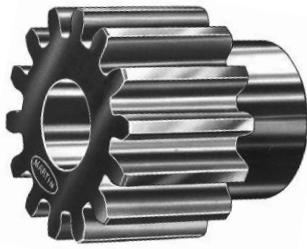
**14½ P.A. Gears Will Not Operate With 20° P.A.**

# Martin

## Cast Iron Stock Spur Gears

14½° Pressure Angle

# 3 DP 3" Face



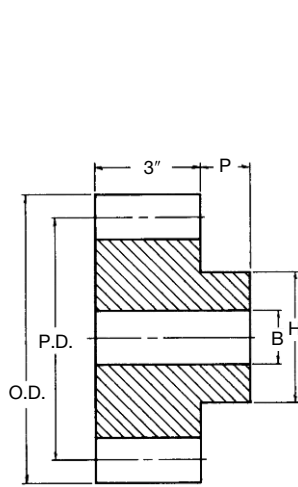
**Type B**  
Plain With Hub



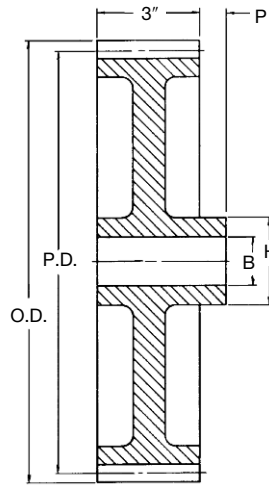
**Type B<sub>2</sub>**  
Web With  
Lighten Holes



**Type B<sub>3</sub>**  
Web With Spokes



**Type B**



**Type B<sub>2</sub>, B<sub>3</sub>**

### Cast — Style “B”

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
24	C324	14½	8.000	8.666	B	1⅙	2⅙	4½	1¼	40.4
28	C328	14½	9.333	10.000	B	1⅙	3⅙	5½	1¼	54.2
30	C330	14½	10.000	10.666	B	1⅙	3⅙	5½	1¼	57.1
32	C332	14½	10.667	11.333	B	1⅙	3⅙	5½	1¼	62.4
36	C336	14½	12.000	12.666	B <sub>2</sub>	1⅙	3¼	5½	1¼	71.3
40	C340	14½	13.333	14.000	B <sub>2</sub>	1⅙	3¼	5½	1¼	75.9
42	C342	14½	14.000	14.666	B <sub>2</sub>	1⅙	3¼	5½	1¼	79.5
45	C345	14½	15.000	15.666	B <sub>2</sub>	1⅙	3¼	5½	1¼	85.0
48	C348	14½	16.000	16.666	B <sub>3</sub>	1⅙	3¼	5½	1¼	92.9
54	C354	14½	18.000	18.666	B <sub>3</sub>	1⅙	3¼	5½	1¼	104
60	C360	14½	20.000	20.666	B <sub>3</sub>	1⅙	3¼	5½	1¼	115
72	C372	14½	24.000	24.666	B <sub>3</sub>	1⅙	3⅙	6	1¼	153
75	C375	14½	25.000	25.666	B <sub>3</sub>	1⅙	3⅙	6	1¼	155
84	C384	14½	28.000	28.666	B <sub>3</sub>	1⅙	3⅙	6	1¼	178
90	C390	14½	30.000	30.666	B <sub>3</sub>	1⅙	3⅙	6	1¼	185
96	C396	14½	32.000	32.666	B <sub>3</sub>	1⅙	3⅙	6	1¼	205
105	C3105	14½	35.000	35.666	B <sub>3</sub>	1⅙	3⅙	6	1¼	216
108	C3108	14½	36.000	36.666	B <sub>3</sub>	1⅙	3⅙	6	1¼	228
120	C3120	14½	40.000	40.666	B <sub>3</sub>	1⅙	4	6	1¼	226

\* 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

# Martin



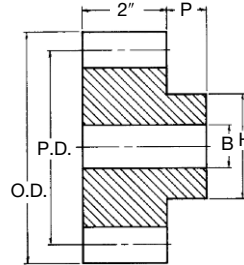
**Type B**  
Plain With Hub



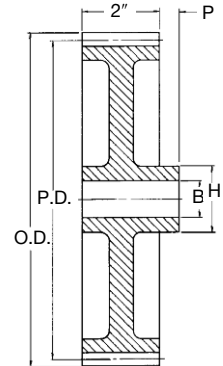
**Type B<sub>1</sub>**  
Web



**Type B<sub>2</sub>**  
Web With  
Lighten Holes



**Type B**



**Type B<sub>1</sub>, B<sub>2</sub>**

### Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
11	S411	14½	3.000†	3.500	B	1½	1½	2½	¾	4.0
12	S412	14½	3.000	3.500	B	1½	1½	2½	¾	3.9
13	S413	14½	3.250	3.750	B	1½	1½	2½	¾	4.6
14	S414	14½	3.500	4.000	B	1½	1½	2½	¾	5.7
15	S415	14½	3.750	4.250	B	1½	1½	3	¾	6.8
16	S416	14½	4.000	4.500	B	1½	1½	3½	¾	8.0
17	S417	14½	4.250	4.750	B	1½	2	3½	¾	9.2
18	S418	14½	4.500	5.000	B	1½	2½	3½	¾	10.4
19	S419	14½	4.750	5.250	B	1½	2½	4	¾	10.5
20	S420	14½	5.000	5.500	B	1½	2½	4½	¾	13.4
21	S421	14½	5.250	5.750	B	1½	2½	4½	¾	14.9
22	S422	14½	5.500	6.000	B	1½	2½	4½	¾	16.5
24	S424	14½	6.000	6.500	B	1½	2½	4½	1½	22.8
26	S426	14½	6.500	7.000	B	1½	2½	4½	1½	24.8
28	S428	14½	7.000	7.500	B	1½	2½	4½	1½	27.8
30	S430	14½	7.500	8.000	B	1½	2½	4½	1½	31.0
32	S432	14½	8.000	8.500	B	1½	2½	4½	1½	34.4
36	S436	14½	9.000	9.500	B	1½	2½	4½	1½	41.7
40	S440	14½	10.000	10.500	B	1½	3½	5½	1½	51.8
42	S442	14½	10.500	11.000	B	1½	3½	5½	1½	56.0
44	S444	14½	11.000	11.500	B	1½	3½	5½	1½	60.8
48	S448	14½	12.000	12.500	B	1½	3½	5½	1½	70.8
54	S454	14½	13.500	14.000	B <sub>1</sub>	1½	3	5	1½	57.4
56	S456	14½	14.000	14.500	B <sub>1</sub>	1½	3	5	1½	59.9
60	S460	14½	15.000	15.500	B <sub>2</sub>	1½	3	5	1½	62.8
64	S464	14½	16.000	16.500	B <sub>2</sub>	1½	3	5	1½	66.2
72	S472	14½	18.000	18.500	B <sub>2</sub>	1½	3½	5½	1½	82.9
80	S480	14½	20.000	20.500	B <sub>2</sub>	1½	3½	5½	1½	95.0
84	S484	14½	21.000	21.500	B <sub>2</sub>	1½	3½	5½	1½	92.0
88	S488	14½	22.000	22.500	B <sub>2</sub>	1½	3½	6½	1½	95.8
96	S496	14½	24.000	24.500	B <sub>2</sub>	1½	3½	6½	1½	124
120	S4120	14½	30.000	30.500	B <sub>2</sub>	1½	3½	6	1½	155
144	S4144	14½	36.000	36.500	B <sub>2</sub>	1½	4	6½	1½	208

\* Recommended Maximum Bore With Keyway and Set Screw.  
† Enlarged Pitch Diameter with Special Tooth Form.

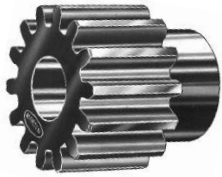
**14½° P.A. Gears Will Not Operate With 20° P.A.**

# Martin

## Cast Iron Stock Spur Gears

14½° Pressure Angle

# 4 DP 2" Face



**Type B**  
Plain With Hub



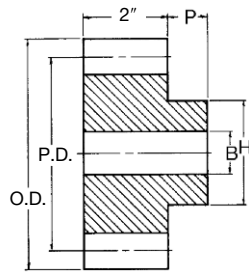
**Type B<sub>1</sub>**  
Web



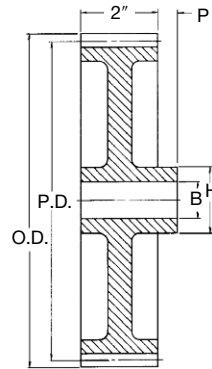
**Type B<sub>2</sub>**  
Web With  
Lighten Holes



**Type B<sub>3</sub>**  
Web With Spokes



**Type B**



**Type B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>**

### Cast — Style “B”

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
24	C424	14½	6.000	6.500	B	1½	2½	3½	1½	17.0 v
28	C428	14½	7.000	7.500	B <sub>1</sub>	1½	2½	3½	1½	20.2
30	C430	14½	7.500	8.000	B <sub>1</sub>	1½	2½	3½	1½	21.1
32	C432	14½	8.000	8.500	B <sub>1</sub>	1½	2½	3½	1½	23.2
36	C436	14½	9.000	9.500	B <sub>2</sub>	1½	2½	3½	1½	30.5
40	C440	14½	10.000	10.500	B <sub>2</sub>	1½	2½	4	1½	26.4
42	C442	14½	10.500	11.000	B <sub>2</sub>	1½	2½	4	1½	33.9
44	C444	14½	11.000	11.500	B <sub>2</sub>	1½	2½	4	1½	32.0
48	C448	14½	12.000	12.500	B <sub>3</sub>	1½	2½	4	1½	38.4
52	C452	14½	13.000	13.500	B <sub>3</sub>	1½	2½	4	1½	42.5
54	C454	14½	13.500	14.000	B <sub>3</sub>	1½	2½	4	1½	44.7
56	C456	14½	14.000	14.500	B <sub>3</sub>	1½	2½	4	1½	46.7
60	C460	14½	15.000	15.500	B <sub>3</sub>	1½	2½	4	1½	49.5
64	C464	14½	16.000	16.500	B <sub>3</sub>	1½	2½	4	1½	54.5
68	C468	14½	17.000	17.500	B <sub>3</sub>	1½	2½	4	1½	56.0
72	C472	14½	18.000	18.500	B <sub>3</sub>	1½	2½	4	1½	63.0
80	C480	14½	20.000	20.500	B <sub>3</sub>	1½	2⅞	4½	1½	72.0
84	C484	14½	21.000	21.500	B <sub>3</sub>	1½	2⅞	4½	1½	73.0
88	C488	14½	22.000	22.500	B <sub>3</sub>	1½	2⅞	4½	1½	75.0
96	C496	14½	24.000	24.500	B <sub>3</sub>	1½	2⅞	4½	1½	86.0
100	C4100	14½	25.000	25.500	B <sub>3</sub>	1½	2⅞	4½	1½	91.0
104	C4104	14½	26.000	26.500	B <sub>3</sub>	1½	2⅞	4½	1½	105
112	C4112	14½	28.000	28.500	B <sub>3</sub>	1½	3½	5	1½	108
120	C4120	14½	30.000	30.500	B <sub>3</sub>	1½	3½	5	1½	115
132	C4132	14½	33.000	33.500	B <sub>3</sub>	1½	3½	5	1½	129
144	C4144	14½	36.000	36.500	B <sub>3</sub>	1½	3½	5½	1½	140

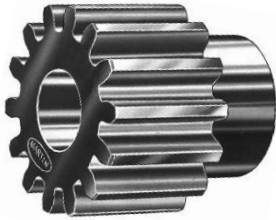
\* Recommended Maximum Bore With Keyway and Set Screw.

14½° P.A. Gears Will Not Operate With 20° P.A.

# 5 DP 1<sup>3</sup>/<sub>4</sub>" Face

## Steel Stock Spur Gears 14<sup>1</sup>/<sub>2</sub>° Pressure Angle

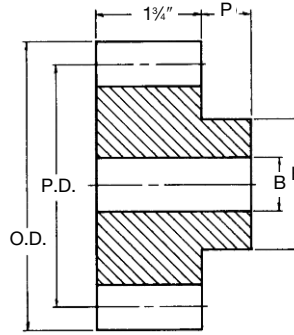
# Martin



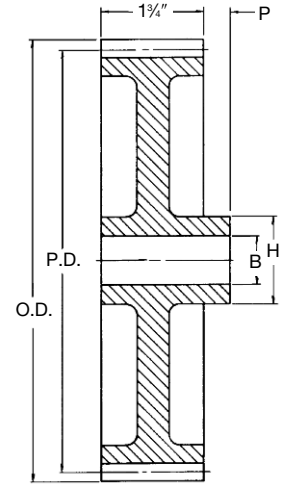
**Type B**  
Plain With Hub



**Type B<sub>2</sub>**  
Web With Lighten Holes



**Type B**



**Type B<sub>2</sub>**

### Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
11	S511	14 <sup>1</sup> / <sub>2</sub>	2.400†	2.800	B	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2.0
12	S512	14 <sup>1</sup> / <sub>2</sub>	2.400	2.800	B	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2.0
13	S513	14 <sup>1</sup> / <sub>2</sub>	2.600	3.000	B	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	2	3 <sup>1</sup> / <sub>16</sub>	2.6
14	S514	14 <sup>1</sup> / <sub>2</sub>	2.800	3.200	B	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3.1
15	S515	14 <sup>1</sup> / <sub>2</sub>	3.000	3.400	B	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3.7
16	S516	14 <sup>1</sup> / <sub>2</sub>	3.200	3.600	B	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	4.5
17	S517	14 <sup>1</sup> / <sub>2</sub>	3.400	3.800	B	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	5.2
18	S518	14 <sup>1</sup> / <sub>2</sub>	3.600	4.000	B	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	3	3 <sup>1</sup> / <sub>16</sub>	5.9
19	S519	14 <sup>1</sup> / <sub>2</sub>	3.800	4.200	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	6.7
20	S520	14 <sup>1</sup> / <sub>2</sub>	4.000	4.400	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	7.5
21	S521	14 <sup>1</sup> / <sub>2</sub>	4.200	4.600	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	8.1
22	S522	14 <sup>1</sup> / <sub>2</sub>	4.400	4.800	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	8.8
23	S523	14 <sup>1</sup> / <sub>2</sub>	4.600	5.000	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	9.5
24	S524	14 <sup>1</sup> / <sub>2</sub>	4.800	5.200	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	11.0
25	S525	14 <sup>1</sup> / <sub>2</sub>	5.000	5.400	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	11.8
26	S526	14 <sup>1</sup> / <sub>2</sub>	5.200	5.600	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	12.9
28	S528	14 <sup>1</sup> / <sub>2</sub>	5.600	6.000	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	14.3
30	S530	14 <sup>1</sup> / <sub>2</sub>	6.000	6.400	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	16.0
35	S535	14 <sup>1</sup> / <sub>2</sub>	7.000	7.400	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	22.8
40	S540	14 <sup>1</sup> / <sub>2</sub>	8.000	8.400	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	28.5
45	S545	14 <sup>1</sup> / <sub>2</sub>	9.000	9.400	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	35.0
50	S550	14 <sup>1</sup> / <sub>2</sub>	10.000	10.400	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	43.6
55	S555	14 <sup>1</sup> / <sub>2</sub>	11.000	11.400	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	52.0
60	S560	14 <sup>1</sup> / <sub>2</sub>	12.000	12.400	B	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	60.9
70	S570	14 <sup>1</sup> / <sub>2</sub>	14.000	14.400	B <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	5	3 <sup>1</sup> / <sub>16</sub>	48.4
80	S580	14 <sup>1</sup> / <sub>2</sub>	16.000	16.400	B <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	5	3 <sup>1</sup> / <sub>16</sub>	57.0
90	S590	14 <sup>1</sup> / <sub>2</sub>	18.000	18.400	B <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	5	3 <sup>1</sup> / <sub>16</sub>	67.0
100	S5100	14 <sup>1</sup> / <sub>2</sub>	20.000	20.400	B <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	62.0
110	S5110	14 <sup>1</sup> / <sub>2</sub>	22.000	22.400	B <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	87.6
120	S5120	14 <sup>1</sup> / <sub>2</sub>	24.000	24.400	B <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	113

\* Recommended Maximum Bore With Keyway and Setscrew.  
† Enlarged Pitch Diameter with Special Tooth Form.

**14<sup>1</sup>/<sub>2</sub>° P.A. Gears Will Not Operate With 20° P.A.**

# Martin

## Cast Iron Stock Spur Gears

14½° Pressure Angle

# 5 DP

## 1¾" Face



**Type B**  
Plain With Hub



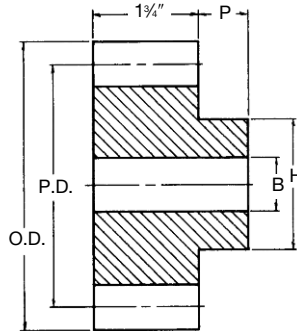
**Type B<sub>1</sub>**  
Web



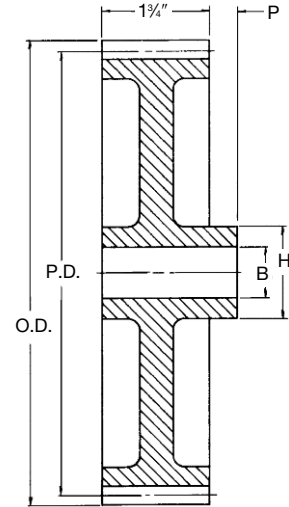
**Type B<sub>2</sub>**  
Web With  
Lighten Holes



**Type B<sub>3</sub>**  
Web With  
Spokes



**Type B**



**Type B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>**

### Cast — Style "B"

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
24	C524	14½	4.800	5.200	B	1⅙	2⅙	¾	1¼	9.9
25	C525	14½	5.000	5.400	B	1⅙	2⅙	¾	1¼	10.6
28	C528	14½	5.600	6.000	B	1⅙	2⅙	¾	1¼	12.1
30	C530	14½	6.000	6.400	B <sub>1</sub>	1⅙	2⅙	¾	1¼	13.9
32	C532	14½	6.400	6.800	B <sub>1</sub>	1⅙	2⅙	¾	1¼	13.5
35	C535	14½	7.000	7.400	B <sub>1</sub>	1⅙	2⅙	¾	1¼	16.9
36	C536	14½	7.200	7.600	B <sub>1</sub>	1⅙	2⅙	¾	1¼	15.5
40	C540	14½	8.000	8.400	B <sub>1</sub>	1⅙	2⅙	¾	1¼	17.4
45	C545	14½	9.000	9.400	B <sub>1</sub>	1⅙	2⅙	¾	1¼	20.3
48	C548	14½	9.600	10.000	B <sub>1</sub>	1⅙	2⅙	¾	1¼	25.2
50	C550	14½	10.000	10.400	B <sub>1</sub>	1⅙	2⅙	¾	1¼	23.7
54	C554	14½	10.800	11.200	B <sub>1</sub>	1⅙	2⅙	¾	1¼	25.1
55	C555	14½	11.000	11.400	B <sub>1</sub>	1⅙	2⅙	¾	1¼	26.0
60	C560	14½	12.000	12.400	B <sub>1</sub>	1⅙	2⅙	¾	1¼	30.6
64	C564	14½	12.800	13.200	B <sub>1</sub>	1⅙	2⅙	¾	1¼	31.2
66	C566	14½	13.200	13.600	B <sub>1</sub>	1⅙	2⅙	¾	1¼	30.8
70	C570	14½	14.000	14.400	B <sub>1</sub>	1⅙	2⅙	4	1¼	34.5
72	C572	14½	14.400	14.800	B <sub>1</sub>	1⅙	2⅙	4	1¼	35.0
75	C575	14½	15.000	15.400	B <sub>1</sub>	1⅙	2⅙	4	1¼	36.7
80	C580	14½	16.000	16.400	B <sub>1</sub>	1⅙	2⅙	4	1¼	40.8
84	C584	14½	16.800	17.200	B <sub>1</sub>	1⅙	2⅙	4	1¼	40.0
90	C590	14½	18.000	18.400	B <sub>1</sub>	1⅙	2⅙	4	1¼	45.4
96	C596	14½	19.200	19.600	B <sub>1</sub>	1⅙	2⅙	4	1¼	48.6
100	C5100	14½	20.000	20.400	B <sub>1</sub>	1⅙	2⅙	4½	1½	54.4
120	C5120	14½	24.000	24.400	B <sub>1</sub>	1⅙	2⅙	4¾	1½	56.1
130	C5130	14½	26.000	26.400	B <sub>1</sub>	1⅙	2⅙	4¾	1½	70.2

\* Recommended maximum bore with keyway and set screw.

Quotes for large quantity discontinued cast iron sizes, contact your nearest *Martin* Facility.

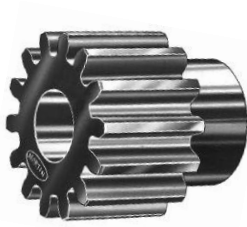
**14½° P.A. Gears Will Not Operate With 20° P.A.**

GEARS

# 6 DP 1 1/2" Face

## Steel Stock Spur Gears 14 1/2° Pressure Angle

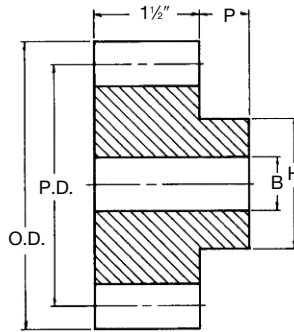
# Martin



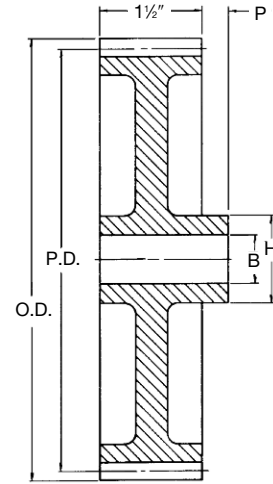
**Type B**  
Plain With Hub



**Type B<sub>2</sub>**  
Web With  
Lighten Holes



**Type B**



**Type B<sub>2</sub>**

### Steel

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

\* Recommended maximum bore with keyway and set screw.

\*\* Check application with factory.

† Enlarged pitch diameter with special tooth form.

**14 1/2° P.A. Gears Will Not Operate With 20° P.A.**

# Martin

## Cast Iron Stock Spur Gears

14½° Pressure Angle

# 6 DP 1½" Face



Type B Plain With Hub



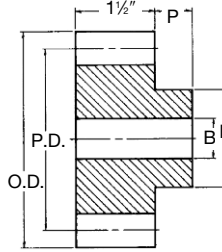
Type B<sub>1</sub> Web



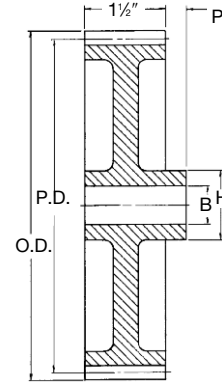
Type B<sub>2</sub>  
Web With Lighten Holes



Type B<sub>3</sub>  
Web With Spokes



Type B



Type B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>

### Cast — Style “B”

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
• 32	C632	14½	5.333	5.666	B <sub>1</sub>	1½	1⅞	2½	1	7.2
• 40	C640	14½	6.666	7.000	B <sub>1</sub>	1½	1⅞	3	1	11.9
• 42	C642	14½	7.000	7.333	B <sub>1</sub>	1½	1⅞	3	1	13.0
• 48	C648	14½	8.000	8.333	B <sub>1</sub>	1½	1⅞	3	1	12.1
• 54	C654	14½	9.000	9.333	B <sub>1</sub>	1½	2⅞	3¼	1	14.4
• 60	C660	14½	10.000	10.333	B <sub>1</sub>	1½	2⅞	3¼	1¼	17.0
• 64	C664	14½	10.666	11.000	B <sub>1</sub>	1½	2⅞	3¼	1¼	18.5
66	C666	14½	11.000	11.333	B <sub>1</sub>	1½	2⅞	3¼	1¼	19.0
70	C670	14½	11.666	12.000	B <sub>1</sub>	1½	2⅞	3¼	1¼	20.6
72	C672	14½	12.000	12.333	B <sub>1</sub>	1½	2⅞	3½	1¼	23.7
75	C675	14½	12.500	12.833	B <sub>1</sub>	1½	2⅞	3½	1¼	25.4
80	C680	14½	13.333	13.666	B <sub>1</sub>	1½	2⅞	3½	1¼	25.8
84	C684	14½	14.000	14.333	B <sub>1</sub>	1½	2⅞	3½	1¼	25.0
90	C690	14½	15.000	15.333	B <sub>1</sub>	1½	2⅞	3½	1¼	25.8
96	C696	14½	16.000	16.333	B <sub>1</sub>	1½	2⅞	3½	1¼	28.0
108	C6108	14½	18.000	18.333	B <sub>1</sub>	1½	2⅞	3¾	1¼	32.0
120	C6120	14½	20.000	20.333	B <sub>1</sub>	1½	2⅞	3¾	1½	34.8
132	C6132	14½	22.000	22.333	B <sub>1</sub>	1½	2⅞	3¾	1½	43.4
144	C6144	14½	24.000	24.333	B <sub>1</sub>	1½	2⅞	4	1½	45.2
180	C6180	14½	30.000	30.333	B <sub>1</sub>	1½	2⅞	4	1½	58.3

\* Recommended maximum bore with keyway and set screw  
• Consult Factory.

14½° P.A. Gears Will Not Operate With 20° P.A.

### Bored-to-Size

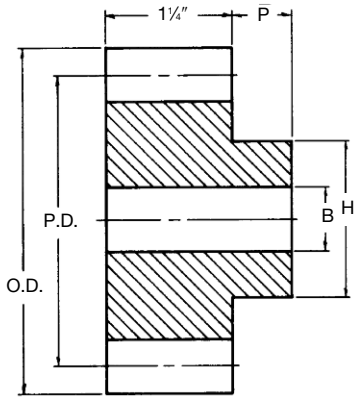
No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
11	S611BS 1	14½	2.000	2.333	B	1	¼ X ¼	(1) 1/4-20 @ 90	1½	¾	1.10
12	S612BS 1	14½	2.000	2.333	B	1	¼ X ¼	(1) 1/4-20 @ 90	1½	¾	1.10
14	S614BS 1	14½	2.333	2.667	B	1	¼ X ¼	(1) 5/16-18 @ 90	1⅞	¾	1.80
14	S614BS 1-1/8	14½	2.333	2.667	B	1-½	¼ X ¼	(1) 5/16-18 @ 90	1⅞	¾	1.80
15	S615BS 1	14½	2.500	2.833	B	1	¼ X ¼	(1) 5/16-18 @ 90	2	¾	2.20
15	S615BS 1-1/8	14½	2.500	2.833	B	1-½	¼ X ¼	(1) 5/16-18 @ 90	2	¾	2.20
15	S615BS 1-3/16	14½	2.500	2.833	B	1-¾	¼ X ¼	(1) 5/16-18 @ 90	2	¾	2.20
15	S615BS 1-1/4	14½	2.500	2.833	B	1-½	¼ X ¼	(1) 5/16-18 @ 90	2	¾	2.20
16	S616BS 1	14½	2.667	3.000	B	1	¼ X ¼	(1) 5/16-18 @ 90	2 ⅜	¾	2.60
16	S616BS 1-1/8	14½	2.667	3.000	B	1-½	¼ X ¼	(1) 5/16-18 @ 90	2 ⅜	¾	2.60
16	S616BS 1-3/16	14½	2.667	3.000	B	1-¾	¼ X ¼	(1) 5/16-18 @ 90	2 ⅜	¾	2.60
16	S616BS 1-1/4	14½	2.667	3.000	B	1-½	¼ X ¼	(1) 5/16-18 @ 90	2 ⅜	¾	2.60
18	S618BS 1	14½	3.000	3.333	B	1	¼ X ¼	(1) 5/16-18 @ 90	2 ½	¾	3.50
18	S618BS 1-1/8	14½	3.000	3.333	B	1-½	¼ X ¼	(1) 5/16-18 @ 90	2 ½	¾	3.50
18	S618BS 1-3/16	14½	3.000	3.333	B	1-¾	¼ X ¼	(1) 5/16-18 @ 90	2 ½	¾	3.50
18	S618BS 1-1/4	14½	3.000	3.333	B	1-½	¼ X ¼	(1) 5/16-18 @ 90	2 ½	¾	3.50
20	S620BS 1	14½	3.333	3.667	B	1	¼ X ¼	(1) 5/16-18 @ 90	2 ⅞	¾	4.60
20	S620BS 1-1/8	14½	3.333	3.667	B	1-½	¼ X ¼	(1) 5/16-18 @ 90	2 ⅞	¾	4.60
20	S620BS 1-3/16	14½	3.333	3.667	B	1-¾	¼ X ¼	(1) 5/16-18 @ 90	2 ⅞	¾	4.60
20	S620BS 1-1/4	14½	3.333	3.667	B	1-½	¼ X ¼	(1) 5/16-18 @ 90	2 ⅞	¾	4.60



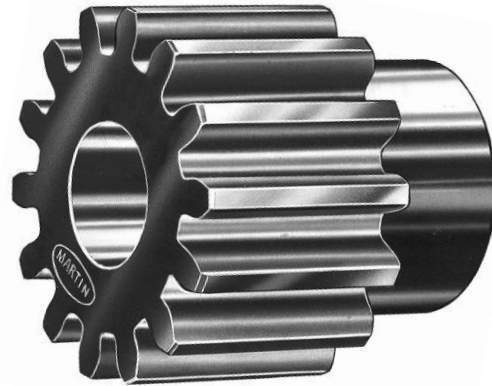
# 8 DP 1 1/4" Face

## Steel Stock Spur Gears 14 1/2° Pressure Angle

*Martin*



Type B



Type B  
Plain With Hub

### Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
11	S811	14 1/2	1.500†	1.750	B	3/8	**	1 1/2	3/4	.5
12	S812	14 1/2	1.500	1.750	B	3/8	**	1 1/2	3/4	.5
13	S813	14 1/2	1.625	1.875	B	3/8	**	1 1/2	3/4	.7
14	S814	14 1/2	1.750	2.000	B	3/8	1/8	1 1/2	3/4	.9
15	S815	14 1/2	1.875	2.125	B	7/8	7/8	1 1/2	3/4	.9
16	S816	14 1/2	2.000	2.250	B	7/8	1/8	1 1/2	3/4	1.1
17	S817	14 1/2	2.125	2.375	B	7/8	1	1 1/2	3/4	1.3
18	S818	14 1/2	2.250	2.500	B	7/8	1 1/8	1 1/2	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 1/2	2 1/2	3/4	2.0
21	S821	14 1/2	2.625	2.875	B	7/8	1 5/8	2 1/2	3/4	2.3
22	S822	14 1/2	2.750	3.000	B	7/8	1 3/4	2 1/2	3/4	2.6
24	S824	14 1/2	3.000	3.250	B	7/8	1 1/2	2 1/2	1	3.6
26	S826	14 1/2	3.250	3.500	B	7/8	1 1/2	2 1/2	1	3.9
28	S828	14 1/2	3.500	3.750	B	7/8	1 1/2	2 1/2	1	4.4
30	S830	14 1/2	3.750	4.000	B	7/8	1 1/2	2 1/2	1	5.1
32	S832	14 1/2	4.000	4.250	B	1	1 5/8	2 1/2	1	5.6
36	S836	14 1/2	4.500	4.750	B	1	1 1/2	3	1	7.0
40	S840	14 1/2	5.000	5.250	B	1	1 1/2	3	1	8.3
42	S842	14 1/2	5.250	5.500	B	1	1 1/2	3	1	9.0
44	S844	14 1/2	5.500	5.750	B	1	1 1/2	3	1	9.7
48	S848	14 1/2	6.000	6.250	B	1	1 1/2	3	1	11.3

\* Recommended maximum bore with keyway and set screw.

\*\* Check application with factory.

† 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

# 8 DP

## 1¼" Face



Type B Plain With Hub



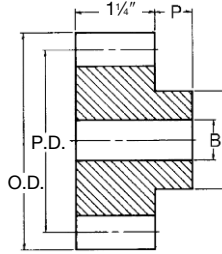
Type B<sub>1</sub> Web



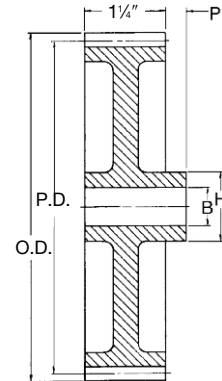
Type B<sub>2</sub>  
Web With Lighten Holes



Type B<sub>3</sub>  
Web With Spokes



Type B



Type B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>

### Cast — Style "B"

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
• 36	C836	14½	4.500	4.750	B <sub>1</sub>	1	1 1/16	2 1/2	1	4.5
• 40	C840	14½	5.000	5.250	B <sub>1</sub>	1	1 1/16	2 1/2	1	5.1
• 42	C842	14½	5.250	5.500	B <sub>1</sub>	1	1 1/16	2 1/2	1	5.5
• 44	C844	14½	5.500	5.750	B <sub>1</sub>	1	1 1/16	2 1/2	1	6.0
52	C852	14½	6.500	6.750	B <sub>1</sub>	1	1 1/16	2 1/2	1	10.3
54	C854	14½	6.750	7.000	B <sub>1</sub>	1	1 1/16	2 1/2	1	8.1
56	C856	14½	7.000	7.250	B <sub>1</sub>	1	1 1/16	2 1/2	1	8.2
60	C860	14½	7.500	7.750	B <sub>1</sub>	1	1 1/16	2 1/2	1	8.8
64	C864	14½	8.000	8.250	B <sub>1</sub>	1	1 1/16	2 1/2	1	11.2
68	C868	14½	8.500	8.750	B <sub>1</sub>	1	1 1/16	3"	1	11.5
72	C872	14½	9.000	9.250	B <sub>1</sub>	1	1 1/16	3"	1	11.7
76	C876	14½	9.500	9.750	B <sub>1</sub>	1	1 1/16	3"	1	12.0
80	C880	14½	10.000	10.250	B <sub>1</sub>	1 1/8	1 1/16	3"	1 1/8	12.2
84	C884	14½	10.500	10.750	B <sub>1</sub>	1 1/8	1 1/16	3"	1 1/8	13.2
88	C888	14½	11.000	11.250	B <sub>1</sub>	1 1/8	1 1/16	3"	1 1/8	13.5
92	C892	14½	11.500	11.750	B <sub>1</sub>	1 1/8	2 1/16	3 1/4	1 1/8	15.0
96	C896	14½	12.000	12.250	B <sub>1</sub>	1 1/8	2 1/16	3 1/4	1 1/8	15.8
100	C8100	14½	12.500	12.750	B <sub>1</sub>	1 1/8	2 1/16	3 1/4	1 1/8	16.5
112	C8112	14½	14.000	14.250	B <sub>1</sub>	1 1/8	2 1/16	3 1/4	1 1/8	17.7
120	C8120	14½	15.000	15.250	B <sub>1</sub>	1 1/8	2 1/16	3 1/4	1 1/8	18.4
128	C8128	14½	16.000	16.250	B <sub>1</sub>	1 1/8	2 3/16	3 1/2	1 1/8	21.3
144	C8144	14½	18.000	18.250	B <sub>1</sub>	1 1/8	2 3/16	3 1/2	1 1/8	24.2
160	C8160	14½	20.000	20.250	B <sub>1</sub>	1 1/8	2 3/16	3 1/2	1 1/8	26.6
168	C8168	14½	21.000	21.250	B <sub>1</sub>	1 1/8	2 3/16	3 1/2	1 1/8	28.9

\* Recommended maximum bore with keyway and set screw.  
• Consult Factory.

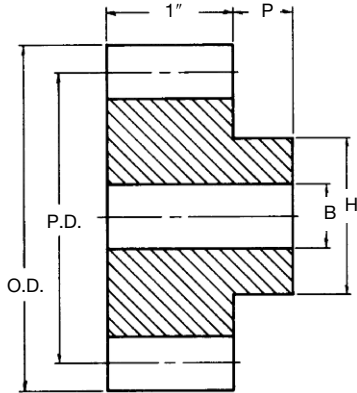
14½° P.A. Gears Will Not Operate With 20° P.A.

### Bored-to-Size

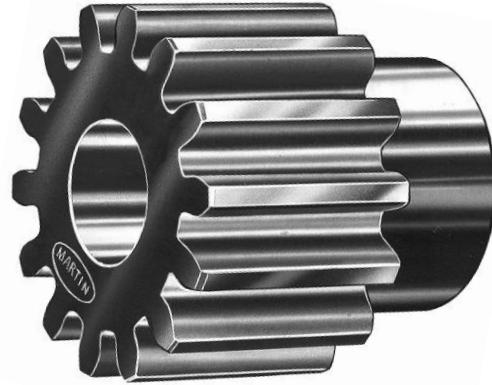
No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
11	S811BS 3/4	14½	1.500	1.750	B	3/4	3/16 X 3/32	(1) 10-24 @ 90	1 1/8	3/4	0.50
12	S812BS 3/4	14½	1.500	1.750	B	3/4	3/16 X 3/32	(1) 10-24 @ 90	1 1/8	3/4	0.50
14	S814BS 3/4	14½	1.750	2.000	B	3/4	3/16 X 3/32	(1) 1/4-20 @ 90	1 1/8	3/4	0.90
15	S815BS 7/8	14½	1.875	2.125	B	7/8	3/16 X 3/32	(1) 1/4-20 @ 90	1 1/2	3/4	1.00
16	S816BS 7/8	14½	2.000	2.250	B	7/8	3/16 X 3/32	(1) 1/4-20 @ 90	1 1/2	3/4	1.10
16	S816BS 1	14½	2.000	2.250	B	1	1/4 X 1/8	(1) 5/16-18 @ 90	1 1/2	3/4	1.10
18	S818BS 7/8	14½	2.250	2.500	B	7/8	3/16 X 3/32	(1) 1/4-20 @ 90	1 1/2	3/4	1.60
18	S818BS 1	14½	2.250	2.500	B	1	1/4 X 1/8	(1) 5/16-18 @ 90	1 1/2	3/4	1.60
18	S818BS 1-1/8	14½	2.250	2.500	B	1 1/8	1/4 X 1/8	(1) 5/16-18 @ 90	1 1/2	3/4	1.60
20	S820BS 7/8	14½	2.500	2.750	B	7/8	3/16 X 3/32	(1) 1/4-20 @ 90	2 1/2	3/4	2.00
20	S820BS 1	14½	2.500	2.750	B	1	1/4 X 1/8	(1) 5/16-18 @ 90	2 1/2	3/4	2.00
20	S820BS 1-1/8	14½	2.500	2.750	B	1 1/8	1/4 X 1/8	(1) 5/16-18 @ 90	2 1/2	3/4	2.00
22	S822BS 7/8	14½	2.750	3.000	B	7/8	3/16 X 3/32	(1) 1/4-20 @ 90	2 1/2	3/4	2.60
22	S822BS 1	14½	2.750	3.000	B	1	1/4 X 1/8	(1) 5/16-18 @ 90	2 1/2	3/4	2.60
22	S822BS 1-1/8	14½	2.750	3.000	B	1 1/8	1/4 X 1/8	(1) 5/16-18 @ 90	2 1/2	3/4	2.60

# 10 DP 1" Face

## Steel Stock Spur Gears 14½° Pressure Angle



Type B



Type B  
Plain With Hub

### Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
11	S1011	14½	1.200 †	1.400	B	¾	**	1⅞	⅝	.3
12	S1012	14½	1.200	1.400	B	¾	**	1⅞	⅝	.3
13	S1013	14½	1.300	1.500	B	¾	**	1	⅝	.3
14	S1014	14½	1.400	1.600	B	¾	⅝	1½	⅝	.4
15	S1015	14½	1.500	1.700	B	¾	¾	1½	⅝	.5
16	S1016	14½	1.600	1.800	B	¾	¾	1⅞	⅝	.6
17	S1017	14½	1.700	1.900	B	¾	13⁄16	1¾	⅝	.6
18	S1018	14½	1.800	2.000	B	¾	7⁄8	1½	⅝	.8
19	S1019	14½	1.900	2.100	B	¾	7⁄8	1⅞	⅝	.9
20	S1020	14½	2.000	2.200	B	¾	1	1¾	⅝	1.0
21	S1021	14½	2.100	2.300	B	¾	1	1¾	⅝	1.2
22	S1022	14½	2.200	2.400	B	¾	1½	1¾	⅝	1.3
24	S1024	14½	2.400	2.600	B	¾	1½	2½	⅝	1.6
25	S1025	14½	2.500	2.700	B	¾	1½	2½	⅝	1.8
26	S1026	14½	2.600	2.800	B	¾	1½	2½	⅝	1.9
28	S1028	14½	2.800	3.000	B	¾	1½	2½	⅞	2.3
30	S1030	14½	3.000	3.200	B	¾	1½	2½	⅞	2.6
32	S1032	14½	3.200	3.400	B	¾	1½	2½	⅞	2.9
35	S1035	14½	3.500	3.700	B	¾	1⅞	2½	⅞	3.4
36	S1036	14½	3.600	3.800	B	¾	1⅞	2½	⅞	3.5
38	S1038	14½	3.800	4.000	B	¾	1⅞	2½	⅞	3.8
40	S1040	14½	4.000	4.200	B	¾	1⅞	2½	⅞	4.1
42	S1042	14½	4.200	4.400	B	¾	1⅞	2½	⅞	4.5
45	S1045	14½	4.500	4.700	B	¾	1½	2½	⅞	5.3
48	S1048	14½	4.800	5.000	B	¾	1½	2½	⅞	5.9
50	S1050	14½	5.000	5.200	B	¾	1½	2½	⅞	6.4
54	S1054	14½	5.400	5.600	B	¾	1½	2½	⅞	7.8
55	S1055	14½	5.500	5.700	B	¾	1½	2½	⅞	7.9
60	S1060	14½	6.000	6.200	B	¾	1½	2½	⅞	8.7

\* Recommended maximum bore with keyway and set screw.

\*\* Check application with factory.

† 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

# 10 DP 1" Face



**Type B**  
Plain With Hub



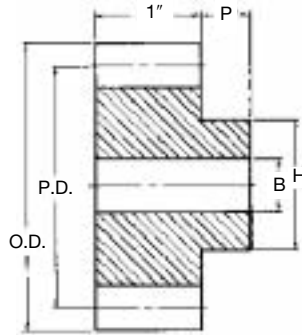
**Type B<sub>1</sub>**  
Web



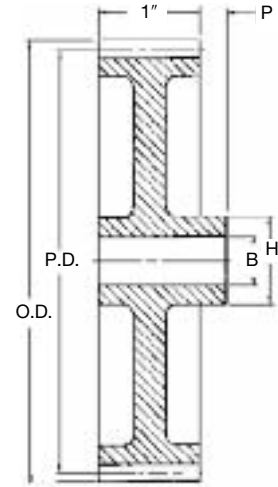
**Type B<sub>2</sub>**  
Web With  
Lighten Holes



**Type B<sub>3</sub>**  
Web With  
Spokes



**Type B**



**Type B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>**

## Cast — Style “B”

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
• 60	C1060	14½	6.000	6.200	B <sub>3</sub>	⅞	1⅞	2½	⅞	4.3
64	C1064	14½	6.400	6.600	B <sub>3</sub>	⅞	1⅞	2½	⅞	5.6
65	C1065	14½	6.500	6.700	B <sub>3</sub>	⅞	1⅞	2½	⅞	5.6
70	C1070	14½	7.000	7.200	B <sub>3</sub>	⅞	1⅞	2½	⅞	5.9
72	C1072	14½	7.200	7.500	B <sub>3</sub>	⅞	1⅞	2½	⅞	6.3
75	C1075	14½	7.500	7.700	B <sub>3</sub>	⅞	1⅞	2½	⅞	6.7
80	C1080	14½	8.000	8.200	B <sub>3</sub>	⅞	1⅞	2½	⅞	7.0
84	C1084	14½	8.400	8.600	B <sub>3</sub>	⅞	1⅞	2½	⅞	6.9
85	C1085	14½	8.500	8.700	B <sub>3</sub>	⅞	1⅞	2½	⅞	7.3
90	C1090	14½	9.000	9.200	B <sub>3</sub>	⅞	1⅞	2½	⅞	7.6
95	C1095	14½	9.500	9.700	B <sub>3</sub>	⅞	1⅞	2½	⅞	8.1
96	C1096	14½	9.600	9.800	B <sub>3</sub>	⅞	1⅞	2½	⅞	8.1
100	C10100	14½	10.000	10.200	B <sub>3</sub>	1	1⅞	2½	⅞	10.3
105	C10105	14½	10.500	10.700	B <sub>3</sub>	1	1⅞	2½	1	10.4
110	C10110	14½	11.000	11.200	B <sub>3</sub>	1	1⅞	2½	1	10.0
112	C10112	14½	11.200	11.400	B <sub>3</sub>	1	1⅞	2½	1	10.2
120	C10120	14½	12.000	12.200	B <sub>3</sub>	1	1⅞	2½	1	11.1
130	C10130	14½	13.000	13.200	B <sub>3</sub>	1	1⅞	2½	1	13.4
140	C10140	14½	14.000	14.200	B <sub>3</sub>	1	1⅞	2½	1	30.8
150	C10150	14½	15.000	15.200	B <sub>1</sub>	1	1⅞	2½	1	33.0
160	C10160	14½	16.000	16.200	B <sub>1</sub>	1	1⅞	2½	1	38.3
180	C10180	14½	18.000	18.200	B <sub>3</sub>	1	1⅞	3	1	43.6

\* Recommended maximum bore with keyway and set screw.  
• Consult Factory.

14½° P.A. Gears Will Not Operate With 20° P.A.

## Bored-to-Size

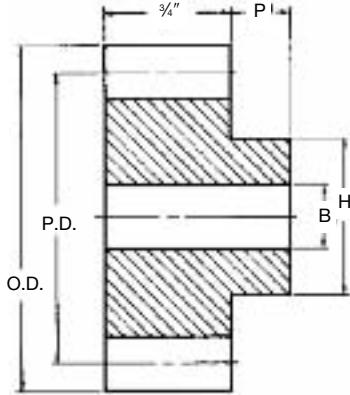
No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
11	S1011BS 5/8	14½	1.200	1.400	B	⅝	⅜ X ⅜	(1) 10-24 @ 90	1⅞	⅝	0.30
12	S1012BS 5/8	14½	1.200	1.400	B	⅝	⅜ X ⅜	(1) 10-24 @ 90	1⅞	⅝	0.30
14	S1014BS 5/8	14½	1.400	1.600	B	⅝	⅜ X ⅜	(1) 1/4-20 @ 90	1⅞	⅝	0.40
15	S1015BS 3/4	14½	1.500	1.700	B	⅝	⅜ X ⅜	(1) 1/4-20 @ 90	1⅞	⅝	0.50
16	S1016BS 3/4	14½	1.600	1.800	B	⅝	⅜ X ⅜	(1) 1/4-20 @ 90	1⅞	⅝	0.60
18	S1018BS 3/4	14½	1.800	2.000	B	⅝	⅜ X ⅜	(1) 1/4-20 @ 90	1⅞	⅝	0.80
18	S1018BS 7/8	14½	1.800	2.000	B	⅞	⅜ X ⅜	(1) 1/4-20 @ 90	1⅞	⅝	0.80
20	S1020BS 3/4	14½	2.000	2.200	B	⅝	⅜ X ⅜	(1) 1/4-20 @ 90	1⅞	⅝	1.00
20	S1020BS 7/8	14½	2.000	2.200	B	⅞	⅜ X ⅜	(1) 1/4-20 @ 90	1⅞	⅝	1.00
20	S1020BS 1	14½	2.000	2.200	B	1	¼ X ⅜	(1) 5/16-18 @ 90	1⅞	⅝	1.00
24	S1024BS 3/4	14½	2.400	2.600	B	⅝	⅜ X ⅜	(1) 1/4-20 @ 90	2⅞	⅝	1.60
24	S1024BS 7/8	14½	2.400	2.600	B	⅞	⅜ X ⅜	(1) 1/4-20 @ 90	2⅞	⅝	1.60
24	S1024BS 1	14½	2.400	2.600	B	1	¼ X ⅜	(1) 5/16-18 @ 90	2⅞	⅝	1.60

# 12 DP

## 3/4" Face

# Steel Stock Spur Gears

14½° Pressure Angle



Type B



Type B  
Plain With Hub

## Steel

GEARS

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
11	S1211	14½	1.000†	1.167	B	½	**	¾	½	.14
12	S1212	14½	1.000	1.167	B	½	**	¾	½	.16
13	S1213	14½	1.083	1.250	B	½	**	7/16	½	.20
14	S1214	14½	1.167	1.333	B	½	**	9/16	½	.24
15	S1215	14½	1.250	1.417	B	¾	**	1	½	.27
16	S1216	14½	1.333	1.500	B	¾	¾	1 1/16	½	.34
17	S1217	14½	1.417	1.580	B	¾	¾	1 1/8	½	.36
18	S1218	14½	1.500	1.667	B	¾	7/16	1 1/4	½	.42
19	S1219	14½	1.583	1.750	B	¾	¾	1 1/16	½	.48
20	S1220	14½	1.667	1.833	B	¾	7/16	1 1/8	½	.56
21	S1221	14½	1.750	1.917	B	¾	¾	1 1/2	½	.64
22	S1222	14½	1.833	2.000	B	¾	¾	1 5/16	½	.70
23	S1223	14½	1.917	2.083	B	¾	5/16	1 1/8	½	.78
24	S1224	14½	2.000	2.166	B	¾	1	1 1/4	½	.88
25	S1225	14½	2.083	2.250	B	¾	1 1/16	1 7/16	½	.96
26	S1226	14½	2.167	2.333	B	¾	1 1/8	1 5/8	5/8	1.14
28	S1228	14½	2.333	2.500	B	¾	1 1/2	2 1/16	5/8	1.34
30	S1230	14½	2.500	2.667	B	¾	1 5/16	2 1/4	5/8	1.60
32	S1232	14½	2.667	2.833	B	¾	1 5/8	2 1/2	5/8	1.72
34	S1234	14½	2.833	3.000	B	¾	1 5/8	2 1/2	5/8	1.88
36	S1236	14½	3.000	3.167	B	¾	1 1/2	2 1/2	5/8	2.20
38	S1238	14½	3.167	3.333	B	¾	1 1/2	2 1/2	5/8	2.38
40	S1240	14½	3.333	3.500	B	¾	1 1/2	2 1/2	5/8	2.54
42	S1242	14½	3.500	3.666	B	¾	1 1/2	2 1/2	5/8	2.72
44	S1244	14½	3.667	3.833	B	¾	1 1/2	2 1/2	5/8	2.94
48	S1248	14½	4.000	4.166	B	¾	1 1/2	2 1/2	3/4	3.50
54	S1254	14½	4.500	4.666	B	¾	1 3/4	2 3/4	3/4	4.40
56	S1256	14½	4.667	4.833	B	¾	1 3/4	2 3/4	3/4	4.60
60	S1260	14½	5.000	5.166	B	¾	1 3/4	2 3/4	3/4	5.14
64	S1264	14½	5.333	5.500	B	¾	1 3/4	2 3/4	3/4	5.74
66	S1266	14½	5.500	5.666	B	¾	1 3/4	2 3/4	3/4	6.02
72	S1272	14½	6.000	6.166	B	¾	1 3/4	2 3/4	3/4	7.02

\* Recommended maximum bore with keyway and set screw.

\*\* Check application with factory.

† Enlarged pitch diameter with special tooth form.

14½° P.A. Gears Will Not Operate With 20° P.A.

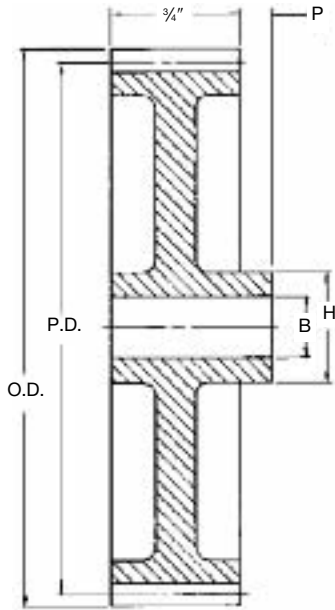
# Martin

## Cast Iron Stock Spur Gears

14½° Pressure Angle

# 12 DP

## ¾" Face



Type B<sub>1</sub>, B<sub>3</sub>



Type B<sub>3</sub>  
Web With Spokes



Type B<sub>1</sub>  
Web

### Cast — Style “B”

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
78	C1278	14½	6.500	6.666	B <sub>3</sub>	¾	1⅞	2½	¾	4.1
84	C1284	14½	7.000	7.166	B <sub>3</sub>	¾	1⅞	2½	¾	4.4
90	C1290	14½	7.500	7.666	B <sub>3</sub>	¾	1⅞	2½	¾	5.2
96	C1296	14½	8.000	8.166	B <sub>3</sub>	¾	1⅞	2½	¾	5.5
102	C12102	14½	8.500	8.666	B <sub>3</sub>	¾	1⅞	2½	¾	5.9
108	C12108	14½	9.000	9.166	B <sub>3</sub>	¾	1⅞	2½	¾	6.4
112	C12112	14½	9.333	9.500	B <sub>3</sub>	¾	1⅞	2½	¾	6.4
114	C12114	14½	9.500	9.666	B <sub>3</sub>	¾	1⅞	2½	¾	6.4
120	C12120	14½	10.000	10.166	B <sub>3</sub>	¾	1⅞	2½	¾	8.1
126	C12126	14½	10.500	10.666	B <sub>3</sub>	¾	1⅞	3	¾	7.4
144	C12144	14½	12.000	12.166	B <sub>3</sub>	¾	1⅞	3	1	10.1
168	C12168	14½	14.000	14.166	B <sub>1</sub>	¾	1⅞	3	1	10.6

\* Recommended maximum bore with keyway and set screw.

14½° P.A. Gears Will Not Operate With 20° P.A.

### Bored-to-Size

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
11	S1211BS 1/2	14½	1.000	1.167	B	½	NONE	(1) 10-24	¾	½	0.14
12	S1212BS 1/2	14½	1.000	1.167	B	½	NONE	(1) 10-24	¾	½	0.16
13	S1213BS 1/2	14½	1.083	1.250	B	½	NONE	(1) 10-24	1⅞	½	0.20
14	S1214BS 1/2	14½	1.167	1.333	B	½	NONE	(1) 10-24	2⅞	¾	0.24
15	S1215BS 5/8	14½	1.250	1.417	B	¾	¾ X ⅜	(1) 10-24 @ 90	1	½	0.27
16	S1216BS 5/8	14½	1.333	1.500	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1⅞	½	0.34
18	S1218BS 5/8	14½	1.500	1.667	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1¼	½	0.42
20	S1220BS 5/8	14½	1.667	1.833	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1⅞	½	0.56
20	S1220BS 3/4	14½	1.667	1.833	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1⅞	½	0.56
21	S1221BS 5/8	14½	1.750	1.917	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1⅞	½	0.56
21	S1221BS 3/4	14½	1.750	1.917	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1⅞	½	0.56
21	S1221BS 7/8	14½	1.750	1.917	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1⅞	½	0.56
22	S1222BS 5/8	14½	1.833	2.000	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1⅞	½	0.70
22	S1222BS 3/4	14½	1.833	2.000	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1⅞	½	0.70
22	S1222BS 7/8	14½	1.833	2.000	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1⅞	½	0.70
22	S1222BS 1	14½	1.833	2.000	B	1	¾ X ½	(1) 5/16-18 @ 90	1⅞	½	0.70
24	S1224BS 5/8	14½	2.000	2.167	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1¼	½	0.88
24	S1224BS 3/4	14½	2.000	2.167	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1¼	½	0.88
24	S1224BS 7/8	14½	2.000	2.167	B	¾	¾ X ⅜	(1) 1/4-20 @ 90	1¼	½	0.88
24	S1224BS 1	14½	2.000	2.167	B	1	¾ X ½	(1) 5/16-18 @ 90	1¼	½	0.88

GEARS

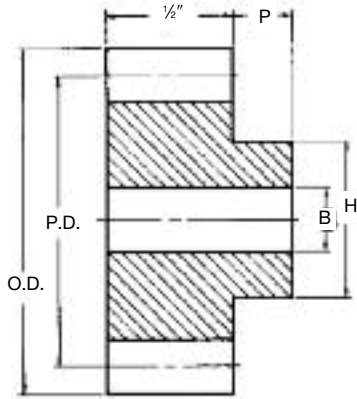
# 16 DP

## 1/2" Face

# Steel Stock Spur Gears

14½° Pressure Angle

# Martin



Type B



Type B  
Plain With Hub

## Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
11	S1611	14½	.750†	.875	B	¾	**	⅜	⅜	0.06
12	S1612	14½	.750	.875	B	¾	**	⅜	⅜	0.06
13	S1613	14½	.812	.937	B	¾	**	⅜	⅜	0.08
14	S1614	14½	.875	1.000	B	¾	**	⅜	⅜	0.08
15	S1615	14½	.937	1.062	B	½	**	¾	⅜	0.10
16	S1616	14½	1.000	1.125	B	½	**	⅞	⅜	0.12
17	S1617	14½	1.062	1.187	B	½	**	¾	⅜	0.14
18	S1618	14½	1.125	1.250	B	½	**	⅞	⅜	0.16
19	S1619	14½	1.187	1.312	B	½	½	1	⅜	0.20
20	S1620	14½	1.250	1.375	B	½	⅝	1⅜	⅜	0.22
21	S1621	14½	1.312	1.438	B	½	¾	1½	⅜	0.24
22	S1622	14½	1.375	1.500	B	½	¾	1⅜	⅜	0.28
23	S1623	14½	1.437	1.562	B	½	⅞	1½	⅜	0.32
24	S1624	14½	1.500	1.625	B	½	¾	1⅞	⅜	0.34
26	S1626	14½	1.625	1.750	B	½	¾	1⅞	⅜	0.42
28	S1628	14½	1.750	1.875	B	½	¾	1½	½	0.52
30	S1630	14½	1.875	2.000	B	½	⅞	1½	½	0.60
32	S1632	14½	2.000	2.125	B	½	1	1½	½	0.70
34	S1634	14½	2.125	2.250	B	½	1½	1½	½	0.80
36	S1636	14½	2.250	2.375	B	½	1½	2	½	0.92
38	S1638	14½	2.375	2.500	B	½	1½	2	½	0.98
40	S1640	14½	2.500	2.626	B	½	1½	2	½	1.1
44	S1644	14½	2.750	2.875	B	½	1½	2	½	1.2
48	S1648	14½	3.000	3.125	B	½	1½	2	½	1.4
52	S1652	14½	3.250	3.375	B	½	1½	2	½	1.5
54	S1654	14½	3.375	3.500	B	½	1½	2	½	1.6
56	S1656	14½	3.500	3.625	B	½	1½	2	½	1.7
60	S1660	14½	3.750	3.875	B	½	1½	2	½	1.3
64	S1664	14½	4.000	4.125	B	¾	1½	2	¾	2.2
68	S1668	14½	4.250	4.375	B	¾	1⅞	2¼	¾	2.5
72	S1672	14½	4.500	4.625	B	¾	1⅞	2¼	¾	2.8
80	S1680	14½	5.000	5.125	B	¾	1⅞	2¼	¾	3.4
84	S1684	14½	5.250	5.375	B	¾	1⅞	2¼	¾	3.6
88	S1688	14½	5.500	5.625	B	¾	1⅞	2¼	¾	3.9
96	S1696	14½	6.000	6.125	B	¾	1⅞	2¼	¾	4.6
104	S16104	14½	6.500	6.625	B	¾	1⅞	2¼	¾	5.2

\* Recommended maximum bore with keyway and set screw.

\*\* Check application with factory.

† Enlarged pitch diameter with special tooth form.

14½° P.A. Gears Will Not Operate With 20° P.A.

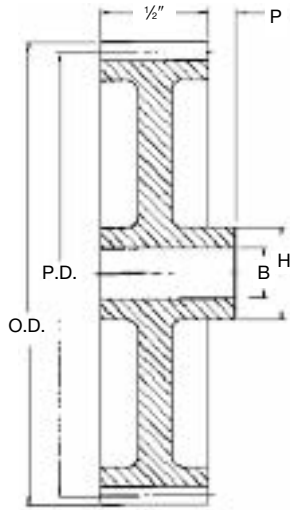
# Martin

## Cast Iron Stock Spur Gears

14½° Pressure Angle

# 16 DP

## 1½" Face



**Type B<sub>3</sub>**  
Web With Spokes



**Type B<sub>1</sub>**  
Web

**Type B<sub>1</sub>, B<sub>3</sub>**

### Cast — Style “B”

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
112	C16112	14½	7.000	7.125	B <sub>3</sub>	¾	1½	2½	¾	3.4
120	C16120	14½	7.500	7.625	B <sub>3</sub>	¾	1½	2½	¾	3.5
128	C16128	14½	8.000	8.125	B <sub>3</sub>	¾	1½	2½	¾	3.7
144	C16144	14½	9.000	9.125	B <sub>3</sub>	¾	1½	2½	¾	5.0
160	C16160	14½	10.000	10.125	B <sub>3</sub>	¾	1½	2½	¾	5.2
192	C16192	14½	12.000	12.125	B <sub>1</sub>	¾	1½	2½	¾	8.1

\* Recommended maximum bore with keyway and set screw.

**14½° P.A. Gears Will Not Operate With 20° P.A.**

### Bored-to-Size

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
11	S1611BS 3/8	14½	0.750	0.875	B	¾	None	(1) 8-32	⅞	⅞	0.06
12	S1612BS 3/8	14½	0.752	0.875	B	¾	None	(1) 8-32	⅞	⅞	0.06
13	S1613BS 3/8	14½	0.812	0.937	B	¾	None	(1) 8-32	⅞	⅞	0.08
14	S1614BS 3/8	14½	0.875	1.000	B	¾	None	(1) 10-24	1½	⅞	0.08
15	S1615BS 1/2	14½	0.937	1.062	B	½	None	(1) 10-24	¾	⅞	0.10
16	S1616BS 1/2	14½	1.000	1.125	B	½	None	(1) 10-24	1⅜	⅞	0.12
18	S1618BS 1/2	14½	1.125	1.250	B	½	None	(1) 1/4-20	1⅝	⅞	0.16
20	S1620BS 1/2	14½	1.250	1.375	B	½	None	(1) 1/4-20	1⅞	⅞	0.22
20	S1620BS 5/8	14½	1.250	1.375	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1⅞	⅞	0.22
22	S1622BS 1/2	14½	1.375	1.500	B	½	None	(1) 1/4-20	1⅜	⅞	0.28
22	S1622BS 5/8	14½	1.375	1.500	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1⅞	⅞	0.28
24	S1624BS 1/2	14½	1.500	1.625	B	½	None	(1) 1/4-20	1⅞	⅞	0.34
24	S1624BS 5/8	14½	1.500	1.625	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1⅞	⅞	0.34
24	S1624BS 3/4	14½	1.500	1.625	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1⅞	⅞	0.34
26	S1626BS 1/2	14½	1.625	1.750	B	½	None	(1) 1/4-20	1⅞	⅞	0.42
26	S1626BS 5/8	14½	1.625	1.750	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1⅞	⅞	0.42
26	S1626BS 3/4	14½	1.625	1.750	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1⅞	⅞	0.42
28	S1628BS 1/2	14½	1.750	1.875	B	½	None	(1) 1/4-20	1½	½	0.52
28	S1628BS 5/8	14½	1.750	1.875	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1½	½	0.52
28	S1628BS 3/4	14½	1.750	1.875	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1½	½	0.52
28	S1628BS 7/8	14½	1.750	1.875	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1½	½	0.52
30	S1630BS 1/2	14½	1.875	2.000	B	½	None	(1) 1/4-20	1½	½	0.60
30	S1630BS 5/8	14½	1.875	2.000	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1½	½	0.60
30	S1630BS 3/4	14½	1.875	2.000	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1½	½	0.60
30	S1630BS 7/8	14½	1.875	2.000	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1½	½	0.60
30	S1630BS 1	14½	1.875	2.000	B	1	¼ X ⅞	(1) 5/16-18 @ 90	1½	½	0.60
32	S1632BS 1/2	14½	2.000	2.125	B	½	None	(1) 1/4-20	1½	½	0.70
32	S1632BS 5/8	14½	2.000	2.125	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1½	½	0.70
32	S1632BS 3/4	14½	2.000	2.125	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1½	½	0.70
32	S1632BS 7/8	14½	2.000	2.125	B	¾	⅜ X ⅜ <sub>sz</sub>	(1) 1/4-20 @ 90	1½	½	0.70
32	S1632BS 1	14½	2.000	2.125	B	1	¼ X ⅞	(1) 5/16-18 @ 90	1½	½	0.70

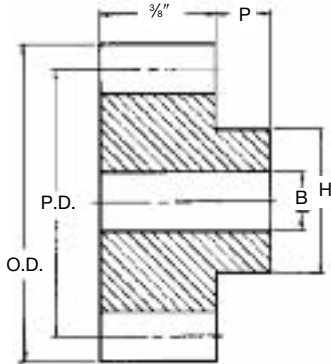


# 20 DP

## 3/8" Face

# Steel Stock Spur Gears

14½° Pressure Angle



Type B



Type B  
Plain With Hub

## Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
11	S2011	14½	.600†	.700	B	3/16	**	13/32	3/8	.02
12	S2012	14½	.600	.700	B	3/16	**	15/32	3/8	.02
13	S2013	14½	.650	.750	B	3/16	**	1/2	3/8	.04
14	S2014	14½	.700	.800	B	3/16	**	3/64	3/8	.04
15	S2015	14½	.750	.850	B	3/8	**	3/64	3/8	.04
16	S2016	14½	.800	.900	B	3/8	**	21/32	3/8	.04
17	S2017	14½	.850	.950	B	3/8	**	45/64	3/8	.08
18	S2018	14½	.900	1.000	B	3/8	**	3/4	3/8	.08
19	S2019	14½	.950	1.050	B	3/8	**	51/64	3/8	.10
20	S2020	14½	1.000	1.100	B	3/8	**	5/64	3/8	.12
21	S2021	14½	1.050	1.150	B	3/8	**	7/8	3/8	.12
22	S2022	14½	1.100	1.200	B	3/8	**	31/32	3/8	.14
23	S2023	14½	1.150	1.250	B	3/8	**	3/32	3/8	.16
24	S2024	14½	1.200	1.300	B	3/8	3/16	11/16	3/8	.19
25	S2025	14½	1.250	1.350	B	3/8	3/8	11/64	3/8	.20
28	S2028	14½	1.400	1.500	B	3/8	11/16	11/64	3/8	.26
30	S2030	14½	1.500	1.600	B	3/8	3/16	13/64	3/8	.30
32	S2032	14½	1.600	1.700	B	3/8	7/8	11/16	1/2	.40
35	S2035	14½	1.750	1.850	B	3/8	7/8	11/16	1/2	.50
36	S2036	14½	1.800	1.900	B	3/8	3/16	11/8	1/2	.52
40	S2040	14½	2.000	2.100	B	3/8	11/16	113/16	1/2	.64
45	S2045	14½	2.250	2.350	B	3/8	11/4	2	1/2	.82
48	S2048	14½	2.400	2.500	B	3/8	11/4	2	1/2	.88
50	S2050	14½	2.500	2.600	B	3/8	11/4	2	1/2	.90
55	S2055	14½	2.750	2.850	B	3/8	11/4	2	1/2	1.04
60	S2060	14½	3.000	3.100	B	3/8	11/4	2	1/2	1.16
64	S2064	14½	3.200	3.300	B	3/8	11/4	2	1/2	1.26
70	S2070	14½	3.500	3.600	B	3/8	11/4	2	1/2	1.40
72	S2072	14½	3.600	3.700	B	3/8	11/16	21/4	1/2	1.60
75	S2075	14½	3.750	3.850	B	3/8	11/16	21/4	1/2	1.70
80	S2080	14½	4.000	4.100	B	1/2	11/16	21/4	1/2	1.82
84	S2084	14½	4.200	4.300	B	1/2	11/16	21/4	1/2	1.96
90	S2090	14½	4.500	4.600	B	1/2	11/16	21/4	1/2	2.20
96	S2096	14½	4.800	4.900	B	1/2	11/16	21/4	1/2	2.42
100	S20100	14½	5.000	5.100	B	1/2	11/16	21/4	1/2	2.60
112	S20112	14½	5.600	5.700	B	1/2	1	11/4	1/2	2.86
120	S20120	14½	6.000	6.100	B1	1/2	1	11/4	1/2	3.24
132	S20132	14½	6.600	6.700	B	1/2	1	11/4	1/2	3.80

\* Recommended maximum bore with keyway and set screw.

\*\* Check application with factory.

† Enlarged pitch diameter with special tooth form.

14½° P.A. Gears Will Not Operate With 20° P.A.

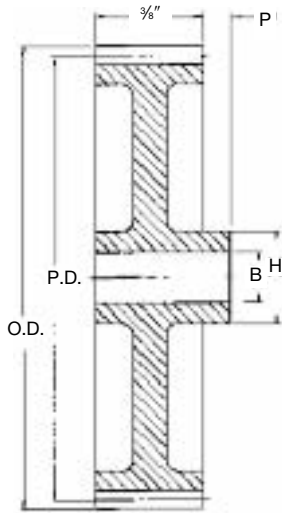
# Martin

## Cast Iron Stock Spur Gears

14½° Pressure Angle

# 20 DP

## 3/8" Face



Type B<sub>1</sub>, B<sub>3</sub>



Type B<sub>3</sub>  
Web With Spokes



Type B<sub>1</sub>  
Web

### Cast — Style "B"

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
•48	C2048	14½	2.400	2.500	B <sub>1</sub>	¾	¾	1½	½	.50
•64	C2064	14½	3.200	3.300	B <sub>1</sub>	¾	¾	1½	½	.68
140	C20140	14½	7.000	7.100	B <sub>1</sub>	½	1	1¼	½	2.00
160	C20160	14½	8.000	8.100	B <sub>1</sub>	½	1	1¼	¾	2.34
180	C20180	14½	9.000	9.100	B <sub>1</sub>	½	1	1¼	¾	2.66
200	C20200	14½	10.000	10.100	B <sub>1</sub>	½	1	1¼	¾	2.84

\* Recommended maximum bore with keyway and set screw.  
• Consult Factory.

14½° P.A. Gears Will Not Operate With 20° P.A.

### Bored-to-Size

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
11	S2011BS 5/16	14½	0.600	0.700	B	5/16	None	#35 P.H.	15/32	¾	0.02
12	S2012BS 5/16	14½	0.600	0.700	B	5/16	None	#35 P.H.	15/32	¾	0.02
13	S2013BS 5/16	14½	0.650	0.750	B	5/16	None	#35 P.H.	½	¾	0.04
14	S2014BS 5/16	14½	0.700	0.800	B	5/16	None	#35 P.H.	35/64	¾	0.04
15	S2015BS 3/8	14½	0.750	0.850	B	¾	None	(1) 8-32	39/64	¾	0.04
16	S2016BS 3/8	14½	1.800	0.900	B	¾	None	(1) 8-32	21/32	¾	0.04
18	S2018BS 3/8	14½	1.900	1.000	B	¾	None	(1) 10-24	¾	¾	0.08
20	S2020BS 3/8	14½	1.000	1.100	B	¾	None	(1) 10-24	55/64	¾	0.12
20	S2020BS 1/2	14½	1.000	1.100	B	½	None	(1) 10-24	55/64	¾	0.12
22	S2022BS 3/8	14½	1.100	1.200	B	¾	None	(1) 1/4-20	31/32	¾	0.14
22	S2022BS 1/2	14½	1.100	1.200	B	½	None	(1) 1/4-20	31/32	¾	0.14
24	S2024BS 3/8	14½	1.200	1.300	B	¾	None	(1) 1/4-20	11/16	¾	0.19
24	S2024BS 1/2	14½	1.200	1.300	B	½	None	(1) 1/4-20	11/16	¾	0.19
25	S2025BS 3/8	14½	1.250	1.350	B	¾	None	(1) 1/4-20	11/16	¾	0.20
25	S2025BS 1/2	14½	1.250	1.350	B	½	None	(1) 1/4-20	11/16	¾	0.20
28	S2028BS 3/8	14½	1.400	1.500	B	¾	None	(1) 1/4-20	117/64	¾	0.26
28	S2028BS 1/2	14½	1.400	1.500	B	½	None	(1) 1/4-20	117/64	¾	0.26
30	S2030BS 3/8	14½	1.500	1.600	B	¾	None	(1) 1/4-20	123/64	¾	0.30
30	S2030BS 1/2	14½	1.500	1.600	B	½	None	(1) 1/4-20	123/64	¾	0.30
32	S2032BS 3/8	14½	1.600	1.700	B	¾	None	(1) 1/4-20	11/16	¾	0.40
32	S2032BS 1/2	14½	1.600	1.700	B	½	None	(1) 1/4-20	11/16	¾	0.40
35	S2035BS 3/8	14½	1.750	1.850	B	¾	None	(1) 1/4-20	11/16	¾	0.50
35	S2035BS 1/2	14½	1.750	1.850	B	½	None	(1) 1/4-20	11/16	¾	0.50
36	S2036BS 3/8	14½	1.800	1.900	B	¾	None	(1) 1/4-20	11/16	¾	0.52
36	S2036BS 1/2	14½	1.800	1.900	B	½	None	(1) 1/4-20	11/16	¾	0.52
40	S2040BS 3/8	14½	2.000	2.100	B	¾	None	(1) 1/4-20	119/64	¾	0.64
40	S2040BS 1/2	14½	2.000	2.100	B	½	None	(1) 1/4-20	119/64	¾	0.64
40	S2040BS 5/8	14½	2.000	2.100	B	¾	5/16 X 3/32	(1) 1/4-20 @ 90	119/64	¾	0.64
40	S2040BS 3/4	14½	2.000	2.100	B	¾	5/16 X 3/32	(1) 1/4-20 @ 90	119/64	¾	0.64

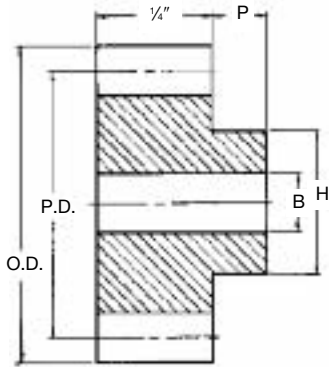
GEARS

# 24 DP

## 1/4" Face

# Steel Stock Spur Gears

14½° Pressure Angle



Type B



Type B  
Plain With Hub

### Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
11	S2411	14½	.500†	.583	B	¼	**	¾	⅜	.02
12	S2412	14½	.500	.583	B	¼	**	¾	⅜	.02
14	S2414	14½	.583	.666	B	¼	**	1½	⅜	.04
15	S2415	14½	.625	.708	B	¼	**	½	⅜	.04
16	S2416	14½	.666	.750	B	⅜	**	¾	⅜	.04
17	S2417	14½	.709	.791	B	⅜	**	¾	⅜	.04
18	S2418	14½	.750	.833	B	⅜	**	¾	⅜	.04
19	S2419	14½	.791	.875	B	⅜	**	¾	⅜	.06
20	S2420	14½	.833	.917	B	⅜	**	¾	⅜	.06
21	S2421	14½	.875	.959	B	¾	**	¾	⅜	.06
22	S2422	14½	.917	1.000	B	¾	**	¾	⅜	.06
24	S2424	14½	1.000	1.083	B	¾	**	¾	⅜	.10
26	S2426	14½	1.083	1.166	B	¾	**	¾	⅜	.10
27	S2427	14½	1.125	1.208	B	¾	**	¾	⅜	.12
30	S2430	14½	1.250	1.333	B	¾	½	1	⅜	.16
32	S2432	14½	1.333	1.416	B	¾	½	1	⅜	.20
33	S2433	14½	1.375	1.458	B	¾	¾	1¼	⅜	.20
36	S2436	14½	1.500	1.583	B	¾	¾	1¼	⅜	.20
40	S2440	14½	1.666	1.750	B	¾	¾	1¼	⅜	.24
42	S2442	14½	1.750	1.833	B	¾	1⅜	1¼	⅜	.28
44	S2444	14½	1.833	1.917	B	¾	1⅜	1¼	⅜	.30
45	S2445	14½	1.875	1.959	B	¾	1⅜	1¼	⅜	.30
48	S2448	14½	2.000	2.083	B	¾	1⅜	1¼	⅜	.32
54	S2454	14½	2.250	2.333	B	¾	1⅜	1¼	⅜	.38
56	S2456	14½	2.333	2.416	B	¾	1⅜	1¼	⅜	.40
60	S2460	14½	2.500	2.583	B	¾	1⅜	1¼	⅜	.46
66	S2466	14½	2.750	2.833	B	¾	1⅜	1¼	⅜	.52
72	S2472	14½	3.000	3.083	B	½	1⅜	1¼	½	.64
84	S2484	14½	3.500	3.583	B	½	7/8	1½	½	.88
96	S2496	14½	4.000	4.083	B	½	7/8	1½	½	1.08
120	S24120	14½	5.000	5.083	B	½	7/8	1½	½	2.60
144	S24144	14½	6.000	6.083	B	½	1⅝	1¾	17/32	2.28

\* Recommended maximum bore with keyway and set screw.  
 \*\* Check application with factory.  
 † Enlarged pitch diameter with special tooth form.

**14½° P.A. Gears Will Not Operate With 20° P.A.**

GEARS



# 14 1/2° 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.

# 14<sup>1</sup>/<sub>2</sub><sup>o</sup> Spur Gear Horsepower Ratings

(S) = Steel

(CI) = Cast Iron

## 6 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	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. — 1/4" 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.



# 14 1/2° 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

# Martin



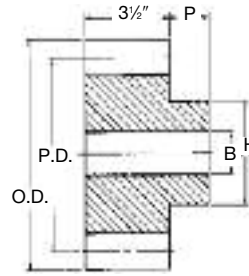
**Type B**  
Plain With Hub  
All Steel



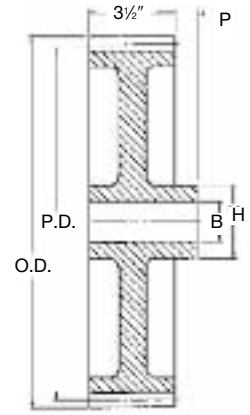
**Type B<sub>1</sub>**  
Web  
All Steel



**Type B<sub>2</sub>**  
Web With  
Lighten Holes  
All Steel



**Type B**



**Type B<sub>1</sub>, B<sub>2</sub>**

### Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
12	TS412	20	3.000	3.500	B	1 1/4	1 1/16	2 7/16	7/16	6.8
14	TS414	20	3.500	4.000	B	1 1/4	1 1/4	2 9/16	7/16	9.8
15	TS415	20	3.750	4.250	B	1 1/4	1 1/4	3 1/16	7/16	11.5
16	TS416	20	4.000	4.500	B	1 1/4	2 1/8	3 3/16	7/16	13.3
18	TS418	20	4.500	5.000	B	1 1/4	2 1/8	3 5/16	7/16	17.3
20	TS420	20	5.000	5.500	B	1 1/4	2 3/8	4 1/16	7/16	21.8
22	TS422	20	5.500	6.000	B	1 1/4	3	4 3/16	7/16	26.7
24	TS424	20	6.000	6.500	B	1 1/4	3 1/8	5	1 1/4	33.7
28	TS428	20	7.000	7.500	B	1 1/4	3 3/8	5	1 1/4	43.8
30	TS430	20	7.500	8.000	B	1 1/4	3 3/8	5	1 1/4	49.4
32	TS432	20	8.000	8.500	B	1 1/4	3 3/8	5	1 1/2	56.8
36	TS436	20	9.000	9.500	B	1 1/4	3 3/8	5	1 1/2	70.0
40	TS440	20	10.000	10.500	B	1 1/4	3 3/8	5 1/2	1 1/2	85.2
44	TS444	20	11.000	11.500	B	1 1/4	3 3/8	5 1/2	1 1/2	101.6
48	TS448	20	12.000	12.500	B	1 1/4	3 3/8	5 1/2	1 1/2	119.5
56	TS456	20	14.000	14.500	B <sub>1</sub>	1 1/4	3 3/8	5 1/2	1 1/2	96.9
60	TS460	20	15.000	15.500	B <sub>2</sub>	1 1/4	3 3/8	5 1/2	1 1/2	88.1
64	TS464	20	16.000	16.500	B <sub>2</sub>	1 1/4	3 3/8	5 1/2	1 1/2	86.9
72	TS472	20	18.000	18.500	B <sub>2</sub>	1 1/4	3 3/8	5 1/2	1 1/2	86.5
80	TS480	20	20.000	20.500	B <sub>2</sub>	1 1/4	3 3/8	5 1/2	1 1/2	90.9

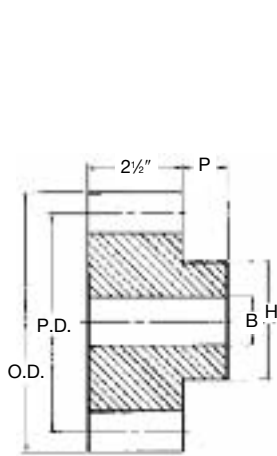
\* Recommended maximum bore with keyway and set screw.

20° P.A. Gears Will Not Operate With 14 1/2° P.A.

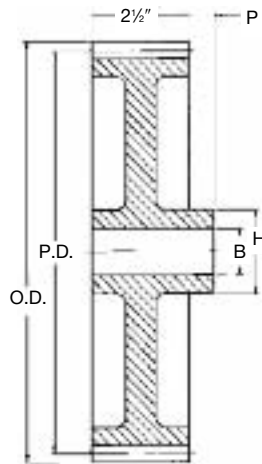
# Martin

## Steel Stock Spur Gears 20° Pressure Angle

# 5 DP 2 1/2" Face



**Type B**



**Type B<sub>2</sub>**



**Type B**  
Plain With Hub  
All Steel



**Type B<sub>2</sub>**  
Web With Lighten Holes  
All Steel

### Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
12	TS512	20	2.400	2.800	B	1 1/4	1 1/4	1 3/16	3/8	2.9
14	TS514	20	2.800	3.200	B	1 1/4	1 1/4	2 3/16	3/8	4.3
15	TS515	20	3.000	3.400	B	1 1/4	1 1/4	2	3/8	5.2
16	TS516	20	3.200	3.600	B	1 1/4	1 1/4	2 1/2	3/8	6.1
18	TS518	20	3.600	4.000	B	1 1/4	1 1/4	3	3/8	8.0
20	TS520	20	4.000	4.400	B	1 1/4	2 1/4	3 3/8	3/8	10.2
24	TS524	20	4.800	5.200	B	1 1/4	2 3/8	3 3/4	1 1/4	15.7
25	TS525	20	5.000	5.400	B	1 1/4	2 3/8	3 3/4	1 1/4	20.3
28	TS528	20	5.600	6.000	B	1 1/4	2 3/8	3 3/4	1 1/4	22.9
30	TS530	20	6.000	6.400	B	1 1/4	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 3/8	4 1/4	1 1/4	60.3
60	TS560	20	12.000	12.400	B	1 1/4	2 3/8	4 1/4	1 1/4	84.7
70	TS570	20	14.000	14.400	B <sub>2</sub>	1 3/8	3 1/4	5 1/4	1 1/4	51.6
80	TS580	20	16.000	16.400	B <sub>2</sub>	1 3/8	3 1/4	5 1/4	1 1/4	55.8
90	TS590	20	18.000	18.400	B <sub>2</sub>	1 3/8	3 1/4	5 1/4	1 1/4	59.7
100	TS5100	20	20.000	20.400	B <sub>2</sub>	1 3/8	3 1/4	5 1/4	1 1/2	69.2
110	TS5110	20	22.000	22.400	B <sub>2</sub>	1 3/8	3 1/4	5 1/4	1 1/2	72.3
120	TS5120	20	24.000	24.400	B <sub>2</sub>	1 3/8	3 1/2	6 1/4	1 1/2	80.2

\* Recommended maximum bore with keyway and set screw.

20° P.A. Gears Will Not Operate With 14 1/2° P.A.

GEARS



# 6 DP 2" Face

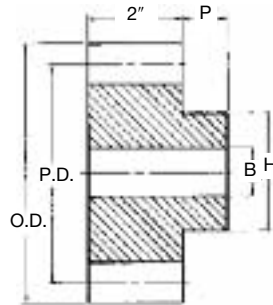
# Steel Stock Spur Gears 20° Pressure Angle



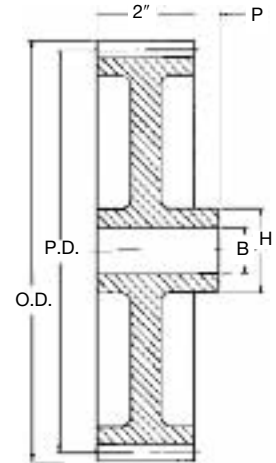
**Type B**  
Plain With Hub  
All Steel



**Type B<sub>2</sub>**  
Web With Lighten Holes  
All Steel



**Type B**



**Type B<sub>2</sub>**

## Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
11	TS611†	20	2.000	2.333	B	1	1	1½	¾	1.6
12	TS612	20	2.000	2.333	B	1	1	1½	¾	1.6
14	TS614	20	2.333	2.666	B	1	1	1⅝	¾	2.4
15	TS615	20	2.500	2.833	B	1	1¼	2	¾	2.9
16	TS616	20	2.666	3.000	B	1	1⅙	2½	¾	3.4
18	TS618	20	3.000	3.333	B	1	1½	2½	¾	4.6
21	TS621	20	3.500	3.833	B	1	1½	3	¾	6.6
24	TS624	20	4.000	4.333	B	1½	1½	3	¾	8.1
27	TS627	20	4.500	4.833	B	1½	2½	3½	¾	10.6
30	TS630	20	5.000	5.333	B	1½	2½	4	¾	13.4
33	TS633	20	5.500	5.833	B	1½	2½	4	1½	17.8
36	TS636	20	6.000	6.333	B	1½	2½	4	1½	20.4
42	TS642	20	7.000	7.333	B	1½	2½	4	1½	26.2
48	TS648	20	8.000	8.333	B	1½	2½	4	1½	32.8
54	TS654	20	9.000	9.333	B	1½	2½	4	1½	40.4
60	TS660	20	10.000	10.333	B	1½	2⅙	4½	1½	50.0
64	TS664	20	10.666	11.000	B	1½	2⅙	4½	1½	56.5
66	TS666	20	11.000	11.333	B	1½	2⅙	4½	1½	59.8
72	TS672	20	12.000	12.333	B	1½	2⅙	4½	1½	70.0
84	TS684	20	14.000	14.333	B <sub>2</sub>	1½	2⅙	5	1½	42.8
96	TS696	20	16.000	16.333	B <sub>2</sub>	1½	2⅙	5	1½	46.0
108	TS6108	20	18.000	18.333	B <sub>2</sub>	1½	2⅙	5	1½	48.8
120	TS6120	20	20.000	20.333	B <sub>2</sub>	1½	2⅙	5	1½	51.3

\* Recommended maximum bore with keyway and set screw.

† Enlarged pitch diameter with special tooth form.

**20° P.A. Gears Will Not Operate With 14½° P.A.**

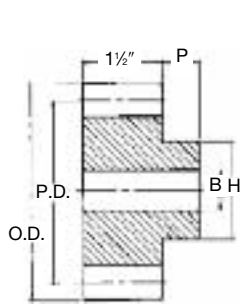
## Bored-to-Size

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
12	TS612BS 1	20	2.000	2.333	B	1	¼X ⅝	(1) 1/4-20 @90	1½	¾	1.60
14	TS614BS 1	20	2.333	2.667	B	1	¼X ⅝	(1) 5/16-18 @90	1⅙	¾	2.40
14	TS614BS 1-1/8	20	2.333	2.667	B	1½	¼X ⅝	(1) 5/16-18 @90	1⅙	¾	2.40
15	TS615BS 1	20	2.500	2.833	B	1	¼X ⅝	(1) 5/16-18 @90	2	¾	2.90
15	TS615BS 1-1/8	20	2.500	2.833	B	1½	¼X ⅝	(1) 5/16-18 @90	2	¾	2.90
15	TS615BS 1-3/16	20	2.500	2.833	B	1⅙	¼X ⅝	(1) 5/16-18 @90	2	¾	2.90
15	TS615BS 1-1/4	20	2.500	2.833	B	1½	¼X ⅝	(1) 5/16-18 @90	2	¾	2.90
16	TS616BS 1	20	2.667	3.000	B	1	¼X ⅝	(1) 5/16-18 @90	2½	¾	3.40
16	TS616BS 1-1/8	20	2.667	3.000	B	1½	¼X ⅝	(1) 5/16-18 @90	2½	¾	3.40
16	TS616BS 1-3/16	20	2.667	3.000	B	1⅙	¼X ⅝	(1) 5/16-18 @90	2½	¾	3.40
16	TS616BS 1-1/4	20	2.667	3.000	B	1½	¼X ⅝	(1) 5/16-18 @90	2½	¾	3.40
18	TS618BS 1	20	3.000	3.333	B	1	¼X ⅝	(1) 5/16-18 @90	2½	¾	4.60
18	TS618BS 1-1/8	20	3.000	3.333	B	1½	¼X ⅝	(1) 5/16-18 @90	2½	¾	4.60
18	TS618BS 1-3/16	20	3.000	3.333	B	1⅙	¼X ⅝	(1) 5/16-18 @90	2½	¾	4.60
18	TS618BS 1-1/4	20	3.000	3.333	B	1½	¼X ⅝	(1) 5/16-18 @90	2½	¾	4.60
21	TS621BS 1	20	3.500	3.833	B	1	¼X ⅝	(1) 5/16-18 @90	3	¾	6.60
21	TS621BS 1-1/8	20	3.500	3.833	B	1½	¼X ⅝	(1) 5/16-18 @90	3	¾	6.60
21	TS621BS 1-3/16	20	3.500	3.833	B	1⅙	¼X ⅝	(1) 5/16-18 @90	3	¾	6.60
21	TS621BS 1-1/4	20	3.500	3.833	B	1½	¼X ⅝	(1) 5/16-18 @90	3	¾	6.60

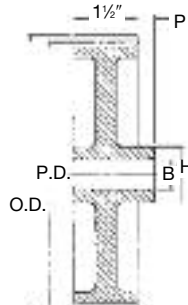
# Martin

## Steel & Cast Stock Spur Gears 20° Pressure Angle

# 8 DP 1 1/2" Face



**Type B**



**Type B<sub>2</sub>, B<sub>3</sub>**



**Type B**  
Plain With Hub All Steel



**Type B<sub>3</sub>**  
Web With Spokes Cast

### Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
12	TS812	20	1.500	1.750	B	3/4	3/4	1 1/4	3/4	0.7
14	TS814	20	1.750	2.000	B	3/4	13/16	1 1/4	3/4	1.0
15	TS815	20	1.875	2.125	B	3/4	7/8	1 1/4	3/4	1.2
16	TS816	20	2.000	2.250	B	7/8	13/16	1 1/4	3/4	1.4
18	TS818	20	2.250	2.500	B	7/8	1 1/8	1 1/4	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 1/8	2 1/4	7/8	2.5
22	TS822	20	2.750	3.000	B	7/8	1 1/2	2 1/4	7/8	3.2
24	TS824	20	3.000	3.250	B	7/8	1 1/2	2 1/4	7/8	3.9
26	TS826	20	3.250	3.500	B	7/8	1 3/4	2 1/4	7/8	4.6
28	TS828	20	3.500	3.750	B	7/8	1 3/4	2 1/4	7/8	5.2
30	TS830	20	3.750	4.000	B	1	1 3/4	2 1/4	7/8	5.6
32	TS832	20	4.000	4.250	B	1	1 3/4	3 1/4	7/8	6.6
36	TS836	20	4.500	4.750	B	1	2 1/8	3 1/4	7/8	8.6
40	TS840	20	5.000	5.250	B	1	2 1/8	3 1/4	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	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
52	TC852	20	6.500	6.750	B	1	1 1/2	3	1	11.9
56	TC856	20	7.000	7.250	B	1	1 1/2	3	1	13.0
60	TC860	20	7.500	7.750	B <sub>2</sub>	1	1 1/2	3	1	12.0
64	TC864	20	8.000	8.250	B <sub>3</sub>	1	1 1/2	3	1	12.1
72	TC872	20	9.000	9.250	B <sub>3</sub>	1	2 1/8	3 1/4	1	14.4
80	TC880	20	10.000	10.250	B <sub>3</sub>	1 1/4	2 1/8	3 1/4	1 1/4	17.0
88	TC888	20	11.000	11.250	B <sub>3</sub>	1 1/4	2 1/8	3 1/4	1 1/4	19.0
96	TC896	20	12.000	12.250	B <sub>3</sub>	1 1/4	2 1/8	3 1/2	1 1/4	23.7
112	TC8112	20	14.000	14.250	B <sub>3</sub>	1 1/4	2 1/8	3 1/2	1 1/4	25.0
120	TC8120	20	15.000	15.250	B <sub>3</sub>	1 1/4	2 1/8	3 1/2	1 1/4	25.8
128	TC8128	20	16.000	16.250	B <sub>3</sub>	1 1/4	2 1/8	3 1/2	1 1/4	28.0
144	TC8144	20	18.000	18.250	B <sub>3</sub>	1 1/4	2 1/4	3 1/2	1 1/4	32.0
160	TC8160	20	20.000	20.250	B <sub>3</sub>	1 1/4	2 1/4	3 1/2	1 1/4	34.8

### Bored-to-Size

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

\* Recommended maximum bore with keyway and set screw.

20° P.A. Gears Will Not Operate With 14 1/2° P.A.

GEARS

# 10 DP 1 1/4" Face

# Steel & Cast Stock Spur Gears 20° Pressure Angle

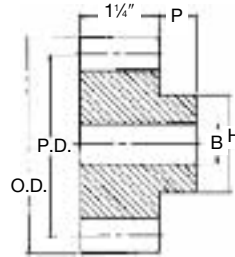
# Martin



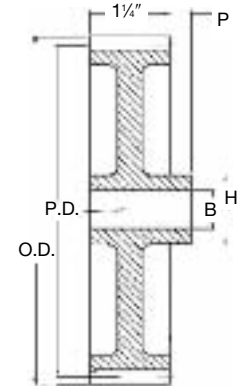
**Type B**  
Plain With Hub  
All Steel



**Type B<sub>3</sub>**  
Web With Spokes  
Cast



**Type B**



**Type B<sub>3</sub>**

## Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
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	3/4	3/4	1 1/64	5/8	0.6
15	TS1015	20	1.500	1.700	B	3/4	3/4	1 1/32	5/8	0.6
16	TS1016	20	1.600	1.800	B	3/4	3/4	1 1/16	5/8	0.7
18	TS1018	20	1.800	2.000	B	3/4	1 1/16	1 1/32	5/8	0.9
20	TS1020	20	2.000	2.200	B	7/8	7/8	1 3/64	5/8	1.2
22	TS1022	20	2.200	2.400	B	7/8	1 1/16	1 1/16	5/8	1.5
24	TS1024	20	2.400	2.600	B	7/8	1 1/8	2 1/64	5/8	1.8
25	TS1025	20	2.500	2.700	B	7/8	1 1/4	2 1/64	5/8	2.0
26	TS1026	20	2.600	2.800	B	7/8	1 1/2	2 1/8	5/8	2.2
28	TS1028	20	2.800	3.000	B	7/8	1 5/8	2 1/2	5/8	2.7
30	TS1030	20	3.000	3.200	B	7/8	1 3/4	2 1/2	7/8	3.4
32	TS1032	20	3.200	3.400	B	1	1 3/4	2 1/2	7/8	3.7
35	TS1035	20	3.500	3.700	B	1	1 3/4	2 1/2	7/8	4.2
36	TS1036	20	3.600	3.800	B	1	1 3/4	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 1/2	3 1/2	7/8	7.5
48	TS1048	20	4.800	5.000	B	1	2 3/4	3 3/4	7/8	8.7
50	TS1050	20	5.000	5.200	B	1	2 3/4	4	7/8	9.6
55	TS1055	20	5.500	5.700	B	1	2 3/4	4	1	11.5
60	TS1060	20	6.000	6.200	B	1	2 3/4	4	1	13.1

## Cast

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max.*	Diameter	Proj.	
70	TC1070	20	7.000	7.200	B <sub>3</sub>	1	1 11/16	2 3/4	1	8.2
80	TC1080	20	8.000	8.200	B <sub>3</sub>	1	1 11/16	2 3/4	1	11.2
90	TC1090	20	9.000	9.200	B <sub>3</sub>	1	1 13/16	3	1	11.7
100	TC10100	20	10.000	10.200	B <sub>3</sub>	1 1/2	1 13/16	3	1 1/2	12.2

\* Recommended maximum bore with keyway and set screw.

**20° P.A. Gears Will Not Operate With 14 1/2° P.A.**

## Bored-to-Size

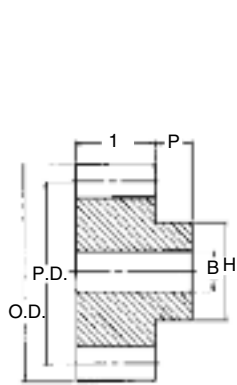
No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
12	TS1012BS 5/8	20	1.200	1.400	B	5/8	3/16 X 3/32	(1) 10-24 @ 90	29/32	5/8	0.40
14	TS1014BS 5/8	20	1.400	1.600	B	5/8	3/16 X 3/32	(1) 1/4-20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



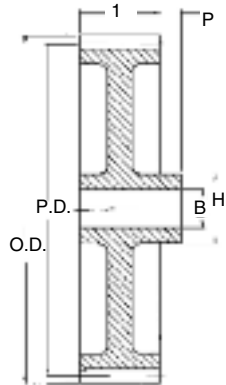
# Steel & Cast Stock Spur Gears

20° Pressure Angle

# 12 DP 1" Face



**Type B**



**Type B<sub>3</sub>**



**Type B**  
Plain With Hub All Steel



**Type B<sub>3</sub>**  
Web With Spokes Cast

## Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
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 1/16	5/8	0.59
20	TS1220	20	1.667	1.833	B	3/4	3/4	1 1/16	5/8	0.65
21	TS1221	20	1.750	1.917	B	3/4	13/16	1 3/16	5/8	0.75
22	TS1222	20	1.833	2.000	B	3/4	7/8	1 1/16	5/8	0.88
24	TS1224	20	2.000	2.166	B	3/4	15/16	1 1/4	5/8	1.06
25	TS1225	20	2.083	2.250	B	3/4	1 1/16	1 1/16	5/8	1.22
26	TS1226	20	2.167	2.333	B	3/4	1 1/8	1 1/8	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 1/2	2 3/16	5/8	1.83
32	TS1232	20	2.667	2.833	B	3/4	1 5/8	2 1/4	5/8	2.08
36	TS1236	20	3.000	3.167	B	3/4	1 3/4	2 1/2	7/8	2.98
42	TS1242	20	3.500	3.666	B	3/4	1 7/8	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 1/4	3 3/4	7/8	7.63
66	TS1266	20	5.500	5.666	B	7/8	2 1/2	3 3/4	7/8	8.80
72	TS1272	20	6.000	6.166	B	7/8	2 3/4	3 3/4	7/8	10.08

## Cast

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
84	TC1284	20	7.000	7.166	B <sub>3</sub>	7/8	1 1/16	2 1/2	7/8	5.9
96	TC1296	20	8.000	8.166	B <sub>3</sub>	7/8	1 1/16	2 1/2	7/8	7.0
108	TC12108	20	9.000	9.166	B <sub>3</sub>	7/8	1 1/16	2 1/2	7/8	7.6
120	TC12120	20	10.000	10.166	B <sub>3</sub>	1	1 1/16	2 1/2	7/8	10.3
144	TC12144	20	12.000	12.166	B <sub>3</sub>	1	1 1/16	2 1/2	1	10.4

## Bored-to-Size

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
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 1/16	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

\* Recommended maximum bore with keyway and set screw.

20° P.A. Gears Will Not Operate With 14 1/2° P.A.

GEARS

# 16 DP

## 3/4" Face

# Steel & Cast Stock

## Spur Gears

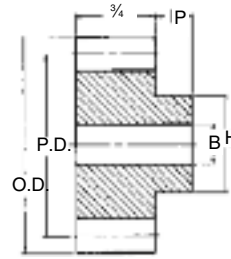
20° Pressure Angle



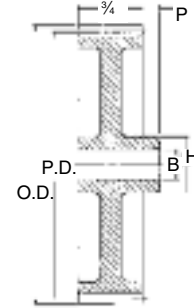
**Type B**  
Plain With Hub All Steel



**Type B<sub>3</sub>**  
Web With Spokes Cast



**Type B**



**Type B<sub>3</sub>**

### Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
12	TS1612	20	.750	.875	B	3/8	3/8	3/16	1/2	0.09
13	TS1613	20	.812	.938	B	3/8	3/8	3/16	1/2	0.11
14	TS1614	20	.875	1.000	B	3/8	3/8	1/16	1/2	0.14
15	TS1615	20	.937	1.063	B	3/8	1/2	3/16	1/2	0.17
16	TS1616	20	1.000	1.125	B	1/2	1/2	1/16	1/2	0.17
17	TS1617	20	1.062	1.188	B	1/2	1/2	3/16	1/2	0.20
18	TS1618	20	1.125	1.250	B	1/2	1/2	1/16	1/2	0.24
20	TS1620	20	1.250	1.375	B	3/4	3/4	1/16	1/2	0.28
21	TS1621	20	1.312	1.438	B	3/4	3/4	1/16	1/2	0.32
22	TS1622	20	1.375	1.500	B	3/4	3/4	1/16	1/2	0.36
24	TS1624	20	1.500	1.625	B	3/4	3/4	1/16	1/2	0.46
26	TS1626	20	1.625	1.750	B	3/4	3/4	1/16	1/2	0.56
28	TS1628	20	1.750	1.875	B	3/4	3/4	1/16	1/2	0.65
30	TS1630	20	1.875	2.000	B	3/4	1 1/16	1/16	1/2	0.77
32	TS1632	20	2.000	2.125	B	3/4	1	1/16	1/2	0.90
36	TS1636	20	2.250	2.375	B	3/4	1 1/4	2	1/2	1.18
40	TS1640	20	2.500	2.625	B	3/4	1 1/2	2	3/8	1.48
48	TS1648	20	3.000	3.125	B	3/4	1 1/2	2	3/8	1.94
56	TS1656	20	3.500	3.625	B	3/4	1 3/4	2 1/2	3/8	2.79
60	TS1660	20	3.750	3.875	B	3/4	1 1/2	2 1/2	3/8	3.28
64	TS1664	20	4.000	4.125	B	3/4	1 1/2	2 3/4	3/8	3.74
72	TS1672	20	4.500	4.625	B	3/4	1 3/4	3	3/8	4.69
80	TS1680	20	5.000	5.125	B	3/4	2 1/8	3 1/2	3/8	6.03
84	TS1684	20	5.250	5.375	B	3/4	2 1/8	3 1/2	3/8	6.46
96	TS1696	20	6.000	6.125	B	3/4	2 3/8	3 1/2	3/8	7.86
104	TS16104	20	6.500	6.625	B	3/4	2 3/8	3 1/2	3/8	8.91

### Cast

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
112	TC16112	20	7.000	7.125	B <sub>3</sub>	3/4	1 1/16	2 1/2	3/4	4.4
128	TC16128	20	8.000	8.125	B <sub>3</sub>	3/4	1 1/16	2 3/4	3/4	5.5
144	TC16144	20	9.000	9.125	B <sub>3</sub>	3/4	1 1/16	2 3/4	3/4	6.4
160	TC16160	20	10.000	10.125	B <sub>3</sub>	3/4	1 1/16	2 3/4	3/4	8.1
192	TC16192	20	12.000	12.125	B <sub>3</sub>	3/4	1 13/16	3	1	10.1

\* Recommended maximum bore with keyway and set screw.

20° P.A. Gears Will Not Operate With 14 1/2° P.A.

### Bored-to-Size

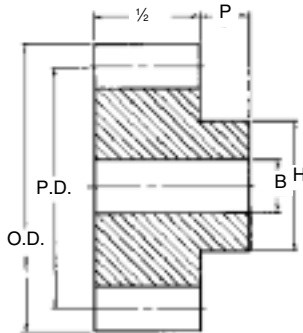
No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
12	TS1612BS 3/8	20	0.750	0.875	B	3/8	NONE	(1) 8-32	3/16	1/2	0.09
14	TS1614BS 3/8	20	0.875	1.000	B	3/8	NONE	(1) 10-24	1/16	1/2	0.14
15	TS1615BS 3/8	20	0.937	1.063	B	3/8	NONE	(1) 10-24	3/16	1/2	0.17
15	TS1615BS 1/2	20	0.937	1.063	B	1/2	NONE	(1) 10-24	3/16	1/2	0.17
16	TS1616BS 1/2	20	1.000	1.125	B	1/2	NONE	(1) 10-24	1/16	1/2	0.17
18	TS1618BS 1/2	20	1.125	1.250	B	1/2	NONE	(1) 1/4-20	1/16	1/2	0.24
20	TS1620BS 5/8	20	1.250	1.375	B	3/8	3/16 X 3/32	(1) 1/4-20 @ 90	1/16	1/2	0.28
24	TS1624BS 5/8	20	1.500	1.625	B	3/8	3/16 X 3/32	(1) 1/4-20 @ 90	1/16	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	1/16	1/2	0.46
28	TS1628BS 5/8	20	1.750	1.875	B	3/8	3/16 X 3/32	(1) 1/4-20 @ 90	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	1/2	1/2	0.65
30	TS1630BS 5/8	20	1.875	2.000	B	3/8	3/16 X 3/32	(1) 1/4-20 @ 90	1/16	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	1/16	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	1/8	1/2	0.77
32	TS1632BS 5/8	20	2.000	2.125	B	3/8	3/16 X 3/32	(1) 1/4-20 @ 90	1/16	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	1/16	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	1/16	1/2	0.90
32	TS1632BS 1	20	2.000	2.125	B	1	1/4 X 1/8	(1) 5/16-18 @ 90	1/16	1/2	0.90



# Steel Stock Spur Gears

20° Pressure Angle

# 20 DP 1/2" Face



Type B



Type B  
Plain With Hub  
All Steel

## Steel

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Max. *	Diameter	Proj.	
12	TS2012	20	.600	.700	B	5/16	5/16	15/32	7/16	0.04
14	TS2014	20	.700	.800	B	5/16	5/16	35/64	7/16	0.06
15	TS2015	20	.750	.850	B	3/8	3/8	39/64	7/16	0.07
16	TS2016	20	.800	.900	B	3/8	3/8	21/32	7/16	0.08
18	TS2018	20	.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	3/4	1 1/64	7/16	0.24
28	TS2028	20	1.400	1.500	B	1/2	1 1/16	1 1/64	7/16	0.32
30	TS2030	20	1.500	1.600	B	1/2	1 3/8	1 23/64	7/16	0.38
32	TS2032	20	1.600	1.700	B	1/2	7/8	1 1/16	1/2	0.46
35	TS2035	20	1.750	1.850	B	1/2	7/8	1 1/16	1/2	0.56
36	TS2036	20	1.800	1.900	B	1/2	1 5/16	1 1/8	1/2	0.60
40	TS2040	20	2.000	2.100	B	1/2	1 1/16	1 1/16	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 3/4	2 1/2	1/2	1.45
70	TS2070	20	3.500	3.600	B	1/2	1 7/8	2 3/4	1/2	1.93
72	TS2072	20	3.600	3.700	B	1/2	1 7/8	2 3/4	1/2	2.01
80	TS2080	20	4.000	4.100	B	3/4	1 3/4	2 1/2	3/8	2.35
84	TS2084	20	4.200	4.300	B	3/4	1 3/4	2 1/2	3/8	2.53
90	TS2090	20	4.500	4.600	B	3/4	1 3/4	2 1/2	3/8	2.82
96	TS2096	20	4.800	4.900	B	3/4	1 3/4	2 1/2	3/8	3.14
100	TS20100	20	5.000	5.100	B	3/4	1 3/4	2 1/2	3/8	3.35
120	TS20120	20	6.000	6.100	B	3/4	1 3/4	2 1/2	3/8	4.58

\* Recommended maximum bore with keyway and set screw.

20° P.A. Gears Will Not Operate With 14 1/2° P.A.

## Bored-to-Size

No. Teeth	Catalog Number	Pressure Angle (Deg.)	Diameter		Type	Bore (Inches)		Set Screw	Hub (Inches)		Weight Lbs. (App.)
			Pitch	Outside		Stock	Keyway		Diameter	Proj.	
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 1/64	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 1/16	1/2	0.56
40	TS2040BS 1/2	20	2.000	2.100	B	1/2	NONE	(1) 1/4-20	1 19/16	1/2	0.76
40	TS2040BS 5/8	20	2.000	2.100	B	5/8	3/16 X 3/32	(1) 1/4-20 @ 90	1 19/16	1/2	0.76
40	TS2040BS 3/4	20	2.000	2.100	B	3/4	3/16 X 3/32	(1) 1/4-20 @ 90	1 13/16	1/2	0.76

GEARS

# 20° Horsepower Ratings (Approximate)



For  
Class I Service (Service Factor = 1.0)

4 Diametral Pitch

20° Pressure Angle

3½" 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	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															

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. 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

2½" 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																	

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. 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.

GEARS



# 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															

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. 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

1½" 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												

Ratings are based on strength calculation.

\* Designates stock sizes for this pitch.

Note: 1. Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. 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

1¼" 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										

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. 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										

Ratings are based on strength calculation.

\* Designates stock sizes for this pitch.

Note: 1. Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. 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.

GEARS

# 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								

Ratings are based on strength calculation.

• Designates stock sizes for this pitch.

Note: 1. Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. 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

½" 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		0.20		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.

Note: 1. Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. 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.

GEARS