

NEW TEC (Texture Energy Control) COVERSTOCK

EXTREME
CHAOS™

Columbia
300

COLUMBIA 300

Columbia bowls the world over.®

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CG Indicator

Polymer
Core

Dual
Flip Blocks

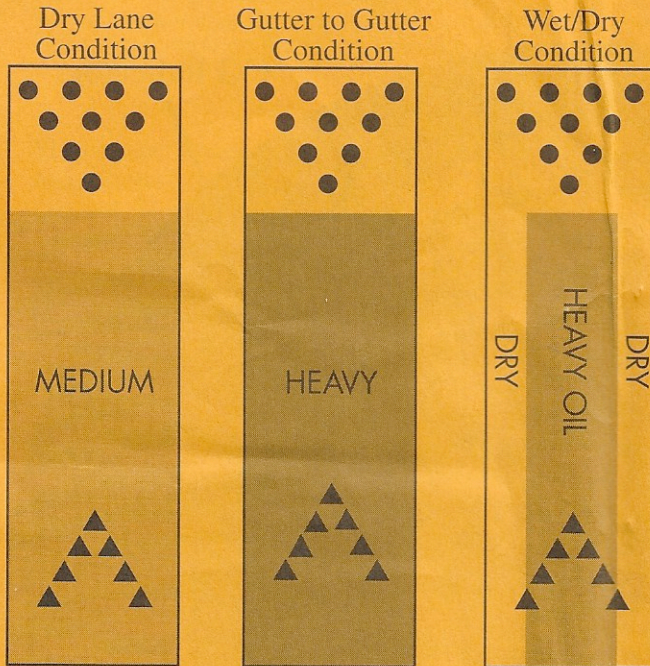
This drill sheet is designed to be used as a quick reference chart for determining the optimum drill pattern by matching drilling styles to specific lane conditions.

TEC
Texture Energy Control

Dual flip blocks create dynamic integrity in lighter weight balls:
14lb. Diff. Rg = .049, 15 lb. Diff. Rg = .046, 16 lb. Diff. Rg = .043.

Suggested Drilling Patterns

Common Lane Conditions



A

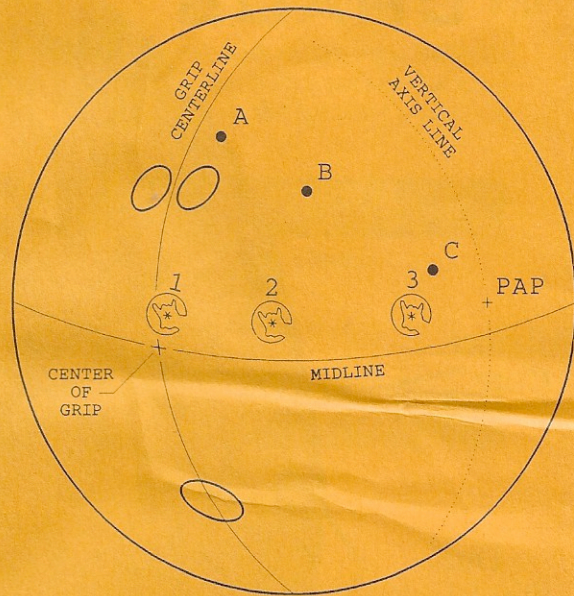
B

C

PAP-Positive Axis Point

• Pin Positions: A, B or C

C.G. Positions: 1, 2, 3

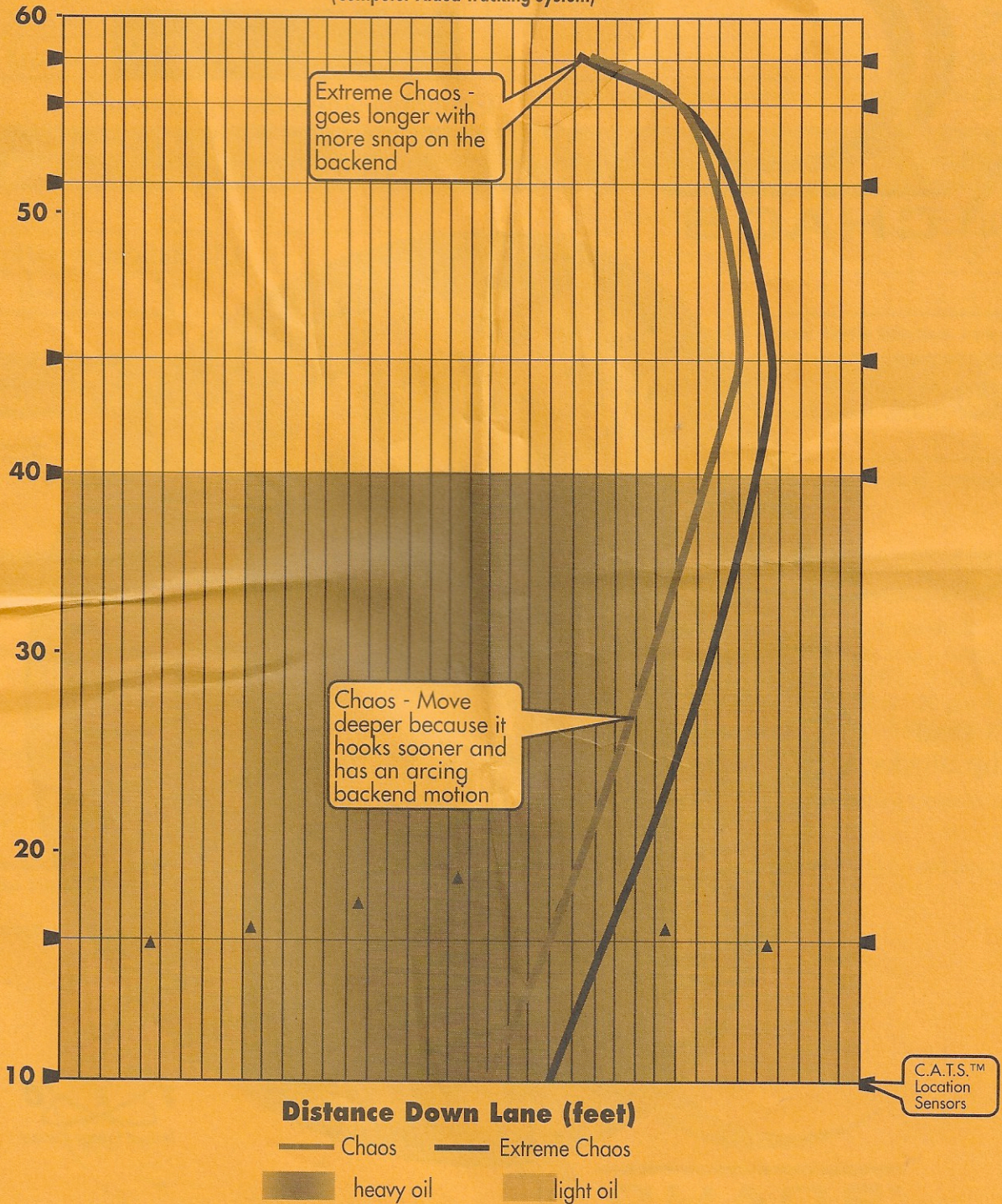


This illustration is an example of a layout with a $5\frac{1}{2}$ " PAP location from center of grip. Based on the actual pin out distance and PAP location, the final layout may not look exactly like the drawing. For example, a 5" pin out will have the C.G. below the mid line.

Ball Reaction	Pin Position	C.G. Position	Distance to PAP
Length Drillings	A	1	5"
Leverage Drilling max flare	B	2	$3\frac{3}{8}$ "
Axis or roll drilling	C	3	1"

C.G. is defined as center of gravity.

C.A.T.S.™
(Computer Aided Tracking System)



Preferred Lane Condition	Pin Position	C.G. Position	Distance from Pin x CG to PAP	Front End Reaction	Back End Reaction	Flare 1=Min 10=Max	Suggested Pin Out
Medium	A	1	5" x 5"	Max Length	Smooth Curve	5	1"-5"
Medium	A	2	5" x 3 ³ / ₄ "	Max Length	Strong Hook	5	2"-5"

Recommended for common lane conditions.



Preferred Lane Condition	Pin Position	C.G. Position	Distance from Pin x CG to PAP	Front End Reaction	Back End Reaction	Flare 1=Min 10=Max	Suggested Pin Out
Heavy	B	1	3 ³ / ₈ " x 5"	Med Length	Smooth Curve	7	2"-4"
Heavy	B	2	3 ³ / ₈ " x 3 ³ / ₈ "	Med Length	Strong Hook	10	1"-5"
Heavy	B	3	3 ³ / ₈ " x 1"	Med Length	Roll	7	2"-4"

May hook early and stop for bowlers with higher revs.

Preferred Lane Condition	Pin Position	C.G. Position	Distance from Pin x CG to PAP	Front End Reaction	Back End Reaction	Flare 1=Min 10=Max	Suggested Pin Out
Extreme Wet-Dry	C	3	1" x 1"	Early Roll	Roll or Arc	1	0" x 2"

Caution: A bowler with a high track might roll over the finger holes with this layout. Least hooking of all drillings.

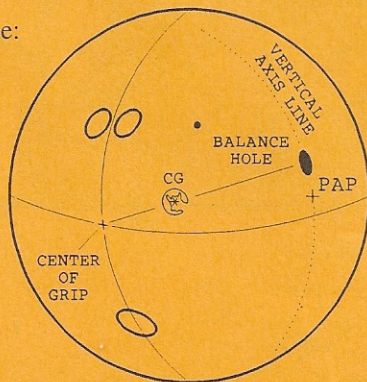
Surface

The  surface has been modified from the original Chaos to project the Extreme Chaos through the track as it dries up due to lane play. This new  surface is easier to polish which creates more length and a stronger backend finish. The Extreme Chaos comes out of the factory with a 600 grit, concentric sanded surface. This semi rough finish gets the ball into a roll in the oil. For an earlier break point, the ball can be sanded to 400 or 320 grit. For more length and a stronger backend finish the surface can be polished. The surface can be adjusted with different grit sandpaper and polishes to adjust the break point of the ball to suit the bowler's needs.

Remember to position pin on or above a line drawn from the PAP to the finger holes. If the pin is moved closer to the center of the grip, it might flare over the finger holes for high track players.

If balance holes are required, they should go on a line drawn from the center of the grip through the C.G. and located at the intersection with vertical axis line.

Example:




EXTREME
CHAOS™


Technical Ball Information

	RG (X-Axis)	Differential RG	Hook Rating (Boards of Hook)	TEC Rating*	
				(End of Oil)	(End of Lane)
EXTREME CHAOS	2.565	0.043	22	8%	35%
CHAOS	2.509	0.051	23	10%	35%

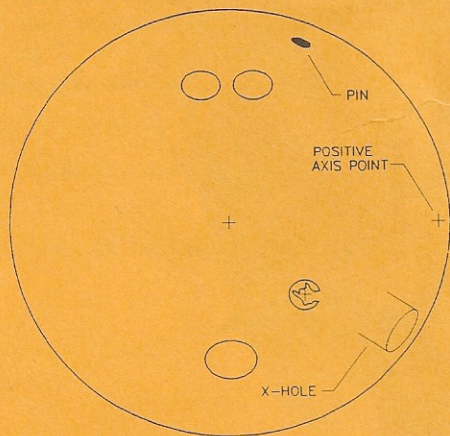
*TEC rating is percent of energy lost as the ball travels down the lane. It is an indication of the energy transferred from kinetic (forward velocity) to rotational (hook). The higher the TEC rating, the more energy is lost, which is directly proportional to hook. The TEC rating of 10 at the end of the oil for Chaos means it hooked sooner than Extreme Chaos. The same 35 TEC rating at the end of the lane means the Extreme Chaos had to hook more on the backend because it hooked less in the oil.

The Extreme Chaos is Columbia's newest  (Texture Energy Control) ball with microscopic balloons added in the SuperFlex™ shell for added traction. This ball goes longer than Chaos with a stronger backend reaction. The Extreme Chaos has a higher Rg (2.565) to help it go further down the lane and a medium differential Rg (.043) to create 4-6 inches of flare.

Things to Remember

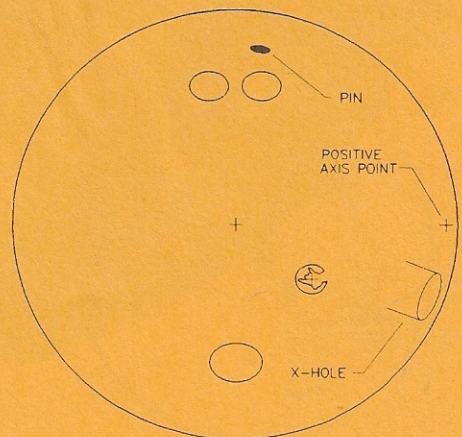
1. Any of the drillings can be drilled back to negative side-weight for earlier roll and less backend.
2. C.G. is defined as center of gravity indicated by 
3. PAP is defined as Positive Axis Point.
4. Recognize that all illustrations shown are for right-handers. Reverse for left-handers.

Drillings for Pin Out 4-6". Top Wt. 1.5-4 oz.



Heavy Oil

Pin 4½" from PAP. C.G. 4" from PAP and 1½"-2" below center of grip. Position X-hole over 6" and 2½" down.



Medium Oil

Pin 5½" from PAP. C.G. 4½" from PAP and 1½"-2" below center of grip. Position X-hole over 6" and 1½" down.