CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
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Project Number
S0211

Project Title
Which Two-Stroke Cycle Engine Oil Allows for the Most Power to be Produced?

Abstract

Objectives/Goals
There are three major types of oils; synthetic, castor, and castor-synthetic blend. Each different type of oil has its unique properties; lubrication, power outputs, corrosion protection, cleaning properties, and many more. The goal of this study is to see which type of oil produces the most power.

Methods/Materials
An ATV with a two-stroke engine, will be placed on a dynamometer. The three different variables will then be added, separately, to the gas tank. Each variable will be tested at a different time. After each is tested, the results will be analyzed, and a very precise graph will be printed.

Results
The Maxima Castor 927, a castor-synthetic blend oil produced a maximum of 18.18 rear wheel horsepower. The Bel-Ray MC-1, a fully synthetic produced 20.08 rear wheel horsepower. The Blendzall 460 Green Label Racing Castor, a fully castor oil, produced 22.06 rear wheel horsepower.

Conclusions/Discussion
I hypothesized that the castor-synthetic blend, Maxima 927, would produce the most power. I was wrong. The most power-producing oil was Blendzall 420, the fully castor oil. I believe that this testing solves the heated debate over different oils. People can now have solid information about how different oils perform.

Summary Statement
I am trying to determine which type of two-stroke engine oil allows the engine to produce the maximum amount of power to be produced.

Help Received
Mr. Scott Lampkin, employee at DynaPack USA, operated the dynamometer to test for power