

EBONITE™



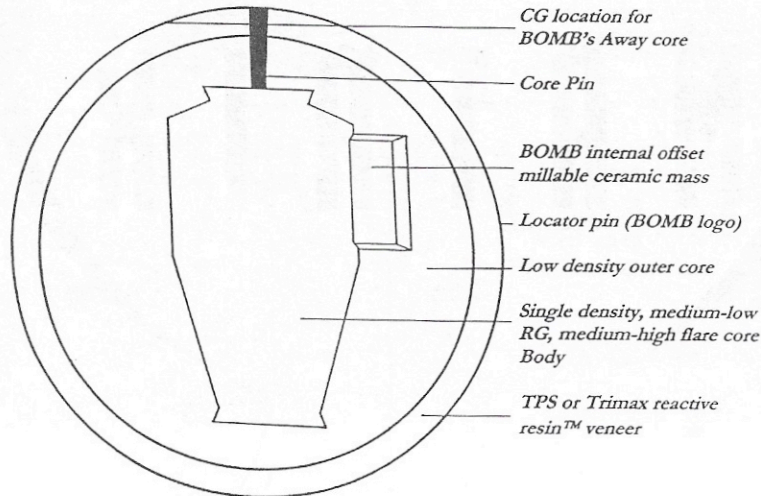
The most extensive product testing in the history of Ebonite has culminated in the introduction of the Matrix series. The Matrix series is comprised of two different versions: the Matrix TPS (Textured Particle System) and the Matrix TRIMAX reactive resin™.

Consumer focus groups conducted around the country identified the primary attributes for ball performance as power, control, and predictability. Ebonite has long been a leader in predictability and control. You know our proven and respected BOMB core technology. With the help of three internationally renowned chemical companies, Ebonite has formulated a standard reactive and a particle enhanced resin to add power on the lane and through the pocket without sacrificing the control and predictability needed to take maximize your scoring potential.

Matrix TPS (Textured Particle System)

Technical Profile

Factory Finish	800 grit sand, polished with RCS 600, 900, and 1500 grit polish				
Color	Power Purple				
RG (actual)	16#	15#	14#	13#	12#
	2.51	2.51	2.50	2.59	2.62
Differential (actual)	16#	15#	14#	13#	12#
	.047	.051	.055	.044	.047
Mass Bias	.018				
Flare Potential	High				
Length	Scale 1 to 10 (early to late) with factory finish: 5.0				
Backend	Scale 1 to 11 (least to most): 11.0				
Overall Hook	Scale 1 to 23 (least to most): 23.00 dull/ 15.0 shiny				
Hook Style	Medium length with strong, controlled backend hook				
Best Lane Condition	Heavier oil				



Matrix TRIMAX reactive resin™

Technical Profile

Factory Finish	800 grit sand, polished with RCS 900 grit polish				
Color	Black and Silver pearl with PET flakes				
RG (actual)	16#	15#	14#	13#	12#
	2.51	2.51	2.50	2.59	2.62
Differential (actual)	16#	15#	14#	13#	12#
	.046	.050	.054	.043	.046
Mass Bias	.018				
Flare Potential	High				
Length	Scale 1 to 10 (early to late) with factory finish: 6.8				
Backend	Scale 1 to 11 (least to most): 10.0				
Overall Hook	Scale 1 to 23 (least to most): 20.00 dull/ 12.6 shiny				
Hook Style	Clean through fronts with a strong, controlled backend hook				
Best Lane Condition	Medium oil with factory finish, heavy oil with burgundy scuff pad				

DRILLING INSTRUCTIONS

The following drilling instructions are 4 basic layouts for different bowler's styles. These are by no means the only drilling layouts. You may combine any desired pin position (distance from PAP) with any BOMB location. Consult the BOMB placements below.

Placing the pin further from the PAP (up to 6 1/2 inches away) will result in a higher RG plane, delaying the breakpoint. Placing the pin closer to the PAP (lower RG plane) will result in an earlier breakpoint. Maximum flare potential occurs with the pin in a leverage position, 3 3/8 inches from the PAP. Maximum flare is desired in heavier oil, heavier carrydown environments and for those with faster ball speeds and lower tracks.

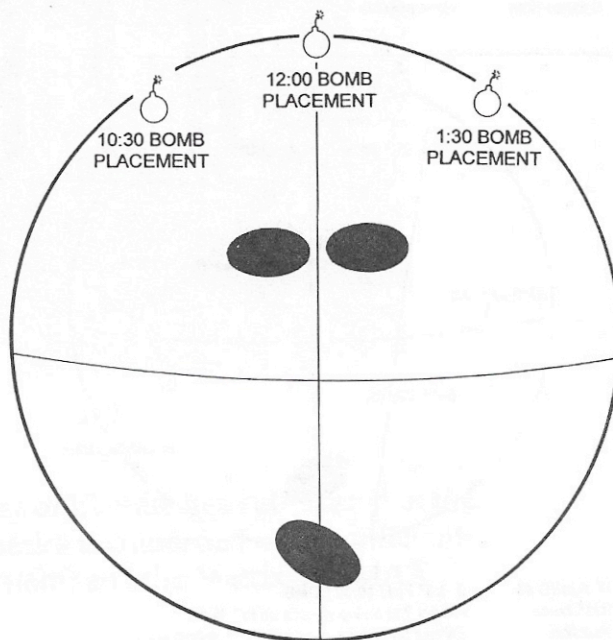
BOMBS AWAY PLACEMENTS

BOMB placements are referenced from the pin. Stacking the BOMB straight above the pin will result in a 12:00 BOMB placement. Turning the BOMB 45 degrees to the left will result in a 10:30 direction. Turning the BOMB 45 degrees to the right will result in a 1:30 BOMB placement. BOMB locations are the secondary influence in determining ball reaction. The pin position (distance from PAP) is the most important. The following are the influences of the BOMB placements:

12:00 BOMB – strong move at breakpoint. Best for medium ball speeds, 35 to 75 degrees of axis rotation, inside angles.

10:30 BOMB (lefthanders will have the BOMB in a 1:30 direction to the pin) – early rev and strong forward roll at the breakpoint. The 10:30 BOMB placement is suggested for lower track players and faster ball speeds. **NOTE:** the bowtie position for the 10:30 BOMB placement is lower than that of 12:00 and 1:30 placements. Use bigger pin outs so that the Center of Gravity (CG) and the balance hole is in the thumb/positive quadrant (to the right of the thumb for righthanders, to the left of the thumb for lefthanders). This will realign the bowtie position into a flare safe position.

1:30 position (lefthanders will have the BOMB in a 10:30 direction) - smooth, continuous arc at the breakpoint. Best for slow ball speeds, overreacting lane conditions.

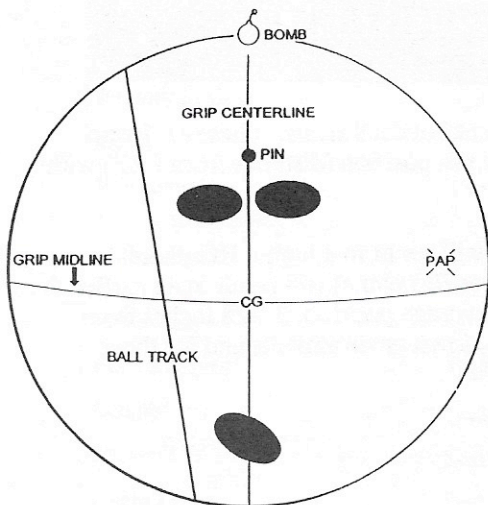


CG PLACEMENTS

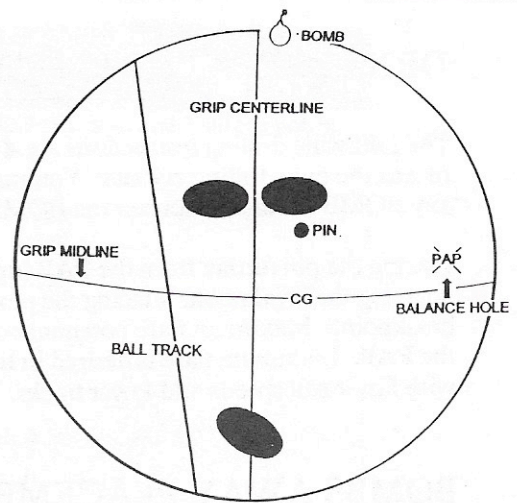
The CG (center of gravity) will be on the opposite side of the pin from the BOMB. It will generally fall in line with the pin and the BOMB, but may be slightly to the left or to the right.

SURFACE PREPARATION

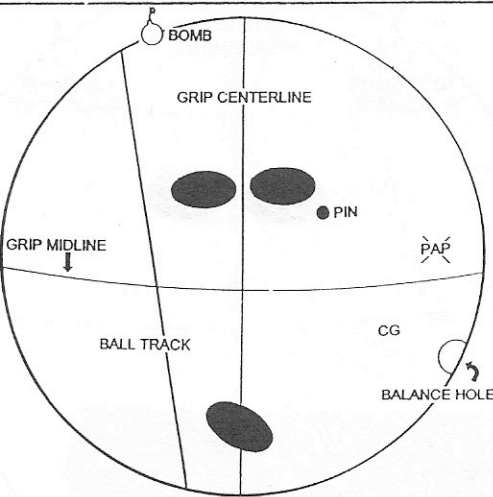
The TPS and TRIMAX reactive resin™ coverstocks are formulated to fine-tune the breakpoint easily with scuff pads and polishes. Consult the Surface Friction Guide for more information.



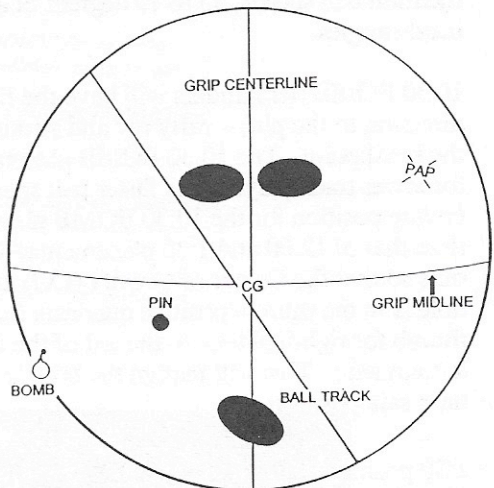
DRILLING #1 5 1/2" PIN ABOVE / 12:00 BOMB
 Ball Choice: Pin out 2 to 5", all top weights
 Reaction: Delayed breakpoint with strong backend
 Suitable for: Slower ball speeds, power players, or drier heads and pines
 Flare potential: Medium
 Pin Placement: 5 1/2" from bowler's PAP, located above the fingers. If PAP is not known, place pin above the fingers on the grip centerline.
 BOMB placement: 12:00 direction from the pin (above the fingers)
 Balance Hole: None needed



DRILLING #2 4 1/2" PIN / 12:00 BOMB
 Ball Choice: Pin out 1 to 3", all top weights
 Reaction: Medium length with strong backend
 Suitable for: Medium ball speeds, medium RPM players
 Flare potential: Medium-high
 Pin Placement: 4 1/2" from bowler's PAP, located below the fingers. If PAP is not known, place pin below the ring finger.
 BOMB placement: 12:00 direction from the pin (above the fingers)
 Balance Hole: If needed, place balance hole on PAP to remove excess side weight. If an earlier breakpoint is needed, drill back to 1/2 oz. negative side weight.



DRILLING #3 3 3/8" PIN / 10:30 BOMB
 Ball Choice: Pin out 2 to 5", top weights up to 3 1/4 oz.
 Reaction: Earliest breakpoint, maximum hook potential in oil
 Suitable for: Low ball tracks, lower RPM players, faster ball speeds
 Flare potential: High
 Pin Placement: 3 3/8" from bowler's PAP, located below the fingers. If PAP is not known, place pin next to the ring finger.
 BOMB placement: 10:30 direction from the pin (in the negative/finger quadrant). For lefthanders, BOMB will be in a 1:30 direction from the center of span.
 Balance Hole: Place 6 inches from center of grip on a line drawn through the center of gravity. Drill balance hole to a depth of 2 1/4" to 3" Ending side weight between zero and 1/2 oz. negative side weight. (The bowtie of the track flare on the 10:30 BOMB placement will be lower than that of BOMB placements of 12:00. Placing the balance hole below the PAP on the vertical axis line is essential to raise the bowtie into a flare safe area.)



DRILLING #4 FULL ROLLER LEVERAGE
 Ball Choice: Pin out 2 to 4", all top weights
 Reaction: Earliest breakpoint, maximum hook potential in oil
 Suitable for: Full rollers.
 Flare potential: High.
 Pin Placement: 3" from bowler's center of span, located in an 8:00 direction from the center of span (placing the pin closer to the center of span will delay the breakpoint).
 BOMB placement: 8:00 direction from the center of span on the bottom half of the ball
 Balance Hole: If needed, place 6" from center of span in a 2:00 direction.

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