

# CWSF 2009 - Winnipeg, Manitoba



## Timothy Carlielle-Shaw

### Annular Wings vs Straight Wings

**Division:** Health Sciences / Automotive

**Category:** Intermediate

**Region:** Central Alberta

**City:** Olds, AB

**School:** Olds Junior Senior High School

**Abstract:** Annular-wings, (circular shaped closed wings) have always been around, but there has been little to no research done on them. Annular-wings theoretically eliminate parasitic or lift-induced drag, but there has been no experimental evidence to back up this theory. To help prove or disprove this theory, I built an airplane with an annular wing and used a wind tunnel to do some experiments with annular-wings.

### Biography

I am in grade eight and attend Olds Jr. Sr. high school in Olds, Alberta. I have entered science fairs for the last seven years, and participated in the CWSF 1 year winning bronze in earth sciences. My hobbies include camping, biking with my friends, and making chainmaille, an ancient art that produces beautiful jewelry or tough armor. I also enjoy collecting fossils in the Alberta badlands with my dad and I am a member of the Alberta Paleontology Society.

### Awards

### Value

Award for Excellence in Astronomy - Intermediate Sponsor: Royal Astronomical Society of Canada	\$750
The University of Western Ontario Scholarship Silver Medallist - \$1500 Entrance Scholarship Sponsor: University of Western Ontario	\$1 500
The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
Bronze Medal - Automotive - Intermediate Sponsor: AUTO21	\$300
Silver Medal - Engineering - Intermediate Sponsor: Youth Science Canada	\$700
<b>Total</b>	<b>\$4 250</b>