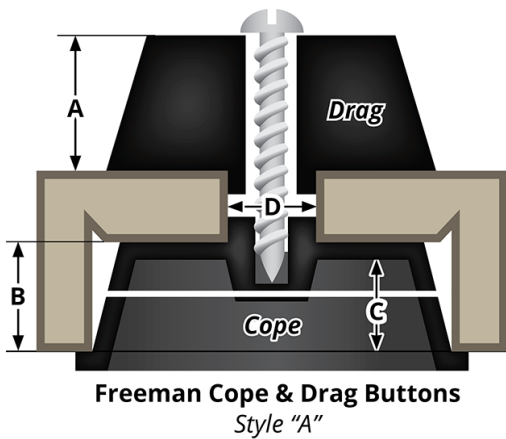


Freeman Cope and Drag Inserts

Our line of Freeman Cope & Drag Inserts include Style A, Style B, and Style B Zero Tolerance. Style A Inserts can be used together on a matchplate or installed separately on separate cope and drag boards. Style B and Style B Zero Tolerance are designed to be used together on a matchboard.

Style A Insert

Freeman Style A Inserts are available in (5) different sizes with (3) different depths and made from durable, long-lasting plastic. Please note 2.5A drag inserts are also used with 2.5AA cope inserts.



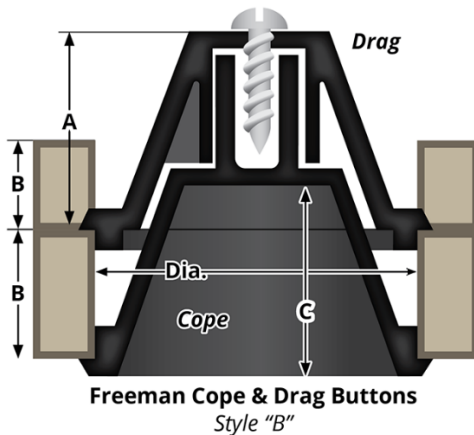
#	1.5A	2A	2.5A	2.5AA	3.5A
dia.	1.5	2	2.5	2.5	3.5
A	0.5	0.75	1.25	1.25	1.25
B	0.5	0.625	1	0.625	1
C	0.437	0.531	0.906	0.531	0.906
D	0.375	0.5	0.5	0.5	0.5

When installing the style A inserts **together on matchboards**, start by drilling pilot holes all the way through the matchboard. It is advised that a 1/2" pilot be drilled for all sizes except 1.5A, where a 3/8" hole is required. Once pilot holes are drilled, counterbore from the cope side, using either a flat bottom cutter or hole saw. When counterboring, it is recommended to go slightly deeper (.015-.020") than the depth of the cope insert. The mounting rim on the insert will always keep the insert at the proper depth to ensure precise tolerance. Once the cope side has been installed, insert the drag half into the pilot hole on the opposite side of the matchboard and secure with a #12 screw (except when using 1.5A, for which a #10 screw is recommended). Screws length will vary depending on the specific application.

When installing the style A inserts **separately**, start by drilling pilot holes. The pilot hole for the **cope board** should be drilled all the way through the board. Once done, match the mounting surfaces of the cope and drag boards and secure with clamps, then drill matching holes 3/8" deep in the **drag board**. Once pilot holes are drilled, counterbore the cope side as described above and then install the cope insert into the hole drilled into the cope board and secure with a washer and wood screw. The drag insert can be twisted directly into the pilot hole in the drag board and secured with a wood screw.

Style B Inserts

Freeman B style inserts consist of parts especially designed for match plates and match boards, including those utilized on automatic molding machines. Both halves telescope together so that they interlock at the parting line to create deep matching buttons. These inserts are available in (3) different sizes and (3) different depths (see below).



#	1.5B	1.75B	2.5B
dia.	1.5"	1.75"	2.5"
A	0.875"	1.25"	1.125"
B	0.5-1.125"	0.625-1.125"	0.75-1.125"
C	0.75"	1"	1"

Freeman Style B inserts are designed to be used **together only**. Drill pilot hole all the way through matchboard and then counterbore. It is very dangerous to cut the counterbore all the way through to the other side of the board, so as a safety precaution, counterbore halfway through the board and then flip the board over and then cut the counterbore until the two cuts meet. Remove pilot chips and snap the cope and drag together, using #12 Phillip wood screw to secure together.

The style B inserts are compatible with various board/plate thicknesses but allow for further modification for thinner plate sizing for special applications. Please see below:

- **1.5B inserts** are designed for plates $\frac{1}{2}$ " or thicker. Removal of $\frac{1}{8}$ " from the stem on the **cope insert** and .010" from the inside wall and $\frac{1}{8}$ " from the collar and ribs of the **drag insert** will allow the 1.5B to be used with plates/boards that are $\frac{3}{8}$ " thick.
- **1.75B inserts** are designed for plates that are $\frac{5}{8}$ " and thicker. Removal of $\frac{1}{8}$ " from the stem of the **cope insert only** will allow for use of the 1.75B with $\frac{1}{2}$ " plates.
- **2.5B inserts** are designed for plates $\frac{3}{4}$ " and thicker. For mounting on plates thinner than $\frac{3}{4}$ ", remove the appropriate amount for the specific plate size following the procedure outlined for the reduction of **1.5B** inserts. Please note that the **minimum application thickness for the 2.5B is $\frac{1}{2}$ "**.

Style B Zero Tolerance inserts are also available for green sand only. Designed with the same dimensions and installation procedures as the style B inserts. The BOT features zero clearance on the diameter to ensure perfect alignment. These inserts are distinguishable from the traditional B inserts by their gray coloration.