

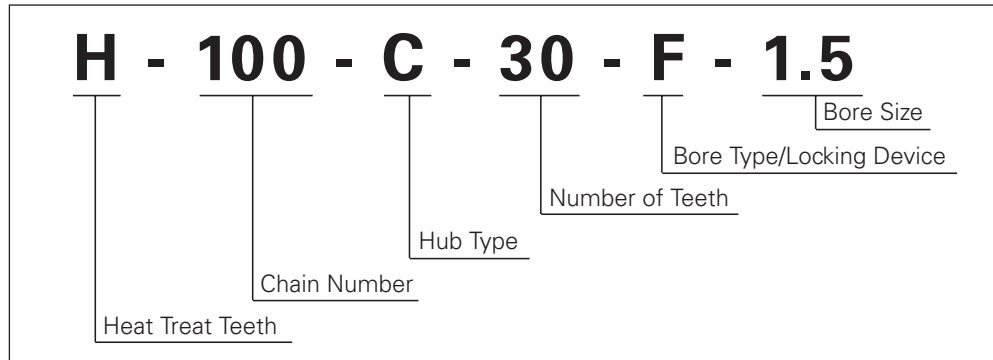
Specific information about the sprocket must be described during the ordering or quoting process. A summary is provided in Table 1 below.

Table 1 - Information Necessary to Order Sprockets

1. Chain Size	<p>Number, type, or drawing of chain to be used with the sprocket. For Engineering Class, the suitability of the sprocket depends on specific chain dimensions: Chain pitch, roller or barrel diameter, inside width of chain or roller face, chain height, and chain type.</p>			
2. Teeth	<p>The number of actual teeth on the sprocket. For Engineering Class Sprockets, if applicable, the number of working teeth, mid-pitch relief, or gap-toothed construction should be specified. This is necessary when driving conveyors with special through-rods or attachments that will interfere with the engagement. Special outside diameters are sometimes required to clear attachments.</p>			
3. Material	<p>a. Standard Carbon Steel, with or without hardened teeth. b. Stainless Steel (Specify grade where applicable) c. Special materials such as alloy steel, bronze, etc., state preference and alternative where appropriate.</p>			
4. Hub Type	Plate Only	Hub One Side	Hub Both Sides	Offset hubs on both sides (not symmetrical)
	Type A	Type B	Type C	Type C Offset
5. Exact Diameter of Shaft Bore	<p>Show special tolerances; keyway size; keyway location when required. If the keyway is not standard, specify straight, tapered, square or flat, and dimensions.</p>			
6. Set Screws	<p>If set screws are not cup point, specify type. Tsubaki standard for finished bore is two (2) set screws. For other requirements, indicate number of screws and location.</p>			
7. Hub Dimensions	<p>These measurements are usually manufacturer's standard. However, for special orders, outside diameter and Length-Thru-Bore should be specified. For Type C Offset sprockets, specify the Length-Thru-Bore and the projection length of one of the hubs (measure hub length from sprocket plate).</p>			

To make ordering as easy as possible, Table 1 shows the general information you need to provide. On your order, indicate the Sprocket part number. This number is composed of the chain number, the hub type, the number of teeth, the locking-device (if any is required), and the bore size. An example is shown below. If you are unsure of your part number, our inside sales group can be of assistance.

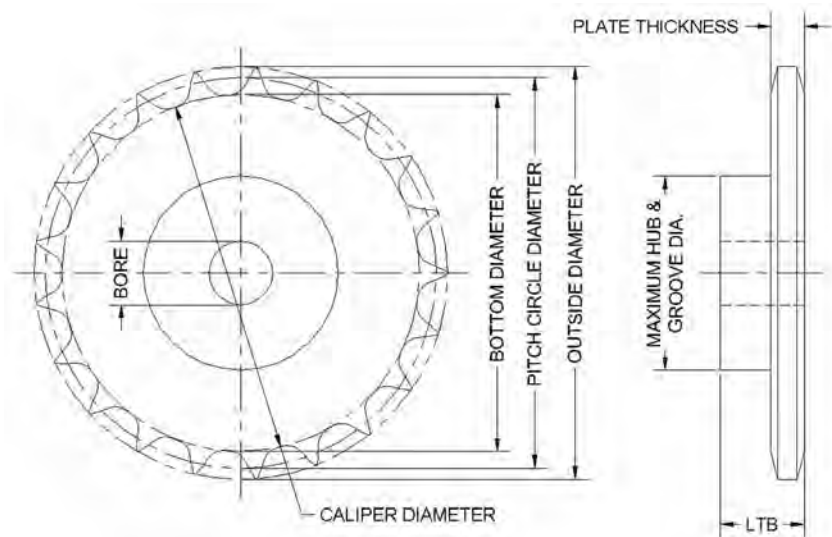
Sprocket Order Number



Chain Number indicates the type and size of chain that will run on the Sprocket. For ANSI roller chain, the right hand number refers to the chain proportions. For example, 0 (zero) is for normal proportions. The numbers to the left of the right-hand digit denote the number of 1/8 inches in the pitch. The letter “H” following the chain number denotes heavy series. British Standard roller chain does not have a designation for the proportions of the chain. Instead, the first two digits of the chain number denote the number of 1/16 inches in the pitch.

Chain Pitch is the distance between the pin centerlines in a link of chain. This distance is used to make the tooth profile of a sprocket, but cannot easily be measured on a finished sprocket. If the pitch of a sprocket is incorrect, the chain will not sit properly when wrapped around the teeth.

Pitch Diameter is the diameter of the theoretical circle that passes through the centers of the link pins when the chain is wrapped around the sprocket. This can't be measured on the sprocket itself, since it is a dimension used to design to tooth profile.



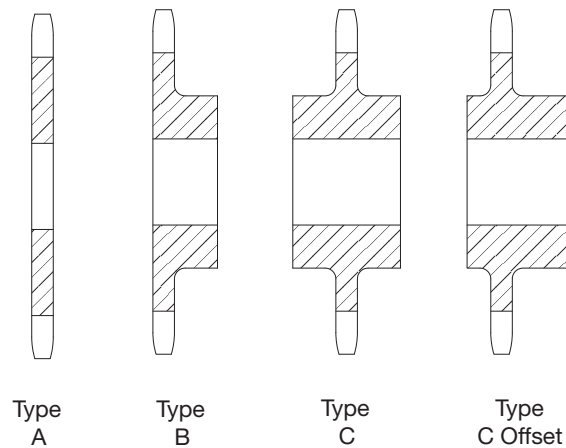
Bottom Diameter is the diameter of a circle tangent to the curve (called the seating curve) at the bottom of the tooth gaps. This dimension cannot be measured properly on odd-toothed sprockets, so the Caliper Diameter is used.

Caliper Diameter is the same as the bottom diameter for a sprocket with an even number of teeth. For a sprocket with an odd number of teeth, it is the distance from the bottom of one tooth gap to the bottom of the nearest opposite tooth gap.

Outside Diameter is the diameter over the tips of the sprocket teeth.

Hub Type indicates the core of the sprocket. Each type is designed for a specific need.

- **Type A** does not have a hub as part of the sprocket wheel. The wheel must be mounted on a flange, hub, or other holding device.
- **Type B** has the hub extending on one side from the wheel. This type is usually found on small and intermediate size sprockets.
- **Type C** has a hub of equal length on both sides of the wheel. Type C is generally found on large-diameter or very heavy sprockets. Type C is also most common for Engineering Class Sprockets.
- **Type C Offset** indicates a two-sided hub that is off center because the hub lengths are not equal.



Hub Diameter is the outside diameter of the hub, which cannot exceed the chain clearance circle.

Maximum Hub Diameter is the largest size of hub, without interfering with the chain articulation (wrapping around the sprocket).

Maximum Bore is the largest bore that can be safely put into the sprocket. It must allow sufficient hub wall thickness for the application's torque, with allowances made for keyway(s) and set screws.

Locking Device is an important consideration. Finished Bore (two set screws and a single keyway) is the most common mounting method supplied by Tsubaki. Typically, set screws are placed over the keyway and at 90° to the key, from the hub side. Other mountings or locking devices can be specified, including Tsubaki Power-Locks, Split Taper, "QD" Style and Taper Lock bushings, bearing and bushing idlers, and more. Power-Lock keyless locking devices are recommended for extra holding power in higher torque conditions. See section F in the catalogue for more information on Tsubaki Power-Locks.

Bore Size ranges are indicated in the Sprocket tables. Finished and plain bore sprockets are furnished to ANSI standard tolerances. Other tolerances can be furnished on request. If you wish to bore your own sprockets, Tsubaki stocks a wide range of "stock bore" sprockets, with a small pilot bore, suitable for reborings. Verify that your finished bore will fit in the stock hub by checking the sprocket tables. For bores outside the stated bore ranges, the sprocket can be supplied with a larger hub.

Heat-Treatment options are available. Tsubaki stocks many sizes of roller chain sprockets with heat-treated teeth, which are hardened within a range of Rockwell C 35 to 50 (minimum RC 35). Specify hardened teeth when ordering. If a tighter hardness range (eg. RC 35 to 40), or a higher minimum hardness (eg. minimum RC50) is required, it should be specified at the time of order and may require a different grade of steel or process than the stock range.

Length Thru Bore, or LTB, is the length of the bore through the sprocket. The LTB must be long enough to allow for the proper length key to transmit the torque of the application. The LTB must also be long enough to ensure the stability of the sprocket on the shaft.

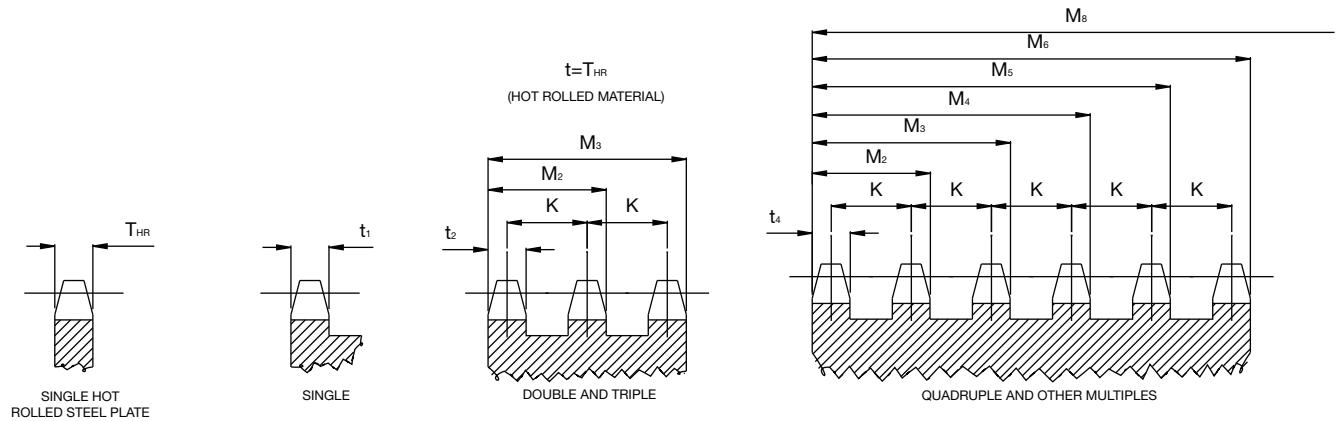


Table 2 - Roller Chain Sprocket Tooth Dimensions - Standard and Heavy Series

All dimensions in inches unless otherwise stated.

Chain Data For All Sprockets				Single Strand t_1 and T_{HR}	Double and Triple Strand			For 4 or more Strands							Machining Tolerance on " t_1 " and " M "	Hot Rolled Tolerance on T_{HR}	
Chain Size	Pitch	Roller Width	Roller Dia.		t_2	M_2	M_3	t_4	M_2	M_3	M_4	M_5	M_6	M_8			K
STANDARD SERIES ROLLER CHAIN SPROCKETS																	
25	1/4	1/8	.130	.110	.107	.359	.611	.096	.348	.600	.852	1.140	1.356	1.860	.252	-.007	-.021
35	3/8	3/16	.200	.168	.162	.561	.960	.149	.548	.947	1.346	1.745	2.144	2.942	.399	-.008	-.027
41	1/2	1/4	.306	.227	na	na	na	na	na	na	na	na	na	na	na	-.009	-.032
40	1/2	5/16	.312	.284	.275	.841	1.407	.256	.822	1.388	1.954	2.520	3.086	4.218	.566	-.009	-.035
50	5/8	3/8	.400	.343	.332	1.045	1.758	.311	1.024	1.737	2.450	3.163	3.876	5.302	.713	-.010	-.036
60	3/4	1/2	.469	.459	.444	1.341	2.238	.418	1.315	2.212	3.109	4.006	4.903	6.697	.897	-.011	-.036
80	1	5/8	.625	.575	.557	1.710	2.863	.526	1.679	2.832	3.985	5.138	6.291	8.597	1.153	-.012	-.040
100	1 1/4	3/4	.750	.692	.669	2.077	3.485	.633	2.041	3.449	4.857	6.265	7.673	10.489	1.408	-.014	-.046
120	1 1/2	1	.875	.924	.894	2.683	4.472	.848	2.637	4.426	6.215	8.004	9.793	13.371	1.789	-.016	-.057
140	1 3/4	1	1.000	.924	.894	2.818	4.742	.848	2.772	4.696	6.620	8.544	10.468	14.316	1.924	-.016	-.057
160	2	1 1/4	1.125	1.156	1.119	3.424	5.729	1.063	3.368	5.673	7.978	10.283	12.588	17.198	2.305	-.019	-.062
180	2 1/4	1 13/32	1.406	1.301	1.259	3.851	6.443	1.197	3.789	6.381	8.973	11.565	14.157	19.341	2.592	-.020	-.068
200	2 1/2	1 1/2	1.562	1.389	1.344	4.161	6.978	1.278	4.095	6.912	9.729	12.546	15.363	20.997	2.817	-.021	-.072
240	3	1 7/8	1.875	1.738	1.682	5.140	8.598	1.601	5.059	8.517	11.975	15.433	18.891	-	3.458	-.025	-.087
HEAVY SERIES ROLLER CHAIN SPROCKETS																	
60H	3/4	1/2	.469	.459	.444	1.472	2.500	.418	1.446	2.474	3.502	4.530	5.558	7.614	1.028	-.011	-.036
80H	1	5/8	.625	.575	.557	1.840	3.123	.526	1.809	3.092	4.375	5.568	6.941	9.507	1.283	-.012	-.040
100H	1 1/4	3/4	.750	.692	.669	2.208	3.747	.633	2.172	3.711	5.250	6.789	8.328	11.406	1.539	-.014	-.046
120H	1 1/2	1	.875	.924	.894	2.818	4.742	.848	2.772	4.696	6.620	8.544	10.468	14.316	1.924	-.016	-.057
140H	1 3/4	1	1.000	.924	.894	2.949	5.004	.848	2.903	4.958	7.013	9.068	11.123	15.233	2.055	-.016	-.057
160H	2	1 1/4	1.125	1.156	1.119	3.555	5.991	1.063	3.499	5.935	8.371	10.807	13.243	18.115	2.436	-.019	-.062
180H	2 1/4	1 13/32	1.406	1.301	1.259	3.982	6.705	1.197	3.920	6.643	9.366	12.089	14.812	20.258	2.723	-.020	-.068
200H	2 1/2	1 1/2	1.562	1.389	1.344	4.427	7.510	1.278	4.361	7.444	10.527	13.610	16.693	22.859	3.083	-.021	-.072

Note: Chain size 41 is not available in multiple strands.

Sprocket Diameter Formulas

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

P.D. = Pitch diameter

N = Number of teeth

H = Height of inside plate

Table 3 - Sprocket Hub Diameters

All dimensions are in inches unless otherwise specified.

Chain No.	35		41		40		50		60		80		100		120		140		160		200		Chain No.
	Pitch		1/2"		1/2"		5/8"		3/4"		1"		1 1/4"		1 1/2"		1 3/4"		2"		2 1/2"		
No. of Teeth	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	Hub Diam.	Max. Bore	No. of Teeth
6	1/4		27/64		23/64		7/16		9/16	3/8	49/64	17/32	63/64	5/8	13/16	27/32	121/64	7/8	1 1/2	1 1/16	2	1 3/8	6
7	3/8		19/32	13/32	17/32	5/16	41/64	7/16	53/64	9/16	17/64	25/32	113/32	31/32	145/64	13/16	115/16	1 1/4	213/64	1 1/2	255/64	115/16	7
8	1/2	5/16	49/64	17/32	45/64	15/32	55/64	9/16	15/64	3/4	129/64	1	153/64	1 1/4	213/64	1 1/2	233/64	1 3/4	27/8	2	345/64	29/16	8
9	5/8	7/16	15/16	19/32	55/64	9/16	11/16	23/32	121/64	7/8	125/32	1 1/4	2 1/4	19/16	245/64	113/16	37/64	23/16	317/32	27/16	417/32	33/16	9
10	3/4	17/32	13/32	3/4	11/64	11/16	117/64	7/8	137/64	1 1/8	2 1/8	17/16	221/32	1 3/4	313/64	2 1/4	311/16	29/16	413/64	27/8	523/64	33/4	10
11	7/8	9/16	117/64	7/8	13/16	27/32	131/64	1	113/16	1 1/4	27/16	1 3/4	35/64	23/16	345/64	29/16	4 1/4	215/16	455/64	35/16	63/16	47/16	11
12	1	11/16	127/64	31/32	123/64	7/8	111/16	1 1/16	21/16	1 3/8	249/64	1 7/8	331/64	2 3/8	43/16	27/8	453/64	35/16	5 1/2	33/4	7	57/16	12
13	1 1/8	25/32	119/32	1 1/8	133/64	1 1/16	157/64	1 1/4	25/16	1 5/8	33/32	23/16	357/64	2 3/4	449/64	3 1/4	525/64	3 3/4	69/32	4 3/8	713/16	61/16	13
14	1 1/4	7/8	1 1/4	1 1/4	111/16	1 3/16	23/32	17/16	235/64	1 3/4	327/64	2 5/16	419/64	2 15/16	5 3/32	3 5/8	531/32	4 3/16	613/16	5 1/4	8 5/8	6 1/2	14
15	1 1/2	7/8	1 29/32	1 1/4	127/32	1 1/4	29/32	1 5/8	251/64	1 7/8	3 3/4	2 5/8	445/64	3 1/4	541/64	3 7/8	617/32	5	729/64	5 11/16	97/16	7	15
16	1 3/4	1	2 5/64	1 3/8	2	1 3/8	231/64	1 3/4	31/32	2 1/8	4 1/16	2 3/4	53/32	3 1/2	6 1/8	4 9/16	73/32	5 1/2	83/32	6 5/16	1015/64	79/16	16
17	1 39/64	1 1/8	2 15/64	1 9/16	2 11/64	1 1/2	2 11/16	1 13/16	3 3/32	2 1/4	4 25/64	3 1/16	5 1/2	3 3/4	6 39/64	5 1/16	7 21/32	5 7/8	8 3/4	7	11 3/64	8 3/8	17
18	1 23/32	1 3/16	2 25/64	1 11/16	2 21/64	1 5/8	2 57/64	2	3 33/64	2 3/8	4 49/64	3 1/4	5 29/32	4 1/8	7 3/32	5 1/2	8 7/32	6 7/16	9 25/64	7	11 27/32	8 15/16	18
19	1 27/32	1 1/4	2 9/16	1 3/4	2 31/64	1 3/4	3 3/32	2 3/16	3 49/64	2 5/8	5 1/32	3 1/2	6 5/16	4 3/4	7 37/64	5 13/16	8 25/32	7	10 1/32	7 1/2	12 29/32	9 9/16	19
20	1 31/32	1 3/8	2 23/32	1 13/16	2 21/32	1 3/4	3 19/64	2 1/4	4	2 3/4	5 23/64	3 3/4	6 45/64	5 1/8	8 1/16	6 5/16	9 11/32	7	10 43/64	8	13 29/64	10 3/8	20
21	2 3/32	1 7/16	2 7/8	2	2 13/16	1 15/16	3 1/2	2 3/8	4 15/64	2 7/8	5 49/64	3 7/8	7 7/64	5 1/2	8 35/64	6 3/4	9 29/32	7 1/2	11 5/16	8 9/16	14 1/4	10 15/16	21
22	2 13/64	1 1/2	3 1/32	2 1/8	2 31/32	2 1/16	3 45/64	2 9/16	4 31/64	3 1/8	6	4 1/4	7 33/64	5 3/4	9 1/64	7	10 15/32	8 1/16	11 61/64	9	15 1/16	11 9/16	22
23	2 21/64	1 5/8	3 13/64	2 1/4	3 1/8	2 1/4	3 57/64	2 3/4	4 23/32	3 1/4	6 5/16	4 3/4	7 29/32	6 1/8	9 1/2	7 1/16	11 1/32	8 5/8	12 19/32	9 3/8	15 55/64	12 5/16	23
24	2 29/64	1 3/4	3 23/64	2 1/4	3 19/64	2 1/4	4 3/32	2 3/4	4 61/64	3 7/16	6 1/64	5 1/16	8 5/16	6 1/2	9 63/64	7 9/16	11 19/32	9	13 15/64	10 1/8	16 21/32	12 15/16	24
25	2 9/16	1 3/4	3 33/64	2 3/8	3 29/64	2 5/16	4 19/64	2 15/16	5 13/64	3 5/8	6 61/64	5 3/8	8 45/64	6 1/2	10 15/32	8 1/16	12 5/32	9 9/16	13 7/8	10 3/16	17 29/64	13 1/16	25

The above maximum bores are not approved for severe conditions. For severe service conditions maximum bores should not be greater than 3/4 of the diameter of the hub.

Table 4 - Standard Keyways and Set Screws

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

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

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

All dimensions are in inches unless otherwise specified.

To obtain the pitch diameter of a sprocket, multiply the constant for the number of teeth (as shown below) by the chain pitch.

Example: To determine the pitch diameter of a 28 tooth sprocket for 140 chain - use a constant of 8.9315 and multiply by chain pitch (1¾") to obtain a pitch diameter of 15.63".

Table 5 - Sprocket Pitch Diameter Constants

All dimensions are in inches unless otherwise specified.

Number of Teeth	Constant	Number of Teeth	Constant	Number of Teeth	Constant
4	1.4142	53	16.8803	102	32.473
5	1.7013	54	17.1984	103	32.791
6	2.0000	55	17.5166	104	33.109
7	2.3048	56	17.8347	105	33.427
8	2.6131	57	18.1529	106	33.746
9	2.9238	58	18.4710	107	34.064
10	3.2361	59	18.7892	108	34.382
11	3.5495	60	19.1073	109	34.701
12	3.8637	61	19.4255	110	35.019
13	4.1785	62	19.7437	111	35.337
14	4.4940	63	20.0618	112	35.655
15	4.8097	64	20.3800	113	35.974
16	5.1259	65	20.6982	114	36.292
17	5.4423	66	21.0164	115	36.610
18	5.7588	67	21.3346	116	36.929
19	6.0756	68	21.6528	117	37.247
20	6.3925	69	21.9710	118	37.565
21	6.7095	70	22.2892	119	37.883
22	7.0266	71	22.6074	120	38.201
23	7.3439	72	22.9256	121	38.519
24	7.6613	73	23.2438	122	38.837
25	7.9787	74	23.5620	123	39.156
26	8.2962	75	23.8802	124	39.475
27	8.6138	76	24.1984	125	39.794
28	8.9315	77	24.5166	126	40.112
29	9.2491	78	24.8349	127	40.430
30	9.5668	79	25.1531	128	40.748
31	9.8845	80	24.4713	129	41.066
32	10.2023	81	25.7896	130	41.384
33	10.5201	82	26.1079	131	41.702
34	10.8380	83	26.4261	132	42.020
35	11.1558	84	26.7442	133	42.338
36	11.4737	85	27.0626	134	42.656
37	11.7917	86	27.3807	135	42.975
38	12.1096	87	27.6989	136	43.293
39	12.4275	88	28.0170	137	43.611
40	12.7455	89	28.3355	138	43.930
41	13.0635	90	28.6537	139	44.249
42	13.3815	91	28.9723	140	44.567
43	13.6995	92	29.2901	141	44.885
44	14.0175	93	29.6082	142	45.203
45	14.3356	94	29.9268	143	45.521
46	14.6536	95	30.2447	144	45.840
47	14.9717	96	30.5632	145	46.158
48	15.2898	97	30.8815	146	46.477
49	15.6079	98	31.1999	147	46.796
50	15.9260	99	31.5177	148	47.114
51	16.2441	100	31.8362	149	47.432
52	16.5619	101	32.1540	150	47.750

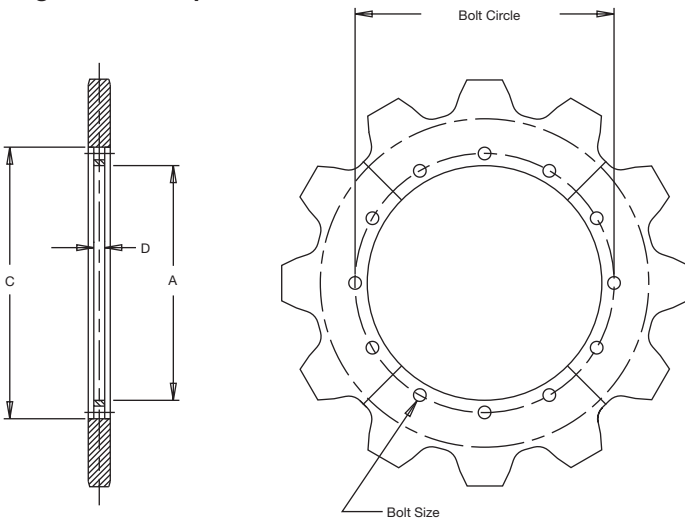
Sprocket Specifications

Tsubaki Sprockets are carefully designed and manufactured to provide exceptional service in all applications. Each sprocket has certain variable construction characteristics that can be tailored to your specific application. Tsubaki Sprockets can be furnished with a variety of special features. Special requirements or features should be specified at the time of order.

Special Types of Sprockets Available

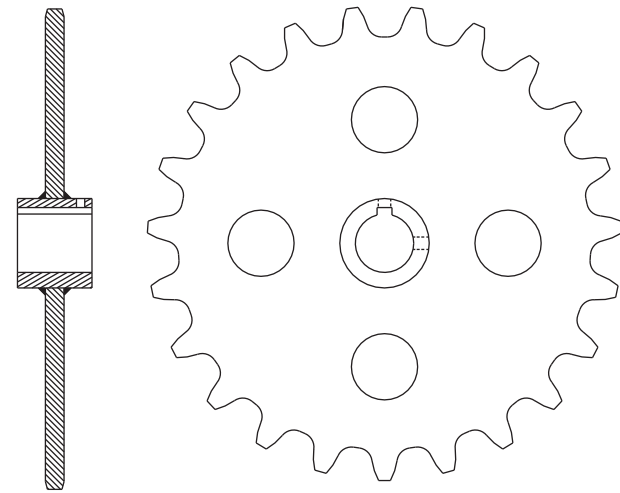
Tsubaki offers a wide variety of styles to meet your operational needs.

Segmental Rim Sprockets



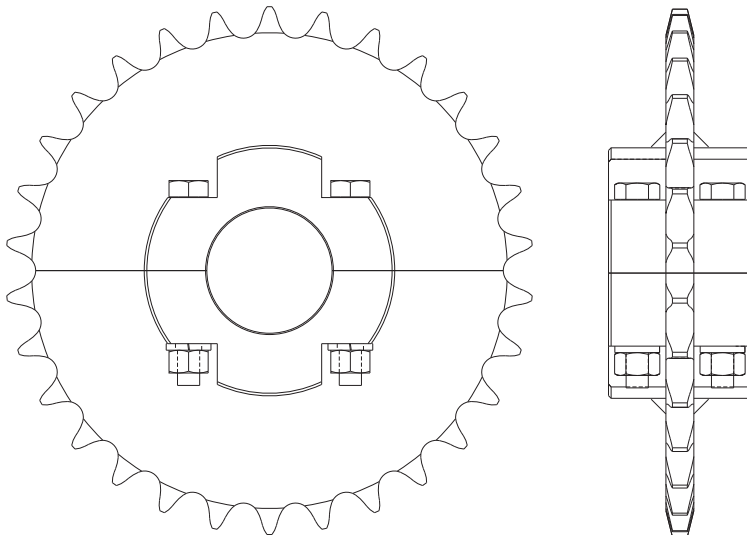
Segmental Rim Sprockets are designed to save time and money. They eliminate costly downtime during installation and adjustment. The segmental rim is bolted to a solid or split body. That means bodies or entire sprockets may be replaced without removing shaft or bearings, saving maintenance time and money.

Lightening Hole Sprockets



Reduce the weight of a large sprocket and facilitate handling with lightening holes. Standard best fit patterns are used unless hole size, quantity, and bolt circle are specified. Burned or LASER cut profiles can also be furnished in standard sprockets.

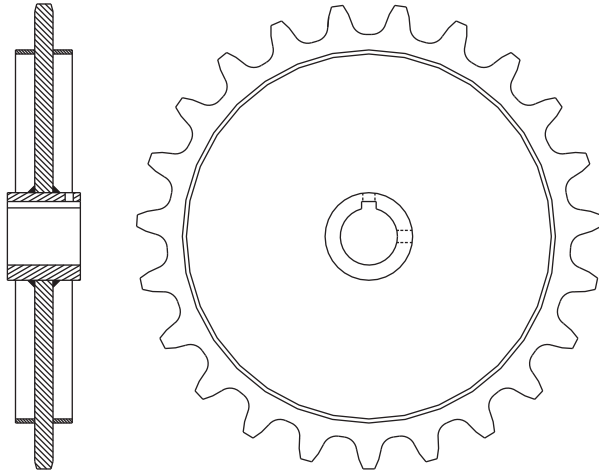
Split Construction



Sprockets with split construction make it easier to mount or remove a sprocket from the shaft without disturbing either the shaft or the bearings. Split construction may provide extra holding power, depending on your application. Rim lugs are used when the diameter of the wheel makes them necessary.

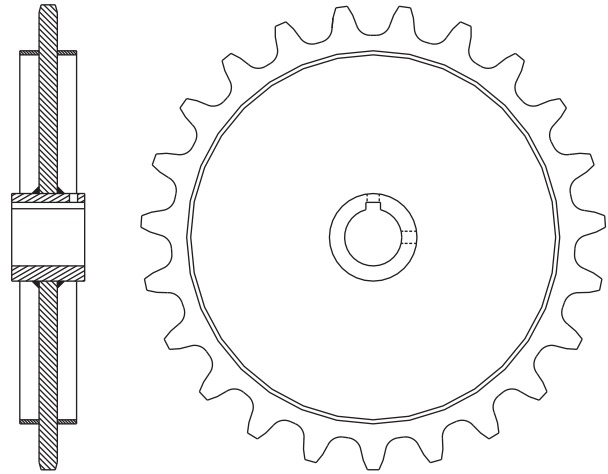
Section E

Chain Saver Sprockets



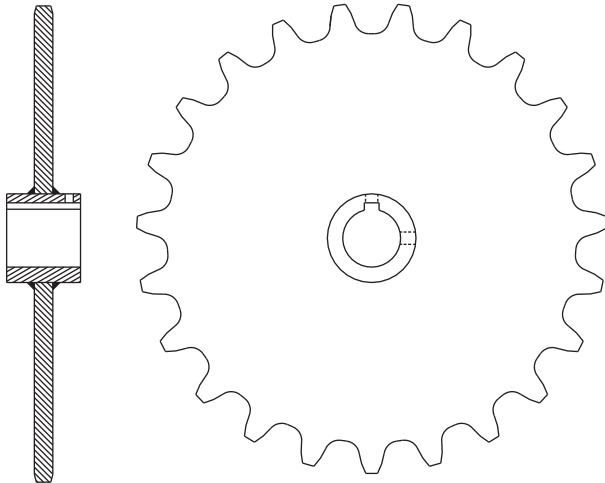
The special flange construction on the rim of Chain Saver Sprockets extends the life of the chain. Chain sidebars rest on the flange as the chain wraps around the sprocket. This keeps the chain on the true pitch line and distributes wear over a greater contact area.

Hunting Tooth (Double-Duty) Chain Saver Sprockets



Hunting Tooth Chain Saver Sprockets combine the special construction of Hunting Tooth Sprockets with Chain Saver Sprockets for super long wear. The chain engages one set of teeth with each rotation, and the special flange construction adds extra support, keeping the chain on true pitch and distributing wear over a greater contact area.

Hunting Tooth (Double-Duty) Sprockets



The special construction of Hunting Tooth Sprockets makes them last twice as long as regular sprockets. Hunting Tooth Sprockets have an odd number of teeth and are half the pitch of the chain. Every time the sprocket makes a revolution, the chain engages with one set of teeth, ahead of the previously engaged set. Each tooth makes contact with the chain only half as many times as it would on a regular sprocket, extending the useful life of the sprocket two times that of regular sprockets.

Other Factors

When ordering sprockets, there are some additional factors to consider.

Hub Length

Standard hub lengths are shown in the Sprocket Tables in this catalogue. Longer or shorter hubs are available on a made-to-order basis.

Overload Protection - Shock Relay

The Shock Relay is an “Electronic Shear Pin Hub.” Set the overload protection you want for your operation, and this sensitive electronic monitor stops the line before damage can occur. After the problem is corrected, the Shock Relay can be reset at the touch of a button, increasing efficiency and reducing downtime. Refer to section F of the catalogue for more information.

Traction Wheels

Traction Wheels are available in a wide range of sizes and types to fit most chains. They are usually used as drivers only. They are not generally used at the tail shaft or boot.

Selection of Chain and Sprockets

For full drive-train selection guidelines, refer to the separate section on Roller Chain Selection.

The smallest applicable pitch of roller chain is desirable for quiet operation and high speed. The horsepower capacity varies with the chain pitch. A short pitch with a high working load can often be obtained through the use of multi-strand chains. The use of multi-strand Engineering Class chain is extremely rare.

Select the small sprocket in the drive system first. This sprocket must be large enough to accommodate the shaft. After selecting the small sprocket, the number of teeth on the large sprocket is determined by the desired ratio of the shaft speeds. See the Speed Ratio Chart – Table 6. Over-emphasis on the exactness in the speed ratio can result in a cumbersome, impractical, and expensive installation. In most cases, satisfactory operation can be obtained with a minor change in speed of one or both shafts. The recommended maximum speed ratio is 7:1, although higher ratios can be used.

As a general rule, the driving sprocket should be a minimum of 17 teeth, although small sprockets may be used. When the maximum bore of the 17 tooth sprocket (ie. the minimum recommended size) will not accommodate the shaft, it is necessary to select a larger sprocket.

Step 1: Calculate Pitch Diameter

To obtain the pitch diameter of a sprocket, multiply the constant (Table 5) by the chain pitch.

Step 2: Select Hub Class

Using the quick selector chart (Table 7), plot the pitch diameter of the sprocket obtained in Step 1. Then plot the working load of the chain, suggested hub selection is found at the point of intersection.

Step 3: Determine Length & Diameter of Hub

Using the information obtained in Step 2, plot the hub class on Table 8. Then plot the bore of the wheel. The point of intersection indicates the diameter of the hub. Length Thru-Bore (LTB) is found at the bottom of the appropriate hub diameter column. Where the bore size is not know, refer to the shaft selection procedure in the Roller Chain Section of this catalogue.

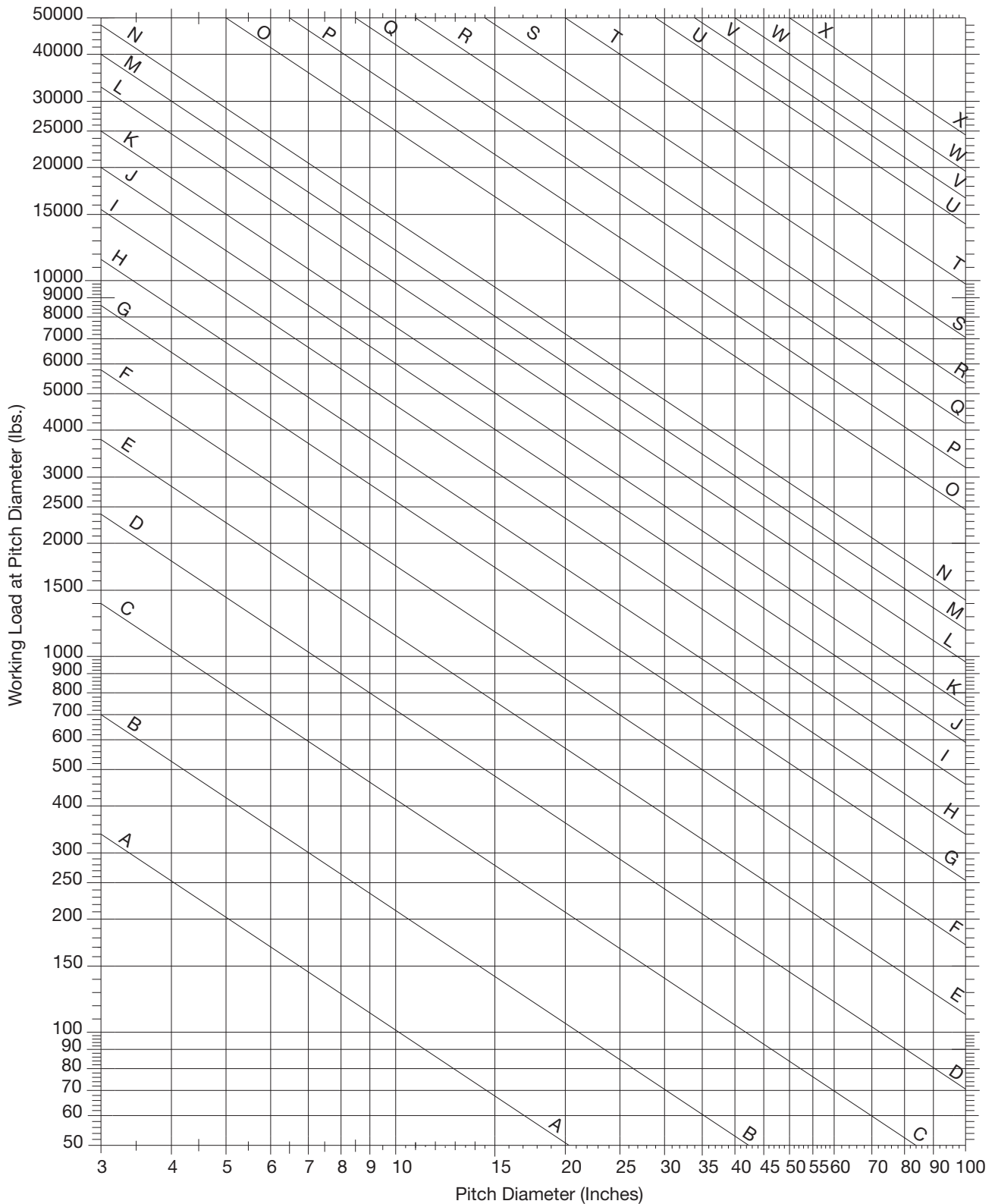
Table 6 - Speed Ratios for Sprocket Combinations

All dimensions are in inches unless otherwise specified.

	Driver Sprocket Teeth																		
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
9	1.00																		
10	1.11	1.00																	
11	1.22	1.10	1.00																
12	1.33	1.20	1.09	1.00															
13	1.44	1.30	1.18	1.08	1.00														
14	1.56	1.40	1.27	1.17	1.08	1.00													
15	1.67	1.50	1.36	1.25	1.15	1.07	1.00												
16	1.78	1.60	1.45	1.33	1.23	1.14	1.07	1.00											
17	1.89	1.70	1.55	1.42	1.31	1.21	1.13	1.06	1.00										
18	2.00	1.80	1.64	1.50	1.38	1.29	1.20	1.13	1.06	1.00									
19	2.11	1.90	1.73	1.58	1.46	1.36	1.27	1.19	1.12	1.06	1.00								
20	2.22	2.00	1.82	1.67	1.54	1.43	1.33	1.25	1.18	1.11	1.05	1.00							
21	2.33	2.10	1.91	1.75	1.61	1.50	1.40	1.31	1.23	1.17	1.10	1.05	1.00						
22	2.44	2.20	2.00	1.83	1.69	1.57	1.47	1.38	1.29	1.22	1.16	1.10	1.05	1.00					
23	2.56	2.30	2.09	1.92	1.77	1.64	1.53	1.44	1.35	1.28	1.21	1.15	1.09	1.04	1.00				
24	2.67	2.40	2.18	2.00	1.85	1.71	1.60	1.50	1.41	1.33	1.26	1.20	1.14	1.09	1.04	1.00			
25	2.78	2.50	2.27	2.08	1.92	1.79	1.67	1.56	1.47	1.39	1.32	1.25	1.19	1.14	1.09	1.04	1.00		
26	2.89	2.60	2.36	2.17	2.00	1.86	1.73	1.63	1.53	1.45	1.37	1.30	1.24	1.18	1.13	1.08	1.04	1.00	
27	3.00	2.70	2.45	2.25	2.08	1.93	1.80	1.69	1.59	1.50	1.42	1.35	1.29	1.23	1.17	1.12	1.08	1.04	1.00
28	3.11	2.80	2.54	2.33	2.15	2.00	1.87	1.75	1.65	1.56	1.47	1.40	1.33	1.27	1.22	1.17	1.12	1.08	1.04
29	3.22	2.90	2.64	2.42	2.23	2.07	1.93	1.81	1.71	1.61	1.53	1.45	1.38	1.32	1.26	1.21	1.16	1.12	1.08
30	3.33	3.00	2.73	2.50	2.31	2.14	2.00	1.88	1.76	1.67	1.58	1.50	1.43	1.36	1.31	1.25	1.20	1.15	1.12
31	3.44	3.10	2.82	2.58	2.38	2.21	2.07	1.94	1.82	1.72	1.63	1.55	1.48	1.41	1.35	1.29	1.24	1.19	1.15
32	3.56	3.20	2.91	2.67	2.46	2.28	2.13	2.00	1.88	1.78	1.68	1.60	1.52	1.45	1.39	1.33	1.28	1.23	1.19
33	3.67	3.30	3.00	2.75	2.54	2.36	2.20	2.06	1.94	1.83	1.74	1.65	1.57	1.50	1.43	1.38	1.32	1.27	1.23
34	3.78	3.40	3.09	2.83	2.62	2.43	2.27	2.13	2.00	1.89	1.79	1.70	1.62	1.55	1.48	1.42	1.36	1.31	1.27
35	3.89	3.50	3.18	2.92	2.69	2.50	2.33	2.19	2.06	1.95	1.84	1.75	1.67	1.59	1.52	1.46	1.40	1.34	1.30
36	4.00	3.60	3.27	3.00	2.77	2.57	2.40	2.25	2.12	2.00	1.89	1.80	1.71	1.63	1.57	1.50	1.44	1.38	1.34
37	4.11	3.70	3.36	3.08	2.85	2.64	2.47	2.31	2.18	2.06	1.95	1.85	1.76	1.68	1.61	1.54	1.48	1.42	1.38
38	4.22	3.80	3.45	3.17	2.92	2.71	2.53	2.38	2.24	2.11	2.00	1.90	1.81	1.73	1.65	1.58	1.52	1.46	1.42
39	4.33	3.90	3.55	3.25	3.00	2.79	2.60	2.44	2.29	2.17	2.05	1.95	1.86	1.77	1.70	1.63	1.56	1.50	1.46
40	4.44	4.00	3.64	3.33	3.08	2.86	2.67	2.50	2.35	2.22	2.10	2.00	1.90	1.82	1.74	1.67	1.60	1.54	1.50
41	4.56	4.10	3.73	3.42	3.15	2.93	2.73	2.56	2.41	2.28	2.16	2.05	1.95	1.86	1.78	1.71	1.64	1.58	1.54
42	4.67	4.20	3.82	3.50	3.23	3.00	2.80	2.63	2.47	2.34	2.21	2.10	2.00	1.91	1.83	1.75	1.68	1.61	1.57
43	4.78	4.30	3.91	3.58	3.31	3.07	2.87	2.69	2.53	2.39	2.26	2.15	2.05	1.95	1.87	1.79	1.72	1.65	1.61
44	4.89	4.40	4.00	3.67	3.38	3.14	2.93	2.75	2.59	2.44	2.32	2.20	2.10	2.00	1.91	1.83	1.76	1.69	1.65
45	5.00	4.50	4.09	3.75	3.46	3.21	3.00	2.81	2.65	2.50	2.37	2.25	2.14	2.04	1.96	1.88	1.80	1.73	1.69
46	5.11	4.60	4.18	3.83	3.54	3.29	3.07	2.88	2.71	2.56	2.42	2.30	2.19	2.09	2.00	1.92	1.84	1.77	1.73
47	5.22	4.70	4.27	3.92	3.62	3.36	3.13	2.94	2.76	2.61	2.47	2.35	2.24	2.14	2.04	1.96	1.88	1.81	1.77
48	5.33	4.80	4.36	4.00	3.69	3.43	3.20	3.00	2.82	2.67	2.52	2.40	2.28	2.19	2.09	2.00	1.92	1.84	1.81
49	5.44	4.90	4.45	4.08	3.77	3.50	3.27	3.06	2.88	2.72	2.58	2.45	2.33	2.23	2.13	2.04	1.96	1.88	1.84
50	5.56	5.00	4.55	4.17	3.85	3.57	3.33	3.13	2.94	2.78	2.63	2.50	2.38	2.27	2.17	2.08	2.00	1.92	1.88
51	5.67	5.10	4.64	4.25	3.92	3.64	3.40	3.19	3.00	2.83	2.68	2.55	2.43	2.32	2.22	2.13	2.04	1.96	1.92
52	5.78	5.20	4.73	4.33	4.00	3.71	3.47	3.25	3.06	2.89	2.74	2.60	2.48	2.36	2.26	2.17	2.08	2.00	1.96
53	5.89	5.30	4.82	4.42	4.08	3.79	3.53	3.31	3.12	2.94	2.79	2.65	2.52	2.41	2.30	2.21	2.12	2.04	2.00
54	6.00	5.40	4.91	4.50	4.15	3.86	3.60	3.38	3.18	3.00	2.84	2.70	2.57	2.45	2.35	2.25	2.16	2.07	2.04
55	6.11	5.50	5.00	4.58	4.23	3.93	3.67	3.44	3.24	3.06	2.90	2.75	2.62	2.50	2.39	2.29	2.20	2.12	2.07
56	6.22	5.60	5.09	4.67	4.31	4.00	3.73	3.50	3.29	3.11	2.95	2.80	2.67	2.55	2.43	2.33	2.24	2.15	2.11
57	6.33	5.70	5.18	4.75	4.38	4.07	3.80	3.56	3.35	3.17	3.00	2.85	2.71	2.59	2.49	2.38	2.28	2.19	2.15
58	6.44	5.80	5.27	4.83	4.46	4.14	3.87	3.63	3.41	3.22	3.05	2.90	2.76	2.64	2.52	2.42	2.32	2.23	2.19
59	6.56	5.90	5.36	4.92	4.54	4.21	3.93	3.69	3.47	3.28	3.11	2.95	2.81	2.68	2.57	2.46	2.36	2.27	2.23
60	6.67	6.00	5.45	5.00	4.61	4.28	4.00	3.75	3.53	3.34	3.16	3.00	2.86	2.72	2.61	2.50	2.40	2.30	2.26
68	7.55	6.80	6.18	5.66	5.23	4.86	4.54	4.25	4.00	3.78	3.58	3.40	3.24	3.09	2.96	2.84	2.72	2.61	2.57
70	7.78	7.00	6.36	5.83	5.38	5.00	4.67	4.38	4.12	3.89	3.68	3.50	3.33	3.18	3.05	2.92	2.80	2.69	2.65
72	8.00	7.20	6.54	6.00	5.54	5.14	4.80	4.50	4.24	4.00	3.79	3.60	3.43	3.27	3.13	3.00	2.88	2.77	2.73
76			6.91	6.33	5.84	5.43	5.07	4.75	4.47	4.23	4.00	3.80	3.62	3.45	3.31	3.17	3.04	2.92	2.88
80			7.27	6.66	6.15	5.71	5.34	5.00	4.70	4.45	4.21	4.00	3.81	3.63	3.48	3.34	3.20	3.07	3.03
84				7.00	6.46	6.00	5.60	5.25	4.94	4.67	4.42	4.20	4.00	3.81	3.65	3.50	3.36	3.23	3.19
95					7.31	6.78	6.33	5.94	5.59	5.28	5.00	4.75	4.52	4.32	4.13	3.96	3.80	3.65	3.51
96					7.38	6.85	6.40	6.00	5.64	5.34	5.05	4.80	4.57	4.36	4.18	4.00	3.84	3.69	3.55
102						7.28	6.80	6.38	6.00	5.67	5.37	5.10	4.86	4.63	4.44	4.25	4.08	3.92	3.78
112							7.00	6.59	6.23	5.89	5.60	5.33	5.08	4.87	4.67	4.48	4.30	4.14	3.99

Section E

Table 7 - Quick Selection Chart



E 20110303

Table 8 - Hub Diameter Selection Table

All dimensions are in inches unless otherwise specified.

Bore of Wheel	Sq. Key Size	Set Screw Size	Standard Hub Diameters for Steel Sprockets																										Minimum Hubs for Loose or Set-Screwed Sprockets	Lgth.
			Allowable Torque in Inch Pounds and Hub Class																											
			500	1,000	2,000	3,500	5,600	8,500	12,500	17,000	23,000	30,000	38,000	47,000	60,000	70,000	100,000	140,000	190,000	245,000	325,000	400,000	500,000	600,000	720,000	850,000	1,000,000	1,250,000		
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		
Diameter of Keyseated Hubs																										Dia.	Lgth.			
1 ⁵ / ₁₆	1/4	3/8	1 1/4	1 1/4																								1 1/4		
1 ³ / ₁₆	1/4	3/8	2	2	2																							2		
1 ⁷ / ₁₆	3/8	3/8	2 1/4	2 1/4	2 1/2	2 3/4																						2 1/4		
1 ¹¹ / ₁₆	3/8	3/8	2 3/4	2 3/4	2 3/4	3	3																					2 3/4		
1 ¹⁵ / ₁₆	1/2	1/2	3	3	3	3 1/4	3 1/4	3 3/4																				3		
2 ³ / ₁₆	1/2	1/2	3 1/4	3 1/4	3 1/4	3 1/2	3 1/2	3 1/2	3 3/4																			3 1/4		
2 ⁷ / ₁₆	5/8	5/8	3 3/4	3 3/4	3 3/4	3 3/4	4	4	4 1/4	4 1/4																		3 3/4		
2 ¹¹ / ₁₆	5/8	5/8	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/2	4 1/2																		4 1/4		
2 ¹⁵ / ₁₆	3/4	5/8	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 3/4	4 3/4	5	5																4 1/2		
3 ¹ / ₁₆	3/4	5/8	4 3/4	4 3/4	4 3/4	4 3/4	4 3/4	5	5	5	5 1/4	5 1/4	5 1/4															4 3/4		
3 ⁷ / ₁₆	7/8	3/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/2	5 1/2	5 3/4	5 3/4	5 3/4	5 3/4														5 1/4		
3 ¹¹ / ₁₆	7/8	3/4			5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 3/4	5 3/4	6	6														5 1/2		
3 ¹⁵ / ₁₆	1	3/4			6	6	6	6	6	6	6 1/4	6 1/4	6 1/2	6 1/2	6 1/2	6 1/2												6		
4 ¹ / ₁₆	1	3/4			6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 3/4	6 3/4	7	7	7	7	7												6 1/2		
4 ⁵ / ₁₆	1 1/4	7/8			7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/4	7 1/2	7 1/2	7 1/2	8	8	8											7 1/4		
5 ⁷ / ₁₆	1 1/4	7/8					8	8	8	8	8	8	8	8	8	8 1/2	8 1/2	8 1/2	8 1/2									8		
5 ¹¹ / ₁₆	1 1/2	1					9	9	9	9	9	9	9	9	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2								9		
6 ¹ / ₁₆	1 1/2	1						9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	10	10	10	10	10	10	10	10	10	10	10	10	10	9 1/2		
7	1 1/2	1								10	10	10	10	10	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10 1/2	10	10		
7 1/2	1 3/4	1 1/4									11	11	11	11	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11 1/2	11		
8	1 3/4	1 1/4										11 1/2	11 1/2	11 1/2	12	12	12	12	12	12	12	12	12	12	12	12	12	11 1/2		
8 1/2	1 3/4	1 1/4											12	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12			
9	1 3/4	1 1/4													13	13	13	13	13	13	13	13	13	13	13	13	13	12		
9 1/2	1 3/4	1 1/4														13 1/2	13 1/2	13 1/2	13 1/2	13 1/2	13 1/2	13 1/2	13 1/2	13 1/2	13 1/2	13 1/2	13 1/2	13		
10	2	1 1/4														14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	14 1/2	13 1/2		
Length Through Bore			1 1/4	*1 1/2	*1 3/4	2	2 1/2	2 3/4	3 1/4	3 1/2	4	4 1/4	4 1/2	5	5 1/4	5 1/2	6	6 1/2	7	7 3/4	8 1/2	9 1/2	10	10 1/2	11	11 1/2	12	12 1/2		

*Hubs on one side only.

Notes

1. The diagonal solid block of figures on the Hub Diameter Selection Table (Table 8) represent a condition of balance between torque and keyway with bore sizes. When the hub class requirements and the bore size intersect in the blank space below and to the left of the solid block, it indicates that chain and sprocket will not transmit the full torque value of the keyed shaft. When the hub class and the bore size intersect above and to the right of the solid block, it indicates

that chain and sprocket are stronger than the keyed shaft. The Hub Diameter Selection Table also serves as a design check on the shaft sizes as well.

2. For loose-fitting sprockets only (no keyway or set screw), the minimum hub diameter and length are shown at the right end of the shaft size row and at the bottom of the hub class columns.

Sprocket Hardening and Materials

Tsubaki can manufacture sprockets to meet your specific needs. The results are sprockets designed to maximize the life of your chain. Chains and sprockets must work together, so buying them from the same source makes sense. When chains and sprockets articulate correctly, the life of the chain is extended. That means long term savings and real value for your application.

Tsubaki sprockets can be made in a variety of grades of carbon, stainless, and alloy steels, as well as other metals.

Since chain loadings are distributed over all engaged sprocket teeth, tooth breakage or distortion is not normally a problem. It is seldom necessary to use special high strength material. Diameter, pitch and strands of the sprocket determine the specific



Bronze Idler Sprocket

grade of carbon steel used. Many of our wide range of carbon steel sprockets are heat treated as a standard. For other sprockets, heat-treating can be specified as an option. Heat-treated carbon steel provides long wear life and resists abrasion.

The hardening process of small diameter, small pitch sprockets is usually a one step procedure using electrical induction heat-treating. Large diameter, large pitch sprockets are usually heat-treated using direct flame hardening. These methods are used to provide high hardness at the wear areas of each tooth maintaining a ductile tooth core that is tough and resilient. The hubs and bore remain soft to permit reworking.



Direct Flame Hardening Process



Electrical Induction Hardening Process

Tsubaki stock sprocket hardness is:
 Rockwell A Scale: 68-76
 Rockwell C Scale: 35-50
 Tighter ranges, or higher minimum hardness can be supplied at your request.

Hardness Conversion Table				
Rockwell Hardness Number		Scleroscope	Brinell 10mm ball	Approx. Tensile Strength (psi)
C Scale	A Scale			
330 lbs. Load	130 lbs. Load	Shore Model C	6600 lbs. Load	
10	56	28	190	93,000
12	56	29	195	96,000
13	57	30	200	98,000
15	57	31	205	100,000
16	58	32	210	103,000
18	59	33	216	106,000
20	60	34	222	109,000
21	61	35	228	112,000
22	61	35	234	115,000
23	62	36	240	118,000
24	62	37	247	121,000
25	62	38	253	124,000
26	63	39	258	126,000
27	63	40	264	129,000
28	64	41	271	133,000
29	64	41	279	137,000
30	65	42	286	140,000
31	65	43	294	144,000
32	66	44	301	147,000
33	66	46	311	152,000
34	67	47	319	156,000
35	67	48	327	160,000
36	68	49	336	165,000
37	68	50	344	169,000
38	69	51	353	173,000
39	69	52	362	177,000
40	70	54	371	182,000
41	70	55	381	187,000
42	71	56	390	191,000
43	72	57	400	196,000
44	72	58	409	200,000
45	73	60	421	206,000
46	73	62	432	212,000
47	74	63	442	217,000
48	74	64	451	221,000
49	75	66	464	227,000
50	75	67	475	233,000
51	76	68	487	239,000
52	76	69	500	245,000
53	77	71	525	257,000
54	78	72	543	266,000
55	78	74	560	274,000
56	79	75	577	282,000
57	79	76	595	290,000
58	80	78	615	300,000
59	80	80	634	310,000
60	81	81	654	320,000
61	81	83	670	---
62	82	85	688	---
63	82	87	705	---
64	83	88	722	---
65	83	91	739	---
66	84	92	---	---
67	85	95	---	---
68	85	97	---	---
69	86	99	---	---
70	86	101	---	---

Section E

Other Considerations

When determining whether you need replacement sprockets, consider the following important points:

Chain Interaction

The chain-sprocket interaction is the criterion upon which most users make their judgments about replacing sprockets. If the chain engages and disengages the sprocket smoothly without hanging up or snapping into place, most people will not replace it. If a chain does start to hang up on the sprocket, damaging chain overload conditions can develop rapidly. We suggest replacing sprockets before hang up develops.

Reversible

Almost all sprockets are reversible. The key to being able to reverse sprockets is symmetry. If the sprockets are symmetrical from side to side, then they can be reversed. Reversing is not suggested in most circumstances, especially with those applications that wear the sprocket bottom diameter.

New Chain

We suggest you order new sprockets when chain is replaced. New sprockets ensure proper chain interaction and also provide maximum wear performance.

Attachment Clearance

Any time an attachment is in the area between, above, or below the sidebars, make sure the attachment does not interfere with sprocket action.

Relief Pocket (Mud Relief)

In applications where material build up may be a problem, the bottom of the tooth pocket can be beveled on the side to allow the material to "squeeze" out. This reduction of contact area is not critical because the pressure on the bottom of the pocket is very light in horizontal conveyors. Other relief styles may be necessary for vertical conveyors.

Advantages of Using Larger Sprockets

Choose the largest sprocket that will fit your application. Small sprockets cause greater shock and consequently more wear on both chain and sprockets. There are several reasons for this.

1. To engage small sprockets, chain must flex more which causes increased rotation of the pin in the bushing. Since this is one of the major causes of chain wear, this flexing action should be minimized.
2. Small sprockets with fewer teeth wear out much faster than sprockets with more teeth. More teeth provide an opportunity to distribute the wearing action.
3. Larger sprockets cause smoother operation because the greater number of teeth will pick up the load more frequently.

Chordal Action

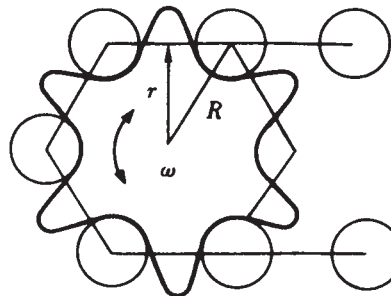
Chordal action is a very important concept in sprocket function. A sprocket is a collection of chords, or straight segments, that approximate a circle. The more teeth a sprocket has, the closer the chords are to a circle.

The problem with a chordal form is that the lineal output is not consistent. Since the sprocket is not a perfect circle, the distance from the shaft center to the chain center-line varies. As this distance varies, so does the lineal output (assuming a constant shaft rotational speed).

A hexagon inscribed by a circle represents the 6-tooth sprocket shown below. You can see that the distance from the center to the corner is different than from the center to the middle of the side. The corner would be the equivalent to the chain joint center, and the side is equivalent to the chain centerline at mid-pitch.

Minimum Chain Speed

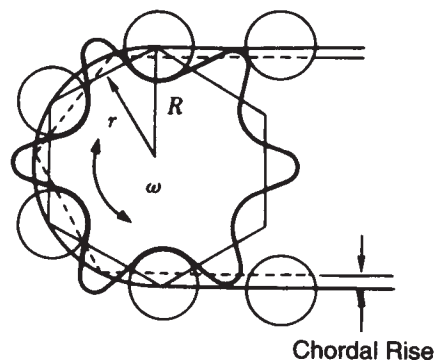
$$V_{\min} = r\omega$$



$$V_1 = .2618 (PD) \cos(180/T) N$$

Maximum Chain Speed

$$V_{\max} = R\omega$$



$$V_2 = .2618 (PD) N$$

Where

V_1 and V_2 in fpm,

N in r.p.m.,

PD in pitch diameter, in inches.

Sprockets Keyed In Line

Key driving sprockets on a double-strand chain conveyor or elevator on the head shaft and with the teeth of one sprocket directly in line with teeth of the other. Order “keyed-in-line” and “matched in pairs” to obtain this feature. Key one foot shaft sprocket on its shaft so that the shaft will turn in its bearings. Allow the other sprocket to turn freely, holding it in position by means of set collars. The sprocket can then position itself automatically if uneven wear takes place in the chain strands (Figure 1).

Sprocket Size

Use the largest diameter conveyor sprocket that space and economics permit. This minimizes chain speed variations and pulsations and reduces wear to the chain and sprocket.

Sprocket Life

When sprockets are worn, the chain tends to cling to the sprockets or vibrate. The amount of allowable wear depends on the application type and chain size. Wear to a depth of 0.12” (3 mm) to 0.24” (6 mm) is usually a sign that the existing sprocket should be replaced, illustrated in Figure 2.

If the sprocket teeth are worn, the alignment may be incorrect. Proper axial alignment of the sprockets will help reduce or even eliminate wear of sprocket teeth, illustrated in Figure 3.

Figure 1

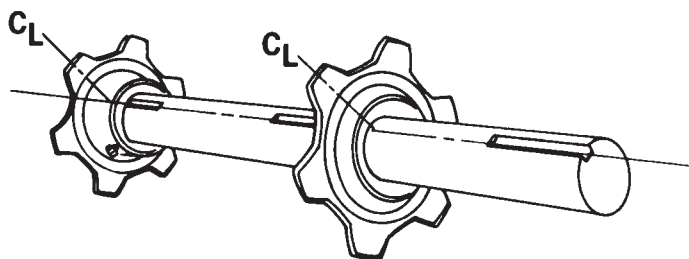


Figure 2 - Sprocket Wear

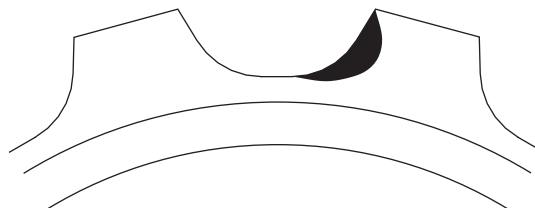
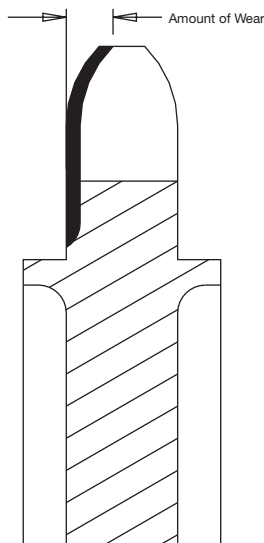


Figure 3 - Sprocket Tooth Wear



Regardless of application, all chain systems should be inspected on a regularly scheduled basis for worn, damaged or broken parts, possible interference by other system components, and proper lubrication. Normal maintenance procedures can prevent most of the conditions described below. Carefully inspect roller chain drives on the same schedule as associated equipment.

• Sprocket Misalignment

Wear on the sides of sprocket teeth generally indicates improper installation of sprockets and/or shafts. If shafts are out of parallel or not in the same plane, non-symmetrical wear will appear on sprockets or chain rollers.

After proper alignment is made, retighten set screws in sprocket hubs.

• Chain Wear and Elongation

Normal wear will cause some increase in chain length. However, if a sudden increase in elongation occurs, look for severe wear on the tips of sprocket teeth. This may be caused by any of the following: excessive loading or shock loading, displacement and/or wear in bearings, displacement of take-ups, or under-designed drive. Elongation of 3% or more may be an indication that chain and/or sprockets should be replaced.

Before replacing chain or sprockets, recalculate initial drive design. Check chain for broken parts. Check chain tension if there is too much accumulated slack in the drive.

• Broken Chain Parts

Generally caused by an overload drive; extreme misalignment; excessive elongation causing chain to jump sprocket teeth; heavy shock; improper drive design geometry; foreign objects.

Recalculate initial drive design and make necessary corrections. Inspect sprockets and shafts for proper alignment or looseness.

• Link Plate Wear

Wear on edges of outer sides of link plate may be caused by chain contacting case or fixed object.

Remove or relocate fixed object. Readjust chain properly.

• Excessive Noise

Can be caused by broken links and chain rollers, extreme misalignment, elongation, chain jumping sprocket teeth, loose sprockets, broken teeth, accumulation of dirt packed into the chain or sprocket teeth, interference by foreign objects, contacting a fixed object.

Check for worn, broken or missing parts. Check alignment of shafts and/or sprockets.

• Excessive Vibration

Unbalanced rotating parts, broken or missing rollers, too much chain slack, loose or misaligned sprockets or shafts.

Inspect chain and drive equipment. Replace or readjust as needed.

• Improper Lubrication

Light or dark brown discoloration of pin-bushing joints and connecting link pins, or brown-red oxide colour in oil may indicate chain is not dipping into the oil reservoir, or drip lubricator or spray is plugged.

Carefully clean and dry chain, immerse in oil, and re-install. Change oil in chain case and flush case. Determine that oil supply is adequate or unimpeded.

Suggested Replacement Procedures

Chain parts should never be altered or tampered with by makeshift repairs and/or with parts or components which have not been authorized by the com

• Removing Chain

Turn the drive until a connecting link is fully engaged with one of the sprockets so as to relieve the tension on the connecting link pin. The connecting link may then be removed.

• Cutting Riveted Chain

The two pins of a pin link must be driven out of the link plate. Strike the pins alternately to avoid distortion of the roller link plates as well as the plates of the adjacent links.

• Periodic Cleaning

Remove chain from sprockets and wash in kerosene. If chain is badly gummed, soak in kerosene and re-wash in fresh liquid. Drain off kerosene and soak in oil to restore lubrication. Drain off excessive lubrication by hanging chain. Carefully inspect entire chain before reinstalling. Sprockets should be washed in kerosene.

• Storing Chain

When roller chain is taken out of operation for a prolonged period, remove the chain and cover with heavy grease. Wrap in heavy grease-resistant paper and store where the chain will not be exposed to abnormal moisture, temperature, abrasive or corrosive conditions. Sprockets remaining on shafts should be covered with heavy grease.

When the drive is put back in service, remove the grease and thoroughly clean sprockets and chain before re-installing.

• Heating and Welding

Do not use a cutting torch on chain. If cutting by torch is indicated, chain should be replaced. Welding should not be performed on any chain or chain components.

• Inserting New Links

Insert new links only on new roller chain. Pitch variance between a new link and those on an old chain, especially one which is elongated due to wear, will cause shock when the new link engages the sprocket.

• Installing New Chain

Chain and/or related parts should be visually inspected for damage which could have occurred during shipment prior to installation. Never install on badly worn sprockets as this will permanently damage the chain. As a temporary expedient, reverse a worn sprocket on the shaft to present a new set of working tooth surfaces; worn sprockets should be replaced as soon as practical to avoid permanent damage.

WARNING

USE CARE TO PREVENT INJURY COMPLY WITH FOLLOWING TO AVOID SERIOUS PERSONAL INJURY:

1. Guards must be provided on all chain and sprocket installations in accordance with provisions of ANSI/ASME B15.1 - 1996 "Safety Standards for Mechanical Power Transmission Apparatus", and ANSI/ASME B20.1 - 1996 "Safety Standards for Conveyors and Related Equipment", or other applicable safety standards. When revisions of these standards are published, the updated edition shall apply.
2. Always lock out the power switch before installing, removing, lubricating or servicing a chain system.
3. When connecting or disconnecting chain:
 - a. Eye protection is required. Wear safety glasses, protective clothing, gloves and safety shoes.
 - b. Support the chain to prevent uncontrolled movement of chain and parts.
 - c. Use of pressing equipment is recommended. Tools must be in good condition and properly used.
 - d. Determine correct direction for pin/rivet removal or insertion.

This chart is a quick, easy way to replace your current engineering class chains and sprockets with high-quality, reliable products from Tsubaki. The list is sorted by engineering class chain number, and you'll find the corresponding Tsubaki engineering class sprocket number listed for each.

Please check the chain or sprocket specifications on the corresponding page numbers carefully before ordering.

Engineering Class Chain Interchangeability Guidelines

There are several degrees of interchangeability for chain replacement between manufacturers' chains.

1. Intercoupling of Chains

The pin of one chain can be put through the bushing of another. However, the pin and outside sidebars must be produced by the same manufacturer. When connected, the two chains form one strand.

2. Interchanging of Parts

Because each manufacturer has different part designs and tolerances, interchanging parts is not suggested. Due to the differences in tolerances, we suggest you use Tsubaki replacement parts for Tsubaki chains.

3. Running on the Same Sprocket

Many replacement chains will run on the same sprockets even though they are not the same chains. The following dimensions must be equivalent in the original and replacement chains to run on the same sprocket.

- Pitch
- Roller, barrel, or bushing diameter (depending on chain type)
- Inside width

If you have any questions about using the Universal Product Cross-Reference or interchangeability in general, contact Tsubaki Technical Support. We can help you select the right replacement chain or sprocket for your application.

Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
JB-2	2.000	D	US-2	C-115	-	-
US-2	2.000	D	US-2	C-115	-	-
3DD	3.075	D	US-3075	C-5	US-3075	E-153
API-3	3.075	D	US-3075	C-5	US-3075	E-153
CHAMP3	3.075	D	US-3075	C-5	US-3075	E-153
4	4.000	RC	94R	C-20	94R	E-162
HP-4	4.063	D	US-1242	C-5	US-1242	E-155
RO-4	4.063	D	US-1242	C-5	US-1242	E-155
SS-4	4.000	RC	94R	C-20	94R	E-162
CC5	6.000	RC	CC5	C-21	CC5	E-167
6	6.000	RC	614R	C-21	CC5	E-167
6-SP	6.000	RC	631 R	C-21	626R	E-168
SS-6	6.000	RC	614R	C-21	CC5	E-167
SS-6SP	6.000	RC	631R	C-21	626R	E-168
S-17	2.563	D	520RX	C-5	-	-
RO-25H	2.500	D	RO-25H	C-5	-	-
SS-39	3.075	RC	119R	C-20	119RX	E-162
RO-40	3.075	D	US-1030	C-5	US-3075	E-153
RO-40HYPER	3.075	D	US-3075	C-5	US-3075	E-153
SS-40	3.075	D	US-1030	C-5	US-3075	E-153
SS-40HYPER	3.075	D	US-3075	C-5	US-3075	E-153
SS-40P	3.075	D	US-1031	C-5	US-3075	E-153
XXS-40	3.075	D	US-1031	C-5	US-3075	E-153
R-51A	2.500	D	US-2570	**	US-3075	E-153
53R	3.000	RC	53R	C-20	53R	E-161
C-55	1.631	C	C-55	**	-	-
EC-62	1.654	RC	162R	**	378RX	E-159
SS-62P	1.654	D	US-622	**	378RX	E-159
US-64S	2.500	D	US-64S	C-5	US-64S	E-151
US-64SH	2.500	D	US-64SH	C-115	US-64S	E-151
EPC-78	2.609	Plastic	EPC-78	C-125	-	-
W-78	2.609	WS	W-78	-	WH-78	E-184
W-78S	4.125	WS	WH-78S	-	-	-
WH-78	2.609	WS	WH-78	C-63	WH-78	E-184
WRC-78	2.609	WS	WRC-78	C-64	78	E-184
WR-78	2.609	WS	WR-78	C-63	WH-78	E-184
WH-78XHD	2.636	WS	WH-78XHD	C-63	-	**
WR-78XHD	2.636	WS	WR-78XHD	C-63	-	**
WR78-4	4.000	WS	WR-78-4	C-63	WR78-4	E-186
WS-78	2.609	WS	W-78	-	WH-78	E-184
WS-78P	2.609	WS	WH-78	C-63	WH-78	E-184
81C	2.609	RC	81X	C-20	81X	E-160
81X	2.609	RC	81X	C-20	81X	E-160
82R	4.000	RC	82R	**	US-90R	E-164
SS-82	6.000	RC	614R	C-21	CC5	E-167
W-82	3.075	WS	W-82	-	WH-82	E-185
W-82H	3.075	WS	W-82H	-	WH-82	E-185
WH-82	3.075	WS	WH-82	-	WH-82	E-185
WH-82H	3.075	WS	WH-82H	-	WH-82	E-185
WH-82XHD	3.075	WS	WH-82XHD	C-63	82	E-185
WR-82	3.075	WS	W-82	-	WH-82	E-185
WR-82XHD	3.075	WS	-	C-63	WR-82XHD	E-185
WRC-82XHD	3.075	WS	WRC-82XHD	C-64	82	E-185
WS-82	3.075	WS	W-82	-	WH-82	E-185
WS-82P	3.075	WS	WH-82	C-63	WH-82	E-185
83R	4.000	RC	83R	C-20	US-90R	E-164
84R	4.000	RC	84R	C-20	84R	E-164
85R	4.000	RC	85R	-	-	-
86R	6.000	RC	86R	C-20	627R	E-165
87R	2.609	RC	87R	C-20	87R	E-161
SS-87	2.609	RC	87R	C-20	87R	E-161
SS-88P	2.609	D	US-881	**	US-882	E-152
89R	4.000	RC	89R	C-20	89R	E-164
US-90R	4.000	RC	US-90R	C-20	US-90R	E-164
91 R	4.000	RC	91R	C-20	91R	E-163
93R	3.000	RC	93R	C-20	93R	E-161
94R	4.000	RC	94R	C-20	94R	E-162
95R	4.000	RC	95R	C-20	95R	E-163
96R	6.000	RC	96R	C-21	610R	E-167
96RX	6.000	RC	96RX	C-21	610R	E-167
SS-96	6.000	RC	96R	C-21	610R	E-167
97R	4.000	RC	97R	C-20	97R	E-163
102B	4.000	SB	102B	C-55	102B	E-181
H-102	5.000	WS	WD-102	-	-	-
A-102B	4.000	C	C-102B	-	102B	E-181
C-102B	4.000	C	C-102B	-	102B	E-181
HSB-102B	4.000	SB	102B	C-55	102B	E-181
N-102B	4.000	C	C-102B	-	102B	E-181
S-102B	4.000	SB	102B	C-55	102B	E-181
SBS-102B	4.000	SB	102B	C-55	102B	E-181
SS-102B	4.000	SB	102B	C-55	102B	E-181
WD-102	5.000	WS	WD-102	C-63	WD-102	E-205
WDH-102	5.000	WS	WDH-102	-	WD-102	E-205
WSD-102	5.000	WS	WD-102	C-63	WD-102	E-205
WSD-102P	5.000	WS	WDH-102	-	WD-102	E-205
102 1/2	4.040	SB	102 1/2	C-55	102 1/2	E-181

Engineering Class Chain

and Sprocket Index



Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
HSB-102 1/2	4.040	SB	102 1/2	C-55	102 1/2	E-181
S-102 1/2	4.040	SB	102 1/2	C-55	102 1/2	E-181
SBS-102 1/2	4.040	SB	102 1/2	C-55	102 1/2	E-181
103RC	3.075	D	US-1032	**	US-3075	E-153
H-104	6.000	WS	WD-104	-	WD-104	E-205
WD-104	6.000	WS	WD-104	-	WD-104	E-205
WDH-104	6.000	WS	WDH-104	C-69	WD-104	E-205
WSD-104	6.000	WS	WD-104	-	WD-104	E-205
WSD-104P	6.000	WS	WDH-104	C-69	WD-104	E-205
H-106	6.000	WS	W-106	-	WH-106	E-189
W-106	6.000	WS	W-106	-	WH-106	E-189
WH-106	6.000	WS	WH-106	C-63	WH-106	E-189
WH-106XHD	6.050	WS	WH-106XHD	C-63	106	E-190
WR-106	6.000	WS	WR-106	C-63	WH-106	E-189
WR-106XHD	6.050	WS	WR-106XHD	C-63	WR-106XHD	E-190
110	6.000	SB	110	C-55	110	E-182
C-110	6.000	C	C-110	-	110	E-182
C-110M	6.000	C	C-110	-	110	E-182
HSB-110	6.000	SB	110	C-55	110	E-182
S-110	6.000	SB	110	C-55	110	E-182
SBS-110	6.000	SB	110	C-55	110	E-182
WD-110	6.000	WS	WD-110	C-69	WD-110	E-205
WDH-110	6.000	WS	WDH-110	C-69	WD-110	E-205
WH-110	6.000	WS	WH-110	C-63	-	**
WR-110	6.000	WS	WR-110	C-63	-	**
WRC-110	6.000	WS	WRC-110	C-64	-	**
WRC-110XHD	6.050	WS	WRC-110XHD	C-64	-	**
WSD-110	6.000	WS	WD-110	C-69	WD-110	E-205
WSD-110P	6.000	WS	WDH-110	C-69	WD-110	E-205
111	4.760	SB	111	C-55	111	E-182
111SP	4.76X7.24	SB	111SP	C-55	-	-
A-111	4.760	C	C-111	-	111	E-182
C-111	4.760	C	C-111	-	111	E-182
C-111M	4.760	C	C-111	-	111	E-182
HSB-111	4.760	SB	111	C-55	111	E-182
HSB-111SP	4.76X7.24	SB	111SP	C-55	-	-
N-111	4.760	C	C-111	-	111	E-182
S-111	4.760	SB	111	C-55	111	E-182
S-111SP	4.76X7.24	SB	111SP	C-55	-	-
SBS-111	4.760	SB	111	C-55	111	E-182
SBS-111SP	4.76X7.24	SB	111SP	C-55	-	-
SS-111	4.760	SB	111	C-55	111	E-182
SS-111SP	4.76X7.24	SB	111SP	C-55	-	-
W-111	4.760	WS	W-111	-	WH-111	E-188
WH-111	4.760	WS	WH-111	C-63	WH-111	E-188
WR-111	4.760	WS	-	C-63	WH-111	E-188
WRC-111	4.051	WS	WRC-111	C-64	-	**
H-112	8.000	WS	WD-112	C-69	WD-112	E-205
WD-112	8.000	WS	WD-112	C-69	WD-112	E-205
WDH-112	8.000	WS	WDH-112	-	WD-112	E-205
WSD-112	8.000	WS	WD-112	C-69	WD-112	E-205
WSD-112P	8.000	WS	WDH-112	-	WD-112	E-205
H-113	6.000	WS	WD-113	-	WD-113	E-205
WD-113	6.000	WS	WD-113	-	WD-113	E-205
WDH-113	6.000	WS	WDH-113	-	WD-113	E-205
H-116	8.000	WS	WD-116	C-69	WD-116	E-205
WD-116	8.000	WS	WD-116	C-69	WD-116	E-205
WDH-116	8.000	WS	WDH-116	-	WD-116	E-205
WSD-116	8.000	WS	WD-116	C-69	WD-116	E-205
WSD-116P	8.000	WS	WDH-116	-	WD-116	E-205
WD-118	8.000	WD	WD-118	C-69	WD118	E-205
WD-118XHD	8.000	WD	WD-118XHD	C-69	-	**
119R	3.075	RC	119R	C-20	119RX	E-162
119RX	3.075	RC	119RX	C-20	119RX	E-162
WD-120XHD	6.000	WD	WD-120XHD	C-69	-	**
WSD-120	6.000	WS	WD-120	C-69	WD-120	-
WSD-120P	6.000	WS	WDH-120	**	WDH-120	-
H-122	8.000	WS	WD-122	C-69	WD-122	-
WD-122	8.000	WS	WD-122	C-69	WD-122	-
WD-122XHD	8.000	WD	WD-122XHD	C-69	-	**
WDH-122	8.000	WS	WDH-122	**	WDH-122	-
WSD-122	8.000	WS	WD-122	C-69	WD122	-
WSD-122P	8.000	WS	WDH-122	**	WDH-122	-
H-124	4.000	WS	W-124	-	WH-124	E-186
H-124HD	4.063	WS	W-124H	-	WH-124H	E-187
RO-124	4.063	D	US-1242	C-5	US-1242	E-155
SS-124	4.063	D	US-1242	C-5	US-1242	E-155
SS-124DP	4.063	D	US-1242	C-5	US-1242	E-155
W-124	4.000	WS	W-124	-	WH-124	E-186
W-124H	4.063	WS	W-124H	-	WH-124H	E-187
WH-124	4.000	WS	WH-124	C-63	WH-124	E-186
WH-124H	4.063	WS	W-124H	-	WH-124H	E-187
WH-124HD	4.063	WS	WH-124H	-	WH-124H	E-187
WH-124XHD	4.063	WS	WH-124XHD	C-63	124	E-187
WR-124IBR	4.000	WS	WR-124IBR	C-63	-	**
WR-124XHD	4.063	WS	WR-124XHD	C-63	WR-124XHD	E-187

Section E

Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
WRC-124	4.000	WS	WRC-124	C-64	124	E-186
WRC-124XHD	4.063	WS	WRC-124XHD	C-64	124	E-187
WR-124	4.000	WS	W-124	-	WH-124	E-186
WR-124HD	4.063	WS	W-124H	-	WH-124H	E-187
WS-124	4.000	WS	W-124	-	WH-124	E-186
WS-124HD	4.063	WS	W-124H	-	WH-124H	E-187
WS124HDP	4.063	WS	WH-124H	-	WH-124H	E-187
WS-124P	4.000	WS	WH-124	C-63	WH-124	E-186
131	3.075	SB	131	C-55	131	E-180
C-131	3.075	C	C-131	-	131	E-180
HSB-131	3.075	SB	131	C-55	131	E-180
S-131	3.075	SB	131	C-55	131	E-180
SBS-131	3.075	SB	131	C-55	131	E-180
SS-131	3.075	SB	131	C-55	131	E-180
WHC-131	3.075	WS	WHC-131	C-64	-	**
WRC-131	3.075	WS	WRC-131	C-64	-	**
132	6.050	WS	-	-	WH-132	E-190
A-132	6.050	C	C-132	-	WH-132	E-190
C-132	6.050	C	C-132	-	WH-132	E-190
C-132M	6.050	C	C-132	-	WH-132	E-190
H-132	6.050	WS	W-132	-	WH-132	E-190
N-132	6.050	C	C-132	-	WH-132	E-190
W-132	6.050	WS	W-132	-	WH-132	E-190
WCH-132	6.050	WS	WCH-132	-	WH-132	E-190
WH-132	6.050	WS	WH-132	C-63	WH-132	E-190
WH-132SS	6.050	WS	WH-132SS	-	WH-132	E-190
WH-132XHD	6.050	WS	WR-132XHD	C-63	132	E-191
WR-132	6.050	WS	WR-132	C-63	WH-132	E-190
WRC-132	6.050	WS	WRC-132	C-64	WH-132	E-190
WRC-132XHD	6.050	WS	WRC-132XHD	C-64	-	**
WR-132XHD	6.050	WS	WR-132XHD	C-63	WR-132XHD	E-191
WS-132	6.050	WS	-	-	WH-132	E-190
WS-132P	6.050	WS	WH-132	C-63	WH-132	E-190
134	6.000	SB	US-850	-	-	-
149	4.000	RC	89R	C-20	89R	E-164
MSR-149	4.000	RC	89R	C-20	89R	E-164
150X	6.050	SB	150X	C-55	150X	E-183
HSB-150PLUS	6.050	SB	150X	C-55	150X	E-183
SA-150	6.050	SB	150X	C-55	150X	E-183
SBS-150PLUS	6.050	SB	150X	C-55	150X	E-183
SS-150X	6.050	SB	150X	C-55	150X	E-183
SX-150	6.050	SB	150X	C-55	150X	E-183
W-150	6.050	WS	W-150	-	WH-132	E-190
WH-150	6.050	WS	WH-150	C-63	WH-132	E-190
WR-150	6.050	WS	WR-150	C-63	WH-132	E-190
WRC-150	6.050	WS	WRC-150	C-64	-	**
WS-150P	6.050	WS	WH-150	C-63	WH-132	E-190
W-155	6.050	WS	W-155	-	WH-155	E-191
WH-155	6.050	WS	WH-155	C-63	WH-155	E-191
WR-155	6.050	WS	WR-155	C-63	155	E-191
WH-157	6.050	WS	WH-157	C-63	-	**
WR-157	6.050	WS	WR-157	C-63	-	**
WH-159	6.125	WS	WH-159	C-63	-	**
WR-159	6.125	WS	WR-159	C-63	-	**
160/348	2.000	D	160/348	C-77	-	-
160/458	2.000	D	160/458	C-77	-	-
160/678	2.000	D	160/678	C-77	-	-
162R	1.654	RC	162R	**	378RX	E-159
SS-162P	1.654	RC	378R	C-20	378RX	E-159
180	12.000	RC	B-1264R	C-21	B-1264R	E-175
SR-183	3.000	RC	53R	C-20	53R	E-161
188	2.609	SB	188	C-55	188	E-179
188Z	2.609	C	C-188	-	WH-78	E-184
C-188	2.609	C	C-188	-	WH-78	E-184
C-188M	2.609	C	C-188	-	WH-78	E-184
HSB-188	2.609	SB	188	C-55	188	E-179
S-188	2.609	SB	188	C-55	188	E-179
SBS-188	2.609	SB	188	C-55	188	E-179
SR-188	4.000	RC	1188R	C-20	91R	E-163
SS-188	2.609	SB	188	C-55	188	E-179
SR-194	4.000	RC	US-90R	C-20	US-90R	E-164
DS-196R	6.000	RC	DS-196R	C-94	627R	E-165
SR-196	6.000	RC	US-196R	C-20	627R	E-165
SRD-196	6.000	RC	DS-196R	C-104	627R	E-165
US-196R	6.000	RC	US-196R	C-20	627R	E-165
WH-200	6.125	WS	WH-200	C-63	-	**
WR-200	6.125	WS	WR-200	C-63	-	**
RF204	66.300	RC	RF204	C-137	-	**
RF205	3.075	RC	119R	C-104	119RX	E-162
RF212	152.400	RC	RF212	C-137	-	**
RF214	101.600	RC	RF214	C-137	-	**
234PB	3.510	D	351 RX	**	-	-
SS-234PLUS	3.510	D	351 RX	**	-	-
RX-238	3.500	D	US-3514	C-55	US-3514	E-154
276	12.000	RC	1276R	C-21	E-1263R	E-175
SS-276	12.000	RC	1276R	C-21	E-1263R	E-175

Engineering Class Chain

and Sprocket Index



Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
327R	2.980	RC	327R	**	-	-
344SXX	3.000	D	344SXX	C-5	344SXX	E-152
X-345	3.000	D	344SXX	C-5	344SXX	E-152
S-348	3.015	R	S-348	C-73	X-348	E-194
X-348	3.015	R	X-348	C-71	X-348	E-194
362	1.654	RC	US-620X	**	378RX	E-159
362R	1.654	RC	US-620X	**	378RX	E-159
A-362	1.654	RC	US-620X	**	378RX	E-159
B-362	1.654	RC	162R	**	378RX	E-159
R-362	1.654	RC	162R	**	378RX	E-159
RC-362	1.654	RC	162R	**	378RX	E-159
378R	1.654	RC	378R	C-20	378RX	E-159
378RX	1.654	RC	378RX	C-20	378RX	E-159
RF430	101.600	RC	RF430	C-137	-	**
RF430S	101.600	RC	RF430S	C-173	-	**
RF430S-SR	101.600	RC	RF430S-SR	C-151	-	**
R-432	1.654	D	US-622	**	378RX	E-159
RR-432	1.654	RC	378R	C-20	378RX	E-159
SS-433	2.609	D	US-881	**	US-882	E-152
433 1/2	2.609	D	US-881	**	US-882	E-152
433 1/2P	2.609	D	US-882	**	US-882	E-152
R-434	1.654	D	US-622	**	378RX	E-159
450SXX	4.500	D	US-4522	C-5	US-4522	E-156
RF450	101.600	RC	RF450	C-137	-	**
RF450S	152.400	RC	RF450S	C-173	-	**
RF450S-SR	101.600	RC	RF450S-SR	C-151	-	**
RF450WM	101.600	RC	RF450WM	C-170	-	**
S-458	4.031	R	S-458	C-73	X-458	E-194
X-458	4.031	R	X-458	C-71	X-458	E-194
462R	1.654	RC	462R	**	378RX	E-159
462RX	1.654	D	US-622	**	378RX	E-159
468	4.031	R	468	C-71	-	-
H-480	8.000	WS	WD-480	C-69	WD-480	E-205
WD-480	8.000	WS	WD-480	C-69	WD-480	E-205
WD-480XHD	8.000	WD	WD-480XHD	C-69	-	**
WDH-480	8.000	WS	WDH-480	C-69	WDH-480	E-205
WDRS480-SH	8.000	WD	WDRS480-SH	C-69	-	**
WDRS480XHD-SH	8.000	WD	WDRS480XHD-SH	C-69	-	**
WSD-480	8.000	WS	WD-480	C-69	WD-480	E-205
WSD-480P	8.000	WS	WDH-480	C-69	WDH-480	E-205
R-506	2.300	D	US-770	**	-	-
R-514	2.500	D	US-2570	**	-	-
S-517	2.609	D	US-881	**	US-882	E-152
520P	2.563	D	520RX	C-5	-	-
520RX	2.563	D	520RX	C-5	-	-
A-520	2.563	D	520RX	C-5	-	-
RO-520	2.563	D	520RX	C-5	-	-
S-520	2.563	D	520RX	C-5	-	-
XS-520	2.563	D	520RX	C-5	-	-
A-522	2.640	D	1184RX	**	-	-
SS-522	2.640	D	1184RX	**	-	-
SS-522P	2.640	D	1184RX	**	-	-
527R	3.075	D	US-1031	C-5	US-3075	E-153
527RX	3.075	D	US-1031	C-5	US-3075	E-153
531	4.000	RC	89R	C-20	89R	E-164
S-531	4.000	RC	89R	C-20	89R	E-164
S-554	3.075	D	US-1030	C-5	US-3075	E-153
S-554PLUS	3.075	D	US-1031	C-5	US-3075	E-153
S-557	4.063	D	US-1242	C-5	US-1242	E-155
S-557PLUS	4.063	D	US-1242	C-5	US-1242	E-155
SS-568P	3.067	D	US-3011	C-5	US-3011	E-153
X-568	3.067	D	US-3011	C-5	US-3011	E-153
WD-580	8.000	WD	WD-580	C-69	-	**
588RX	2.609	D	US-882	C-5	US-882	E-152
A-588	2.609	D	US-882	C-5	US-882	E-152
R-588	2.609	D	US-882	C-5	US-882	E-152
RO-588	2.609	D	US-882	C-5	US-882	E-152
RR-588	2.609	RC	87R	C-20	87R	E-161
602R	6.000	RC	602 R	**	-	-
603R	6.000	RC	603 R	C-20	603 R	E-166
604R	6.000	RC	604 R	C-20	627R	E-165
DS-604R	6.000	RC	604 R	C-20	627R	E-165
607 R	6.000	RC	607 R	C-20	CC5	E-167
610R	6.000	RC	610R	C-21	610R	E-167
SS-610	6.000	RC	610R	C-21	610R	E-167
614R	6.000	RC	614R	C-21	CC5	E-167
LXS-620	1.654	RC	162R	**	378RX	E-159
IS-622	1.654	D	US-622	**	378RX	E-159
LXS-622	1.654	D	US-622	**	378RX	E-159
RO-622	1.654	D	US-622	**	378RX	E-159
IS-624	1.654	RC	162R	**	378RX	E-159
625R	6.000	RC	625R	C-20	625R	E-167
LXS-625	1.654	RC	162R	**	378RX	E-159
626R	6.000	RC	626R	C-21	626R	E-168
627R	6.000	RC	627R	C-20	627R	E-165
LXS-627	1.654	RC	378R	C-20	378RX	E-159

Section E

Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
RS-627	1.654	RC	378RX	C-20	378RX	E-159
RX-627	1.654	RC	378RX	C-20	378RX	E-159
628R	6.000	RC	628R	C-20	DS-6272	E-166
629R	6.000	RC	629R	C-20	629R	E-168
631	6.000	RC	631R	C-21	626R	E-168
631 R	6.000	RC	631R	C-21	626R	E-168
632R	6.000	RC	632R	**	-	E-168
633R	6.000	RC	633R	**	-	-
634R	6.000	RC	634R	**	627R	E-165
635A	4.500	D	US-4522	C-5	US-4522	E-156
B-635	4.500	D	US-4522	C-5	US-4522	E-156
RO-635	4.500	D	US-4522	C-5	US-4522	E-156
FXS-635	4.500	D	US-4522	C-5	US-4522	E-156
X-635	4.500	D	US-4522	C-5	US-4522	E-156
XXS-635	4.500	D	US-4522	C-5	US-4522	E-156
RF650	152.400	RC	RF650	C-137	-	**
SS-658	6.000	RC	625R	C-20	625R	E-167
X-658	6.031	R	X-658	C-71	-	-
B-663R	6.000	RC	B-663R	C-21	629R	E-168
678	6.031	R	678	-	X-678	E-195
S-678	6.031	R	S-678	C-73	X-678	E-195
X-678	6.031	R	X-678	C-71	X-678	E-195
698	6.031	R	698	C-73	698	E-195
S-698	6.031	R	S-698	C-126	698	E-195
W-720S	6.000	WS	WH-720S	C-126	WH-720S	E-189
W-720SH	6.000	WS	WH-720SH	C-126	WH-720S	E-189
WH-720S	6.000	WS	WH-720S	C-126	WH-720S	E-189
WH-720SH	6.000	WS	WH-720SH	C-126	WH-720S	E-189
LXS-770	2.900	D	US-770	-	-	-
R-778	2.609	D	US-881	**	US-882	E-152
RR-778	2.609	RC	US-278R	C-20	87R	E-161
SS-793	6.000	RC	US-196R	C-20	627R	E-165
SS-796	6.000	RC	2178R	**	610R	E-167
800RX	8.000	RC	800RX	C-21	800RX	E-169
SS-800	8.000	RC	800RX	C-21	800RX	E-169
806 R	8.000	RC	806R	C-21	806R	E-168
809	9.000	RC	809R	**	-	-
809R	9.000	RC	809R	**	-	-
ACR810	152.400	RC	ACR810	C-176	ACR810	E-197
ACR815	152.400	RC	ACR815	C-176	ACR815	E-197
ACR816	152.400	RC	ACR816	C-176	ACR816	E-197
ACR819	152.400	RC	ACR819	C-176	ACR819	E-197
825	4.000	SB	825	**	-	-
S-825	4.000	SB	825	**	-	-
830	6.000	SB	830	**	-	-
S-830	6.000	SB	830	**	-	-
834R	8.000	RC	834R	**	-	-
F-840	18.000	RC	B-1864R	C-21	B-1864R	E-177
844	6.000	SB	844	**	-	-
844X	6.000	SB	844X	**	-	-
S-850	6.000	SB	US-850	**	-	-
SS-850	6.000	SB	US-850	**	-	-
US-850	6.000	SB	US-850	**	-	-
S-856	6.000	SB	4856	C-55	4856	E-182
856	6.000	SB	4856	C-55	4856	E-182
SX-856	6.000	SB	4856	C-55	4856	E-182
X-857	6.000	SB	4857	C-55	4856	E-182
X-859	6.000	SB	4859	C-55	4859	E-182
IS-881	2.609	D	US-881	**	US-882	E-152
LXS-881	2.609	D	US-881	**	US-882	E-152
RO-881	2.609	D	US-881	**	US-882	E-152
US-881	2.609	D	US-882	**	US-882	E-152
IS-882	2.609	D	US-882	C-5	US-882	E-152
JS-882	2.609	D	US-882	C-5	US-882	E-152
LXS-882	2.609	D	US-882	C-5	US-882	E-152
RO-882	2.609	D	US-882	C-5	US-882	E-152
US-882	2.609	D	US-882	C-5	US-882	E-152
IS-886	2.609	RC	US-278R	C-20	87R	E-161
LXS-886	2.609	RC	US-278R	C-20	87R	E-161
RS-886	2.609	RC	US-278R	C-20	87R	E-161
SX-886	7.000	SB	US-7038	**	-	-
IS-887	2.609	RC	87R	C-20	87R	E-161
LXS-887	2.609	RC	87R	C-20	87R	E-161
RS-887	2.609	RC	87R	C-20	87R	E-161
SS-889	6.000	RC	603R	C-20	603R	E-166
896R	8.000	RC	896R	C-21	896R	E-169
911	9.000	RC	B-912R	C-21	B-912R	E-170
911C	9.000	RC	B-912R	C-21	B-912R	E-170
E-911	9.000	RC	B-912R	C-21	B-912R	E-170
IS-911	9.000	RC	B-912R	C-21	B-912R	E-170
SS-911	9.000	RC	B-912R	C-21	B-912R	E-170
A-912R	9.000	RC	B-912R	C-21	B-912R	E-170
B-912R	9.000	RC	B-912R	C-21	B-912R	E-170
E-912	9.000	RC	B-912R	C-21	B-912R	E-170
SS-912	9.000	RC	B-912R	C-21	B-912R	E-170
E-921	9.000	RC	B-912R	C-21	B-912R	E-170

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Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
922	9.000	RC	B-963R	C-21	B-963R	E-171
922C	9.000	RC	B-963R	C-21	B-963R	E-171
E-922	9.000	RC	D-963R	C-21	D-963R	E-171
F-922	9.000	RC	B-963R	C-21	B-963R	E-171
SS-922	9.000	RC	B-963R	C-21	B-963R	E-171
925R	9.000	RC	925R	C-21	925R	E-169
SS-927	9.000	RC	D-963R	C-21	D-963R	E-171
SS-928	9.000	RC	D-963R Special	**	-	-
F-929	9.000	RC	E-963R	C-21	E-963R	E-172
SS-929	9.000	RC	E-963R	C-21	E-963R	E-172
F-930	9.000	RC	B-963R	C-21	B-963R	E-172
SS-930	9.000	RC	B-963R	C-21	B-963R	E-171
932	9.000	RC	E-963R	C-21	E-963R	E-172
F-932	9.000	RC	E-963R	C-21	E-963R	E-172
SS-932	9.000	RC	E-963R	C-21	E-963R	E-172
933	9.000	RC	B-964R	C-21	B-964R	E-172
933C	9.000	RC	B-964R	C-21	B-964R	E-172
F-933	9.000	RC	B-964R	C-21	B-964R	E-172
SS-933	9.000	RC	B-964R	C-21	B-964R	E-172
F-940	9.000	RC	B-964R	C-21	B-964R	E-172
SS-940	9.000	RC	B-964R	C-21	B-964R	E-172
SS-945	6.000	RC	629R	C-20	629R	E-168
951	6.000	RC	626R	C-21	626R	E-168
S-951	6.000	RC	626R	C-21	626R	E-168
SS-951	6.000	RC	626R	C-21	626R	E-168
RS-958	9.000	RC	925R	C-21	925R	E-169
RS-958W	9.000	RC	925R	C-21	925R	E-169
SS-960	6.000	RC	2198RX	C-21	610R	E-167
961R	9.000	RC	961R	C-21	-	-
A-963R	9.000	RC	B-963R	C-21	B-963R	E-171
B-963R	9.000	RC	B-963R	C-21	B-963R	E-171
D-963R	9.000	RC	D-963R	C-21	D-963R	E-171
E-963R	9.000	RC	E-963R	C-21	E-963R	E-172
F-963R	9.000	RC	E-963R	C-21	E-963R	E-172
A-964R	9.000	RC	B-964R	C-21	B-964R	E-172
B-964R	9.000	RC	B-964R	C-21	B-964R	E-172
965R	9.000	RC	4009	C-21	4009	E-170
967R	9.000	RC	4004	C-21	4004	E-171
973R	9.000	RC	973R	C-21	973R	E-173
SS-996	6.000	RC	96RX	C-21	610R	E-167
998	9.031	R	998	C-62	998	E-195
S-998	9.031	R	S-998	C-64	998	E-195
1007	6.000	RC	96R	C-21	610R	E-167
1007D	6.000	RC	96R	C-21	610R	E-167
1007DP	6.000	RC	96RX	C-21	610R	E-167
1007P	6.000	RC	96RX	C-21	610R	E-167
1030	3.075	D	US-1030	C-5	US-3075	E-153
1030DW3	3.075	D	US-1032	**	US-3075	E-153
IS-1030	3.075	D	US-1030	C-5	US-3075	E-153
JS-1030	3.075	D	US-1030	C-5	US-3075	E-153
US-1030	3.075	D	US-1030	C-5	US-3075	E-153
IS-1031	3.075	D	US-1031	C-5	US-3075	E-153
JS-1031	3.075	D	US-1031	C-5	US-3075	E-153
LXS-1031	3.075	D	US-1031	C-5	US-3075	E-153
LXS-1031M	3.075	D	US-1031	C-5	US-3075	E-153
RO-1031	3.075	D	US-1031	C-5	US-3075	E-153
US-1031	3.075	D	US-1031	C-5	US-3075	E-153
IS-1032	3.075	D	US-1032	**	US-3075	E-153
LXS-1032	3.075	D	US-1032	**	US-3075	E-153
US-1032	3.075	D	US-1032	**	US-3075	E-153
1033	3.075	D	US-1031	C-5	US-3075	E-153
R-1033	3.075	D	US-1031	C-5	US-3075	E-153
SS-1033	3.075	D	US-1031	C-5	US-3075	E-153
R-1035	3.075	D	US-1032	**	US-3075	E-153
1037	3.075	D	US-3075	C-5	US-3075	E-153
IS-1037	3.075	D	US-3075	C-5	US-3075	E-153
1041AA	2.500	D	US-2570	**	-	-
SS-1088	2.609	RC	81X	C-20	81X	E-160
1094	2.300	D	US-770	**	-	-
1094C	2.300	D	US-770	**	-	-
1095	12.000	RC	1272R	**	-	-
1113R	4.040	RC	1113R	C-20	DS-1113	E-165
SR-1113	4.040	RC	1113R	C-20	DS-1113	E-165
SS-1113	4.040	RC	1113R	C-20	DS-1113	E-165
SR-1114	6.000	RC	627R	C-20	627R	E-165
SS-1114	6.000	RC	627R	C-20	627R	E-165
SS-1116	6.000	RC	604R	C-20	627R	E-165
SS-1116CR	6.000	RC	DS-604R	**	627R	E-165
RR-1120	4.000	RC	95R	C-20	95R	E-163
S-1120	4.000	RC	95R	C-20	95R	E-163
SS-1120	4.000	RC	95R	C-20	95R	E-163
1126	6.000	RC	1126R	C-21	DS-6272	E-166
1126C	6.000	RC	1126RS	C-21	626R	E-168
1126R	6.000	RC	1126R	C-21	DS-6272	E-166
1126RS	6.000	RC	1126RS	C-21	626R	E-168
SS-1126	6.000	RC	1126R	C-21	DS-6272	E-166

Section E

Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
SS-1126 1/2	6.000	RC	1126RS	C-21	626R	E-168
1131R	6.000	RC	1131R	C-21	629R	E-168
S-1131	6.000	RC	1131R	C-21	629R	E-168
SS-1131	6.000	RC	1131R	C-21	629R	E-168
S-1183	3.000	RC	53R	C-20	53R	E-161
SR-1183	3.000	RC	53R	C-20	53R	E-161
SS-1183	3.000	RC	53R	C-20	53R	E-161
1184R	2.640	D	1184RX	**	-	-
1184RX	2.640	D	1184RX	**	-	-
1188R	4.000	RC	1188R	C-20	91R	E-163
SS-1188	4.000	RC	1188R	C-20	91R	E-163
1190R	3.075	D	US-1030	C-5	US-3075	E-153
1190R3	3.075	D	US-1032	**	US-3075	E-153
1190RX	3.075	D	US-1031	C-5	US-3075	E-153
1190RXX	3.075	D	US-3075	C-5	US-3075	E-153
1190SXX	3.075	D	US-3075	C-5	US-3075	E-153
SS-1194	4.000	RC	US-90R	C-20	US-90R	E-164
S-1196	6.000	RC	US-196R	C-20	627R	E-165
SS-1196	6.000	RC	US-196R	C-20	627R	E-165
RF1200VR	100.000	RC	RF1200VR	C-153	RF1200VR	C-154
1202P	5.000	D	US-5031	C-5	US-5035	E-157
A-1202	5.000	D	US-5031	C-5	US-5035	E-157
SS-1202	5.000	D	US-5031	C-5	US-5035	E-157
SS-1202P	5.000	D	US-5031	C-5	US-5035	E-157
SS-1204P	5.000	D	US-5031	C-5	US-5035	E-157
XXXS-1205	5.000	D	US-5031	C-5	US-5035	E-157
1207	5.000	D	US-5031	C-5	US-5035	E-157
RO-1207	5.000	D	US-5031	C-5	US-5035	E-157
RX-1207	5.000	D	US-5031	C-5	US-5035	E-157
1211	12.000	RC	B-1212R	C-21	B-1212R	E-173
1211C	12.000	RC	B-1212R	C-21	B-1212R	E-173
1211P	12.000	RC	B-1212R	C-21	B-1212R	E-173
E-1211	12.000	RC	B-1212R	C-21	B-1212R	E-173
SS-1211	12.000	RC	B-1212R	C-21	B-1212R	E-173
1212	6.000	RC	628R	C-20	DS-6272	E-166
A-1212R	12.000	RC	B-1212R	C-21	B-1212R	E-173
B-1212R	12.000	RC	B-1212R	C-21	B-1212R	E-173
E-1212	12.000	RC	B-1212R	C-21	B-1212R	E-173
SS-1212	12.000	RC	B-1212R	C-21	B-1212R	E-173
1222	12.000	RC	B-1263R	C-21	B-1263R	E-174
1222C	12.000	RC	B-1263R	C-21	B-1263R	E-174
E-1222	12.000	RC	D-1263R	C-21	D-1263R	E-174
F-1222	12.000	RC	B-1263R	C-21	B-1263R	E-174
SS-1222	12.000	RC	B-1263R	C-21	B-1263R	E-174
SS-1227	12.000	RC	D-1263R	C-21	D-1263R	E-174
SS-1230	12.000	RC	B-1263R	C-21	B-1263R	E-174
F-1232	12.000	RC	E-1263R	C-21	E-1263R	E-175
RS-1232	12.000	RC	E-1263R	C-21	E-1263R	E-175
SS-1232	12.000	RC	E-1263R	C-21	E-1263R	E-175
1233	12.000	RC	B-1264R	C-21	B-1264R	E-175
1233C	12.000	RC	B-1264R	C-21	B-1264R	E-175
F-1233	12.000	RC	B-1264R	C-21	B-1264R	E-175
RS-1233	12.000	RC	B-1264R	C-21	B-1264R	E-175
SS-1233	12.000	RC	B-1264R	C-21	B-1264R	E-175
SS-1236	12.000	RC	1272R	**	-	-
SS-1240	12.000	RC	B-1264R	C-21	B-1264R	E-175
XXS-1240	4.063	D	US-1242	C-5	US-1242	E-155
1240RXX	4.063	D	US-1242	C-5	US-1242	E-155
1240	4.063	D	US-1242	C-5	US-1242	E-155
LXS-1241M	4.063	D	US-1241	C-5	US-1242	E-155
US-1241	4.063	D	US-1241	C-5	US-1242	E-155
IS-1242	4.063	D	US-1242	C-5	US-1242	E-155
LXS-1242M	4.063	D	US-1242	C-5	US-1242	E-155
LXS-1242	4.063	D	US-1242	C-5	US-1242	E-155
RO-1242	4.063	D	US-1242	C-5	US-1242	E-155
US-1242	4.063	D	US-1242	C-5	US-1242	E-155
F-1244	12.000	RC	1273R	C-21	1273R	E-175
SS-1244	12.000	RC	1273R	C-21	1273R	E-175
1244	12.000	RC	1273R	C-21	-	-
1244	4.063	D	US-1242	C-5	US-1242	E-155
1245SXX	4.073	D	US-1245	C-5	US-1245	E-155
B-1245	4.073	D	US-1245	C-5	US-1245	E-155
IS-1245	4.073	D	US-1245	C-5	US-1245	E-155
J-1245A	4.073	D	US-1245	C-5	US-1245	E-155
LXS-1245	4.073	D	US-1245	C-5	US-1245	E-155
RO-1245	4.073	D	US-1245	C-5	US-1245	E-155
RX-1245	4.073	D	US-1245	C-5	US-1245	E-155
US-1245	4.073	D	US-1245	C-5	US-1245	E-155
XXS-1245	4.073	D	US-1245	C-5	US-1245	E-155
R-1248	4.063	D	US-1242	C-5	US-1242	E-155
1251	12.000	RC	DWG, 14419	**	-	-
1258	6.000	RC	625R	C-20	625R	E-167
A-1263R	12.000	RC	B-1263R	C-21	B-1263R	E-174
B-1263R	12.000	RC	B-1263R	C-21	B-1263R	E-174
D-1263R	12.000	RC	D-1263R	C-21	D-1263R	E-174
E-1263R	12.000	RC	E-1263R	C-21	E-1263R	E-175

Engineering Class Chain

and Sprocket Index



Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
A-1264R	12.000	RC	B-1264R	C-21	B-1264R	E-175
B-1264R	12.000	RC	B-1264R	C-21	B-1264R	E-175
1265R	12.000	RC	1265R	C-21	1265R	E-173
B-1266R	12.000	RC	B-1266R	C-21	B-1266R	E-174
1267	12.000	RC	1276R	C-21	-	-
1271R	12.000	RC	1271R	C-21	1273R	E-175
1272R	12.000	RC	1272R	**	E-1263R	E-175
1273	12.000	RC	B-1266R	C-21	B-1266R	E-174
1273R	12.000	RC	1273R	C-21	-	-
1276R	12.000	RC	1276R	C-21	-	-
1288	2.609	RC	81X	C-20	81X	E-160
1297	4.040	RC	1113R	C-20	DS-1113	E-165
R-1305	3.075	D	US-1032	**	US-3075	E-153
A-1306	6.000	D	US-6042	C-5	US-6042	E-158
RO-1306	6.000	D	US-6042	C-5	US-6042	E-158
RO-1307	7.000	D	US-7060	**	-	-
A-1309	7.000	D	US-7080	C-5	US-7080	E-158
X-1311	6.500	D	US-6560	**	-	-
1322	12.000	RC	D-1263R	C-21	D-1263R	E-174
1322C	12.000	RC	D-1263R	C-21	D-1263R	E-174
SS-1326	6.000	RC	DWG. 20463	**	-	-
1338	8.000	RC	DWG 17758	**	-	-
RO-1343	4.090	D	US-4121	C-5	-	-
X-1343	4.090	D	US-4121	C-5	-	-
X-1345	4.090	D	US-4122	C-5	US-4122	E-156
1347	4.063	D	US-1242	C-5	US-1242	E-155
US-1353	4.090	D	US-1353	C-5	-	-
X-1353	4.090	D	US-1353	C-5	-	-
1378	1.654	RC	378R	C-20	378RX	E-159
1510RXX	5.000	D	US-5031	C-5	US-5035	E-157
RS-1513	3.075	RC	119R	C-20	119RX	E-162
1520	4.000	RC	95R	C-20	95R	E-163
1520C	4.000	RC	95R	C-20	95R	E-163
153500	3.075	SB	30702	C-116	-	-
1536M6	3.075	RC	30701	C-114	-	-
1539	3.075	RC	119R	C-20	119RX	E-162
1568	3.067	D	US-3011	C-5	US-3011	E-153
AX-1568	3.065	D	US-3011	C-5	US-3011	E-153
1578	2.609	RC	-	-	81X	E-160
1583	3.000	RC	53R	C-20	53R	E-161
1583C	3.000	RC	53R	C-20	53R	E-161
1588	4.000	RC	1188R	C-20	91 R	E-163
1589	4.000	RC	DWG. 14382	**	89R	E-164
1594	4.000	RC	US-90R	C-20	US-90R	E-164
1601A	5.750	D	US-5738	C-5	-	-
1602A	5.000	D	US-5031	C-5	US-5035	E-157
1602AA	5.000	D	US-5031	C-5	US-5035	E-157
RO-1602AA	5.000	D	US-5031	C-5	US-5035	E-157
1604R	6.000	RC	1604R	**	-	-
1605AAA	5.000	D	US-5035	C-5	US-5035	E-157
1606	6.000	RC	603R	C-20	603 R	E-166
1606AA	6.000	D	US-6042	C-5	US-6042	E-168
1607AA	7.000	D	US-7060	**	-	-
1613A	2.000	D	US-2065	C-5	-	-
RO1613AK	2.000	D	US-2065	C-5	-	-
1616A	3.500	D	US-3514	C-5	US-3514	E-154
RO-1616	3.500	D	US-3514	C-5	US-3514	E-154
1617	6.000	RC	CC5	C-21	CC5	E-167
1625A	2.500	D	US-64S	C-5	US-64S	E-151
1626A	6.000	D	US-6042	C-5	US-6042	E-158
1627B	2.500	D	US-64S	C-5	US-64S	E-151
1630A	3.000	D	344SXX	C-5	344SXX	E-152
1630R	6.000	RC	1630R	C-21	CC5	E-167
1640A	3.075	D	US-1032	**	US-3075	E-153
1641AA	2.500	D	US-2570	**	-	-
1645A	4.073	D	US-1245	C-5	US-1245	E-155
1645AB	4.073	D	US-1245	C-5	US-1245	E-155
1702	6.000	RC	628R	C-20	DS-6272	E-166
1706	6.000	RC	614R	C-21	CC5	E-167
1706R	12.000	RC	1706R	-	-	-
RO-1706	3.075	D	DWG. 16750	**	-	-
1709	9.000	RC	925R	C-21	925R	E-169
1721	4.000	RC	94R	C-20	94R	E-162
1734	6.000	RC	1131R	C-21	629R	E-168
1743	12.000	RC	B-1266R	C-21	B-1266R	E-174
1743 1/2	12.000	RC	B-1266R	C-21	B-1266R	E-174
1751	9.000	RC	D-963R	C-21	D-963R	E-171
1751C	9.000	RC	D-963R	C-21	D-963R	E-171
SS-1769	6.000	RC	2178RX	C-21	610R	E-167
1796	6.000	RC	US-196R	C-20	627R	E-165
SS-1796	6.000	RC	2178RX	C-21	610R	E-167
1803AB	3.067	D	US-3011	C-5	US-3011	E-153
1807	6.000	RC	2198RX	C-21	610R	E-167
1822	18.000	RC	B-1863R	C-21	B-1863R	E-176
1822C	18.000	RC	B-1863R	C-21	B-1863R	E-176
E-1822	18.000	RC	D-1863R	C-21	D-1863R	E-176

Section E

Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
F-1822	18.000	RC	B-1863R	C-21	B-1863R	E-176
SS-1822	18.000	RC	B-1863R	C-21	B-1863R	E-176
1823	6.000	RC	634R	**	627R	E-165
SS-1827	18.000	RC	D-1863R	C-21	D-1863R	E-176
1829	6.000	RC	604R	C-20	627R	E-165
F-1830	18.000	RC	B-1863R	C-21	B-1863R	E-176
SS-1830	18.000	RC	B-1863R	C-21	B-1863R	E-176
1831	18.000	RC	D-1863R	C-21	D-1863R	E-176
1832	18.000	RC	F-1863R	C-21	E-1863R	E-176
F-1832	18.000	RC	F-1863R	C-21	E-1863R	E-176
SS-1832	18.000	RC	F-1863R	C-21	E-1863R	E-176
1833	18.000	RC	B-1864R	C-21	B-1864R	E-177
1833C	18.000	RC	B-1864R	C-21	B-1864R	E-177
F-1833	18.000	RC	B-1864R	C-21	B-1864R	E-177
SS-1833	18.000	RC	B-1864R	C-21	B-1864R	E-177
SS-1840	18.000	RC	B-1864R	C-21	B-1864R	E-177
1844	18.000	RC	1873R	C-21	1873R	E-177
F-1844	18.000	RC	1873R	C-21	1873R	E-177
SS-1844	18.000	RC	1873R	C-21	1873R	E-177
1855	18.000	RC	1866R	C-21	1866R	E-177
F-1855	18.000	RC	1866R	C-21	1866R	E-177
SS-1855	18.000	RC	1866R	C-21	1866R	E-177
1862	1.654	RC	378R	C-20	378RX	E-159
1862C	1.654	RC	378R	C-20	378RX	E-159
A-1863R	18.000	RC	B-1863R	C-21	B-1863R	E-176
B-1863R	18.000	RC	B-1863R	C-21	B-1863R	E-176
D-1863R	18.000	RC	D-1863R	C-21	D-1863R	E-176
E-1863R	18.000	RC	F-1863R	C-21	E-1863R	E-176
F-1863R	18.000	RC	F-1863R	C-21	E-1863R	E-176
A-1864R	18.000	RC	B-1864R	C-21	B-1864R	E-177
B-1864R	18.000	RC	B-1864R	C-21	B-1864R	E-177
G-1864R	18.000	RC	G-1864R	C-21	G-1864R	E-177
1866	18.000	RC	1866R	C-21	1866R	E-177
1866R	18.000	RC	1866R	C-21	1866R	E-177
F-1866	18.000	RC	1866R	C-21	1866R	E-177
SS-1866	18.000	RC	1866R	C-21	1866R	E-177
1867R	18.000	RC	1867R	C-21	1866R	E-177
1871R	18.000	RC	1871R	C-21	1873R	E-177
1873R	18.000	RC	1873R	C-21	1873R	E-177
1906	6.000	RC	631R	C-21	626R	E-168
1972BM5	2.609	RC	26001	C-114	-	-
RO-2010	2.500	D	US-2570	**	-	-
LXS-2055	2.000	D	US-2065	C-5	-	-
IS-2065	2.000	D	US-2065	C-5	-	-
IS-2065S	2.000	D	US-2065	C-5	-	-
LXS-2065	2.000	D	US-2065	C-5	-	-
US-2065	2.000	D	US-2065	C-5	-	-
SS-2066	4.000	RC	82R	**	US-90R	E-164
2102	4.000	RC	US-3433	**	-	-
2111	6.000	RC	**	**	-	-
B-2111	6.000	RC	**	**	-	-
RO-2113	4.040	RC	2113R	**	DS-1113	E-165
SS-2113	4.040	RC	2113R	**	DS-1113	E-165
SS-2115	6.000	RC	602 R	**	-	-
2124	6.000	RC	96R	C-21	610R	E-167
A-2124	6.000	RC	96RX	C-21	610R	E-167
2126	6.000	RC	604R	C-20	627R	E-165
2130R	6.000	RC	2130R	C-21	CC5	E-167
2146	6.000	RC	U-3940	C-88	U-3940	E-193
S-2174	4.000	RC	U-3952	C-88	U-3952	E-192
2178A	6.000	RC	2178RX	C-21	610R	E-167
2178R	6.000	RC	2178R	**	610R	E-167
2178RX	6.000	RC	2178RX	C-21	610R	E-167
A-2178	6.000	RC	2178RX	C-21	610R	E-167
RF-2178	6.000	RC	2198RX	C-21	610R	E-167
2180	6.000	RC	628R	C-20	DS-6272	E-166
SS-2180	6.000	RC	628R	C-20	DS-6272	E-166
2183	6.000	RC	629R	C-20	629R	E-168
F-2183	6.000	RC	629R Special	**	625R	E-167
2184	6.000	RC	2184R	C-21	629R	E-168
2184P	6.000	RC	2184RX	C-21	629R	E-168
2184R	6.000	RC	2184R	C-21	629R	E-168
2184RX	6.000	RC	2184RX	C-21	629R	E-168
A-2184	6.000	RC	2184RX	C-21	629R	E-168
SS-2184P	6.000	RC	2184R	C-21	629R	E-168
SS-2184	6.000	RC	2184R	C-21	629R	E-168
2190	6.000	RC	607R	C-20	CC5	E-167
2190P	6.000	RC	607R	C-20	CC5	E-167
SS-2190	6.000	RC	607R	C-20	CC5	E-167
2198A	6.000	RC	2198RX	C-21	610R	E-167
2198RX	6.000	RC	2198RX	C-21	610R	E-167
A-2198	6.000	RC	2198RX	C-21	610R	E-167
2268	4.083	RC	US-2858	**	-	-
2348	12.000	RC	B-1264R	C-21	B-1264R	E-175
R-2362	1.654	D	US-620X	**	378RX	E-159
2397R	12.000	RC	2397R	-	-	-

Engineering Class Chain

and Sprocket Index



Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
2507	18.000	RC	1871R	C-21	1873R	E-177
RO-2512	3.067	D	US-3011	C-5	US-3011	E-153
LXS-2560	2.500	D	US-2570	**	-	-
US-2560	2.500	D	US-2570	**	-	-
IS-2570	2.500	D	US-2570	**	-	-
IS-2570A	2.500	D	US-2570	**	-	-
LXS-2570	2.500	D	US-2570	**	-	-
US-2570	2.500	D	US-2570	**	-	-
LXS-2585	2.500	D	RO-1625	**	US-64S	E-151
2614R	12.000	RC	2614R	-	-	-
C-2614	12.000	RC	2614R	-	-	-
ISS-2625	2.563	D	520RX	C-5	-	-
2800	8.000	RC	800RX	C-21	800RX	E-169
2800PB	8.000	RC	800RX	C-21	800RX	E-169
A-2800	8.000	RC	800RX	C-21	800RX	E-169
RO-2814	3.500	D	US-3514	C-5	US-3514	E-154
SS-2857	6.000	SB	4857	C-55	4856	E-182
US-2858	4.083	RC	US-2858	**	-	-
SS-2859	6.000	SB	4859	C-55	4859	E-183
SS-2864	7.000	SB	4864	C-55	4864	E-183
2995	4.250	D	X-3808	**	-	-
IS-3010	3.067	D	US-3011	C-5	US-3011	E-153
IS-3011	3.067	D	US-3011	C-5	US-3011	E-153
LXS-3011	3.067	D	US-3011	C-5	US-3011	E-153
RO-3011	3.067	D	US-3011	C-5	US-3011	E-153
US-3011	3.067	D	US-3011	C-5	US-3011	E-153
LXS-3013	3.000	RC	53R	C-20	53R	E-161
RS-3013	3.000	RC	53R	C-20	53R	E-161
XS-3013D6	3.000	RC	DWG. 17175	**	-	-
3067X	3.067	D	US-3011	C-5	US-3011	E-153
IS-3075	3.075	D	US-3075	C-5	US-3075	E-153
JS-3075	3.075	D	US-3075	C-5	US-3075	E-153
RF03075	75.000	RC	RF03075	C-137	-	**
RF03075BR/BF	75.000	RC	RF03075BR/BF	C-156	-	**
RF03075EBR/EBF	75.000	RC	RF03075EBR/EBF	C-160	-	**
RF03075R-TR	75.000	RC	RF03075R-TR	C-152	-	**
RF03075S	75.000	RC	RF03075S	C-173	-	**
RF03075S-SR	75.000	RC	RF03075S-SR	C-151	-	**
RF0375VR	75.000	RC	RF0375VR	C-153	RF0375VR	C-154
RF03075WEBR/WEBF	75.000	RC	RF03075WEBR/WEBF	C-162	-	**
RFD03075R	75.000	RC	RFD03075R	C-149	-	**
RFN03075R	75.000	RC	RFN03075R	C-166	RFN03075R	C-167
US-3075	3.075	D	US-3075	C-5	US-3075	E-153
RF03100	100.000	RC	RF03100	C-137	-	**
RF03100BRBF	100.000	RC	RF03100BRBF	C-156	-	**
RF03100EBREBF	100.000	RC	RF03100EBREBF	C-160	-	**
RF03100R-TR	100.000	RC	RF03100R-TR	C-152	-	**
RF03100S-SR	100.000	RC	RF03100S-SR	C-151	-	**
RF03100VR	100.000	RC	RF03100VR	C-153	RF03100VR	C-154
RF03100WEBR/WEBF	100.000	RC	RF03100WEBR/WEBF	C-162	-	**
RFD03100R	100.000	RC	RFD03100R	C-149	-	**
3113	2.000	D	US-2065	C-5	-	-
B-3113	2.000	D	US-2065	C-5	-	-
3125	3.125	D	3125R	**	-	-
3125HY	3.125	D	3125R	**	-	-
3125HY2	3.125	D	D-3125R	**	-	-
3125HY3	3.125	D	1-3125R	**	-	-
3125R	3.125	D	3125R	**	-	-
D-3125	3.125	D	D-3125R	**	-	-
D-3125R	3.125	D	D-3125R	**	-	-
RO-3125	3.125	D	RO-3125	**	-	-
SS-3125HY	3.125	D	3125R	**	-	-
SS-3125	3.125	D	3125R	**	-	-
T-3125	3.125	D	T-3125R	**	-	-
T-3125R	3.125	U	T-3125R	**	-	-
RO-3140	1.750	D	RO-3140	C-5	-	-
3146	3.075	SB	30703	C-114	131	E-180
RO-3160	2.000	D	RO-3160	**	-	-
RO-3180	2.250	D	RO-3180	C-5	-	-
RO-3200	2.500	D	RO-1625	**	US-64S	E-151
RO-3315	4.073	D	US-1245	C-5	US-1245	E-155
3420	4.040	RC	1113R	C-20	DS-1113	E-165
3433	4.000	RC	3433	-	-	-
DF-3498	1.75 X 2.5	BP	DF-3498	C-98	DF-3498	E-178
DF-3500	2.5 X 3.0	BP	DF-3500	C-98	DF-3500	E-178
IS-3514	3.500	D	US-3514	C-5	US-3514	E-154
JS-3514	3.500	D	US-3514	C-5	US-3514	E-154
LXS-3514	3.500	D	US-3514	C-5	US-3514	E-154
US-3514	3.500	D	US-3514	C-5	US-3514	E-154
RO-3618	4.500	D	US-4522	C-5	US-4522	E-156
X-3808	4.250	D	X-3808	**	-	-
DF-3910	3.0 X 3.0	BP	DF-3910	C-98	DF-3910	E-178
U-3940	6.000	RC	U-3940	C-88	U-3940	E-193
U-3945	4.000	RC	U-3945	C-88	U-3945	E-192
U-3952	4.000	RC	U-3952	C-88	U-3952	E-192
US-3957	4.000	RC	US-3957	**	-	-

Section E

Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
S-4000	4.000	RC	94R	C-20	94R	E-162
4002	9.000	RC	809R	**	B-963R	E-171
SS-4002	9.000	RC	809R	**	B-963R	E-171
4004	9.000	RC	4004	C-21	4004	E-171
X-4004	9.000	RC	4004	C-21	4004	E-171
4009	9.000	RC	4009	C-21	4009	E-170
LXS-4013	4.000	RC	95R	C-20	95R	E-163
RS-4013	4.000	RC	95R	C-20	95R	E-163
JS-4014	4.063	D	US-1242	C-5	US-1242	E-155
LXS-4019	4.000	RC	94R	C-20	94R	E-162
RS-4019	4.000	RC	94R	C-20	94R	E-162
RO-4020	5.000	D	US-5031	C-5	US-5035	E-157
4023	18.000	RC	1871R	C-21	1873R	E-177
SS-4023	18.000	RC	1871R	C-21	1873R	E-177
US-4028	4.000	D	US-4031	C-5	-	-
US-4031	4.000	U	US-4031	C-5	-	-
4038	12.000	RC	B-1266R	C-21	B-1266R	E-174
SS-4038	12.000	RC	B-1266R	C-21	B-1266R	E-174
SS-4043	12.000	RC	B-1266R	C-21	B-1266R	E-174
4065	9.000	RC	4065	C-21	4065	E-172
JS-4106	4.063	D	US-1242	C-5	US-1242	E-155
JS-4110	4.063	D	US-1241	C-5	US-1242	E-155
LXS-4113	4.000	RC	1188R	C-20	91R	E-163
RS-4113	4.000	RC	1188R	C-20	91R	E-163
LXS-4119	4.000	RC	97R	C-20	97R	E-163
RS-4119	4.000	RC	97R	C-20	97R	E-163
US-4121	4.090	D	US-4121	C-5	-	-
US-4122	4.090	D	US-4122	C-5	US-4122	E-156
RO-4214	4.000	D	DWG. 16751	**	-	-
IS-4216	4.000	RC	US-90R	C-20	US-90R	E-164
LXS-4216	4.000	RC	US-90R	C-20	US-90R	E-164
RS-4216	4.000	RC	US-90R	C-20	US-90R	E-164
RS-4238	4.000	RC	89R	C-20	89R	E-164
LXS-4328	4.000	RC	89R	C-20	89R	E-164
LXS-4328G19	4.000	RC	DWG. 21758	**	89R	E-164
RS-4328	4.000	RC	89R	C-20	89R	E-164
IS-4522	4.500	D	US-4522	C-5	US-4522	E-156
US-4522	4.500	D	US-4522	C-5	US-4522	E-156
RO-4824	6.000	D	US-6042	C-5	US-6042	E-158
SS-4850	12.000	RC	1265R	C-21	1265R	E-173
4851	9.000	RC	4009	C-21	4009	E-170
SS-4851	9.000	RC	4009	C-21	4009	E-170
4852	9.000	RC	4004	C-21	4004	E-171
SS-4852	9.000	RC	4004	C-21	4004	E-171
4856	6.000	SB	4856	C-55	4856	E-182
4857	6.000	SB	4857	C-55	4856	E-182
4859	6.000	SB	4859	C-55	4859	E-183
4864	7.000	SB	4864	C-55	4864	E-183
IS-5022	5.000	D	US-5031	C-5	US-5035	E-157
LXS-5022	5.000	D	US-5031	C-5	US-5035	E-157
US-5022	5.000	D	US-5031	C-5	US-5035	E-157
IS-5028	5.000	D	US-5031	C-5	US-5035	E-157
LXS-5028	5.000	D	US-5031	C-5	US-5035	E-157
US-5028A	5.000	D	US-5031	C-5	US-5035	E-157
US-5028N	5.000	D	US-5031	C-5	US-5035	E-157
US-5028	5.000	D	US-5031	C-5	US-5035	E-157
IS-5031	5.000	D	US-5031	C-5	US-5035	E-157
US-5031	5.000	D	US-5031	C-5	US-5035	E-157
US-5035	5.000	D	US-5035	C-5	US-5035	E-157
US-5042	5.000	D	US-5042	C-5	US-5042	E-157
RF05075	75.000	RC	RF05075	C-137	-	**
RF05075S-SR	75.000	RC	RF05075S-SR	C-151	-	**
RF05100	100.000	RC	RF05100	C-137	-	**
RF05100BR/BF	100.000	RC	RF05100BR/BF	C-156	-	**
RF05100EBR/EBF	100.000	RC	RF05100EBR/EBF	C-160	-	**
RF05100R-TR	100.000	RC	RF05100R-TR	C-152	-	**
RF05100S-SR	100.000	RC	RF05100S-SR	C-151	-	**
RF05100VR	100.000	RC	RF05100VR	C-153	RF05100VR	C-154
RF05100WEBR/WEBF	100.000	RC	RF05100WEBR/WEBF	C-162	-	**
RFD05100R	100.000	RC	RFD05100R	C-149	-	**
RFN05100R	100.000	RC	RFN05100R	C-166	RFN05100R	C-167
RF05125	125.000	RC	RF05125	C-137	-	**
RF05125S-SR	125.000	RC	RF05125S-SR	C-151	-	**
RF05150	150.000	RC	RF05150	C-137	-	**
RF05150BR/BF	150.000	RC	RF05150BR/BF	C-156	-	**
RF05150EBR/EBF	150.000	RC	RF05150EBR/EBF	C-160	-	**
RF05150R-TR	150.000	RC	RF05150R-TR	C-152	-	**
RF05150S-SR	150.000	RC	RF05150S-SR	C-151	-	**
RF05150VR	150.000	RC	RF05150VR	C-153	RF05150VR	C-154
RF05150WEBR/WEBF	150.000	RC	RF05150WEBR/WEBF	C-162	-	**
RFD05150R	150.000	RC	RFD05150R	C-149	-	**
ACP05152P-SF4	152.400	RC	ACP05152P-SF4	C-181	-	**
5208	6.000	RC	DWG. 18708	**	-	-
5520	2.563	D	520RX	C-5	-	-
US-5542	5.500	D	US-5542	C-5	US-5542	E-158
5602	6.000	RC	DS-196R	C-104	627R	E-165

Engineering Class Chain

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Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
US-5738	5.750	D	US-5738	C-5	-	-
IS-6018	6.000	RC	US-196R	C-20	627R	E-165
LXS-6018	6.000	RC	US-196R	C-20	627R	E-165
RS-6018	6.000	RC	US-196R	C-20	627R	E-165
RS-6018CR	6.000	RC	DS-196R	C-94	627R	E-165
IS-6022	6.000	RC	607R	C-20	CC5	E-167
IS-6040	6.000	D	US-6042	C-5	US-6042	E-158
US-6040	6.000	D	US-6042	C-5	US-6042	E-158
IS-6042	6.000	D	US-6042	C-5	US-6042	E-158
JS-6042	6.000	D	US-6042	C-5	US-6042	E-158
US-6042	6.000	D	US-6042	C-5	US-6042	E-158
6053R	6.000	RC	6053R	C-20	6053R	E-165
US-6066	6.000	D	US-6066	C-5	US-6042	E-158
6101	6.000	RC	631R	C-21	627R	E-165
6102B	4.000	SB	102B	C-55	102B	E-181
6102BM	4.000	SB	102B	C-55	102B	E-181
6102 1/2	4.040	SB	102 1/2	C-55	102 1/2	E-181
6110	6.000	SB	110	C-55	110	E-182
6110BM	6.000	SB	110	C-55	110	E-182
6111	4.760	SB	111	C-55	111	E-182
6111 M	4.760	SB	111	C-55	111	E-182
6111SP	4.76 X 7.24	SB	111SP	C-55	-	-
6131	3.075	SB	131	C-55	131	E-180
6150DM	6.050	SB	150X	C-55	150X	E-183
6150P	6.050	SB	150X	C-55	150X	E-183
6188	2.609	SB	188	C-55	188	E-179
6188M	2.609	SB	188	C-55	188	E-179
JAC6205	152.400	RC	JAC6205	C-183	JAC6205	E-198
RF6205	152.400	RC	RF6205	C-137	-	**
RF6205M	152.400	RC	RF6205M	C-170	-	**
RF6205R-TR	152.400	RC	RF6205R-TR	C-152	-	**
RF6205S	152.400	RC	RF6205S	C-173	-	**
RF6205S-SR	152.400	RC	RF6205S-SR	C-151	-	**
RF6205VR	152.400	RC	RF6205VR	C-153	RF6205VR	C-154
RFD6205R	152.400	RC	RFD6205R	C-149	-	**
LXS-6238	6.000	RC	614R	C-21	CC5	E-167
RS-6238	6.000	RC	614R	C-21	CC5	E-167
DS-6272	6.000	RC	DS-6272	C-104	DS-6272	E-166
LXS-6438	6.000	RC	631R	C-21	626R	E-168
RS-6438	6.000	RC	631R	C-21	626R	E-168
US-6560	6.500	D	US-6560	**	-	-
US-6566	6.500	D	US-6566	C-5	-	-
6825	4.000	SB	825	**	-	-
6826	6.000	SB	6826	C-117	-	-
6830	6.000	SB	830	**	-	-
6850	6.000	SB	US-850	**	-	-
6856	6.000	SB	4856	C-55	4856	E-182
6864	7.000	SB	4864	C-55	4864	E-183
6867	6.000	SB	4857	C-55	4856	E-182
6869	6.000	SB	4859	C-55	4859	E-183
JS-7055	7.000	D	US-7060	**	-	-
IS-7060	7.000	D	US-7060	**	-	-
US-7060	7.000	D	US-7060	**	-	-
US-7080	7.000	D	US-7080	C-5	US-7080	E-158
7601	2.800	SB	DWG. 20003	**	-	-
7602	2.609	SB	DWG. 16109	**	-	-
7774MO6	2.609	RC	26001	C-114	-	-
RF08125	125.000	RC	RF08125	C-137	-	**
RF08125S	125.000	RC	RF08125S	C-173	-	**
RF08125WM	125.000	RC	RF08125WM	C-170	-	**
RF08150	150.000	RC	RF08150	C-137	-	**
RF08150BR/BF	150.000	RC	RF08150BR/BF	C-156	-	**
RF08150EBR/EBF	150.000	RC	RF08150EBR/EBF	C-160	-	**
RF08150WEBR/WEBF	150.000	RC	RF08150WEBR/WEBF	C-162	-	**
RFD08150R	150.000	RC	RFD08150R	C-149	-	**
JAC08152	152.400	RC	JAC08152	C-183	JAC08152	E-198
9063RXX	6.000	RC	9063RXX	-	-	-
U-9856	6.000	RC	U-9856	C-88	U-9856	E-193
RF10100	100.000	RC	RF10100	C-137	-	**
RF10100BR	100.000	RC	RF10100BR	C-156	-	**
RF10100EBR	100.000	RC	RF10100EBR	C-160	-	**
RF10100S-SR	100.000	RC	RF10100S-SR	C-151	-	**
RF10100WEBR	100.000	RC	RF10100WEBR	C-162	-	**
RF10125	125.000	RC	RF10125	C-137	-	**
RF10125M	125.000	RC	RF10125M	C-170	-	**
RF10125S	125.000	RC	RF10125S	C-173	-	**
RF10125S-SR	125.000	RC	RF10125S-SR	C-151	-	**
RF10150	150.000	RC	RF10150	C-137	-	**
RF10150BR/BF	150.000	RC	RF10150BR/BF	C-156	-	**
RF10150EBR/EBF	150.000	RC	RF10150EBR/EBF	C-160	-	**
RF10150M	150.000	RC	RF10150M	C-170	-	**
RF10150R-TR	150.000	RC	RF10150R-TR	C-152	-	**
RF10150S	150.000	RC	RF10150S	C-173	-	**
RF10150S-SR	150.000	RC	RF10150S-SR	C-151	-	**
RF10150VR	150.000	RC	RF10150VR	C-153	RF10150VR	C-154
RF10150WEBR/WEBF	150.000	RC	RF10150WEBR/WEBF	C-162	-	**

Section E

Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
RFD10150R	150.000	RC	RFD10150R	C-149	-	**
RFN10150R	150.000	RC	RFN10150R	C-166	RFN10150R	C-167
RFD10200R	200.000	RC	RFD10200R	C-149	-	**
JAC10152	152.400	RC	JAC10152	C-183	JAC10152	E-198
12001	12.000	RC	12001	C-100	-	-
12002	12.000	RC	12002	C-100	-	-
12003	12.000	RC	12003	C-100	-	-
ACS13078W	78.100	RC	ACS13078W	C-178	ACS13078W	E-200
ACS13103W	103.200	RC	ACS13103W	C-178	ACS13103W	E-200
ACS13152W	152.400	RC	ACS13152W	C-178	ACS13152W	E-200
ACS15152W	152.400	RC	ACS15152W	C-178	ACS15152W	E-200
ACS19152W	152.400	RC	ACS19152W	C-178	ACS19152W	E-200
20001	2.000	SB	20001	-	-	-
20002	2.000	RC	20002	C-105	-	-
JAC21152	152.400	RC	JAC21152	C-183	JAC21152	E-198
ACS25152W	152.400	RC	ACS25152W	C-178	ACS25152W	E-200
26001	2.609	RC	26001	C-114	-	-
JAC26152	152.400	RC	JAC26152	C-183	JAC26152	E-198
27001	12 X 15	BP	27001	C-91	-	-
30701	3.075	RC	30701	C-119	US-3075	E-153
30702	3.075	SB	30702	C-116	131	E-180
30703	3.075	SB	30703	C-114	131	E-180
ACS35152W	152.400	RC	ACS35152W	C-178	ACS35152W	E-200
40001	4.000	RC	40001	C-91	US-90R	E-164
40002	4.000	RC	40002	C-91	-	-
40003	4.000	RC	40003	C-91	-	-
41001	4.100	WS	41001	C-113	-	-
42501	4.250	RC	42501	C-91	-	-
50001	5.000	RC	50001	C-20	-	-
52501	5.250	RC	52501	C-91	-	-
52502	5.250	RC	52502	C-91	-	-
60001	6.000	RC	60001	C-21	-	-
60002	6.000	RC	60002	C-91	625R	E-167
60175	6.000	RC	60175	-	-	-
80002	8.000	RC	80002	C-106	-	-
80003	8.000	RC	80003	C-106	-	-
90001	9.000	RC	90001	C-106	-	-
90002	9.000	RC	90002	C-106	-	-
90003	9.000	RC	90003	C-100	-	-
90004	9.000	RC	90004	C-100	925R	E-169
RF12200	200.000	RC	RF12200	C-137	-	**
RF12200BR/BF	200.000	RC	RF12200BR/BF	C-156	-	**
RF12200EBR/EBF	200.000	RC	RF12200EBR/EBF	C-160	-	**
RF12200M	200.000	RC	RF12200M	C-170	-	**
RF12200R-TR	200.000	RC	RF12200R-TR	C-152	-	**
RF12200S	200.000	RC	RF12200S	C-173	-	**
RF12200S-SR	200.000	RC	RF12200S-SR	C-151	-	**
RF12200WEBR/WEBF	200.000	RC	RF12200WEBR/WEBF	C-162	-	**
RFD12200R	200.000	RC	RFD12200R	C-149	-	**
RFN12200R	200.000	RC	RFN12200R	C-166	RFN12200R	C-167
RF12250	250.000	RC	RF12250	C-137	-	**
RF12250BR/BF	250.000	RC	RF12250BR/BF	C-156	-	**
RF12250EBR/EBF	250.000	RC	RF12250EBR/EBF	C-160	-	**
RF12250S-SR	250.000	RC	RF12250S-SR	C-151	-	**
RF12250WEBR/WEBF	250.000	RC	RF12250WEBR/WEBF	C-162	-	**
RFD12250R	250.000	RC	RFD12250R	C-149	-	**
RF17200	200.000	RC	RF17200	C-137	-	**
RF17200BR/BF	200.000	RC	RF17200BR/BF	C-156	-	**
RF17200EBR/EBF	200.000	RC	RF17200EBR/EBF	C-160	-	**
RF17200M	200.000	RC	RF17200M	C-170	-	**
RF17200R-TR	200.000	RC	RF17200R-TR	C-152	-	**
RF17200S	200.000	RC	RF17200S	C-173	-	**
RF17200S-SR	200.000	RC	RF17200S-SR	C-151	-	**
RF17200VR	200.000	RC	RF17200VR	C-153	RF17200VR	C-154
RF17200WEBR/WEBF	200.000	RC	RF17200WEBR/WEBF	C-162	-	**
RFN17200R	200.000	RC	RFN17200R	C-166	RFN17200R	C-167
RF17250	250.000	RC	RF17250	C-137	-	**
RF17250BR/BF	250.000	RC	RF17250BR/BF	C-156	-	**
RF17250EBR/EBF	250.000	RC	RF17250EBR/EBF	C-160	-	**
RF17250M	250.000	RC	RF17250M	C-170	-	**
RF17250S-SR	250.000	RC	RF17250S-SR	C-151	-	**
RF17250WEBR/WEBF	250.000	RC	RF17250WEBR/WEBF	C-162	-	**
RFD17250R	250.000	RC	RFD17250R	C-149	-	**
RF17300	300.000	RC	RF17300	C-137	-	**
RF17300BR/BF	300.000	RC	RF17300BR/BF	C-156	-	**
RF17300EBR/EBF	300.000	RC	RF17300EBR/EBF	C-160	-	**
RF17300S-SR	300.000	RC	RF17300S-SR	C-151	-	**
RF17300WEBR/WEBF	300.000	RC	RF17300WEBR/WEBF	C-162	-	**
RFD17300R	300.000	RC	RFD17300R	C-149	-	**
RF26200	200.000	RC	RF26200	C-137	-	**
RF26200M	200.000	RC	RF26200M	C-170	-	**
RF26200S	200.000	RC	RF26200S	C-173	-	**
RF26200S-SR	200.000	RC	RF26200S-SR	C-151	-	**
RF26250	250.000	RC	RF26250	C-137	-	**
RF26250BR/BF	250.000	RC	RF26250BR/BF	C-156	-	**
RF26250EBR/EBF	250.000	RC	RF26250EBR/EBF	C-160	-	**

Engineering Class Chain

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Chain Number	Pitch P	Style	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
RF26250N	250.000	RC	RF26250N	C-170	-	**
RF26250S-SR	250.000	RC	RF26250S-SR	C-151	-	**
RF26250WEBR/WEBF	250.000	RC	RF26250WEBR/WEBF	C-162	-	**
RFN26250R	250.000	RC	RFN26250R	C-166	RFN26250R	C-167
RF26300	300.000	RC	RF26300	C-137	-	**
RF26300BR/BF	300.000	RC	RF26300BR/BF	C-156	-	**
RF26300EBR/EBF	300.000	RC	RF26300EBR/EBF	C-160	-	**
RF26300N	300.000	RC	RF26300N	C-170	-	**
RF26300S-SR	300.000	RC	RF26300S-SR	C-151	-	**
RF26300WEBR/WEBF	300.000	RC	RF26300WEBR/WEBF	C-162	-	**
RFD26300R	300.000	RC	RFD26300R	C-149	-	**
RF26450	450.000	RC	RF26450	C-137	-	**
RF26450BR/BF	450.000	RC	RF26450BR/BF	C-156	-	**
RF26450EBR/EBF	450.000	RC	RF26450EBR/EBF	C-160	-	**
RF26450WEBR/WEBF	450.000	RC	RF26450WEBR/WEBF	C-162	-	**
RF36250	250.000	RC	RF36250	C-137	-	**
RF36250S-SR	250.000	RC	RF36250S-SR	C-151	-	**
RF36300	300.000	RC	RF36300	C-137	-	**
RF36300BR/BF	300.000	RC	RF36300BR/BF	C-156	-	**
RF36300EBR/EBF	300.000	RC	RF36300EBR/EBF	C-160	-	**
RF36300M	300.000	RC	RF36300M	C-170	-	**
RF36300N	300.000	RC	RF36300N	C-170	-	**
RF36300S-SR	300.000	RC	RF36300S-SR	C-151	-	**
RF36300WEBR/WEBF	300.000	RC	RF36300WEBR/WEBF	C-162	-	**
RFD36300R	300.000	RC	RFD36300R	C-149	-	**
RFN36300R	300.000	RC	RFN36300R	C-166	RFN36300R	C-167
RFD36400R	400.000	RC	RFD36400R	C-149	-	**
RF36450	450.000	RC	RF36450	C-137	-	**
RF36450BR/BF	450.000	RC	RF36450BR/BF	C-156	-	**
RF36450EBR/EBF	450.000	RC	RF36450EBR/EBF	C-160	-	**
RF36450S-SR	450.000	RC	RF36450S-SR	C-151	-	**
RF36450WEBR/WEBF	450.000	RC	RF36450WEBR/WEBF	C-162	-	**
RF36600	600.000	RC	RF36600	C-137	-	**
RF36600BR/BF	600.000	RC	RF36600BR/BF	C-156	-	**
RF36600EBR/EBF	600.000	RC	RF36600EBR/EBF	C-160	-	**
RF36600WEBR/WEBF	600.000	RC	RF36600WEBR/WEBF	C-162	-	**
RF440400	400.000	RC	RF440400	C-137	-	**
RF440600	600.000	RC	RF440600	C-137	-	**
ACP045150-SF4	152.400	RC	ACP045150-SF4	C-181	-	**
RF52300	300.000	RC	RF52300	C-137	-	**
RF52450	450.000	RC	RF52450	C-137	-	**
RFD52450R	450.000	RC	RFD52450R	C-149	-	**
RF52600	600.000	RC	RF52600	C-137	-	**
RF60300	300.000	RC	RF60300	C-137	-	**
RF60350	350.000	RC	RF60350	C-137	-	**
RF60400	400.000	RC	RF60400	C-137	-	**
RF90350	350.000	RC	RF90350	C-137	-	**
RF90400	400.000	RC	RF90400	C-137	-	**
RF90500	500.000	RC	RF90500	C-137	-	**
RF120400	400.000	RC	RF120400	C-137	-	**
RF120600	600.000	RC	RF120600	C-137	-	**
RF280400	400.000	RC	RF280400	C-137	-	**
RF280600	600.000	RC	RF280600	C-137	-	**
RF360400	400.000	RC	RF360400	C-137	-	**
RF360600	600.000	RC	RF360600	C-137	-	**

Section E