

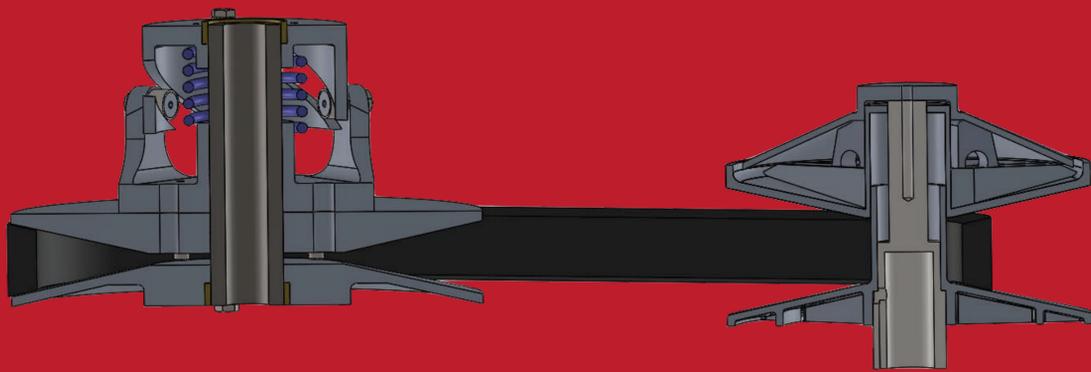
SEA V.T.

FALCON RACING

• OBJECTIVE •

Design and build a transmission optimized for the SPU Baja SAE race buggy.

Stepless Acceleration ▼ Continuously Variable Transmission ▼ Lightweight Design
Specialized Gear Ratios ▼ Optimal Power Transmission

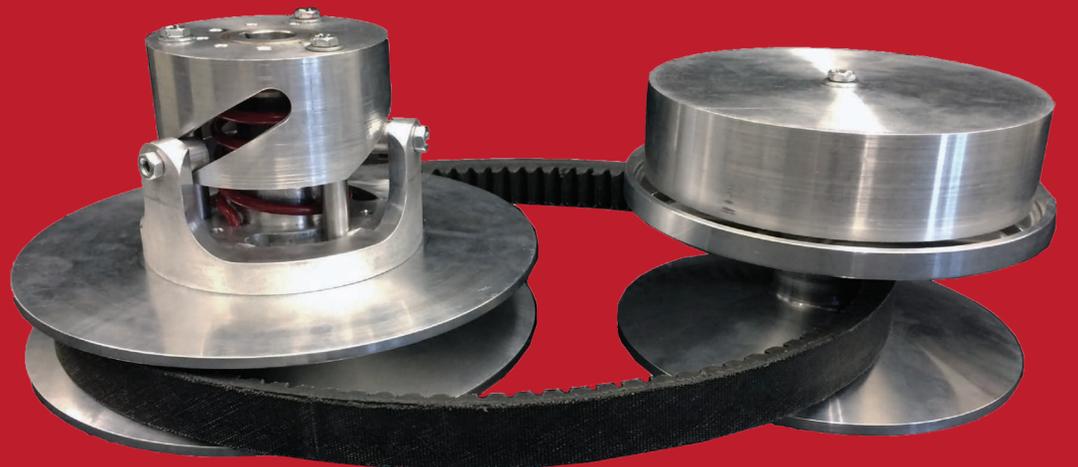


• DESIGN •

The Sea V.T. allows the engine to be run uniformly at optimal RPM without “shifting lurches” experienced with a traditional geared transmission. The Sea V.T. consists of variable diameter pulleys connected with a belt. The primary pulley contains flyweights that respond to centrifugal force, resisting spring forces and adjusting the pulley diameters. This allows the belt ratio to change, allowing the transmission to “shift” gear ratios. The Sea V.T. is optimized to run with the Dana Spicer H12 - FNR reduction gearbox. The Sea V.T. also showcases weight reduction features to reduce the overall weight of the buggy. Well engineered systems win races!

• APPROACH •

We set out to create a continuously variable transmission (C.V.T.) by conducting dynamic analyses and employing an iterative design process. SolidWorks was used for all modelling work and full scale 3D printing was utilized for test fitting. Parts were machined on site here at SPU as well as at Pen-Ent Inc.



NOLAN SMURRO | HA NGUYEN | BYRON KIM | HANNAH KIM | ABDUL ALMOGBIL
DR. ADAM ARABIAN | DR. KEVIN BOLDING

