

CWSF 2014 - Windsor, Ontario



Biography

My name is Keaton Chadwick. I am a Grade 10 student at Chinguacousy Secondary School in Brampton Ontario, and am part of the regional Sci-Tech program offered there. One main sport I participate in is motocross, and am a member of the Oshawa-Competition-Motorcycle-Club (OCMC) where we race on Tuesday nights during the warmer months. I am also an avid skier. I learned to ski at age two, and love to ski natural, challenging terrain including deep powder, rocks, cliffs, and glades (skiing in the woods). I often visit larger mountains, and skied at Revelstoke, BC this winter. My project stems from my interests in mechanics, engineering, engine theory, and motorsports. At home I work with engines and various machines on a daily basis, be it machining parts, modifying engines, welding, etc. One of my hobbies is building small motorcycles and motorized bicycles using garbage-picked engines from lawnmowers or trimmers that I repaired and modified to make more power. My current project involves motorizing a BMX bike with a vintage wankel rotary engine, made by Fitchel and Sachs in the 60's and 70's. The engine will be completely reworked internally, and will drive a transmission from a Kawasaki dirt bike.

Keaton Chadwick

Throttling a Two Stroke Engine Through Crankcase Compression

Challenge:	Innovation
Category:	Intermediate
Region:	Peel
City:	Brampton, ON
School:	Chingacousy S.S.
Abstract:	The 2-stroke engines that power the majority of scooters and rickshaws in developing countries have a tendency to run very inefficiently at low speeds, causing excessive fuel consumption and pollution, and little power. An alternative approach of throttling these engines was investigated as a means of improving low speed efficiency, and therefore improving emissions, fuel consumption, and power.

Awards	Value
Excellence Award - Intermediate - Bronze Medal	\$100
Sponsor: Nuclear Waste Management Organization	
Western University Scholarship	\$1 000
Bronze Medallist - \$1000 Entrance Scholarship	
Sponsor: Western University	
Total	\$1 100



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