





Drilling Angles shown are for 5" PAP – Adjust for other PAPs

Katana Strike Drilling Chart						
Layout	Layout Specs	Low RG	Int Diff	Total Diff	Performance Differential	RG PAP
Undrilled	-	2.501	0.020	0.051	0.054	
Maximum Flip	Pin Over 70° x 3-1/2" x 20°		0.030	0.057	0.064	2.516
Most Versatile	Pin Over 45° x 4" x 35°		0.023	0.050	0.055	2.523
Smoother Motion	Pin Over 20° x 4-1/2" x 40°		0.015	0.045	0.047	2.533
Mid-lane Hook	Pin Under 40° x 4-1/4" x 75°		0.018	0.040	0.044	2.526
Smaller Hook	Pin Besides 90° x 2 1/4" x 45°		0.012	0.036	0.038	2.508
	Layout Undrilled Maximum Flip Most Versatile Smoother Motion Mid-lane Hook	Layout Layout Specs Undrilled - Maximum Flip Pin Over 70° x 3-1/2" x 20° Most Versatile Pin Over 45° x 4" x 35° Smoother Motion Pin Over 20° x 4-1/2" x 40° Mid-lane Hook Pin Under 40° x 4-1/4" x 75°	Layout Specs Low RG Undrilled - 2.501 Maximum Flip Pin Over 70° x 3-1/2" x 20° Most Versatile Pin Over 45° x 4" x 35° Smoother Motion Pin Over 20° x 4-1/2" x 40° Mid-lane Hook Pin Under 40° x 4-1/4" x 75°	Layout Layout Specs Low RG Int Diff Undrilled - 2.501 0.020 Maximum Flip Pin Over 70° x 3-1/2" x 20° 0.030 Most Versatile Pin Over 45° x 4" x 35° 0.023 Smoother Motion Pin Over 20° x 4-1/2" x 40° 0.015 Mid-lane Hook Pin Under 40° x 4-1/4" x 75° 0.018	Layout Layout Specs Low RG Int Diff Total Diff Undrilled - 2.501 0.020 0.051 Maximum Flip Pin Over 70° x 3-1/2" x 20° 0.030 0.057 Most Versatile Pin Over 45° x 4" x 35° 0.023 0.050 Smoother Motion Pin Over 20° x 4-1/2" x 40° 0.015 0.045 Mid-lane Hook Pin Under 40° x 4-1/4" x 75° 0.018 0.040	Layout Layout Specs Low RG Int Diff Total Diff Performance Differential Undrilled - 2.501 0.020 0.051 0.054 Maximum Flip Pin Over 70° x 3-1/2" x 20° 0.030 0.057 0.064 Most Versatile Pin Over 45° x 4" x 35° 0.023 0.050 0.055 Smoother Motion Pin Over 20° x 4-1/2" x 40° 0.015 0.045 0.047 Mid-lane Hook Pin Under 40° x 4-1/4" x 75° 0.018 0.040 0.044

This chart uses a 5" horizontal axis co-ordinate. Adjust the drilling angle for other horizontal co-ordinates. Always use the pin to PAP distance and VAL angle to get the desire ball motion.

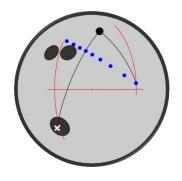
"Performance Differential" is a term used to accurately describe the track flare of a ball. The TRUE amount of track flare of a drilled ball is related to both the intermediate and total differential of the drilled ball. The "Performance Differential" of the drilled ball measures the relationship between the intermediate and total differential to give an accurate measure of the amount of track flare in the drilled ball.



Suggested Layouts for Asymmetric Cores

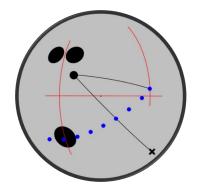
A – Maximum Flip

Pin Over 70° x 3½" x 20°



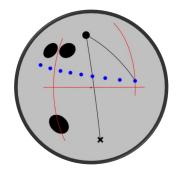
D-Midlane Hook

Pin Under 40° x 4 1/4" x 75°



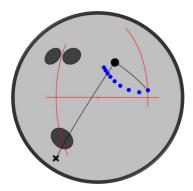
B - Most Versatile

Pin Over 45 x 4" x 35°



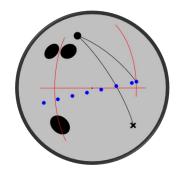
E-Smaller Hook

Pin Under 90° x 2 1/4" x 45°



C - Smoother Motion

Pin Over 20° x 4-1/2" x 40°



The "X" on the diagrams indicates the Preferred Spin Axis (PSA / Mass Bias) of the drilled ball, and the line that connects the PSA and PIN after drilling is referred to as the "Pin to Spin Line". The important feature of the "Pin to Spin Line" is that the ball revs up when the migrating axis crosses this line so the sooner the migrating axis crosses the "Pin to Spin Line", the sooner the ball rev up.