

# PETE'S TIPS: Test-Driving Binoculars

BY PETE DUNNE

I've seen a lot of optics reviews in my time (written three or nine myself). But I'm not sure I've ever seen a column focused on telling potential buyers how to test the merits of an instrument before they buy it.

You know. Check under the hood. Slam the doors. Take 'er on a test drive.

The good news is there's lots of "birding" binoculars out there. But that's the bad news, too. With so many makes and models (and manufacturers' promises), it is so, so easy to go wrong.

Here are some tips to help you buy right.

1. Test a number of makes and models. Don't just buy the instrument your birding friend X uses. The glass might be spec'ed perfectly for X, but unless you are genetic twins, that is no guarantee that the glass will work for you.

2. Pick up the glass. See how it fits in your hand, on your face. Is it balanced? Does it feel good in your hands? Do your fingers fall easily on the focus wheel? You should be able to operate the glass with one hand (your other hand is just for stability).

3. Now personalize the settings. Adjust the interpupillary distance so that the glass fits your eyes. Make sure the eyecups are up if you are a non-eyeglass wearer and down if you wear glasses.

Hint: On many makes and models and for many eyeglass wearers, the cups need not be all the way down to get an optimal, strain-free image. All depends upon the gap between your eyes and your glasses and the "eye relief" offered by the instrument. Some people have deep-set eyes (and so require long eye relief: 18-20 mm), and some people's eyes are almost touching their glasses (and so require as little as 8-12 mm).

Hint: Unless your face is really, really out of plumb, make sure the eyecups are symmetrically adjusted: i.e., make sure one isn't slightly higher than the other.

Few people's eyes are identical. This is why virtually all binoculars come with an adjustment ring or knob to compensate for the normally slight difference. For most people, for testing purposes, just set the ring at 0. If your eyes are markedly different, adjust accordingly. But I find that most people who are road-testing instruments can get away with just setting the diopter on 0. It saves time. It lets you focus on other things.

You can, and will, customize the setting after you buy.

4. There is only one real test of binoculars. You bring them to your eyes. You see things quickly and easily. That's all there is to it. So bring the instruments up to your eyes. Focus them on something close. Then bring them to bear on something far. Then something in-between.

Feel good? Feel natural? Did you find things quickly, easily, or did you have to struggle?

Trust your judgment. You are the only authority here. If you are struggling, then the glass is not properly adjusted, or it simply

doesn't work for you. Try another make and model.

People who can pick up and use just any ol' binocular are the exception, not the norm. If there was one binocular that worked for everyone, there would be only one binocular. Be picky. Be particular. It's your binocular.

5. Good resolution, i.e., the instrument's capacity to resolve detail, is essential. If you are in a store, find some printed matter that has letters of varying point size. Note the smallest type size you can read. If you are fortunate enough to be in a store that lets you take the glass outside, try looking at leaves or flowers (things with fine details) or wooden buildings (or fence posts or signs or bird houses) that show fine grain. More detail good. Less detail less good.

OK. Now here's the real test—the place where the optical package hits the retina. Binoculars have two barrels, and rarely (if ever) do two barrels offer identical optical performance *even on premium instruments*. Test both barrels independently using the same eye (because rarely are two human eyes alike, either). What you want are two barrels that are performing at near optical parity, i.e., resolving at about the same level of detail; magnifying at close to the same power. What you don't want is an instrument where one barrel is markedly sharper than the other or where one is projecting a distinctly larger image.

Have you ever owned binoculars that were never quite restful or right and you didn't know why? Well, this is probably why.

6. Make sure that the image in your binocular is sharp throughout. A good test is to post a newspaper on the wall and look at the type. What you see should be sharp and readable across the field, blurring slightly near the edge. If there are blurry patches here and there throughout the field, find another instrument. If the image starts blurring about half-way to the edge, then the manufacturers cut corners by offering high resolution at the center and sacrificing resolution toward the edge.

It's only physics, boys and girls. There are only so many ways you can push it or tweak it, and manufacturers are always trying to balance performance and price point.

A measure of distortion toward the edge of the field is not only natural, it is functional (enhancing depth perception). But a binocular that is sharp only in the center is not one you want to use for long periods in the field.

Hint: If you don't have a newspaper, just find any old target that offers details (almost any page of printed text will do). Bring the object into focus at the center of the binocular. Move the glass slowly left, right; up and down. If the page comes into and out of focus in odd places (i.e., it blurs here and there), go for another glass.

7. A surprising number of binoculars are out of alignment right out of the box. The easiest test is to focus the binoculars on some object offering a horizontal profile (door jamb, fence rail, flat horizon). Draw the instrument slowly away from your eyes until you

see two images, side by side (one through each eye). If the lines are level (i.e., on the same plane), that's good. If one side is higher than the other, that's bad. Find another instrument.

8. A generous field of view is essential in birding binoculars, and by and large bigger is better (to a point). Remember, it's only physics. You can only bend it only so much. All binoculars express their field of view on the instrument itself—usually represented in feet per 1,000 yards (or meters) or in degrees of arc. Most posted estimates are in-the-lab theoretical, not in-the-field actual. To compare different makes and models, simply focus on some target that offers a graduated point of reference.

Like a bookshelf. Like a picket fence.

Designate a fixed point of reference on the left (like the left-most book). Keep it on the left edge of your field. Now, without moving the binocular, note the rightmost marker visible in the field of view. The farther right the marker, the bigger the field of view.

9. Binoculars that focus close (i.e., fifteen feet or closer) are essential to most forms of birding. Instruments that focus down to eight feet and still offer a restful image are prized.

There are many instruments on the market today that focus closer than this, and if you watch butterflies (as well as birds), you'll probably want a binocular that focuses even closer than eight feet. But you should know that binoculars accomplish this physics-pushing feat at a price. That price is a single image.

Instruments that offer a clear image at very close range (like 3-4 feet) have a bad habit of separating or diverging at distances starting at 35 feet (and there is a lot of birding that gets done at under 35 feet). You look through such instruments, and you see not a single image but two images that are separating or overlap-

ping, as if the image were undergoing mitosis. The name for this is parallax.

In the short run, parallax isn't damning. But if you are birding at close quarters (like in woodlands) for any length of time, your eyes are going to tire (because they are straining to bring the images together) and your birding is going to suffer.

As a rule, birding binoculars don't need to focus closer than 8 feet (and even many instruments that focus this close are subject to parallax). You want closer, be prepared to pay the price. Carry aspirin.

10. You can learn a lot about your binocular by looking through the wrong end. Any dust or flecked paint stuck to the lenses or prisms is magnified (thus easier to see). The best way to see dust flecks (or finger prints!) on internal elements is to hold the glass up to a blue sky and peer through the objective (big) lens. In the store, try looking at the palm of your hand.

I might also add that this is a good time to give your instrument a good shake. See if there is anything loose inside (like a screw; like the prism assembly). You think something like this is rare? It's not. Applying birding standards, binoculars showing slight to modest defects right out of the box are probably uncommon to occasional (as opposed or rare and accidental).

But now that you know how to test-drive a binocular, your chances of getting a bum glass are considerably decreased.

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## Birding Landscapes: Wisconsin

BY TOM SYKES

Given current gas prices, Carol and I have cut back on chasing Wisconsin rarities, but the lure of the Beloit Green-breasted Mango—which would be both a North American lifer and a state record—was too good to pass up. Besides, with so many consistent sightings posted to the Wisconsin Birding Network, we thought that the odds favored us. And adding a new bird is just half the fun. For us, the social interaction of reconnecting with familiar faces and meeting new birders is very rewarding.

Shortly after we arrived at the house where the hummer was being seen, we scanned the visitor log to get a sense of just how many birders had come and gone. Not surprisingly, there were lots of Wisconsin, Illinois, Minnesota, and Iowa cities listed. There were also listings for Michigan, New York, Ohio, West Virginia, and Canada. In fact, our first sighting of the mango was through a scope belonging to two birders from Canada.

*continued on page 10*



Family members (L-R) include Tim Endlein, Ryan (age 6), Deanna (age 9) and Aaron (age 7), Sue Endlein.