

TEAM 17: Valvenilla ICE

Introduction

Team Valvenilla ICE is a team of four Mechanical Engineers with interests in engines and engine performance. The inspiration for this project has been the supercar market and the engine innovations that they produce.

Problem Statement

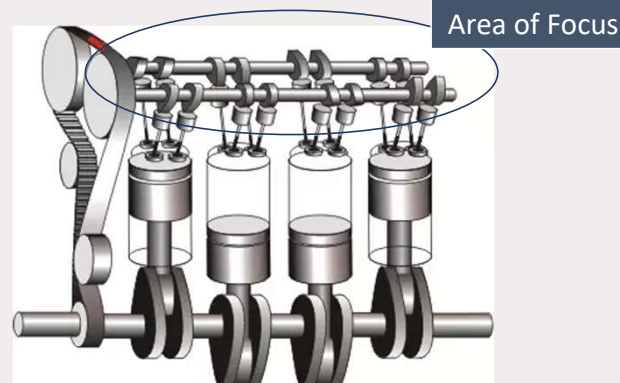
How can we replace the need for a camshaft and increase the control over the movement of the valves and therefore the air flow?

Customers

Our product would be used by engine manufactures to improve their engines; however, our main user would be everyone from the everyday driver to a car enthusiast to a racing team.



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Proposed Solutions

Pneumatic Actuators

- Attach a Pneumatic cylinder with controllers to the end of each valve and move the valves according to a prescribed program.

Magnetic Actuators

- Custom magnets used to actuate a system to move each valve according to a prescribed program.

Electric Motor System

- Use electric motors in conjunction with a gearing system to move each valve according to a prescribed program.

Acknowledgement

Ren Tubergen, Ph.D., P.E. - Advisor