Information Sheet

Brunswick

Specifications

Swamp Monster™ – Ultra High Load Proactive

Part Number
60-103665-93X
Coverstock
Proactive – Ultra High Load
Color: Swamp Green
Hardness: 77-79
Glow Engraving
Surface Finish
35-Micron Trizact
Core Dynamics
RG Max: 2.587
RG Min: 2.546
RG Diff.: 0.041
Average RG: 4.8
Performance
Hook Potential: 150
Length: 35
Typical Breakpoint Shape: 35
Available Weights
10-16 Pounds
(10-11 use a spherical offset core, no riser pin)

Reaction Characteristics - ***Over come your deepest fears!***

Do heavy oiled conditions stop your game dead in its tracks? If you've come to fear the deep, it's time you discovered the superior traction and big hook-ability of the **Swamp Monster™.**

The Swamp Monster updates and improves upon the popular Purple Monster by utilizing Brunswick's new Aggressive Reactive coverstock as a base for a new Ultra High Load Proactive-Particle ball. The Aggressive Reactive base provides a cleaner front-end and a stronger, more continuous backend than the base material used in the Purple Monster. These positive performance characteristics carry through to the Proactive version of the coverstock, allowing the Swamp Monster to set new standard in mid-price Proactive-Particle performance

The Swamp Monster features a low profile, high density, door-knob shaped inner core which configures the Swamp Monster to a low-RG, high-flare, quick revving mass distribution.

Utility - The Swamp Monster has two outstanding areas of utility.

•**Out of the box:** The Swamp Monster is an ideal heavy oil ball. The Ultra High Particle load increases traction and hooking action in the oil, reducing skid and maximizing playability in heavy oil.

•**When shined:** Using Brunswick's Trizact finishing system, the total hooking action of the Swamp Monster can be reduced and the arc made more skid/snap. Changing the surface finish in this way allows the Swamp Monster to be used to smooth the over/under reactions seen with Reactive coverstock balls on wet/dry lane conditions

Reaction Setup

The Swamp Monster 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 Swamp Monster is finished with 35-micron Trizact to produce a dull finish that provides increased hooking action in the oil. Dull surface finishes can sometimes hook too early resulting in reduced back-end reaction and hitting power. To increase length, smooth the surface with the finer 10 and 5 micron Trizact abrasives. For the most skid/snap reaction use the 10 and 5 micron Trizact followed by the Cerium-Oxide Trizact pad.

Brunswick's Monster-Series delivers the bowling industries widest range of Proactive and Reactive ball reactions available at the mid-price point. At rock bottom prices to boot.

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Brunswick Drilling Instructions For 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 ½" – 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.

Track	RPM rate	Earlier Rolling Layouts	Later Rolling Layouts
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

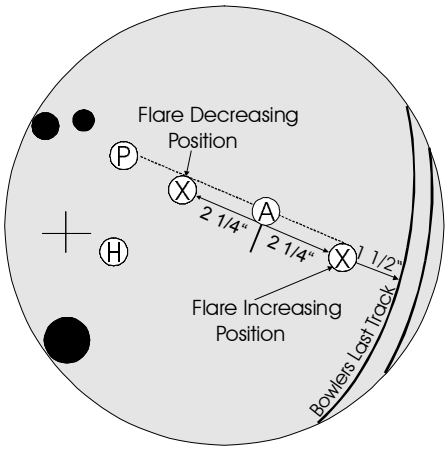
Brunswick recommends positioning the Heavy-Spot / CG to end up with ¾ -1oz. of positive side weight and a small amount of finger/thumb weight (less than ¼ oz.) after drilling. This leaves the driller plenty of room to modify the ball reaction with an X-hole, yet doesn't require that an X-hole be used 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 ¾ 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 ¼" **past** the bowlers axis to increase flare, and using a position 2 ¼" **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 ½" 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 ½" from the bowlers last track.

Brunswick

High-Differential Symmetric Core Layout Sheet

(RGdiff. 0.040 and above)

Earlier Rolling Reactions

High Flare
High Hook Potential

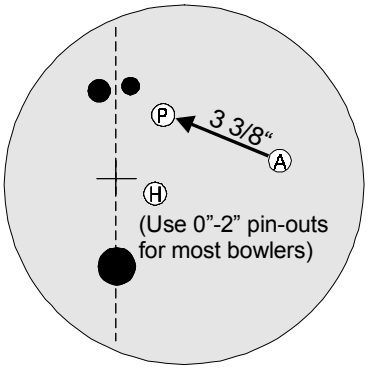
Later Rolling Reactions

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.

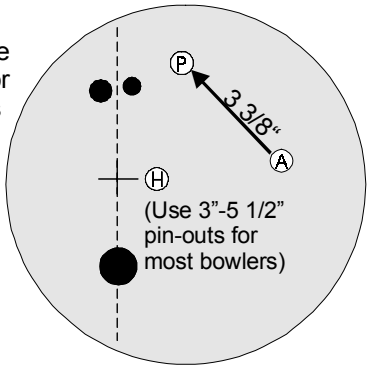
This layout may hit the finger holes for **High-Track** players, use layout #1L instead.



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.

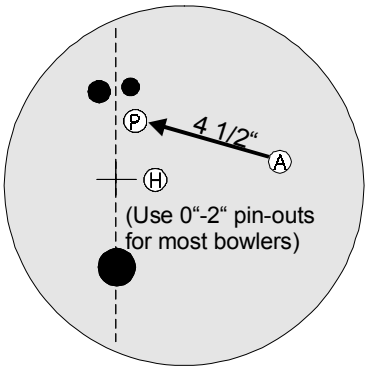


2E (Medium Oil)

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.

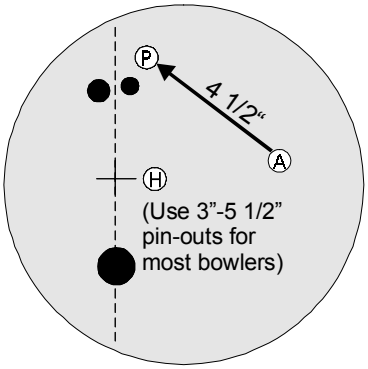


2L (Medium Oil)

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

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

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

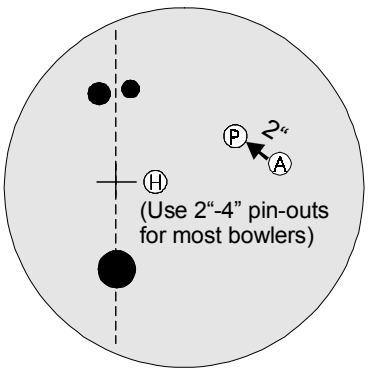


3E (Oily Wet/Dry's)

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.

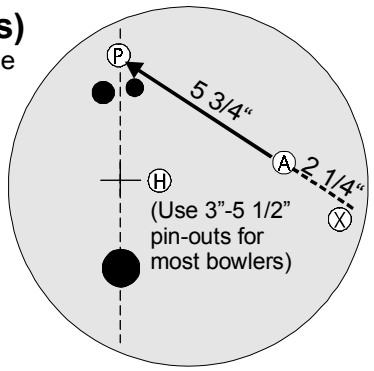


3L (Hooking heads)

High RG pin positon 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.

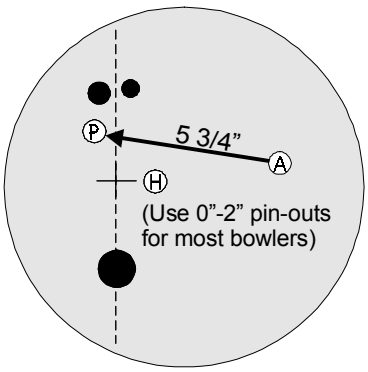


4E (Hooking Wet/Dry's)

Smooth reaction for moderating wet/dry lane conditions

Lower hook potential than layout #3E.

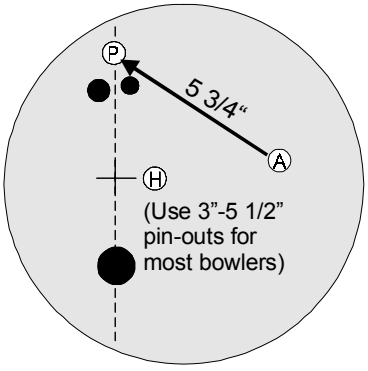
This layout may hit the finger holes for **High-Track** players, use layout #4L instead.



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

Brunswick "Out of the Box" Ball Comparison Chart - 2002/2003

Skid/Snap Reaction
Sharp Turn

	DRY LANE CONDITIONS				DRY TO MEDIUM LANE CONDITIONS					A	MEDIUM TO OILY CONDITIONS				OILY LANE CONDITIONS				
	A	B	C	D	E	F	G	H	I	R	J	K	L	M	N	O	P	Q	R
1										C									
2																			
3										A	Fuze Purple Pearl								
4										R									
5										C									
6												Fuze Igniter							
7										A									
8								Monster ScreamR		R									
9										C									
10																			
11							Monster Red/Black			A									
12										R									
13						Power Groove				C			Fuze Raging Red						
14						Reactive													
15										A									
16										R				Monster SmashR					
17										C									
18														Power Groove					
19										A				Proactive					
LOW HOOK POTENTIAL			HOOK POTENTIAL			HOOK POTENTIAL				R	HOOK POTENTIAL			HOOK POTENTIAL			HOOK POTENTIAL		HIGH
20										C									
21																			
22										A									
23										R									
24										C								Fuze Detonator	
25																			
26										A									
27										R									
28										C									
29																		Swamp Monster	
30				Groove						A									
31				Urethane						R									
32										C									
33																			
34										A									
35										R									
36	Viz-a-ball									C									
37	Favorite Characters																		
38	Target Zones																		
39										A									
40										R									
	DRY LANE CONDITIONS				DRY TO MEDIUM LANE CONDITIONS					C	MEDIUM TO OILY CONDITIONS				OILY LANE CONDITIONS				

Even Reaction
Smooth Turn

Brunswick Ball Brands

Fuze - High Performance Proactive - Big hook potentials and even arcs for all types of bowlers on oily lane conditions

Fuze - High Performance Reactive - A wide range of Reactive choices for medium-dry to oily lane conditions

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.

Updated June 2002

Brunswick "Out of the Box" Ball Specification List - 2002/2003

Balls	Hook Potential	Length	Typical Breakpoint Shape	Coverstock	Factory Finish	Mass Distribution Numbers RG-max	RG-min	RG-diff	RG-avg.	Available Weights
Fuze - High Performance Proactive										
Fuze Detonator	140	45	45	Proactive - High Load	35-Micron Trizact	2.585	2.538	0.047	4.7	12-16
Fuze - Light Load Proactive - Coming in November 2002										
Fuze - High Performance Reactive										
Fuze Igniter	105	115	85	Aggressive Reactive SS	Rubbing & Finishing Compound-Double Buff	2.563	2.520	0.043	4.1	12-16
Fuze Raging Red	110	100	75	Aggressive Reactive	Rubbing & Finishing Compound-Double Buff	2.559	2.504	0.055	3.8	12-16
Fuze Purple Pearl	90	145	95	XLR-G2 (Extra Length Reactive)	Rubbing & Finishing Compound-Double Buff	2.569	2.546	0.023	4.5	12-16
Monster - Mid Price Series										
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
ScreamR Reactive	80	140	85	N'Control PowerStock Reactive	Rubbing & Finishing Compound-Double Buff	2.546	2.514	0.032	3.8	10-16
Red/Black Reactive	75	120	75	PowrKoil 17 Reactive	Rubbing & Finishing Compound-Double Buff	2.579	2.544	0.035	4.7	10-16
Groove - Your first performance ball										
Power Groove Proactive	115	70	60	Proacitve - Low Load	400-Grit Wet Sand	2.708	2.667	0.041	8.2	10-16
Power Groove Reactive	70	155	75	PowrKoil 17 Reactive	Rubbing & Finishing Compound-Double Buff	2.704	2.663	0.041	8.0	10-16
Groove Urethane	50	210	40	Urethane	Polished or 320 Grit Wet Sand	2.703	2.684	0.019	8.3	10-16
Polyester - Awesome designs - Favorite Characters - 360 degree limited edition graphics										
Target Zones	25	235	30	Polyester	Rubbing & Finishing Compound-Double Buff	2.715	2.696	0.019	8.7	6,8,10-16
Favorite Characters	25	235	30	Polyester	Rubbing & Finishing Compound-Double Buff	2.715	2.696	0.019	8.7	6,8,10-16
Viz-a-Ball	25	235	30	Polyester	Rubbing & Finishing Compound-Double Buff	2.715	2.696	0.019	8.7	6,8,10-16

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