

# Who Needs Fenders?

## *All but fair-weather cyclists*

By Sheldon Brown

If you are a fair-weather, day-tripping cyclist, you don't need fenders, but if you are a touring cyclist, and you're not traveling exclusively in a desert climate, you really should have fenders on your touring bike. Fenders by themselves won't keep you dry in a pounding rain, but they make a tremendous difference when you are riding roads that are wet from drizzle, recent rain, or snowmelt.

Even in hard rain, you will become wet with clean rain from above, but your body and bicycle will be protected from the mud and sand kicked up from dirty puddles and rivulets.

### Fenders Protect Your Bicycle

Many cyclists protect themselves from rain by wearing rain gear, but they forget that their bicycles don't like dirty water any better than their bodies do.

The water kicked up by your wheels is much worse for your bicycle than the clean rain falling from the sky. If you ride in wet conditions without fenders, your chain, derailleurs and brakes will all get sprayed with sandy, muddy, scummy water, often mixed with gasoline residue. This is very bad for these parts. Your derailleurs will work better and longer, and your chain will last considerably

When the skies threaten, you'll wish you had fenders.



PHOTO BY ROBERT PEAK

longer, if you protect them from this filthy spray.

Even more vulnerable is the lower section of your headset. Headsets are designed to shed water like the shingles of a roof, and are basically rainproof, but the gritty spray from below has easy entry to the bearing surfaces of the heavily-loaded lower races. All-weather cyclists who don't use fenders need to service or replace their headsets on a regular basis, but those who use fenders hardly ever need to deal with headset problems.

### Types of Fenders

Older utility bikes generally came with steel fenders, but most fenders intended for high-performance bikes are made of plastic or of very thin aluminum laminated with plastic.

Some of these, specifically ESGE/SKS, permit the embedded aluminum foil to be used as conductors for lighting systems, permitting "wireless" tail lights to run off of a centrally mounted generator, but the hardware for this is not available in the U.S.

### Full-length Fenders

There is no substitute for full-length fenders, such as ESGE/SKS or the better Zéfal or Delta models. The rears run from the chainstays all around the rear tire until they are pointing almost straight down at the back. The good ones have two pairs of stays (wire struts) to hold the rear part in position, and also attach to the seatstay and chainstay bridges.

The corresponding front fenders extend from about six inches in front of the fork, down well below the "equator" of the front wheel, again with stays. Ideally, the front should also be equipped with a mud flap to protect your feet from spray. This traditional fender design really works to protect you, your bicycle, and your baggage from spray kicked up by wet roads.

### Clip-ons

Since people find full fenders to be a bit of a hassle to install, a number of companies make "clip-on" fenders that snap on to the frame. Without stays to support the ends, clip-on fenders are necessarily much shorter than full fenders, which means that they offer much less coverage than full fenders. The clip-ons are slightly better than nothing, but very much worse than real fenders.

Unfortunately, many newer bicycles are poorly designed, following silly fads that make it difficult or impossible to install real fenders. These bikes are designed for fair-weather use, and are not intended for serious cyclists. This is particularly true of racing or racing-style bikes, which often are made without frame eyelets to attach the fender stays to, and with insufficient clearance under the brake bridges and calipers to allow fenders to clear the tires. If you are stuck with such a bike, clip-ons may be your only option.

### Shorties

There are also "shorty" fenders, about 8 inches long. These were popular a few years back, but they're really pretty useless. A front "shorty" will protect the headset, but that's about all the benefit they have to offer.

### Flat-top pannier racks

Many newer "mountain" style pannier racks include a wide flat center section, which is sometimes represented as being a fender. This does help somewhat to keep you from getting your back sprayed by the rooster tail from your rear tire, but does nothing to protect your feet and legs, as a real fender does.

### Installing Fenders

Proper fenders attach to the fork crown (front) and the



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chainstay and seatstay bridges (rear). On bikes with caliper brakes, they attach with the brake bolts; on bikes with cantilever or drum brakes, you need extra 6 mm bolts to attach them (though you may already have these holding reflector brackets onto your bike.)

The stays attach to the fork ends with (usually) 5 mm bolts. I'd recommend using stainless-steel Allen-head bolts for this. The threads should be lubricated with grease or oil so that you can get them nice and tight. There are special large-diameter stainless-steel washers available at better bike shops, which provide a better match between the bolt head and the loop of the fender stay, so that the loop doesn't get deformed when you tighten the bolt.

The stays attach to the fenders with small eyebolts and nuts that use an 8-mm wrench. These allow you to adjust the fenders to follow the shape of your wheel. Make sure to lubricate these threads and tighten the nuts REALLY tight. I use a 14-mm open-end wrench to hold the tab of the fender so that it won't rotate/bend while I am tightening these nuts.

The stays, especially on the front fender, should be trimmed off so that they don't protrude far past the hardware of the fender.

The first time you install a set of full fenders on a bike, it is a fairly time-consuming task, but after that, it isn't that big a deal to take them on and off.

ESGE/SKS makes a quick-release kit for bikes that don't have caliper brakes. It consists of a pair of special bolts that fit the fork crown/seatstay bridge. These bolts have heads that incorporate a snap fitting to permit quick-release. The kit also includes 4 "Securi Clips" (see below) so the stays can be snapped out, leaving the Securi Clips in place.

### Safety Issues

There is a potential hazard with front fenders: It is possible to get debris caught between the fender and the tire, or between the moving spokes and the fender stays, which can cause the fender to crumple up and lock the front wheel.

ESGE/SKS fenders come with a special plastic "Securi-Clip," a snap-away fitting that connects the front fender stays to the fork ends. This is a very worthwhile feature, and is one of the reasons that ESGE/SKS fenders are generally considered the best.

### Toe overlap

It is quite common for bikes with fenders to have some overlap between the rider's toe and the front fender. Cyclists encountering this for the first time sometimes freak out a bit, and the unwary may have a low-speed fall or two before adjusting. Toe overlap is not actually a problem at normal cycling speeds, because you only turn the handlebars far

enough to cause a problem when you're maneuvering around at a walking pace. With a bit of practice, it becomes automatic to avoid this sort of interference.

### Mudflaps

Fenders don't extend down as far as they might for maximum protection, because the ends would be vulnerable to damage from curbs and the like. Instead, flexible extensions called "mud flaps" are a valuable addition. A suitable mud flap will extend spray protection all the way down to your feet.

Triangular rubber mud flaps were formerly a standard accessory item, but they have become hard/impossible to find. These flaps are a bit heavy and stiff for mounting on modern plastic fenders anyway.

Many rain-savvy cyclists make their own mud flaps for plastic fenders out of plastic milk/cider jugs, commonly secured by "pop" rivets or small screws and nuts.

If you mainly ride alone, you only need a front mud flap, but for touring with a group, it's nice to have one on the back as well, for the benefit of whoever is riding behind you. ●

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