The Clean Snowmobile Challenge 2003 (CSC2003) is an intercollegiate design competition that is part of the SAE's Collegiate Design Series. The CSC2003 requires student teams to re-engineer an existing snowmobile for improved emissions and noise while maintaining or improving the performance characteristics of the original snowmobile. The driving force behind this project is the rising concern over emissions from two-stroke snowmobiles and watercraft in National Parks. The 2003 Clean Snowmobile Challenge competition will take place this March in Houghton, Michigan. Events scheduled to take place during the CSC2003 include: emission testing, acceleration event, braking event, snowcross event, cold start testing, noise measurement, fuel economy event, and oral/written design (including cost and feasibility).

The intent of the competition is to develop a snowmobile that is acceptable for use in environmentally sensitive areas. The modified snowmobiles are expected to be quiet, emit significantly less unburned hydrocarbons and carbon monoxide than conventional snowmobiles (without significantly increasing oxides of nitrogen emissions), and maintain or improve the performance characteristics of conventional snowmobiles. The modified snowmobiles are also expected to be cost-effective; so that snowmobile outfitters can afford to purchase them and still make a profit running tours. Although the snowmobiles will compete in both a hill climb event and a handling event to evaluate performance, the intent of the competition is to design a snowmobile that will primarily be ridden on groomed snowmobile trails.

In the Clean Snowmobile Challenge 2002 the University of Alberta team designed a sled using a modified Suzuki GSX-R600 four stroke engine as the power plant. The sled was then outfitted with a custom intake manifold and electronic fuel injection system along with a
custom tuned exhaust header. With the addition of other essential systems such as a Razor two-stage oil pump, catalytic converter, and custom expansion chambers. The U of A team placed an impressive fifth at last year's competition.

**2003**
For 2003 the team will be utilizing a two stroke design platform. Items such as a supercharger, semi-direct closed loop fuel injection, catalytic converter, custom designed cylinders and head, lightweight materials, and custom built expansion chamber will be used. Optimization of chassis dynamics and weight will also be focused on. With these methods, the University of Alberta will exceed the performance of modern, high-end snowmobiles, while drastically reducing emissions and noise.

**Sponsorship**
This project is made possible through corporate sponsors. Corporate sponsors not only supply the much-needed funds and mentorship, but also provide materials, technical advice and public exposure. Tax receipts are issued for all donations. In appreciation for their generous support, the Clean Snowmobile Team will proudly display its sponsors' corporate logo on the snowmobile and the support trailer. As well, our sponsors will appear in our newsletters, presentation, technical lectures, display boards, and other media used for press releases. Throughout the year, the Clean Snowmobile Team will display the snowmobile at various auto shows, technical expositions, press conferences, Open Houses, and at the offices of our sponsors.

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