**Incoming Assignment**

Due September 5, 2018

In attempts to speed up the learning process later, this homework will walk you through some of the major parts of our snowmobile, and of the competition. To complete this I’ve attached appropriate links to websites, but feel free to google around for a more in-depth understanding. This project can take anywhere from 30 min-6 hours depending on how much detail you go into. Also, if you have any questions, come ask an older member!

**Questions:**

1. How does a four-stroke engine work? What are the 4 strokes of a four-stroke engine? What are some good and bad things about four-stroke engines as it pertains to our competition?

http://www.animatedengines.com/otto.html

https://en.wikipedia.org/wiki/Four-stroke\_engine

1. Complete problem 1 but for two-stroke engine.

http://www.animatedengines.com/twostroke.html

https://science.howstuffworks.com/transport/engines-equipment/two-stroke1.htm

1. How does a continuously variable transmission work? Why would it be preferable to run a CVT vs. a standard geared transmission?

https://practicalmotoring.com.au/car-advice/continuously-variable-transmission-explained/

https://auto.howstuffworks.com/cvt.htm

1. How does a Helmholtz resonator work? What are some of the different functions of a Helmholtz resonator and how could we use it on our snowmobile?

https://en.wikipedia.org/wiki/Helmholtz\_resonance

http://newt.phys.unsw.edu.au/jw/Helmholtz.html

1. What is a tuned pipe and why do we need it on our engine?

https://en.wikipedia.org/wiki/Expansion\_chamber

http://www.modelgasboats.com/magazine/tech-articles-mainmenu-608/548-tuned-pipes

1. What is a dynamometer and how do we use it? What components can we test with different types of dynamometer?

https://www.explainthatstuff.com/how-dynamometers-work.html

## https://en.wikipedia.org/wiki/Dynamometer