

B11: Trim your bike (Team)
Due Feb 4, 2010

Trimming the Bicycle: If you ride a bicycle no handed, you might find that some body lean is needed to go straight. To go straight without lean the bike must be trimmed. First make sure that the wheel and steering bearings are in good order, that the brakes, steering, and tire pressure are properly adjusted, and that the forks, wheels, and frame are not bent.

There are two simple methods for trimming a bike.

- Loosen the front wheel and pull its bottom to the left or to the right (and retighten).
- Loosen the rear wheel and pull its front to the left or right (and retighten).

1) Taking a balanced bicycle, pulling the bottom of the front wheel to the right will make it want to curve to the right, i.e. the handlebars will want to turn left.

2) Taking a balanced bicycle, aiming the rear wheel to the right will make it want to curve to the left, i.e. the handlebars will want to turn right.

Trim your bicycle.

(Be sure to trim your bicycle before all future experiments.)

During your first trimming of your bicycle, intentionally misalign your bike, see what extreme effects you can get (in turn radius, etc.) while sitting up straight (both with and without hands if possible). Be sure to quantify your study in terms of the turning radius, amount of misalignment, and speed (fast, slow, medium).

Film your intentionally misalignment experience and show the movie(s) in class on Feb 4.

Also submit a 1 page description of your experience (LaTeX) (you know, 10pt, 1in margin, single spaced, etc.) which also addresses why 1) and 2) work (i.e. why they are true).