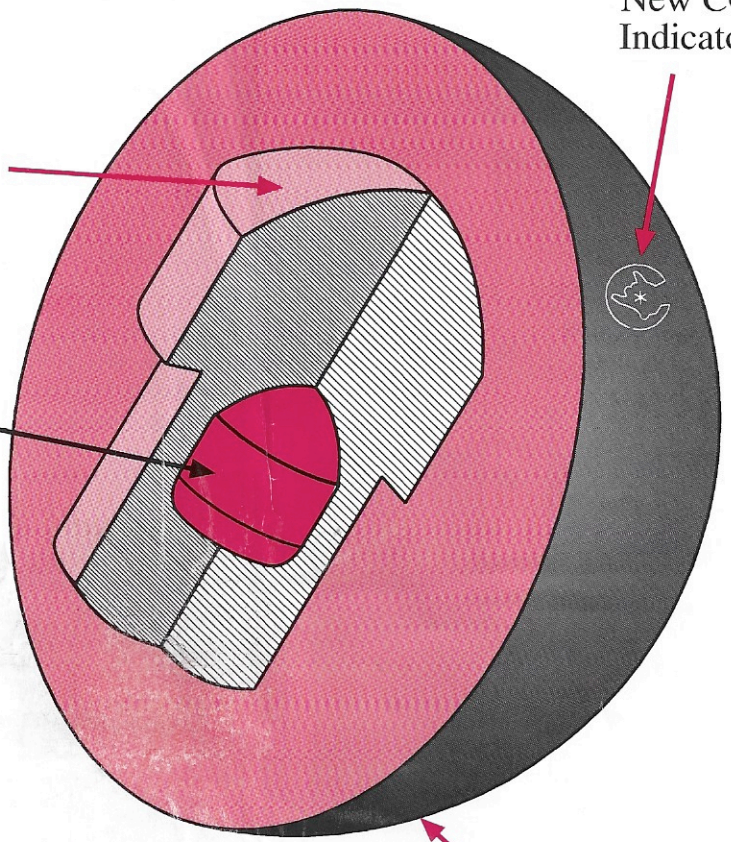
NEW TEC (Texture Energy Control) COVERSTOCK

CHAOS



COLUMBIA 300

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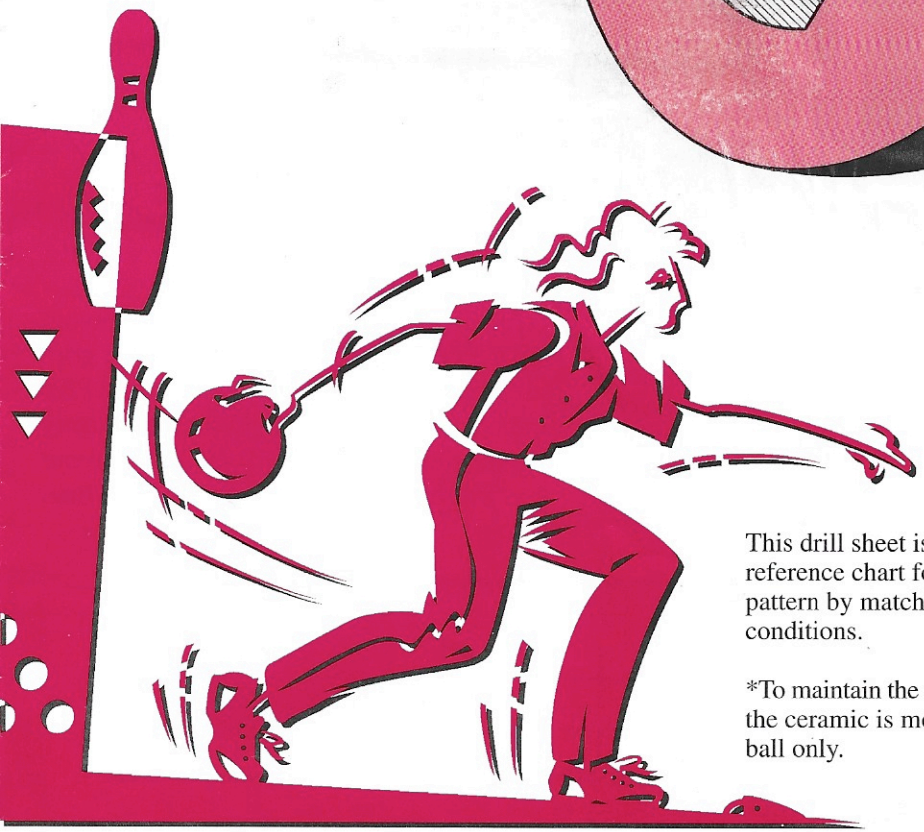
TEC

Texture Energy Control

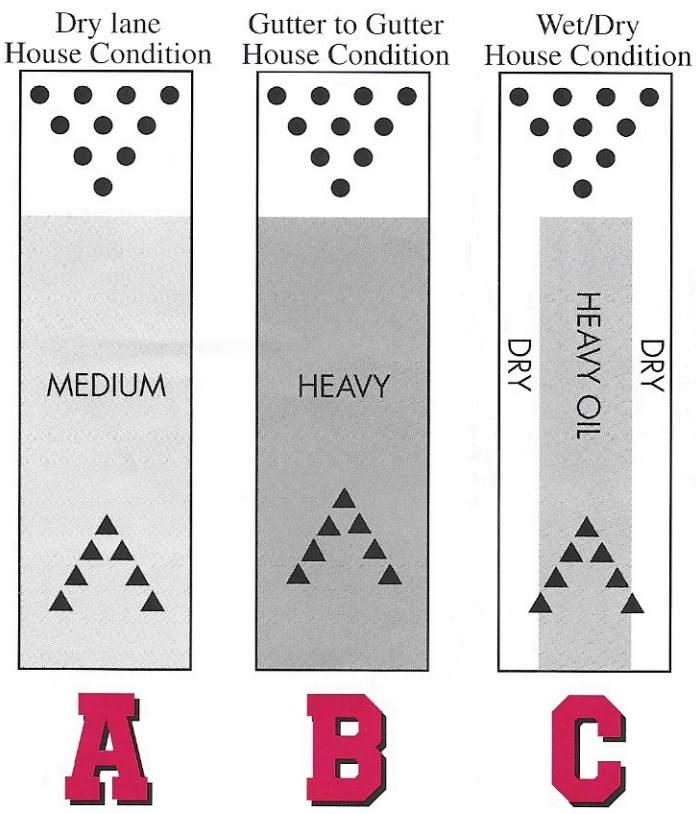


This drill sheet is designed to be used as a quick reference chart for determining the optimum drill pattern by matching drilling styles to specific lane conditions.

*To maintain the differential R.G. and flare potential, the ceramic is moved to bottom of the core for 15# ball only.

Suggested Drilling Patterns

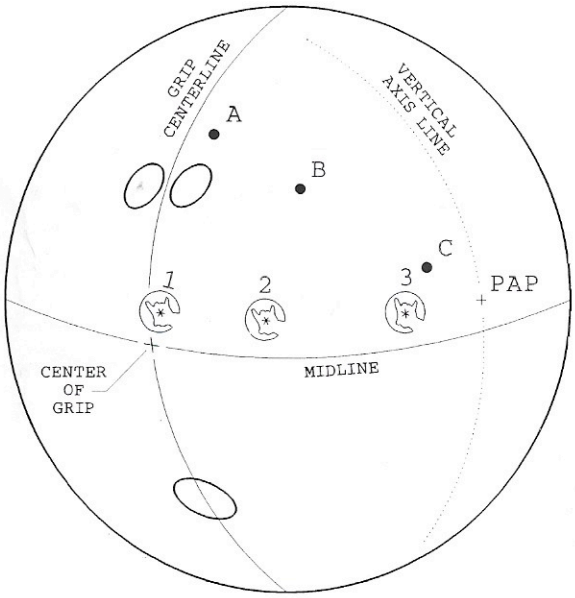
Common Lane Conditions



PAP-Positive Axis Point

- **Pin Positions: A, B or C**

C.G. Positions: 1, 2, 3

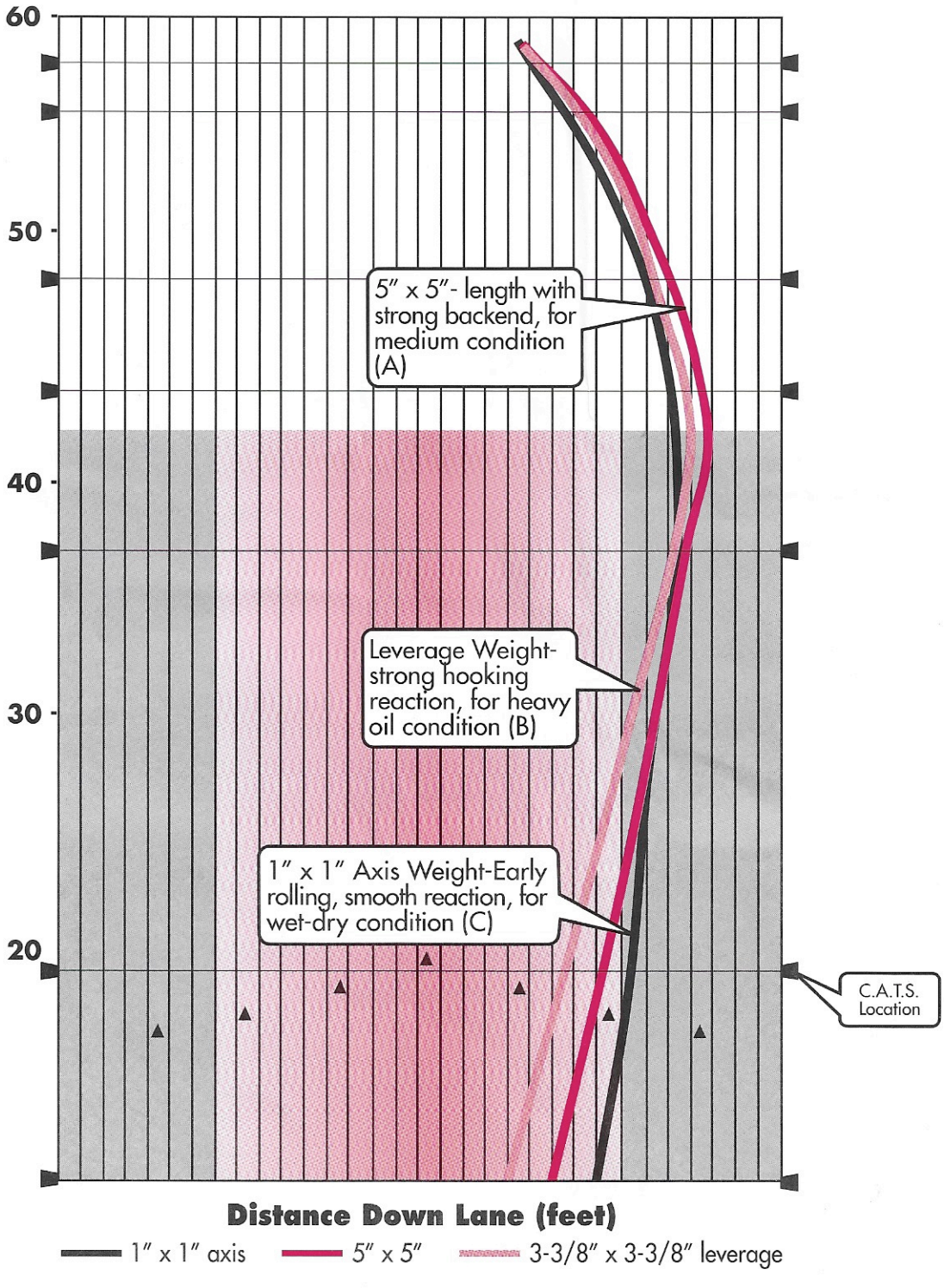


This illustration is an example of a layout with a $5^1/_2$" PAP location from center of grip. Based on the actual pin out distance and PAP location, the final layout may not look exactly like the drawing. For example, a 5" pin out will have the C.G. below the mid line.

Ball Reaction	Pin Position	C.G. Position	Distance to PAP
Length Drillings	A	1	5"
Leverage Drilling max flare	B	2	$3^3/_8$"
Axis or roll drilling	C	3	1"

C.G. is defined as center of gravity.

C.A.T.S. (Computer Aided Tracking System) Results-All Sanded to 600 Grit



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 3¾"	Max Length	Strong Hook	5	2"-5"

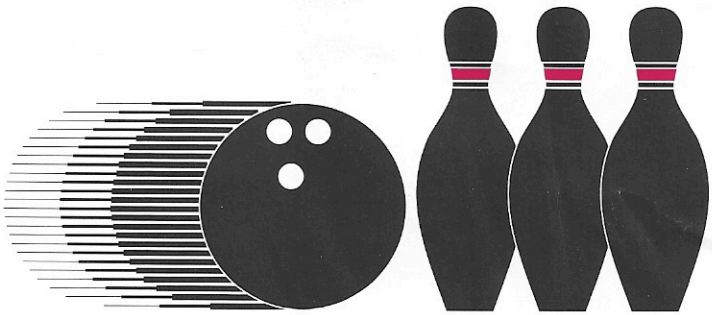
Recommended for common lane conditions.

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	3⅜"x 5"	Med Length	Smooth Curve	7	2"-4"
Heavy	B	2	3⅜"x 3⅜"	Med Length	Strong Hook	10	1"-5"
Heavy	B	3	3⅜"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"x2"

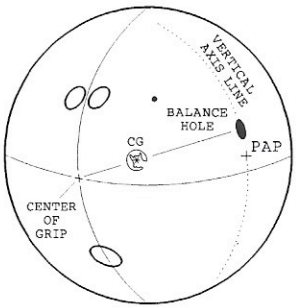
Caution: A bowler with a high track might roll over the finger holes with this layout. Least hooking of all drillings.



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 intersection with vertical axis line.

Example:



CHAOS

RG Measurement Chart		
	RG(X-Axis)	Differential RG
CHAOS	2.508	0.051
SURGE	2.527	0.052
Ti BOSS TI	2.508	0.052
BOSS	2.473	0.039

Texture Energy Control

The CHAOS is the first ball using Columbia's new TEC (Texture Energy Control) coverstock. The TEC surface is a combination of Columbia's proven Super-Flex reactive cover with our new particle TEC hnology to provide extra bite through the heavy oil of today's lane conditions. The CHAOS is designed to increase the friction in the oil resulting in a strong arcing reaction with continued hook on the backend. In the future, this new TEC hnology will allow Columbia to vary the size and quantity of particles in order to dictate where energy is released and match up to any oil condition.

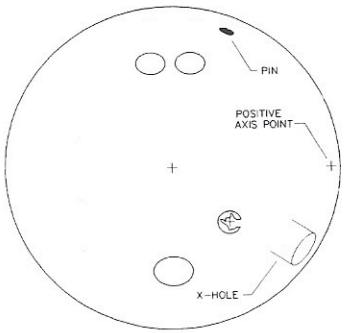
Surface

THE TEC COVERSTOCK OF THE CHAOS IS EXTREMELY VERSATILE. With a factory finish of 600 grit sheen, the CHAOS surface can be easily changed to alter the ball's performance. TEC offers a wide range of energy management and ball reaction. A rough surface will create an early, strong hook in the oil. Polishing will add more length with a stronger backend finish.

Things to Remember

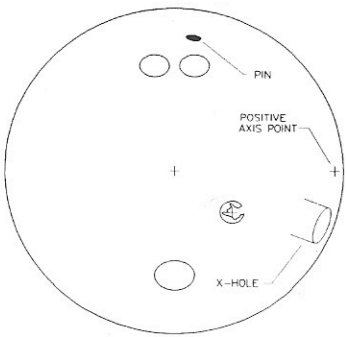
1. Any of the drillings can be drilled back to negative side-weight for earlier roll and less backend.
2. C.G. is defined as center of gravity indicated by
3. PAP is defined as Positive Axis Point.
4. Recognize that all illustrations shown are for right-handers. Reverse for left-handers.
5. DO NOT DRILL ANY HOLES DEEPER THAT 2¾" TO AVOID HITTING THE TITANIUM CERAMIC CORE.

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.