

RTJ400 OPERATION

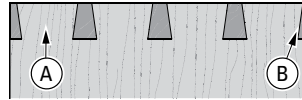
# CHAPTER 16

## Quick Reference

### Board Width Selection for Dovetails

#### Through Dovetails (Full Pitch)

Board widths are based on the number of full tails (A) in your design. Board edges should always end in a half-pin (B).



Board Width Selection for Through Dovetails											
No. of Tails	1	2	3	4	5	6	7	8	9	10	
Inches	Min	1 7/16"	3"	4 9/16"	6 1/8"	7 11/16"	9 1/4"	10 13/16"	12 3/8"	13 15/16"	15 1/2"
	Exact	1 1/16"	3 1/8"	4 11/16"	6 1/4"	7 13/16"	9 3/8"	10 15/16"	12 1/2"	14 1/16"	15 5/8"
	Max	1 15/16"	3 1/2"	5 1/16"	6 3/8"	8 3/16"	9 3/4"	11 5/16"	12 7/8"	14 7/16"	16"
Millimeters	Min	37	76	116	156	196	235	275	315	355	394
	Exact	40	80	119	159	199	239	278	318	358	398
	Max	49	89	129	169	208	248	288	328	367	407

#### Half-Pitch Through Dovetails

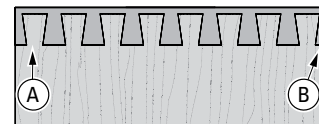
Board widths are based on the number of full tails (A) in your design. Board edges should always end in a half-pin (B).



Board Width Selection for Half Pitch Through Dovetails																					
No. of Tails	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Inches	Min	2 3/32"	1 1/2"	2 7/32"	3 1/16"	3 27/32"	4 3/8"	5 11/32"	6 3/16"	6 31/32"	7 3/4"	8 17/32"	9 3/16"	10 3/32"	10 7/8"	11 21/32"	12 7/16"	13 7/32"	14"	14 29/32"	15 9/16"
	Exact	2 5/32"	1 9/16"	2 11/32"	3 1/8"	3 29/32"	4 11/16"	5 15/32"	6 1/4"	7 1/32"	7 13/16"	8 19/32"	9 3/8"	10 5/32"	10 15/16"	11 23/32"	12 1/2"	13 3/32"	14 1/16"	14 27/32"	15 5/8"
	Max	2 9/32"	1 11/16"	2 15/32"	3 1/4"	4 1/32"	4 13/16"	5 19/32"	6 3/8"	7 5/32"	7 15/16"	8 23/32"	9 1/2"	10 9/32"	11 1/16"	11 27/32"	12 5/8"	13 13/32"	14 3/16"	14 31/32"	15 3/4"
Millimeters	Min	18	38	58	77	97	117	137	156	176	196	216	235	255	275	295	314	334	354	374	393
	Exact	20	40	59	79	99	119	138	158	178	198	217	237	257	277	296	316	336	356	375	395
	Max	23	43	62	82	102	122	141	161	181	201	220	240	260	280	299	319	339	359	378	398

#### Half-Blind Dovetails

Board widths are based on the number of full tails (A) in the joint design. Board edges always end with a half pin (B). Board widths in the chart below may be increased by 1/4" [6mm] or decreased by 1/8" [3mm] if required.

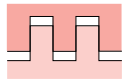


Board Width Selection for Half-Blind Dovetails																					
No. of Tails	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Inches	Min	2 1/32"	1 7/16"	2 7/32"	3"	3 29/32"	4 9/16"	5 11/32"	6 1/8"	6 29/32"	7 11/16"	8 15/32"	9 1/4"	10 1/32"	10 13/16"	11 19/32"	12 3/8"	13 3/32"	13 15/16"	14 29/32"	15 1/2"
	Exact	2 5/32"	1 9/16"	2 11/32"	3 1/8"	3 29/32"	4 11/16"	5 15/32"	6 1/4"	7 1/32"	7 13/16"	8 19/32"	9 3/8"	10 5/32"	10 15/16"	11 23/32"	12 1/2"	13 3/32"	14 1/16"	14 27/32"	15 5/8"
	Max	1 1/32"	1 13/16"	2 19/32"	3 3/8"	4 3/32"	4 13/16"	5 23/32"	6 1/2"	7 3/32"	8 1/16"	8 27/32"	9 3/8"	10 13/32"	11 3/16"	11 31/32"	12 3/4"	13 17/32"	14 3/16"	15 3/32"	15 7/8"
Millimeters	Min	17	37	56	76	96	116	136	155	175	195	215	234	254	274	294	313	333	353	373	392
	Exact	20	40	60	79	99	119	139	158	178	198	217	237	257	277	297	316	336	356	376	395
	Max	26	45	65	85	105	124	144	164	184	203	223	243	263	282	302	322	342	361	381	401

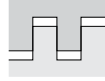
### Board Width Selection for Box Joints

#### 3/8" Box Joints

Board widths are determined by the total number of pins and sockets in the joint design and whether the joint is symmetrical or asymmetrical. Use this chart to determine board widths up to 16" [406mm].



**Symmetrical Joints** have a full pin at each board edge. The total number of pins and sockets is always an odd number.



**Asymmetrical joints** have a full pin on one edge and a full socket on the other edge. The total number of pins and sockets is always an even number.

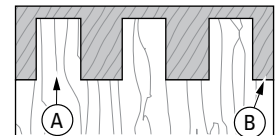
Symmetrical Board Width Chart for 3/8" Box Joints																				
<b>Total Pins &amp; Sockets</b>	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41
<b>Inches</b>	1 1/32"	1 1/16"	2 23/32"	3 1/2"	4 9/32"	5 1/16"	5 27/32"	6 3/8"	7 13/32"	8 3/16"	8 31/32"	9 3/4"	10 17/32"	11 3/16"	12 3/32"	12 7/8"	13 21/32"	14 7/16"	15 7/32"	16
<b>Millimeters</b>	29	49	69	89	109	129	148	168	188	208	228	248	267	287	307	327	347	367	387	406

Asymmetrical Board Width Chart for 3/8" Box Joints																			
<b>Total Pins &amp; Sockets</b>	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
<b>Inches</b>	1 9/16"	2 11/32"	3 1/8"	3 29/32"	4 11/16"	5 15/32"	6 1/4"	7 1/32"	7 13/16"	8 19/32"	9 3/8"	10 5/32"	10 15/16"	11 23/32"	12 1/2"	13 3/32"	14 1/16"	14 27/32"	15 5/8"
<b>Millimeters</b>	40	60	79	99	119	139	159	179	198	218	238	258	279	298	318	337	357	377	397

#### 3/8" Half-Blind Box Joints

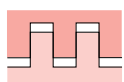
Board widths are based on the number of full tails (A) in the joint design. Board edges always end with a half pin (B). Board widths may be increased by 1/4" [6mm] or decreased by 1/8" [3mm] if required.



Board Width Selection for 3/8" Half-Blind Box Joints																					
<b>No. of Tails</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
<b>Inches</b>	<b>Min</b>	2 1/32"	1 7/16"	2 7/32"	3"	3 25/32"	4 9/16"	5 11/32"	6 1/8"	6 29/32"	7 11/16"	8 15/32"	9 1/4"	10 1/32"	10 13/16"	11 19/32"	12 3/8"	13 5/32"	13 15/16"	14 23/32"	15 1/2"
	<b>Exact</b>	2 5/32"	1 3/16"	2 11/32"	3 1/8"	3 29/32"	4 11/16"	5 15/32"	6 1/4"	7 1/32"	7 13/16"	8 19/32"	9 3/8"	10 5/32"	10 15/16"	11 23/32"	12 1/2"	13 9/32"	14 1/16"	14 27/32"	15 5/8"
	<b>Max</b>	1 1/32"	1 13/16"	2 19/32"	3 3/8"	4 3/32"	4 15/16"	5 23/32"	6 1/2"	7 3/32"	8 1/16"	8 27/32"	9 5/8"	10 13/32"	11 3/16"	11 31/32"	12 3/4"	13 17/32"	14 3/16"	15 3/32"	15 7/8"
<b>No. of Tails</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
<b>Millimeters</b>	<b>Min</b>	17	37	56	76	96	116	136	155	175	195	215	234	254	274	294	313	333	353	373	392
	<b>Exact</b>	20	40	60	79	99	119	139	158	178	198	217	237	257	277	297	316	336	356	376	395
	<b>Max</b>	26	45	65	85	105	124	144	164	184	203	223	243	263	282	302	322	342	361	381	401

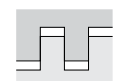
#### 3/4" Box Joints

Board widths are determined by the total number of pins and sockets in the joint design and whether the joint is symmetrical or asymmetrical. Use this chart to determine board widths up to 15 5/8" [397mm].



**Symmetrical Joints** have a full pin at each board edge. Total no. of pins and sockets is always an odd number.

Symmetrical Board Width Chart for 3/4" Box Joints									
<b>Total Pins &amp; Sockets</b>	3	5	7	9	11	13	15	17	19
<b>Inches</b>	2 1/32"	3 29/32"	5 15/32"	7 1/32"	8 19/32"	10 5/32"	11 23/32"	13 3/32"	14 27/32"
<b>Millimeters</b>	60	99	139	179	218	258	298	337	377



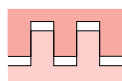
**Asymmetrical joints** have a full pin on one edge and a full socket on the other edge. Total no. of pins and sockets is always an even number.

Asymmetrical Board Width Chart for 3/4" Box Joints									
<b>Total Pins &amp; Sockets</b>	4	6	8	10	12	14	16	18	20
<b>Inches</b>	3 1/8"	4 11/16"	6 1/4"	7 13/16"	9 3/8"	10 15/16"	12 1/2"	14 1/16"	15 5/8"
<b>Millimeters</b>	79	119	159	198	238	278	318	357	397

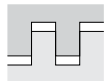
**Board Width Selection for Box Joints cont.**

**3/16" Box Joints**

Board widths are determined by the total number of pins and sockets in the joint design and whether the joint is symmetrical or asymmetrical. Use this chart to determine board widths up to 8" [203mm] for 3/16" joints. For wider boards, see leightools.com.



**Symmetrical Joints** have a full pin at each board edge. The total number of pins and sockets will always be an odd number.



**Asymmetrical Joints** have a full pin at one edge and a full socket at the other. The total number of pins and sockets will always be an even number.

**Symmetrical Board Width Chart for 3/16" Box Joints**

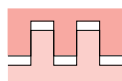
<b>Total Pins &amp; Sockets</b>	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41
<b>Inches</b>	5/16"	3/32"	1 11/32"	1 3/4"	2 1/8"	2 17/32"	2 29/32"	3 3/16"	3 11/16"	4 3/32"	4 15/32"	4 7/8"	5 1/4"	5 21/32"	6 1/32"	6 7/16"	6 13/16"	7 7/32"	7 19/32"	8"
<b>Millimeters</b>	14	25	34	44	54	64	74	84	94	104	114	124	133	144	153	164	173	183	193	203

**Asymmetrical Board Width Chart for 3/16" Box Joints**

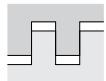
<b>Total Pins &amp; Sockets</b>	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
<b>Inches</b>	25/32"	1 5/32"	1 9/16"	1 13/16"	2 11/32"	2 23/32"	3 1/8"	3 1/2"	3 29/32"	4 9/32"	4 11/16"	5 1/16"	5 15/32"	5 27/32"	6 1/4"	6 3/8"	7 1/32"	7 13/32"	7 13/16"
<b>Millimeters</b>	20	29	40	49	60	69	79	89	99	109	119	129	139	148	159	168	179	188	198

**3/32" Box Joints**

Board widths are determined by the total number of pins and sockets in the joint design and whether the joint is symmetrical or asymmetrical. Use this chart to determine board widths up to 4" [102mm] for 3/32" joints. For wider boards, see leightools.com.



**Symmetrical Joints** have a full pin at each board edge. The total number of pins and sockets will always be an odd number.



**Asymmetrical Joints** have a full pin at one edge and a full socket at the other. The total number of pins and sockets will always be an even number.

**Symmetrical Board Width Chart for 3/32" Box Joints**

<b>Total Pins &amp; Sockets</b>	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41
<b>Inches</b>	9/32"	15/32"	1 1/16"	7/8"	1 1/16"	1 1/4"	1 15/32"	1 21/32"	1 27/32"	2 1/32"	2 1/4"	2 7/16"	2 5/8"	2 13/16"	3 1/32"	3 7/32"	3 13/32"	3 19/32"	3 13/16"	4
<b>Millimeters</b>	7	12	17	22	27	32	37	42	47	52	57	62	67	71	77	82	87	91	97	102

**Asymmetrical Board Width Chart for 3/32" Box Joints**

<b>Total Pins &amp; Sockets</b>	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
<b>Inches</b>	3/8"	9/16"	25/32"	31/32"	1 5/32"	1 11/32"	1 1/16"	1 3/4"	1 15/16"	2 1/8"	2 11/32"	2 17/32"	2 23/32"	2 29/32"	3 1/8"	3 3/16"	3 1/2"	3 11/16"	3 29/32"
<b>Millimeters</b>	10	15	20	25	29	34	40	44	49	54	60	64	69	74	79	84	89	94	99