



Colorado Science and Engineering Fair

2024 Individual Project Abstract Form

Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.

Title of Project: The Alternate Alternator

Finalist's Name: Willard Wilton

School and City: Central High School in Pueblo

Sponsor's Name: Jamie Withnell

Category: Engineering (ENGR)

Division: Senior (9th - 12th grades)

Abstract (250 words or less):

The problem is that alternators do not last and they are very expensive to replace. A quality alternator can last as long as ten to thirteen years, but this is a very inconsistent measurement as they last realistically one to five years. So, to keep the consistency of life, reduce waste, and create power for electric and hydrogen vehicles, an alternate alternator is a solution that could help. The alternate alternator not only affects the consumer but also the manufacturer as there will not be a high demand for alternators when there is an alternative that lasts longer. Now, This is a "solution" to an already existing problem in an alternator where its lifespan is shortened due to technical difficulties with the bearing inside the alternator. This in turn shortens the lifespan of the alternator and can cause other issues from the alternator not creating enough power. Thus, this is where the alternator steps up to take its place as it has a possible lifespan of 15 years to the life of the transmission as well as making more than enough power to power a house.

I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.

Finalist's Signature:

Date:

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. A signed copy of this form must be included in your notebook.