



Master™ Aluminum Cope and Drag Plates

Designed for Heavy-Duty Service

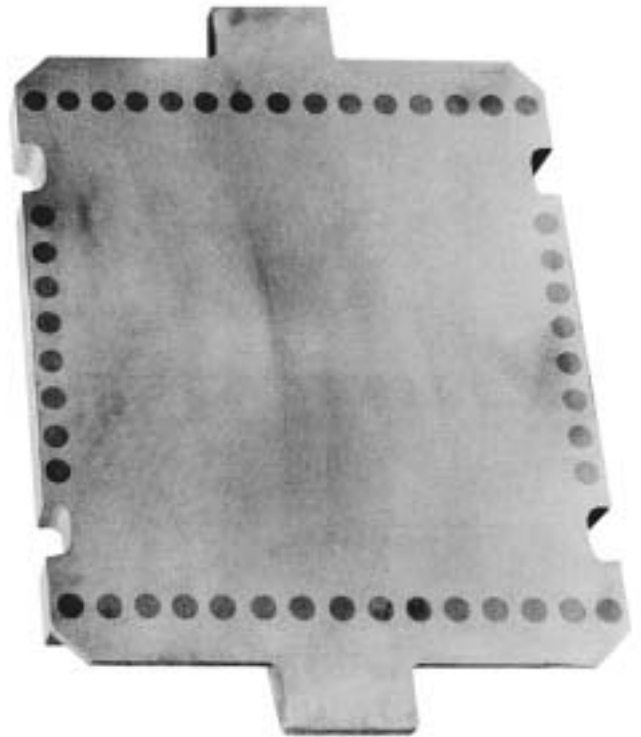
MASTER Aluminum Cope and Drag Plates are specially designed for heavy-duty requirements of jolt stripper and jolt rolover machines or any cope and drag operation.

They are available with or without knurled steel inserts. Inserts are integrally cast into the plate along the flask line to reduce wear and increase the life of the plate. These inserts also eliminate the necessity for the milling, drilling, countersinking and tapping operations required when steel strips are placed along the edge.

Unless otherwise specified, standard cope and drag plates have a 1" flask allowance all around for flask flange. Other flask allowances are available to suit customer's specifications.

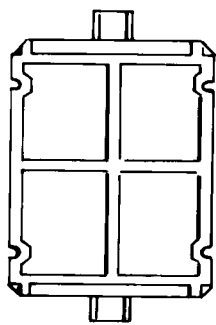
MASTER Aluminum Cope and Drag Plates are available in flat, recessed (see MASTER Cope and Drag Bolster Plates). Options include hold-down bosses, steel inserts, stripper notches and 3" steel plates in ears to accommodate flask pins and bushings.

- Available with or without knurled steel inserts
- Ground on top and bottom...they are flat and parallel to within .003"
- Plates are shipped ready for pattern mounting
- In the event of long production jobs where plates may wear, worn surface may be reground

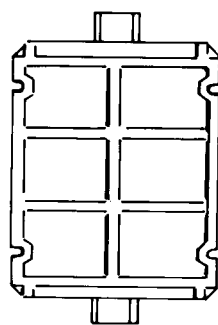


The chart shown below gives specifications for standard ribbing. Rib variations are available to suit specific requirements.

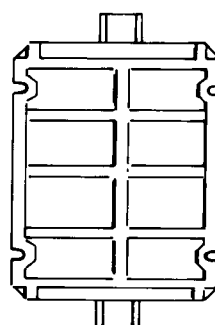
Standard Ribbing



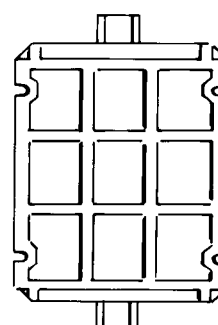
Sizes 14" to 21" wide up to 20" long, 1 rib lengthwise, 1 rib crosswise.



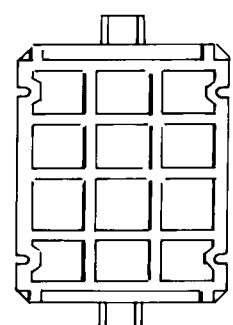
Sizes 14" to 21" wide up to 30" long, 1 rib lengthwise, 2 ribs crosswise.



Sizes 14" to 21" wide, from 31" to 40" long, 1 rib lengthwise, 3 ribs crosswise.



Sizes 22" to 33" wide, from 21" to 30" long, 2 ribs lengthwise, 2 ribs crosswise.



Sizes 22" to 33" wide, from 31" to 40" long, 3 ribs lengthwise, 3 ribs crosswise.

Bolster Plates, Insert Plates, Cope and Drag Inserts



Master™ Aluminum Cope and Drag Bolster Plates

MASTER Aluminum Cope and Drag Bolster Plates permit the use of different patterns on removable insert plates so that pattern changes can be made quickly and easily.

To provide rigidity, ribs are cast on the back of both the matched cope and drag plates.

MASTER Cope and Drag Bolster Plates are made for any flask size.

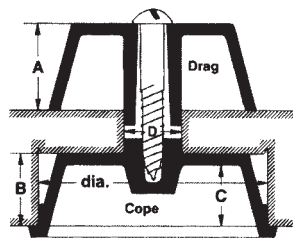
- Plates are machined flat and parallel
- Recess for insert plates is accurately machined
- Knurled steel inserts (if specified) extend plate life
- Insert pattern plates can be interchanged without altering molding machine set-up.

Master™ Insert Plates

These cast aluminum plates (with close tolerance) are replaceable insert pattern plates that fit into the accurately recessed Cope and Drag Bolster Plates

without loss of alignment when pattern changes are made on production molding machines.

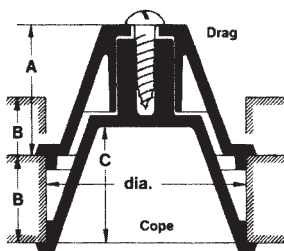
Adolf's Cope and Drag Inserts



Style A

These patented inserts create perfect alignments. Both styles have mounted rims that guarantee the correct depth of the cope inserts and leave impressions that become sand traps. This allows the use of the inserts on the cope or drag side. Easy to install and reusable.

Style A inserts are used on matchboards, or separated on insert or cope & drag boards, in molding boxes for flaskless molding, as core alignments, etc.

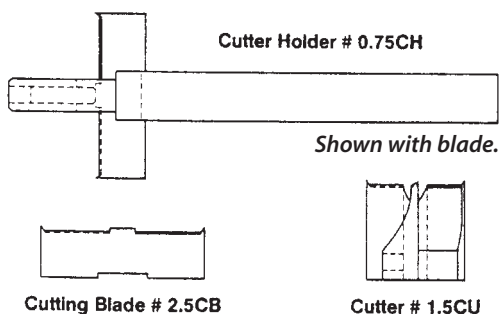


Style B

Style B inserts have a unique interlocking action that adapts to various thicknesses and creates deeper matching buttons. Mounted on 3/8" or 1/2" thick plates, they produce 3/4" or 1" deep matching buttons. Made of tough, non sticking, acid resistant plastic.

Style A (Diameter x B)		Style B (Diameter x C)	
Catalog No.	Size in Inches	Catalog No.	Size in Inches
A1.5	1.5 x 1/2	B1.125	1.125 x 7/8
A2	2 x 5/8	B1.5	1.5 x 3/4
A2.5	2.5 x 5/8 & 1	B1.75	1.75 X 1
A3.5	3.5 x 1	B2.5	2.5 x 1

Woodcutting Tools for Inserts



Description	Catalog Number
1.5 CU 1.5" dia. cutter with 3/8" dia. pilot hole	939150C
0.75CH 0.75" dia. cutter holder with 1/2" dia. long pilot	939075CH
1.5 CB 1.5" dia. cutting blade*	939150CB
1.75CB 1.75" dia. cutting blade*	939175CB
2.CB 2" dia. cutting blade*	939200CB
2.5CB 2.5" dia. cutting blade*	939250CB
3.5CB 3.5" dia. cutting blade*	939350CB

*Cutting blades are interchangeable.

Rapping Plates and Lifting Screws



Master™



MASTER Rapping Plates offer these advantages:

- Easier to insert because of simplified design
- 1° taper on the side assures a tight driving fit
- Thicker sides provide greater contact with the wood for a solid anchorage
- Cast from ductile iron for longer life
- 10 sizes - to cover all rapping plate applications

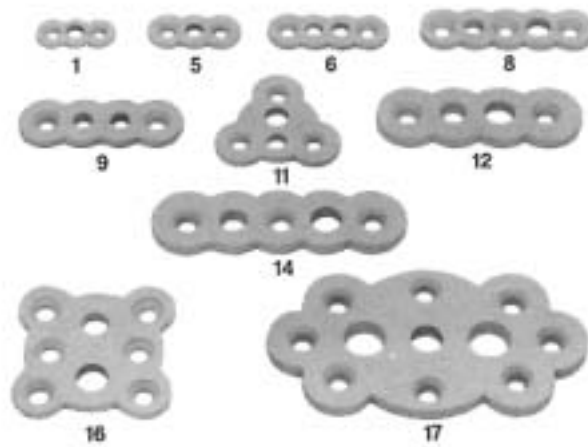
MASTER™ Rapping Plates

available in any quantity

Plate Number	Catalog Number	Overall Size (Inches)	Thickness (Inches)	Wood Screw Size	Diameter of Lifting Screw (Inches)
04	660-MR4	1-5/16 X 1/2	3/16	6	3/8
03	660-MR3	1-5/16 X 1/2	3/16	6	*
02	660-MR2	2-3/16 X 1/2	1/4	8	3/8
0	660-M00	1 dia.	5/16	6-8	3/8
1	660-M01	1-1/4 dia.	3/8	6-8	3/8
2	660-M02	1-3/4 dia.	1/2	12-14	3/8
3	660-M03	2-3/8 dia.	9/16	12-14	1/2
4	660-M04	3 dia.	5/8	14-16	1/2
5	660-M05	4 dia.	11/16	14-16	5/8
6	660-M06	5 dia.	3/4	14-16	3/4

*No threaded hole.

Fraser Type



Fraser Type Rapping Plates are the original, universal type rapping plates still in use in many foundries. MASTER Lifting Screws of proper size (see chart below) are used with Fraser Type Rapping Plates.

Fraser Type Rapping Plates

available in any quantity

Plate Number	Catalog Number	Overall Size (Inches)	Wood Screw Size	Diameter of Lifting Screw (Inches)
1	660-F01	5/8 x 1-1/2	6	3/8
5	660-F05	3/4 x 1-5/8	10	3/8
6	660-F06	3/4 x 2-1/4	10	3/8
8	660-F08	7/8 x 3-1/4	12	1/2
9	660-F09	1 x 3	12	1/2
11	660-F11	2-1/4 x 2-1/4	12	1/2
12	660-F12	1-1/4 x 3-3/4	16	5/8
14	660-F14	1-1/4 x 4-1/2	16	5/8
16	660-F16	2-3/4 x 2-3/4	16	5/8
17	660-F17	3 x 5-1/2	16	5/8

*No threaded hole.

Master™ Lifting Screws

MASTER Lifting Screws (shown with MASTER Rapping Plates) are available in four diameters. Each screw size will fit the corresponding rapping plate threaded hole, whether it is the MASTER Rapping Plate or the Fraser Type Rapping Plate.

MASTER™ Lifting Screws

available in any quantity

Lifting Screw Diameter (Inches)	Catalog Number
3/8	660-L03
1/2	660-L03
5/8	660-L03
3/4	660-L03

Pattern Shop/Foundry Supplies



Master™ Cope and Drag Lock Buttons

Eliminate Mold Shift on New or Old Matchplates

MASTER Cope and Drag Lock Buttons are available in three diameters – 1", 1-1/2" and 2". They can be installed on either new or old matchplates to eliminate mold shift and can be installed either before or after patterns are mounted. They line up the cope and drag perfectly, assuring high production and quality castings with a minimum of scrap.

These buttons are made of solid aluminum and are held in place by aluminum rivets which are 1/32" longer than the plate thickness. When properly installed in wood or metal plates, they offer the advantages of a lock plate.

A standard package consists of 100 buttons or 100 rivets; however, any quantity can be ordered. Installation requires a drill, reamer, counterbore and staking tool. Each size button requires its own counterbore, but the same drill, reamer and staking tool fit all sizes.



Buttons and Rivets



Tools for installation

Installation Instructions

STEP 1:

Establish the number of buttons to be used and center punch for each button. Set up on a drill press and drill all holes with MASTER drill.

STEP 2:

Ream all holes with MASTER reamer.

STEP 3:

With proper size MASTER counterbore, counterbore drag side of pattern plate so that button will fit recess flush with plate. The button can be used to gauge depth.

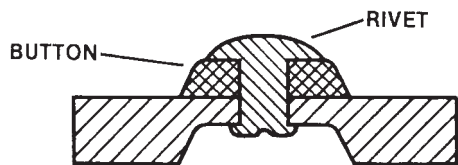
STEP 4:

With rivet, fasten buttons in cope side of plate one at a time. Place head of rivet on solid metal block for staking. Use MASTER staking tool for peening head of rivet.

Cope & Drag Lock Buttons & Rivets

Buttons		Rivets		
Diameter (Inches)	Catalog Number	Length* (Inches)	For Plate Thickness (Inches)	Catalog Number
1	938-L2	13/32	3/8	938-R13
1-1/2	938-L3	15/32	7/16	938-R15
2	938-L4	17/32	1/2	938-R17
		21/32	5/8	938-R21
		25/32	3/4	938-R25
		1-1/32	1	938-R33

*Rivets are 1/32" longer than plate thickness.



Cross section showing button installed in plate.

To order please specify catalog number and quantity desired.

Tools for Installation

Tools	Catalog Number
Counterbore:	
For 1/2" buttons	938-C1
For 1" buttons	938-C2
For 1-1/2" buttons	938-C3
For 2" buttons	938-C4
Drill	938-D
Reamer	938-R
Staking Tools	938-S