



### Part Number

60-104052-93X

### Coverstock

Activator

Color:

Blue solid/Red solid

Hardness: 76-77

### Factory Finish

800-grit wet sand

### Core Dynamics

RG-max: 2.513

RG-min: 2.463

RG-diff.: 0.050

Average RG: 2.6

### Performance

Hook Potential: 150

Length: 55

Typical Breakpoint

Shape: 60

### Available Weights

12-16 Pounds

### Hook Potential:



### Length:



### Breakpoint Shape



### Flare Potential:



### RG-average:



## Reaction Characteristics

The Ultimate Inferno is a heavy oil ball designed for bowlers who prefer Reactive over Particle coverstocks. The Ultimate Inferno uses the same core as the original Inferno but combines it with a solid 800-grit dull version of Activator coverstock.

### Compared to the original Inferno:

- The Ultimate Inferno will match-up better to oily lane conditions, longer patterns and heavy carry down.
- The Ultimate Inferno will match-up better for bowlers who struggle with excessively long ball reaction.
- The Ultimate Inferno will match-up better on heavily oiled - over/under lane conditions.

Brunswick's new **Activator Coverstock** has quickly established a reputation for excellence in ball reaction, durability and longevity of ball reaction. On the lanes, Activator Coverstock is clean through the heads with excellent mid-lane recovery and a strong arcing back-end reaction that creates powerful pin action. Owners of the original Inferno have reported that it requires less frequent resurfacing and rejuvenations and is more resistant to cracking than other reactive coverstock balls.

## Utility

- Out of the box:** The Ultimate Inferno is an ideal heavy oil ball for players wanting to use a Reactive coverstock.
- When shined:** Using Brunswick's **Factory Finish High Gloss Polish** the total hooking action of the Ultimate Inferno can be reduced and the arc made more skid/snap.

## Reaction Setup

The **Brunswick Inferno** can be drilled using the standard drilling techniques developed for two-piece balls, see the included drilling instructions for reaction characteristics and layout details.

The Ultimate Inferno is finished with a dull 800-grit surface finish which increases its hooking action in the oil. Dull surface finishes can sometimes hook too early resulting in reduced backend reaction and hitting power. To increase length, polish the surface with Brunswick's **Factory Finish High Gloss Polish**.

# High-Differential Symmetric Core Bowling Balls (12-16 pounds)

Brunswick's ball drilling instructions include eight layouts; one group of four **earlier rolling reactions** (1E-4E), and one group of four **later rolling reactions** (1L-4L). Both groups contain layouts that adjust performance from **high flare and hook potential** to **low flare and hook potential**. Not every layout is appropriate for all types of releases. Brunswick separates bowler's release characteristics by RPM rate and Track position.

- **High-RPM players** and **Medium-Low RPM players**. High RPM players rev the ball at rates greater than 300 RPM. On the men's tour, rev rates range from approximately 250-450 RPM. Most of the men's tour players you see on TV would be considered High RPM players. High RPM players can be sensitive to "over-flaring" which can make the ball hook early and be inconsistent at the breakpoint. Brunswick recommends low to medium flare layouts for High-RPM rate players
- **High-Track players** and **Medium-Low Track players**. High Track players have tracks within 1" of the thumb and finger holes and will usually have a horizontal axis measurement near 6" from grip center. Medium-Low track players have tracks that are greater than 1" from the thumb and finger holes and typically have horizontal axis measurements that are from 3 1/2" – 5".

After determining your bowler type and ball reaction needs, see the table below for recommended layouts. The Symmetric Core Layout sheet is divided into two columns for "**Earlier Rolling**" and "**Later Rolling**" Reactions.

- **Earlier Rolling Reactions** match up best to oilier and wet/dry lane conditions, or for players who have problems with the ball going too long before changing direction. These will typically be players who have high ball speeds and/or medium-low RPM rates
- **Later Rolling Reactions** match up best to shorter patterns and drier lane conditions, or for players who have problems with the ball hooking or changing direction too early. These will typically be players who have medium-slow ball speeds and/or high RPM rates.

<u>Track</u>	<u>RPM rate</u>	<u>Earlier Rolling Layouts</u>	<u>Later Rolling Layouts</u>
High	High	3E	2L,3L,4L
High	Medium-Low	No early rolling reactions	1L,2L,3L,4L,
Medium-Low	High	2E,3E,4E	2L,3L,4L
Medium-Low	Medium-Low	1E,2E,4E	1L,2L,3L,4L

Brunswick recommends positioning the Heavy-Spot / CG to end up with 3/4 -1oz. of positive side weight and a small amount of finger/thumb weight (less than 1/4 oz.) after drilling. This leaves the driller plenty of room to modify the ball reaction with an X-hole, yet doesn't require that an X-hole be used to make the ball ABC legal.

## Fine Tuning Ball Reactions with an X-Hole

**X-Holes** can be used to **increase** or **decrease** track flare.

- **Increasing track flare** in an existing ball will tend to make the ball more aggressive, hook more, hook earlier and react stronger to the dry areas of the lane.
- **Decreasing track flare** in an existing ball will tend to make the ball less aggressive, go longer, hook less and react smoother to the dry areas of the lane (less over reaction).

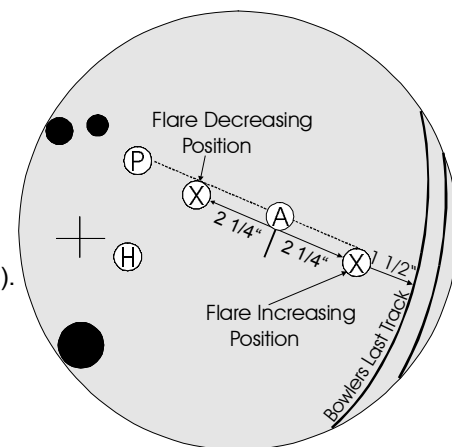
Brunswick is recommending a simplified **one-hole size / two-hole position** technique that covers the vast majority of ball reaction changes that can be accomplished by drilling an X-hole.

- Use a **1" drill bit, 3" deep**, to both increase or decrease track flare.

**Note:** Larger and deeper X-holes result in only slightly greater increases or decreases in track flare. The one-hole size technique has the added advantage of avoiding problems with illegal static weights. As long as the ball was originally laid out with at least 3/4 oz. of positive side weight and a small amount of finger/thumb weight, the 1" X 3" hole using either of Brunswick's recommended X-hole positions will keep you out of static weight trouble.

Brunswick recommends using a position 2 1/4" **past** the bowlers axis to increase flare, and using a position 2 1/4" **back toward the pin** to decrease flare. Using the line connecting the bowlers "axis" and the "pin" as a reference line (see diagram). The X-holes should be on or slightly below the reference line (holes on the line will sometimes drop the narrow point of the track and cause the track to flare over the finger holes).

**Warning:** Drilling a "flare increasing" hole can result in the track flaring over the X-hole. After checking the position of the bowlers last track, make sure the "flare increasing hole" is at least 1 1/2" from the bowlers last track (see diagram above). If necessary shorten the distance from axis in order to keep the "flare increasing hole" at least 1 1/2" from the bowlers last track.



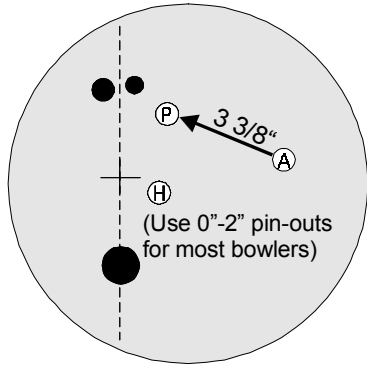
## High-Differential Symmetric Core Layout Sheet

(RGdiff. 0.040 and above )

### Earlier Rolling Reactions

### High Flare High Hook Potential

### Later Rolling Reactions



#### 1E (Heavy Oil)

Maximum hook potential for **Medium-Low RPM** players.

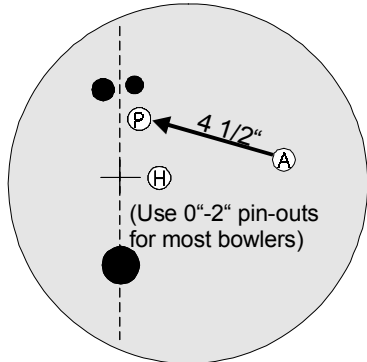
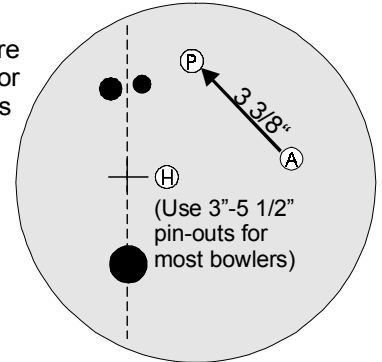
This layout may hook early and be inconsistent at the breakpoint for **High-RPM** players, use layout #2E instead.

This layout may hit the finger holes for **High-Track** players, use layout #1L instead.

#### 1L (Heavy Oil)

Maximum hook potential with less mid-lane and more backend than layout #1E for **Medium-Low RPM** players

This layout may hook early and be inconsistent at the breakpoint for **High-RPM** players, use layout #2L instead.



#### 2E (Medium Oil)

Maximum hook potential for **High-RPM** players

Medium hook potential for **Medium-Low RPM** players

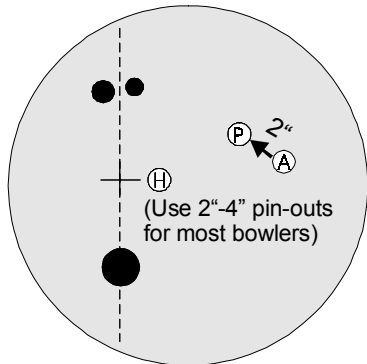
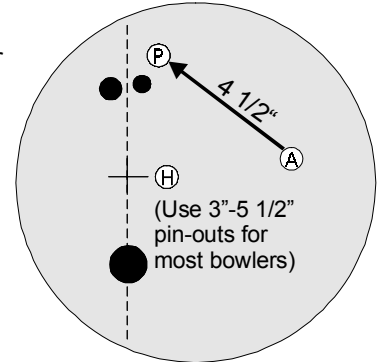
This layout may hit the finger holes for **High-Track** players, use layout #2L instead.

#### 2L (Medium Oil)

Maximum hook potential for **High-RPM** players.

Medium hook potential for **Medium-Low RPM** players

Less mid-lane and more backend than layout #2E.



#### 3E (Oily Wet/Dry's)

Pin between axis and leverage for medium hook potential and early roll.

Helps moderate over reactions.

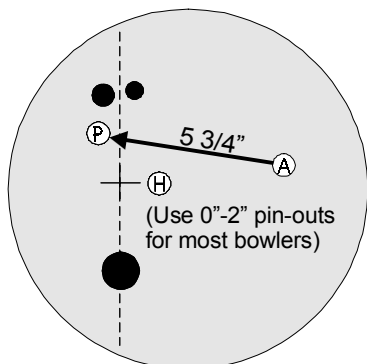
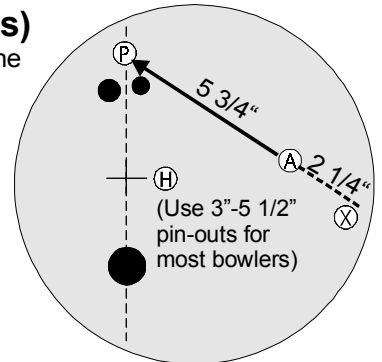
This layout may lack hitting power for **Medium-Low RPM** players.

#### 3L (Hooking heads)

High RG pin position with the pin above the fingers for length. X-hole positioned for increased flare.

Moderate hook potential with skid/snap arc to fight early hook in the heads.

Lower hook potential than layout #2L.



#### 4E (Hooking Wet/Dry's)

Smooth reaction for moderating wet/dry lane conditions

Lower hook potential than layout #3E.

This layout may hit the finger holes for **High-Track** players, use layout #4L instead.

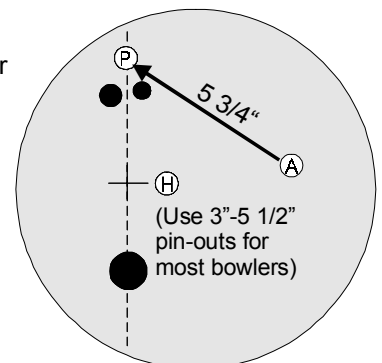
#### 4L (Dry lanes)

Minimum hook potential for dry lanes and moderating over reactions.

High RG pin position with the pin above the fingers for length

### Low Flare

### Low Hook Potential



Note: Finger, thumb and X-holes must have at least a moderate bevel and the riser Pin (P) must be at least one inch from any drilled hole to comply with the Brunswick warranty



# "Out of the Box" Ball Comparison Chart - 2003/2004

Skid/Snap Reaction  
Sharp Turn

	DRY LANE CONDITIONS				DRY TO MEDIUM LANE CONDITIONS					A R C	MEDIUM TO OILY CONDITIONS				OILY LANE CONDITIONS					
	A	B	C	D	E	F	G	H	I		J	K	L	M	N	O	P	Q	R	
1																				
2																				
3																				
4																				
5																				
6																				
7																				
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11																				
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LOW	HOOK POTENTIAL				HOOK POTENTIAL						HOOK POTENTIAL				HOOK POTENTIAL					HIGH
20																				
21																				
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40																				
	DRY LANE CONDITIONS				DRY TO MEDIUM LANE CONDITIONS						MEDIUM TO OILY CONDITIONS				OILY LANE CONDITIONS					

Even Reaction  
Smooth Turn

## Brunswick Ball Brands

High Performance - Cutting edge Coverstock and Core technologies for a wide variety of lane conditions

Zone - Bowling's most successful brand name combined with Preferential Spin Axis core technology

Monster - Mid-Price - Close to the best for less. More bang for the buck. The Bowling Industry's widest range of Reactive and Proactive reactions at the mid-price point.

Groove - Your first performance ball - Plastic slips, Groove grips. Ready to start hooking the ball?  
Move up from Plastic to Proactive, Reactive and Urethane coverstock technology. Get in the Groove!

Polyester: Target Zone, Kids Favorite Characters and Viz-A-Ball. Glow-in-the-Dark patterns and colors. 360 degree Limited Edition Graphics. Minnie, Mickey, Snoopy and more.



# "Out of the Box" Ball Specification List - 2003/2004

Balls	Hook Potential	Length	Typical		Factory Finish	Mass Distribution Numbers				Available Weights
			Breakpoint Shape	Coverstock		RG-max.	RG-min.	RG-diff.	RG-avg.	
<b>High Performance</b>										
Ultimate Inferno	150	55	60	Activator-Coverstock	800-Grit Wet Sand	2.513	2.463	0.050	2.6	12-16
Blazing Inferno	110	115	90	Activator-Coverstock	High Gloss Polish*	2.564	2.531	0.033	4.3	12-16
Raging Inferno	140	60	70	Activator Particle	High Gloss Polish*	2.557	2.515	0.042	3.9	12-16
Inferno	115	105	80	Activator-Coverstock	High Gloss Polish*	2.513	2.463	0.050	2.6	12-16
Fuze Eliminator	125	80	60	Proactive - Low Load	High Gloss Polish*	2.546	2.493	0.053	3.5	12-16
<b>Zone - Bowlings most popular brand combined with Preferential Spin Axis technology</b>										
Warp Zone	150	45	50	Particle - Medium Load	400-grit Wet Sand	2.600	2.553	0.047	5.5	12-16
Time Zone	105	105	75	PowrKoil 18 - Reactive	High Gloss Polish*	2.580	2.536	0.044	4.6	12-16
<b>Monster - Mid Price Series</b>										
Bruiser Reactive	110	100	75	PowrKoil 18 - Reactive	High Gloss Polish*	2.543	2.500	0.043	3.5	10-16
Swamp Monster Proactive	150	35	35	Proactive - Ultra High Load	35-Micron Trizact	2.587	2.546	0.041	4.8	10-16
SmashR Reactive	115	90	65	PowrKoil 18 - Reactive	800-Grit Wet Sand	2.577	2.536	0.041	4.5	10-16
Frenzy Reactive	90	125	85	N'Control PowerStock - Reactive	High Gloss Polish*	2.577	2.536	0.041	4.5	10-16
SlayR Reactive	70	165	90	PowrKoil LS	High Gloss Polish*	2.543	2.500	0.043	3.5	10-16
<b>Groove - Your first performance ball</b>										
Power Groove Proactive Plum Pearl	75	145	70	Proactive - Low Load	High Gloss Polish*	2.708	2.667	0.041	8.2	10-16
Power Groove Proactive Black Sparkle	115	70	60	Proactive - Low Load	400-Grit Wet Sand	2.708	2.667	0.041	8.2	10-16
Power Groove Reactive - All Colors	70	155	75	PowrKoil 17 - Reactive	High Gloss Polish*	2.704	2.663	0.041	8.0	10-16
Groove Urethane Blue Sanded	50	210	40	Urethane	Grit Wet Sand	2.703	2.684	0.019	8.3	10-16
<b>Polyester - Awesome designs - Favorite Characters - 360 degree limited edition graphics</b>										
Target Zones	25	235	30	Polyester	High Gloss Polish*	2.715	2.696	0.019	8.7	6,8,10-16
Favorite Characters	25	235	30	Polyester	High Gloss Polish*	2.715	2.696	0.019	8.7	6,8,10-16
Viz-a-Ball	25	235	30	Polyester	High Gloss Polish*	2.715	2.696	0.019	8.7	6,8,10-16

\*Evenly wet sand to a 400-girt finish then apply Brunswick's Factory Finish "High Gloss Polish"

Updated January, 2004