

IDEA  
**TREADLE DISCUSSION**  
 (VERSUS BIKE)

(ALL IN ATTENDANCE  
 MINUS KYLE)

**TREADLE**

**BIKE**

How does it place  
 the user?

Pedals

Seat + Pedals

How does it  
 generate power?

Motor/s

Motor/s

How does it transfer  
 work/motion?

Pedal-Links  
Sprockets

Chain/Belt Sprockets

# TREADLE DESIGN DISCUSSION (FRIDAY GROUP MEETING)

## FOOT PEDALS

- WOOD
- METAL/ALUMINUM
- OTS
- Thermoset Plastic (B9)

## LINKS/SHAFTS

- METAL (BAR STOCK)
- NEEDLE BEARINGS/BALL BEARINGS
- LUBRICATION (MAYBE)
- BRACKETS/BRACE
- NUTS/BOLTS

## POWER GENERATION

- MOTOR
- MULTIPLE SMALL DCBL
- ONE MOTOR

## HANDLEBARS

- PVC
- Metal
- WOOD
- BAMBOO
- STAND/PIVOT POINT

## POWER/ELECTRONIC

- RECTIFIER CIRCUIT
- VOLTAGE REGULATOR
- LEDS
- 12 V Car plug

## DRIVE

- SPROCKETS/CHAIN
- PULLEY/ROPE BELT
- TIRE AND FRICTION

$x_1$  = handle length

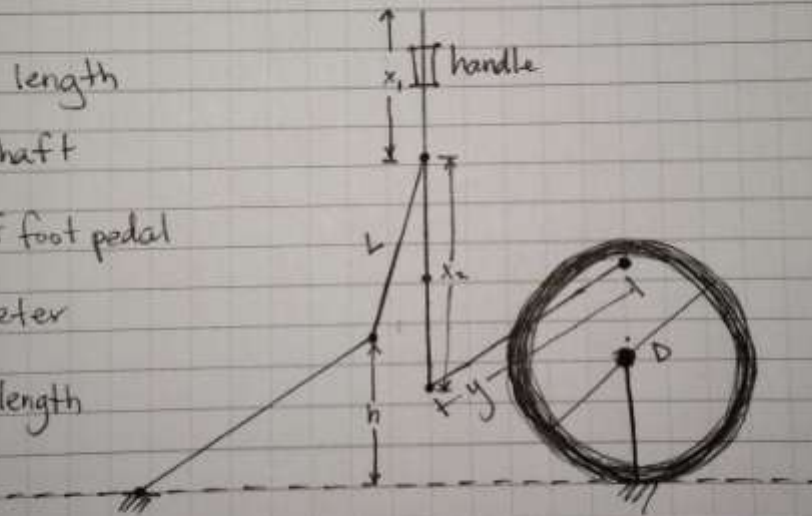
$y$  = drive shaft

$h$  = height of foot pedal

$D$  = Diameter

$L$  = link length

$x_2$  =



With no resistance:

2 steps/second = 1 revolution/sec = 60 RPM WHEEL

4 motors : 104 rpm

$60D = 104d$



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SIGNATURE

DATE

10/18/13