



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

Vexed Drilling Chart							
	Layout	Layout Specs	Low RG	Int Diff	Total Diff	Differential Ratio	RG PAP
	Undrilled	-	2.494	0.012	0.036	0.33	
A	Maximum Performance	70° x 3-1/2" x 20°		0.029	0.049	0.59	2.505
B	Strong Performance	75° x 4" x 30°		0.029	0.046	0.64	2.508
C	Strong Control	45° x 4" x 35°		0.017	0.036	0.48	2.510
D	Moderate Control	90° x 2 1/4" x 45°		0.014	0.034	0.41	2.499
E	Smooth Control	20° x 3-1/2" x 20°		0.009	0.036	0.25	2.508
F	Most Control	20° x 4-1/2" x 40°		0.008	0.028	0.27	2.516

Differential Ratio relates to the reaction to friction, the higher the diff ratio the more responsive the ball will be to friction.

Performance Enhanced Drilling (PED) – Placing the center of the thumb 6.5 in. from the pin, on a line drawn from the pin through the CG, yields the highest intermediate differential by **hitting the core protrusion**.

Performance Control Drilling (PCD) – Placing the center of the thumb 5.5 in. from the pin, on a line drawn from the pin through the CG, yields a moderate intermediate differential by **hitting part of the core protrusion**.

Symmetrical Continuous Drilling (SCD) – Placing the center of the thumb at least 3.75 in. from the line drawn between the pin and CG (see diagram) **misses the core protrusion** and yields the lowest intermediate differential.

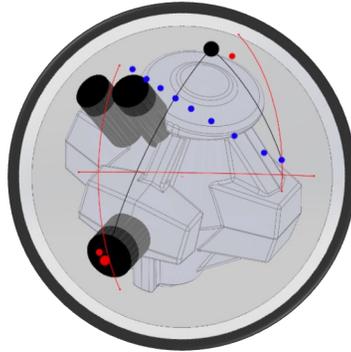


Suggested Asymmetric Layouts

Strong Performance Drillings

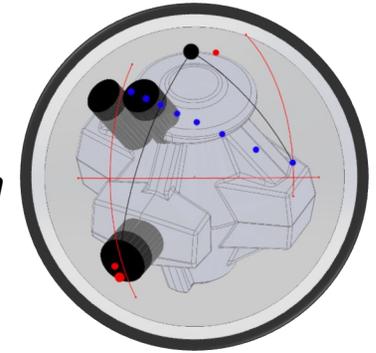
A – Maximum Performance

- $70^\circ \times 3\text{-}1/2'' \times 20^\circ$
- **Thumb Center is 6.5" from Pin**



B – Strong Performance

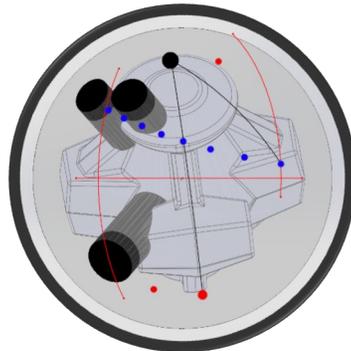
- $75^\circ \times 4'' \times 30^\circ$
- **Thumb Center is 6.5" from Pin**



Control Performance Drillings

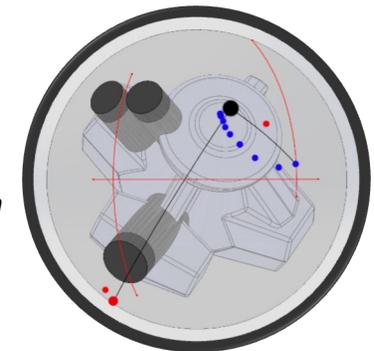
C – Strong Control

- $45^\circ \times 4'' \times 35^\circ$
- **Thumb center is 5.5" from Pin**



D – Moderate Control

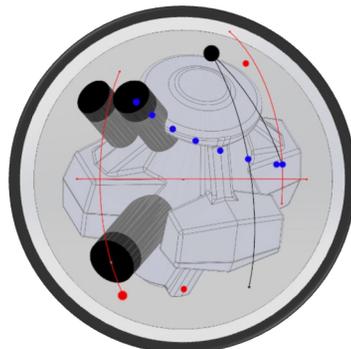
- $90^\circ \times 2\text{ }1/4'' \times 45^\circ$
- **Thumb center is 5.5" from Pin**



Smooth Performance Drillings

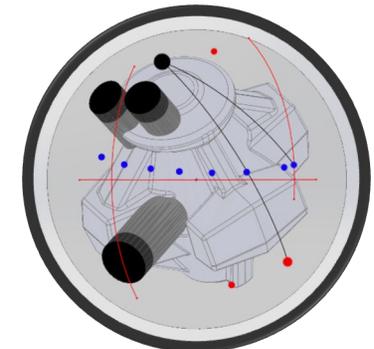
E – Smooth Control

- $20^\circ \times 3\text{-}1/2'' \times 20^\circ$
- **Thumb Center is 3.75" from Pin-Spin Line**



F – Most Control

- $20^\circ \times 5'' \times 30^\circ$
- **Thumb Center is 4" from Pin-Spin Line**



The Preferred Spin Axis (PSA), also known as the Mass Bias, of the drilled ball is denoted by a dot near the thumb hole. The line that connects the PSA and the pin after drilling is referred to as the "Pin-to-Spin Line." An important feature of the Pin-to-Spin Line is that the ball begins to rev up when the migrating axis crosses this line. Therefore, the sooner the migrating axis crosses the Pin-to-Spin Line, the sooner the ball will begin to rev up.