

SHIFTING



BY JULIE BARR

# GEARS

BRIAN PIPER, BIND '09, and the bike  
for the new American city

The Swift bicycle doesn't look like a revolution. When the bike's designer, **Brian Piper, BIND '09**, wheeled the bike into the showroom at the Dutch Bicycle Company—the Somerville shop that sells his creation—it struck me as more of a beach cruiser than a bike meant to take on the mean streets of Boston.

It was only when I got on the bike to follow Piper on a ride around the city that it began to make sense. When we stopped at a light, my feet easily touched the ground. When I turned my head to survey the traffic or removed a hand to signal turns, I still felt balanced. When going uphill, I was able to stand up to pedal, a skill I've rarely even attempted on my road bike for fear of toppling over.

It was a busy city setting—traffic, aggressive drivers, construction—and yet the bike made me feel comfortable, even secure. Which is exactly the kind of bike Piper set out to design.

**F**or almost as long as Piper can remember, bikes have been a big part of his life. As the son of an avid road bike racer, he and his brothers grew up around the sport. By the time Piper reached high school, he was racing mountain bikes, a sport that requires maneuvering through rocky paths at high speeds. He eventually competed in the 2007 UCI World Cup at Mont Sainte Anne in Quebec, and has won two professional slalom races, defeating the 2005 Masters World Champion in one.

Piper came to the Dutch Bicycle Company (DBC) in 2008 looking for a summer job fixing bikes. When Dan Sorger and Maria Salve, the founders and owners of DBC, discovered he was studying industrial design at Wentworth, they insisted on giving him design projects instead, which he extended into his senior co-op position. Piper started out designing basic accessories like bicycle storage racks and coffee holders, but was eventually charged with a much larger task: leading a team to design and locally manufacture the perfect bike for the American city.

City bikes are a different breed. Traditional road bikes are designed to be light and fast, not stable. A mountain bike is built to tackle the hills of New Hampshire, not maneuver through Harvard Square. City bikes are intended for utility—traveling to work, buying groceries, or meeting friends for dinner.

Piper's design of the Swift comes at an ideal time. As urban growth rises, biking has become a practical

transportation alternative while appealing to commuters increasingly interested in the environmental and even political impact of driving to work. American cities from Portland to New York have taken notice, instituting bike-share programs that function like a two-wheeled version of Zipcar, the popular car-sharing service. In July 2010, Boston received \$3 million from the federal government to invest in a bike-share program, which will launch next spring. Charged by Mayor Thomas Menino to become "a world-class bicycling city," Boston has set a goal of creating 35 miles of bike lanes and 750 public racks by next fall.

Getting Americans to replace the mode of transportation they have favored for nearly a century, though, requires a shift in the type of bikes that are sold to consumers. "The most important thing about a city bike is that it has to be reliable," says Sorger. "It is mirroring the idea of a car. You don't go to start your car every morning and wonder if the engine will work. A bike should be the same. You can't worry about replacing batteries for lights or having your gears be rusted. It should just work."

Creating a bike that competes with the car for reliability has required a thorough design process. Piper and his design team—which included **Ryan McCaskill, BIND '09**—handpicked every component of the bike for a particular purpose, choosing locally made materials that required little to no maintenance and had the capacity to withstand everyday usage. The whole bike is





## The **SWIFT** by the numbers

The frame and fork are made just **1.75 miles** away at Cantabrigian Mechanics.

A single kickstand with **2 legs** allows the bike to stay stable and balanced during loading.

The dynamo in the front wheel's hub generates **3 watts** to power the lights.

The chain runs on **1 cog**, but achieves **3, 5, or 8 speeds** because of the internally geared hub.

The aluminum rack can hold up to **50 lbs.**



essentially rustproof, including a zinc-coated chain. The chain guard, fenders, and rubber pedals were chosen so that riders can wear street clothes; the lights are powered by the rotation of the wheels; and the rack allows for commutes without a sweaty backpack. The five different versions of the bike accommodate men and women of

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different sizes, each one adjusted to the appropriate proportions. Just one degree difference in the frame of the men's versions makes them better suited for aggressive riding, while one degree angle difference in the women's versions makes them better suited for their lighter weight. "Part of the reason the Swift is so unique is that we really look at the details," says Piper. "We literally sit there and analyze the geometry to a half of a degree."

Even the tiniest screw requires a lengthy, highly technical explanation of its importance. Because, to Piper—and for anyone riding the Swift—it makes all the difference.

After Piper and I return from our ride around Somerville, he starts to explain once again the way the geometry of the bike was so carefully calculated to make it handle the way it does. I'm still not sure if I understand how all the physics work, but I know I felt it.

Piper and I start to talk about the future. Along with keeping DBC as a client, he has started designing clothing and accessories for other bike companies like Turner Bikes and E13 Components (a company started by fellow alumna and bike design legend **David Weagle, MEC '98**). He has performed prototype testing on DW Link and Split Pivot suspension systems, and last spring went to Seattle to work at Evil Bikes, where he helped develop the architecture and styling for their 2011 carbon fiber bikes.

As Piper's projects evolve into his own freelance business, he is conflicted. Turning his hobby into a career is a big decision that can seem impractical and even irrational. But Piper sees a greater mission in his work.

"As time goes on, I am realizing more and more that the bicycle is a simple solution to many of the world's complex problems," he says. "My goal when designing is to create solutions that meet people's needs, wants, and desires for everyday use. If I can work to make bikes that are easier to use and more accessible for people, than I can feel good about what I am doing." [w]

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