UAF IC Clean Snowmobile "Lucky" 13

Team Members: 1-Michael Golub 2-Allan Spangler 3-Issac Thompson 4-Wyatt Rehder 5-Ian Matteson 6-Craig McKenzie 7-William Coleman 8-Lisa Stowell 9-Amanda Mertes

Our Modified Snowmobile

2007 Yamaha Phazer





Why IC?

Phase I: (2011) Crawl Phase: Do Minimal Upgrades • Phase II: (2012) - Walk Phase: Turbo, Emission Particle Testing • Phase III : (2013) - Run Phase

Snowmobile Operator Perspective

 Snowmobile riders want certain characteristics in their snowmobiles

- Improvements can be made to current snowmobile designs, specifically in:
 - Handling
 - Performance
 - Ergonomics

Dealer/Outfitter Perspective

- Reasonable cost without sacrificing quality is desired
- Design should be friendly to mechanics who work on it, and the snowmobile should be dependable.
- The snowmobile should have good handling characteristics. It should also be comfortable to ride.

Environmental Perspective

- Emissions should be reduced by the snowmobile design to protect our environment.
- Noise pollution should be reduced, as it is a frequent complaint against snowmobilers.

Turbocharger Feasibility

Garret GT-12 turbocharger



Fuel Energy Densities	
Fuel Type	HHV (Btu/gal)
Ethanol	76,000
Gasoline	115,000
E20	107,200
E21	106,810
E22	106,420
E23	106,030
E24	105,640
E25	105,250
E26	104,860
E27	104,470
E28	104,080
E29	103,690