

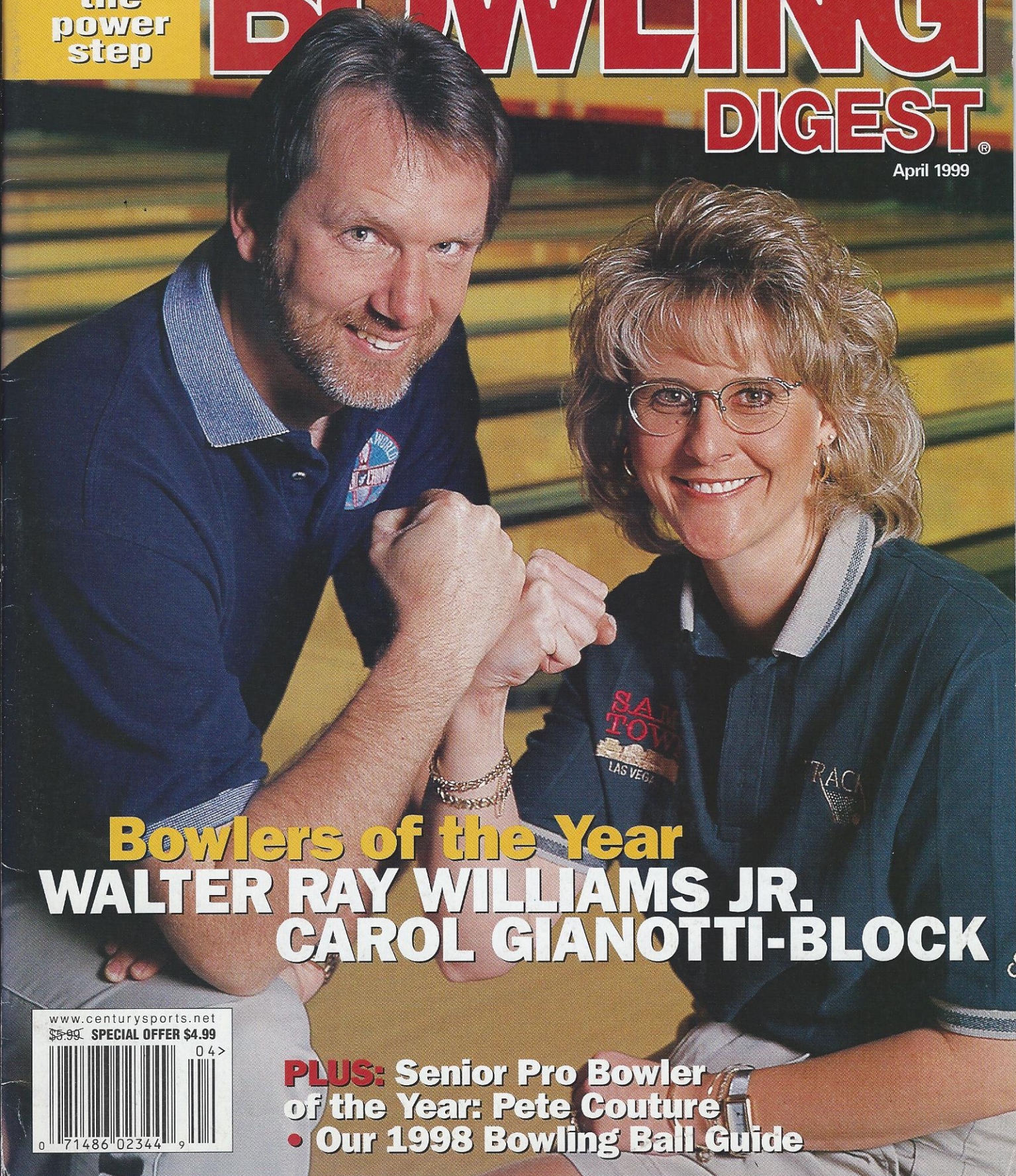
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BOWLING CLINIC: How to buy the right ball

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April 1999



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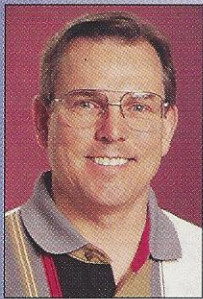
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• Our 1998 Bowling Ball Guide

How to Understand To

In order to buy the bowling ball that best complements your game, you need to be fluent in the basics of ball composition, design, and performance



Bowling Clinic

By BILL SPIGNER

SELECTING A BALL TODAY CAN BE a very confusing process. The terms used today to identify the characteristics and construction of the balls can also be very confusing, but they actually help the professional ball driller understand the ball better and have a better chance of getting the right ball into the hands of the bowler. Therefore, selecting a ball must be a joint effort between the pro and the consumer.

I have been competing on a professional level for almost 30 years and have lived through all the modern-day changes in equipment. Before I get into an explanation of some of the language used to describe today's bowling balls, and before you turn to the ball guide on page 43, a little trip down Memory Lane is in order.

The rubber ball was the only ball used in bowling until the late 1960s and early '70s, when the plastic ball started making its mark on the pro tour. Then, in 1973, PBA Hall-of-Famer Don McCune found that soaking a plastic ball in chemicals softened the cover of the ball. The softer cover helped the ball grip the lane better and performed much better on heavy oil.

At the time there were no hardness standards for bowling balls, just weight-balance tolerances and size. Once McCune's secret was let out in the summer of '73, every pro on the PBA tour began soaking his bowling balls in buckets of chemicals outside of his motel room. Recognizing the hazards of this practice, the PBA banned soaking balls and came up with a hardness rule—based on the Rockwell D scale—with a minimum hardness of 75. The ABC also adopted a hardness rule of 72 minimum on the D scale.

With hardness rules in place, the manufacturers started making softer-shelled balls. Plastic was the first material used for producing the "softball," then rubber. From 1974 to '81, the

Need some help with your game? Bill Spigner welcomes questions from readers. Mail your questions to: Bowling Clinic, Bowling Digest, 990 Grove Street, Evanston, IL 60201.

soft rubber and plastic balls dominated bowling. This was the beginning of the bowling ball equipment revolution.

The basic construction of the well-known balls up to this time was a three-piece design: a large core, a pancake-shape weight block, and a thin cover material. However, in the '70s a couple of Ohio bowling ball companies began to make two-piece balls, consisting of only a core and the cover stock, with the core shaped to produce some top weight.

The ball that ended up having the biggest impact on the sport was a two-piece ball invented by Cleveland's John Fabinich. A group bought out Fabinich's company and started producing a two-piece ball with a urethane cover, which it named the Faball Hammer. The combination of a very aggressive cover and a center-heavy core produced a ball that revved up fast and rolled in heavy oil. The Faball Hammer ball had the biggest effect on how balls are constructed today, as it led companies away from the traditional three-piece design.

The next big change in the cover stock of the ball was resin urethane. In 1981 AMF produced the first urethane ball, the Angle, from a material that outperformed the plastic and rubber balls. The formulation of urethane and the advances made in the interior construction of balls have given us the widest range of bowling balls to choose from that the game has ever seen.

As the number of different types of cores and surfaces increased, manufacturers had to find ways to describe what all the components of the ball do. So when you look at a ball today, you look at cover stock and interior construction in order to figure out how all the parts work together to get a ball that will do what you need.

The first decision we have to make in selecting a ball is **cover stock** material or veneer, where you have three choices: plastic, urethane, and resin urethanes. The resin urethanes offer the widest variety of reactions available today. Also included in the resin category is

Today's Ball Characteristics

a new urethane formulation called "proactive urethane" or "pro-reactive urethane." Today 90% plus of the high-performance balls are of the resin urethane variety; some regular urethanes are still being used, but the ever-expanding variety of resin balls being produced makes it tough not to use resin for most of your ball choices. You may still want a urethane ball for dry lanes and conditions that are very inconsistent, but the plastic ball has been relegated to being primarily a spare ball or a beginner's ball, or one used only on the driest of conditions.

Hardness has been part of bowling ball vocabulary since the inception of hardness rules. Most of today's resin balls range in hardness from 75 to 79. However, while still something to consider, hardness isn't as important as it once was. Instead of hardness, we refer to the **nature of the cover stock** as a guide to



ball has a small dense material located in the center of the ball. These types of balls rev up fast and start hooking early, and they're best suited for oily lanes. The medium-RG ball's center isn't as heavy as that of the low-RG balls; these types of balls are the mid-range balls for medium-type lane conditions. This type of ball would be the one to start with on a variety of conditions to give you a good read of the playing environment. The high-RG ball has the mass farthest from the center of the ball. This ball is the hardest to rev up, so it goes the longest and is best for dry conditions.

performance,

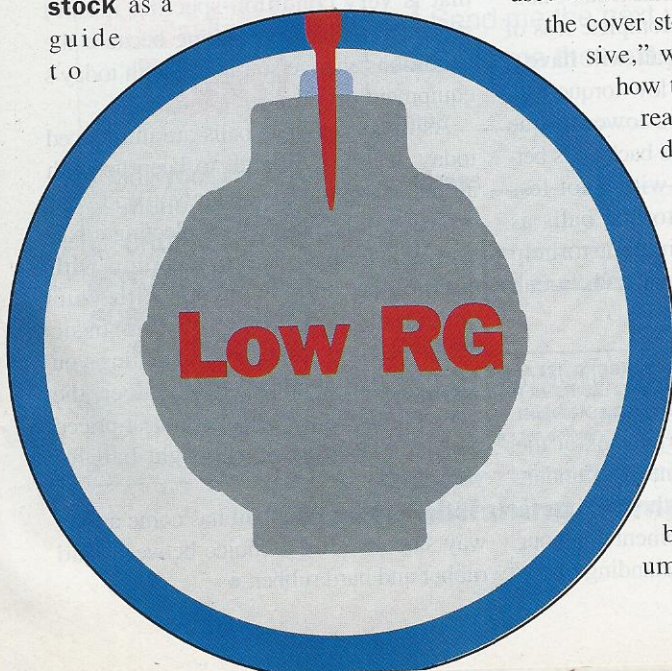
rating covers as mild, mellow, aggressive, and highly aggressive. The more aggressive the cover is, the more reactive it is to the wet and dry parts of the lane; the milder the cover, the less reactive the ball is to the wet and dry parts of the lane. Another term used to describe the nature of

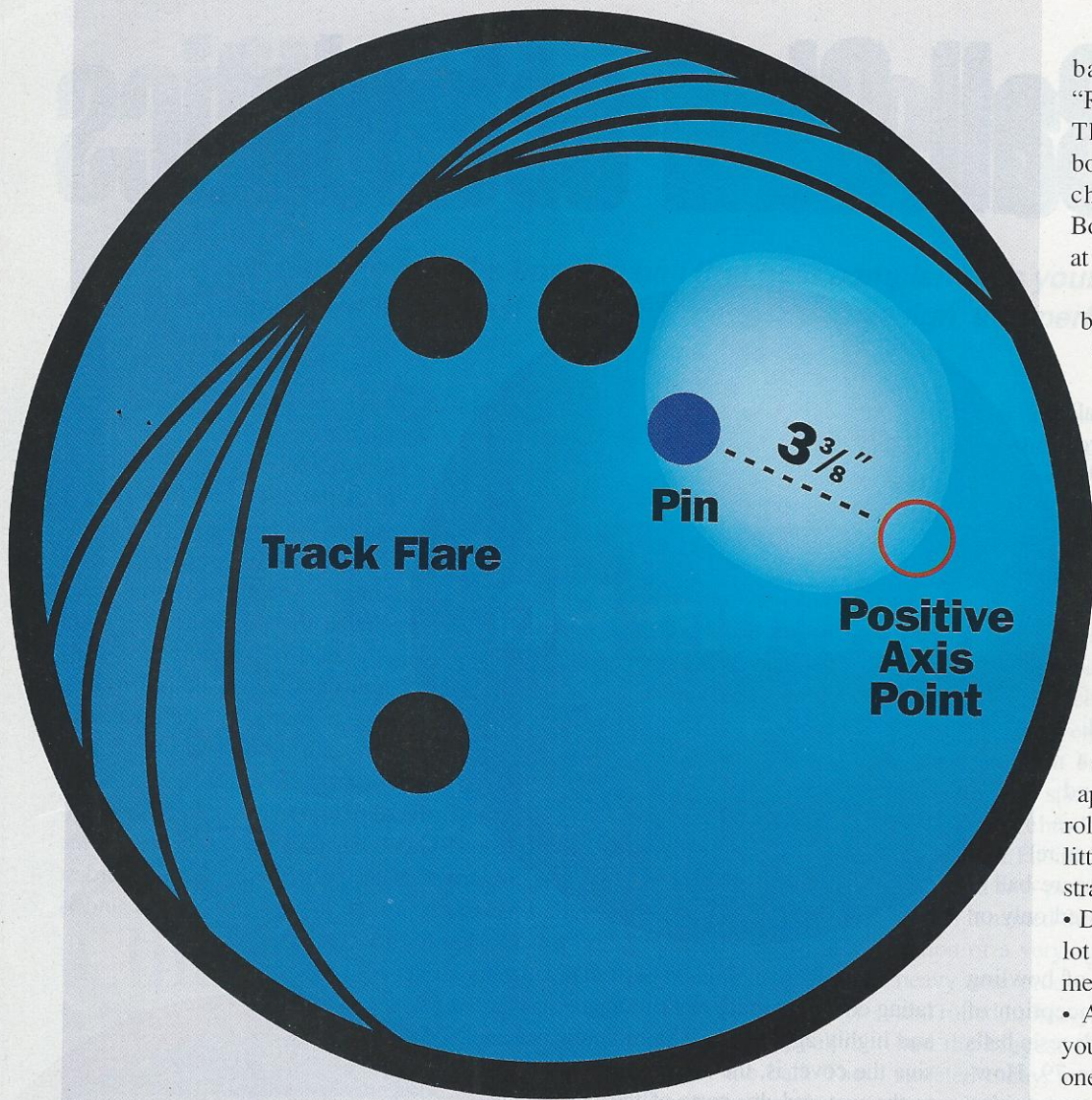
the cover stock is "responsive," which refers to how the cover stock reacts to different degrees of friction—oily and dry. The more responsive the ball, the more it slides in oil and the harder it grabs the dry part of the lane.

The next term to understand is **radius of gyration, or "RG."** You can divide RG into three basic categories: low, medium, and high. The low-RG



"RG," or radius of gyration, expresses the location of the mass of the core. The higher the RG, the farther from the center of the ball the mass is.





Maximum track flare is produced when the pin is $3\frac{3}{8}$ inches from the positive axis point. As the pin is moved closer to the axis, the ball rolls earlier and flares less.

ball, I recommend the book "Revolutions" by Chip Zeilke. This book, and many other books and videos, can be purchased from the "Bowling's Bookstore," which you can call at 800-521-BOWL.

When you go to buy your next ball—whether it's your first venture into the high-performance market or the 20th ball you've bought in the past three years—you must have some idea about what you want out of the piece you are going to purchase. Ask yourself these questions:

- What type of lane conditions are you bowling on or looking for the ball to perform on?
- What type of rotation do you apply to the ball: a lot of side roll with a large hook, or very little side roll, keeping the ball straight?
- Do you roll the ball fast with a lot of revolutions, or slow with medium revs?
- Are you looking for a ball you'll have a lot of control over, one that can cover a variety of conditions, or are you trying to fit the ball into your arsenal to cover a very specific condition?

Normally when you drill a ball that is very condition-specific, it can't stay in your hand very long because the conditions change so rapidly with today's equipment.

As rapidly as new balls are introduced today, it's very difficult to keep up with all the changes. That's why you and your pro have to be partners in selecting a ball that will help you. Pros keep up with technology and—working with your understanding of some of your basic needs—can go a long way in getting you the best ball available. Remember, the newest introduction or the highest-priced ball isn't necessarily the right ball for your needs.

Buying a bowling ball has come a long way since we had a choice between hard rubber and hard rubber. ●

The next important term to understand is **track flare**, which refers to how much the track moves as the ball is rolling down the lane. When you have flare, the track will move slightly each time the ball completes a revolution. When this happens, the ball is always tracking on a fresh part of the ball. You get the most flare when the ball is drilled with the pin in a leveraged position; the least flare or no flare can be achieved by putting the pin on your axis or in the middle of your track. Basically, you want more flare for heavy oil or for staying in the oil as the lanes change. When you have to play the drier part of the lanes, or when the heads are drying up, you want to use a ball with less flare.

Core torque is a term created by

"Bowling This Month" to rate a ball's ability to combat rollout, the complete loss of axis tilt. A high-torque ball will have a more violent break than a low-torque ball. Usually crankers will use lower-torque balls so they can control the back ends better. Conversely, players with a lot less hand would favor high-torque balls as their main piece of equipment to help increase the ball's movement at the break point.

Many other terms are used to describe different things about bowling balls—this is a brief look at the most important ones you need to understand in order to work with your pro in designing a piece of equipment for your arsenal. For a deeper understanding of the