



# Wrenching

## Derailleur Types

Common considerations when replacing derailleurs

### *Derailleur Cage Size*

There are long, medium and short cages.



If you don't have the original derailleur to use to determine its replacement...

Working out which size to install:

$$\begin{aligned} & [ \text{Largest Front Ring} - \text{Smallest Front Ring} ] \\ & \quad + \\ & [ \text{Largest Rear Ring} - \text{Smallest Rear Ring} ] \\ & \quad = \\ & \text{Required Capacity} \end{aligned}$$

e.g. if you are running a 22-32-42T front crankset, and a 11-34T rear cassette.

$$[ 42 - 22 ] + [ 34 - 11 ] = 43T$$

Choosing a cage:

General guidelines for maximum capacity for each brand are (though it does vary between models, so best to check the model-specific capacity):

#### Shimano

- Long = 45T
- Medium = 33T
- Short = 28T

#### SRAM

- Long = 45T
- Medium = 37T
- Short = 30T

### *Up Pull and Down Pull Front Derailleur*

Front derailleurs are either up pull or down pull. On an up pull, the cable is threaded from above. The cable housing is affixed to the top tube. This is the standard on mountain bikes. If threaded from below, the housing and cable would be exposed to rocks, brush, mud, etc. when riding off road. On a down pull, the cable is threaded from around the bottom bracket below. The cable housing is affixed to the down tube. This is the standard on non-mountain bikes.

### *Front Derailleur Mounts*

There are two common types of front derailleur mounts.

The first mount consists of a ring that goes around the seat post and is clamped on with a bolt. This is called a band clamp. This is by far the most common seen at The Center.

**Note: Seat tubes come in different diameters and, therefore, clamps must come in different sizes. Please be aware of this when ordering a replacement.**



The second is a braze-on mount. The mount is attached permanently to the seat tube. The derailleur is then bolted on to the mount. These are seen on more expensive bicycles.



Deraillieurs made for braze-on mounts can also be installed with a special adapter that is clamped to the seat tube.



### *Rear Derailleur Mounts*

Rear derailleurs come in frame mount and hanger mount versions. **They are not interchangeable.**

With a frame mount, the derailleur is bolted directly to a special hole in the dropout on the frame.

With a hanger mount, the derailleur is mounted in the axle dropout. They are characterized by the claw as shown below.



There are also special aluminum hangers that are also used on certain bikes. There are literally hundreds of different designs. There is a code on the hanger that helps identify it. Without the original part or that code, research would have to be done to figure out which hanger was installed on that model of bike. **Therefore, never throw away the original or pieces of the original.** They are not cheap. The shop had to order one and it was \$22 for the hanger and \$7 shipping.



Examples of the variety of aluminum hangers.



### *Brand considerations*

SRAM shifters are designed to work with SRAM derailleurs. Shimano shifters are designed to work with Shimano derailleurs. If there seems to be no adjustment that will get the shifting to work smoothly, this may be the cause.