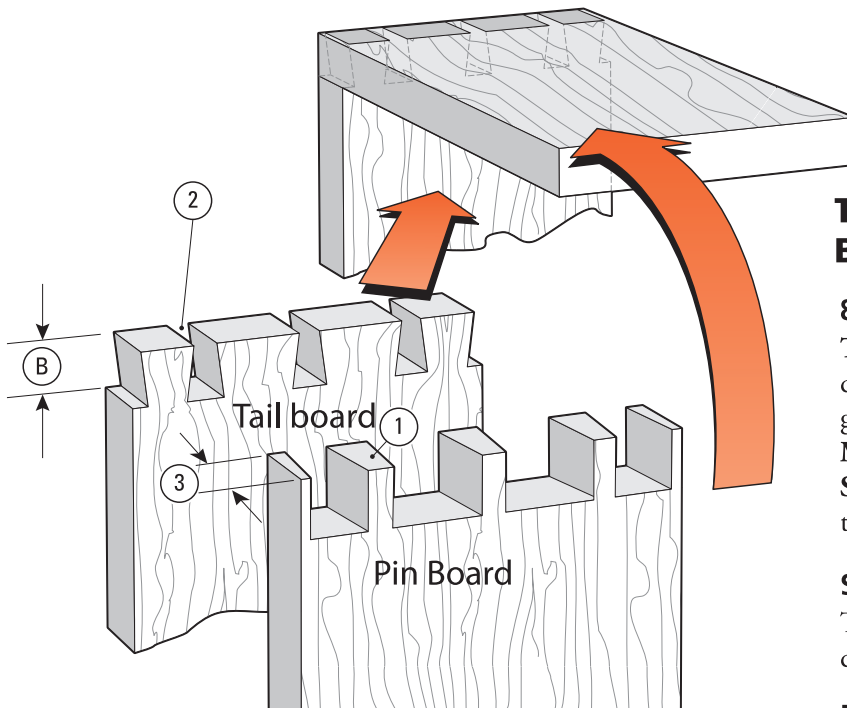


D4R Pro - Appendix II

Bit Selection

Optional router bits for variably spaced through and half-blind dovetails.



Through Dovetail Bit Selection

8° Dovetail Bit for Tails

The pins ① must fit into the pin sockets ②. Therefore the dovetail bit's depth of cut ③ must be equal to or a little greater than the pin board thickness ③.

Measure the pin board thickness ③

Select the dovetail bit with the correct depth of cut ③ from the following pages (bits must be 8° for through dovetails).

Straight Bit for Pins

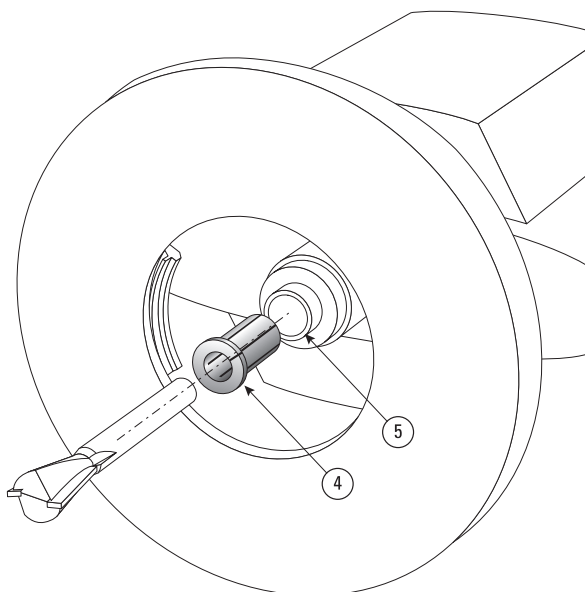
The matching straight bit is listed on the charts with the dovetail bit.

Dovetail Bit Angle

All through dovetail bits must be 8°. This angle matches the D4R Pro guide finger pin angle. If you try to use a different angle of dovetail bit, there will be a mismatch between the pins routed at 8°.

Guidebush

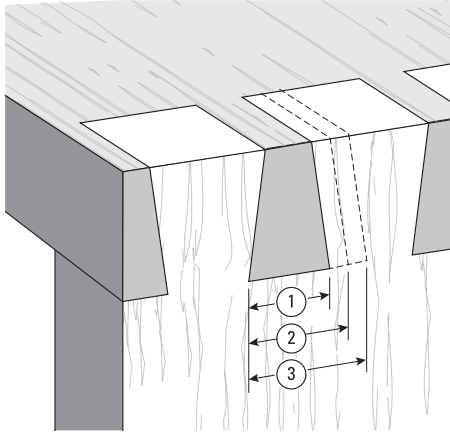
All 8mm shank through dovetail bits listed in this appendix work with the e7-Bush (7/16" OD [11,1mm]) supplied with your Leigh jig, or any 7/16" OD [11,1mm] guidebush. The optional Leigh 716C guidebush or standard 5/8" OD [15,9mm] guidebush is used with 1/2" [12,7mm] shank bits. No other guidebush sizes can be used for through dovetails. See page 70.



Shank Selection

The Leigh D4R Pro comes with one through dovetail bit and one straight bit, with 8mm shanks, plus a 1/2" [12,7mm] to 8mm collet reducer. The reducer ④ simply slides into the 1/2" [12,7mm] collet ⑤ of your router and the 8mm shank bit is inserted into the collet reducer. The collet is tightened as normal. The collet reducer is not required with 1/2" [12,7mm] shank bits.

Note: ④ is a collet reducer, not a collet ⑤. The reducer does not replace the collet, it slides directly into your collet.



Note that some of the dovetail bits' depths of cut overlap. For example:

No.70-8 bit ① : $\frac{1}{4}$ " - $\frac{1}{2}$ " [6 - 13mm]

No.75-8 bit ② : $\frac{3}{8}$ " - $\frac{5}{8}$ " [9,5 - 16mm]

No.80-8 bit ③ : $\frac{1}{2}$ " - $1\frac{3}{16}$ " [12 - 20mm]

This means all three bits are capable of routing boards $\frac{1}{2}$ " [12,7mm] thick using one of the following combinations: No.80-8 and 140-8, No.75-8 and 140-8, or No.70-8 and 140-8.

The three bit combinations will produce slightly different-looking joints because each dovetail bit produces a different size diameter of pin:

No.70-8 ① : $\frac{3}{8}$ "

No.75-8 ② : $\frac{7}{16}$ "

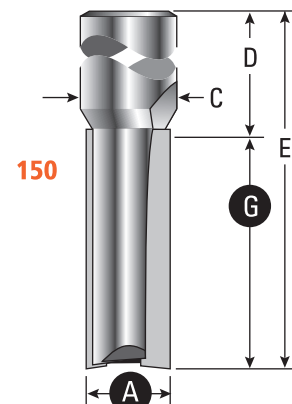
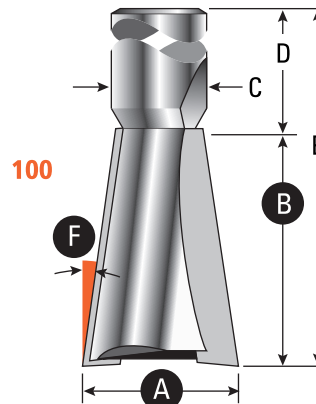
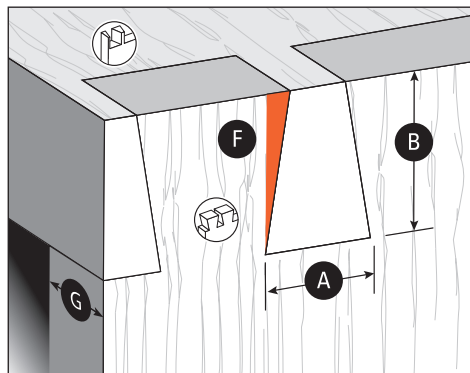
No.80-8 ③ : $\frac{1}{2}$ "



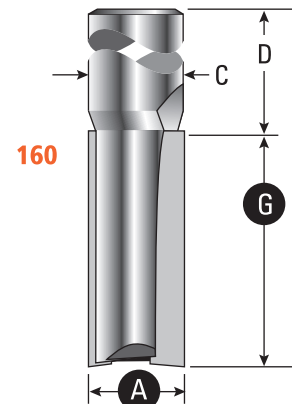
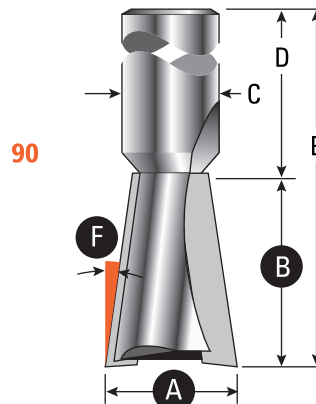
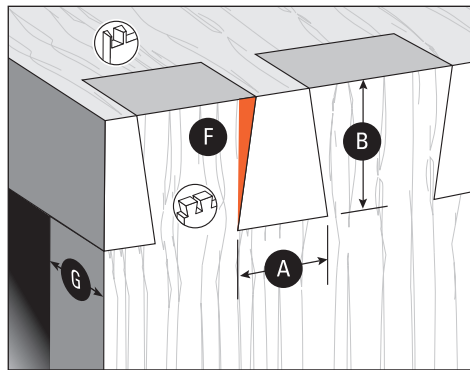
Do not attempt to rout dovetails at less than the minimum depth of cut specified, as the bit can hit the guide fingers or guide bushing.

Leigh Through Dovetail Bits

Note: Bit and joint drawings are about actual size.



BITS	A Overall Diameter	B/G Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 100	13/16" [20,6]	B 1" to 1-1/4"* [26,0-32,0*]	1/2" [12,7]	1-3/4" [45,0]	3" [76,0]	8°	716C or 5/8" [15,9]
No. 150	7/16" [11,1]	G 1/8" to 1-1/4"* [3,0-32,0*]	1/2" [12,7]	1-3/4" [45,0]	3" [76,0]	—	716C or 5/8" [15,9]

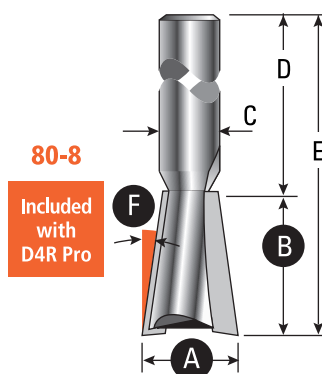
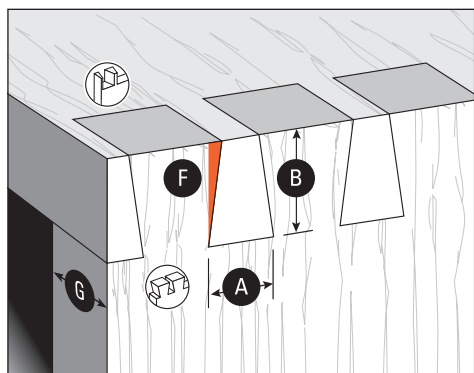


Bits	A Overall Diameter	B/G Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 90	11/16" [17,5]	B 5/8" to 1" [16,0-26,0]	1/2" [12,7]	1-3/4" [45,0]	2-3/4" [70,0]	8°	716C or 5/8" [15,9]
No. 160	1/2" [12,7]	G 1/8" to 1-1/4"* [3,0-32,0*]	1/2" [12,7]	1-3/4" [45,0]	3" [76,0]	—	716C or 5/8" [15,9]

Numbers in brackets are millimeters

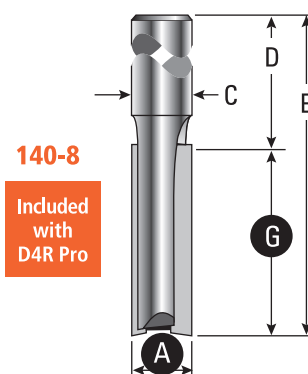
*An extra step is required to rout joints with a cutting depth greater than 1" [26,0]

Note: Bit and joint drawings are about actual size.



80-8

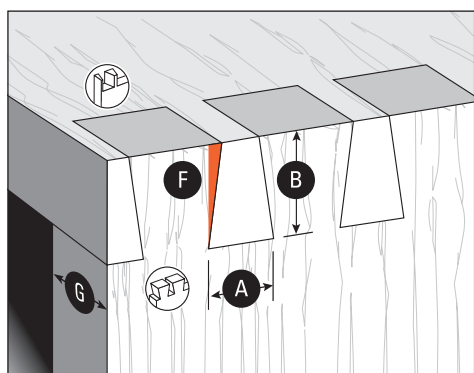
Included
with
D4R Pro



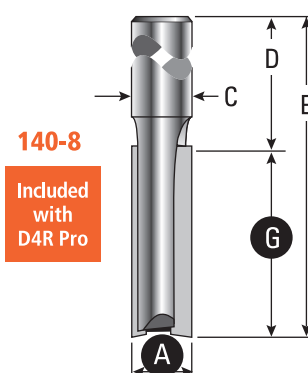
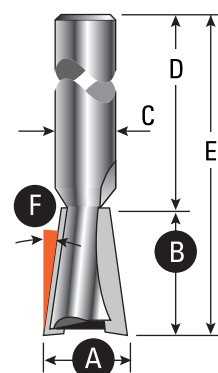
140-8

Included
with
D4R Pro

BITS	A Overall Diameter	B / G Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 80-8*	1/2" [12,7]	B 1/2" to 13/16" [13,0-20,6]	8mm (or 1/4")	1-3/4" [45,0]	2-9/16" [65,0]	8°	e7 or 7/16" [11,1]
No. 140-8*	5/16" [7,9]	G 1/8" to 1" [3,0-26,0]	8mm (or 1/4")	1-3/4" [45,0]	2-3/4" [70,0]	—	e7 or 7/16" [11,1]



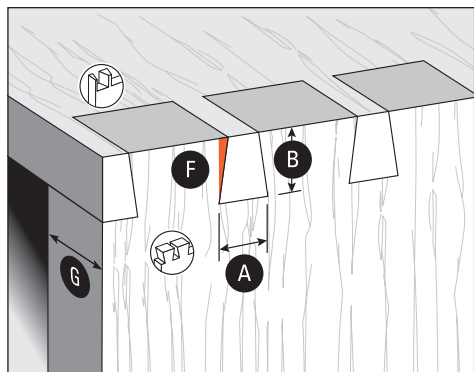
75-8



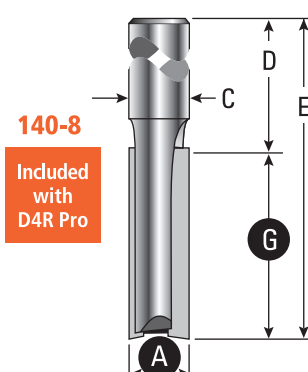
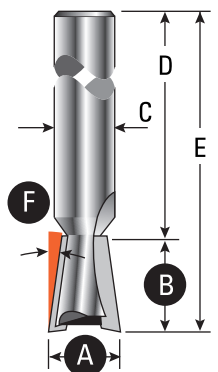
140-8

Included
with
D4R Pro

BITS	A Overall Diameter	B / G Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 75-8	7/16" [11,1]	B 3/8" to 5/8" [9,5-16,0]	8mm (or 1/4")	1-3/4" [45,0]	2-3/8" [60,0]	8°	e7 or 7/16" [11,1]
No. 140-8*	5/16" [7,9]	G 1/8" to 1" [3,0-26,0]	8mm (or 1/4")	1-3/4" [45,0]	2-3/4" [70,0]	—	e7 or 7/16" [11,1]



70-8



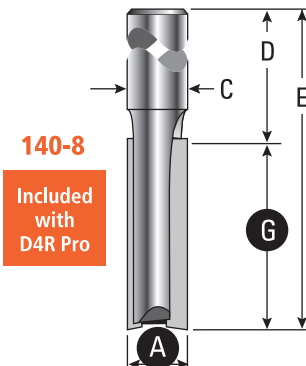
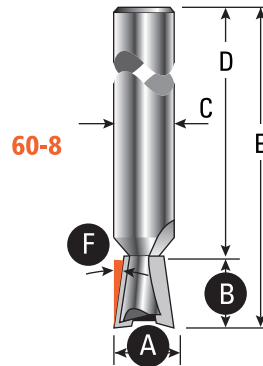
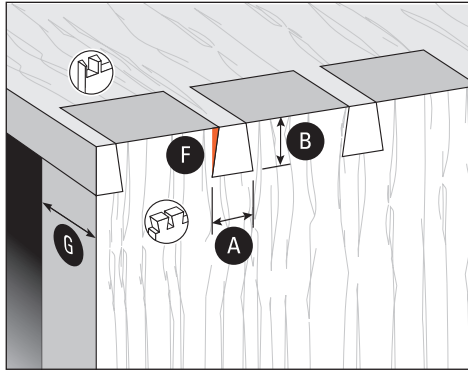
140-8

Included
with
D4R Pro

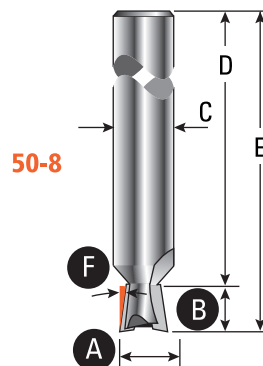
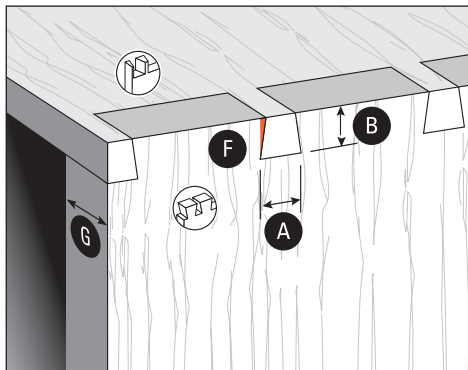
BITS	A Overall Diameter	B / G Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 70-8	3/8" [9,5]	B 1/4" to 1/2" [6,0-13,0]	8mm (or 1/4")	1-3/4" [45,0]	2-1/4" [57,0]	8°	e7 or 7/16" [11,1]
No. 140-8*	5/16" [7,9]	G 1/8" to 1" [3,0-26,0]	8mm (or 1/4")	1-3/4" [45,0]	2-3/4" [70,0]	—	e7 or 7/16" [11,1]

Numbers in brackets are millimeters

* Bits 80-8, 120-8, and 140-8 come standard with the Leigh D4R Pro



Bits	A Overall Diameter	B / G Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 60-8	5/16" [7,9]	B 1/8" to 3/8" [3,0-9,5]	8mm (or 1/4")	1-3/4" [45,0]	2-1/8" [54,0]	8°	e7 or 7/16"[11,1]
No. 140-8*	5/16" [7,9]	G 1/8" to 1" [3,0-26,0]	8mm (or 1/4")	1-3/4" [45,0]	2-3/4" [70,0]	—	e7 or 7/16"[11,1]



Bits	A Overall Diameter	B / G Cutting Depth Range	C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
No. 50-8	1/4" [6,35]	B 1/8" to 1/4" [3,0-6,35]	8mm (or 1/4")	1-3/4" [45,0]	2" [50,0]	8°	e7 or 7/16"[11,1]
No. 140-8*	5/16" [7,9]	G 1/8" to 1" [3,0-26,0]	8mm (or 1/4")	1-3/4" [45,0]	2-3/4" [70,0]	—	e7 or 7/16"[11,1]

Half-Blind Dovetail Bit Selection

Bits:

The same dovetail bit routs both parts of a half-blind dovetail.

Flush Drawers:

The dovetail bit's working depth of cut (B) must be less than the pin board thickness (1) for flush drawers by at least $\frac{1}{8}$ " [2mm].

Rabbeted Drawers:

The dovetail bit's working depth of cut (B) must be about $\frac{1}{16}$ " [1mm] less than the rabbet depth (2) for rabbeted drawer fronts.

Drawer Sides (Tail Board):

Minimum thickness is $\frac{1}{4}$ " [6mm]. Drawer side thickness (3) does not affect bit selection.

Note: (B) is the nominal working depth for half-blind dovetails, not the maximum depth. (B) must not be varied, except for minor adjustments for joint fit. See page 37.

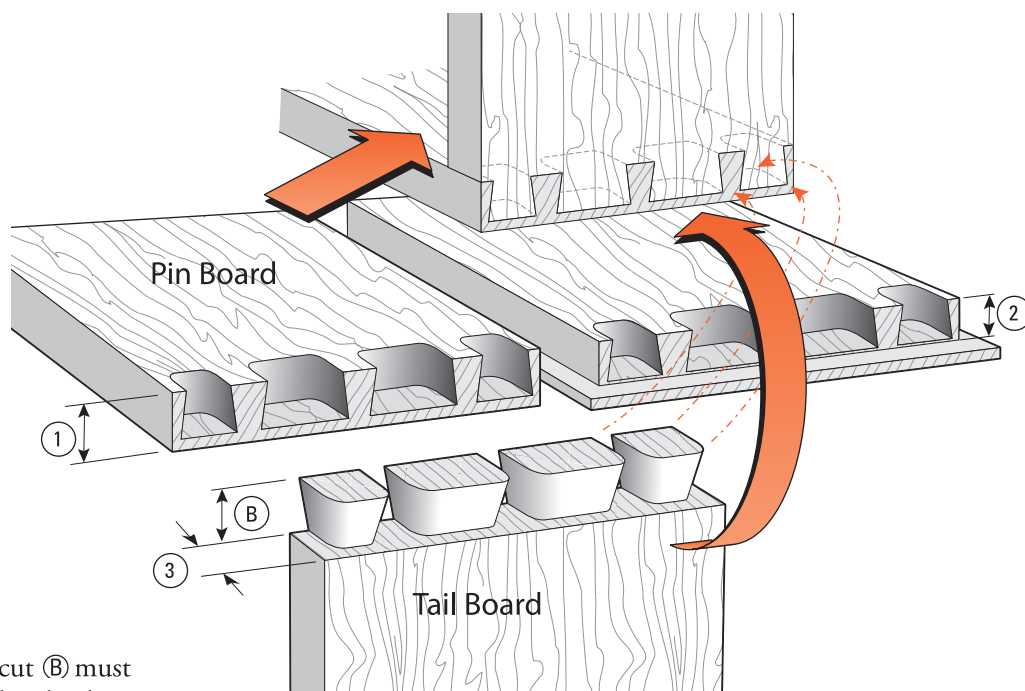
Selecting the Bit

Measure the drawer front thickness (minimum $\frac{1}{2}$ " [12mm]) (1) or rabbet depth (minimum $\sim\frac{7}{16}$ " [11mm]) (2).

Select a bit with the appropriate depth of cut (B) from the following pages. *Can I use any dovetail bit?* No, all half-blind bits must be $\frac{1}{2}$ " [12,7mm] diameter. As the angle changes, so does the depth of cut. Using bits that are a different angle and diameter will result in joints that don't fit, and could damage the jig.

Guidebush

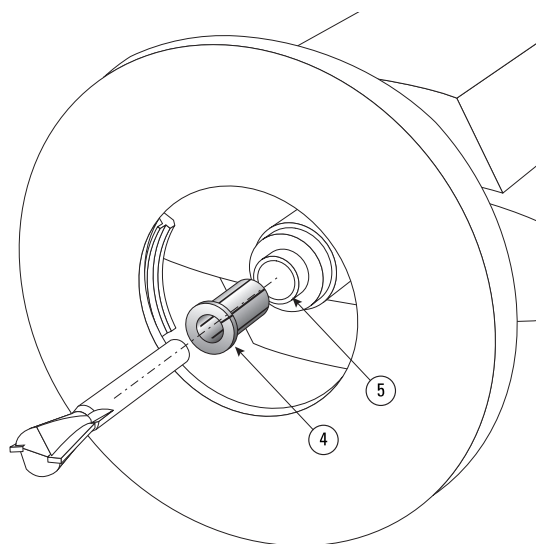
All 8mm shank half-blind dovetail bits listed in this appendix work with the e7-Bush ($\frac{7}{16}$ " OD [11,1mm]) supplied with your Leigh jig, or any $\frac{7}{16}$ " OD [11,1mm] guidebush. No other guidebush sizes can be used for half-blind dovetails. See page 70.



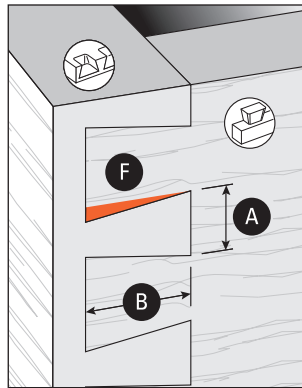
Shank Selection

The Leigh D4R Pro comes with two half-blind bits with 8mm shanks, plus a $\frac{1}{2}$ " [12,7mm] to 8mm collet reducer. The reducer (4) simply slides into the $\frac{1}{2}$ " [12,7mm] collet (5) of your router, and the 8mm shank bit is inserted into the collet reducer. The collet is tightened as normal. The collet reducer is not required with $\frac{1}{2}$ " [12,7mm] shank bits. For a $\frac{1}{2}$ " [12,7mm] collet you will require the included $\frac{1}{2}$ " [12,7mm] to 8mm collet reducer, No.172-8.

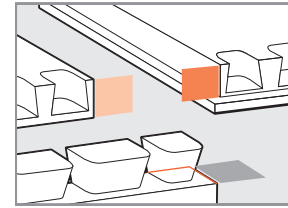
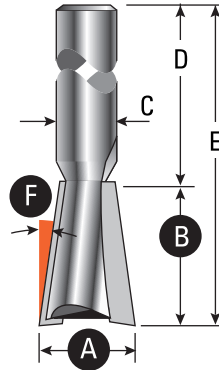
Note: (4) is a collet reducer, not a collet (5). The reducer does not replace the collet, it slides directly into your collet.



Leigh Half-Blind Dovetail Bits



80-8
Included
with
D4R Pro

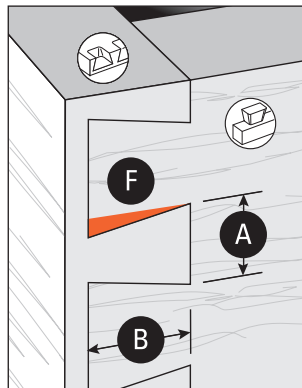


Pin board
Flush Drawer Front
Min Thickness
HB Variable: 7/8" [22mm]
HB Single Pass: 35/64" [14mm]

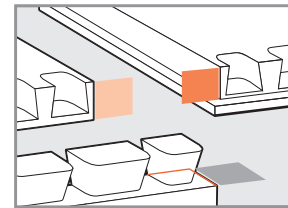
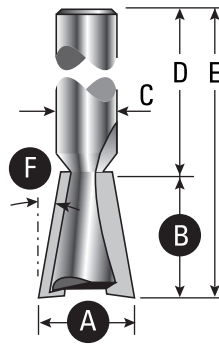
Pin board
Rabbeted Drawer Front
Min Rabbet Depth
13/16" [20,5mm]

Tail board
Drawer Side
Min Thickness
1/4" [6,5mm]

Bits	A Overall Diameter	B Working Depth		C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
		HB Variable	HB Single Pass					
No. 80-8*	1/2" [12,7]	~3/4" [19]	~27/64" [11]	8mm (or 1/4")	1-3/4" [44,0]	2-9/16" [65,0]	8°	e7 or 7/16" [11,1]



101-8

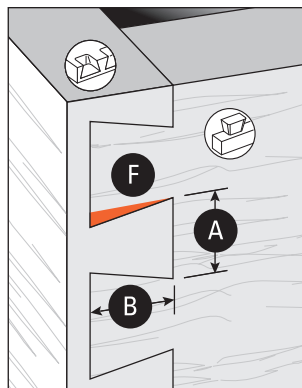


Pin board
Flush Drawer Front
Min Thickness
HB Variable: 3/4" [19mm]
HB Single Pass: 31/64" [12,3mm]

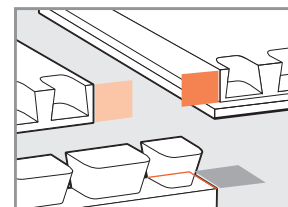
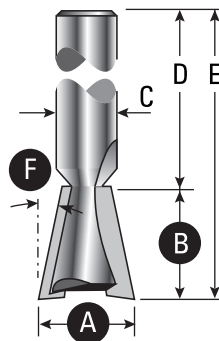
Pin board
Rabbeted Drawer Front
Min Rabbet Depth
11/16" [17,5mm]

Tail board
Drawer Side
Min Thickness
1/4" [6,5mm]

Bits	A Overall Diameter	B Working Depth		C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
		HB Variable	HB Single Pass					
No. 101-8	1/2" [12,7]	~5/8" [15,9]	~23/64" [9]	8mm (or 1/4")	1-3/4" [44,0]	2-3/8" [60,0]	10°	e7 or 7/16" [11,1]



112-8



Pin board
Flush Drawer Front
Min Thickness
HB Variable: 5/8" [15,9mm]
HB Single Pass: 27/64" [10,7mm]

Pin board
Rabbeted Drawer Front
Min Rabbet Depth
9/16" [14,5mm]

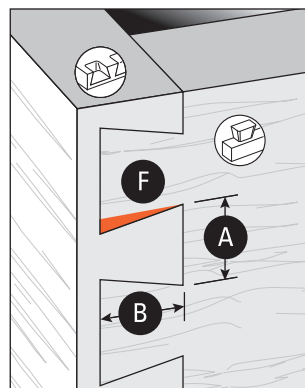
Tail board
Drawer Side
Min Thickness
1/4" [6,5mm]

Bits	A Overall Diameter	B Working Depth		C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
		HB Variable	HB Single Pass					
No. 112-8	1/2" [12,7]	~1/2" [12,7]	~19/64" [7,5]	8mm (or 1/4")	1-3/4" [44,0]	2-21/64" [59,0]	12°	e7 or 7/16" [11,1]

Numbers in brackets are millimeters

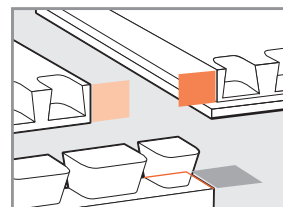
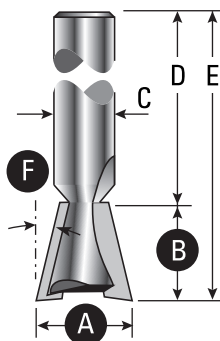
* Bits 80-8, 120-8, and 140-8 come standard with the Leigh D4R Pro

Note: Bit and joint drawings are about actual size.



120-8

Included
with
D4R Pro



Pin board

Flush Drawer Front

Min Thickness

HB Variable: 9/16" [14,5mm]

HB Single Pass: 3/8" [10,3mm]

Pin board

Rabbeted Drawer Front

Min Rabbet Depth

1/2" [12,7mm]

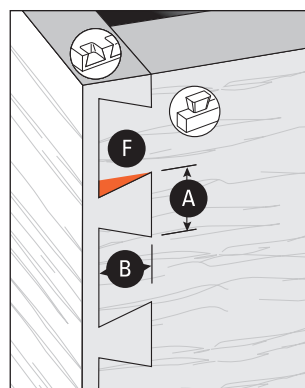
Tail board

Drawer Side

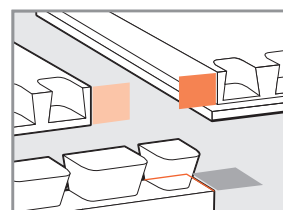
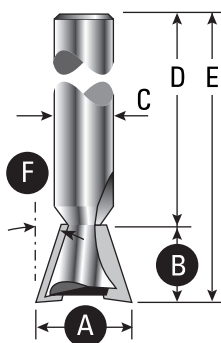
Min Thickness

1/4" [6,5mm]

Bits	A Overall Diameter	B Working Depth		C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
		HB Variable	HB Single Pass					
No. 120-8*	1/2" [12,7]	~7/16" [11,0]	~1/4" [6,35]	8mm (or 1/4")	1-3/4" [44,0]	2-1/4" [57,0]	14°	e7 or 7/16" [11,1]



128-8



Pin board

Flush Drawer Front

Min Thickness

HB Variable: 1/2" [12,7mm]

HB Single Pass: 5/16" [8mm]

Pin board

Rabbeted Drawer Front

Min Rabbet Depth

7/16" [11mm]

Tail board

Drawer Side

Min Thickness

1/4" [6,5mm]

Bits	A Overall Diameter	B Working Depth		C Shank Diameters	D Shank Length	E Overall Length	F Angle	Guidebush Diameter
		HB Variable	HB Single Pass					
No. 128-8	1/2" [12,7]	~3/8" [9,5]	~3/16" [5]	8mm (or 1/4")	1-3/4" [44,0]	2-1/8" [54,0]	18°	e7 or 7/16" [11,1]

