

Michigan Technological University

A Fusion of Advanced Technology with Proven Reliability

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Fueling Performance through Innovation



Design Intent

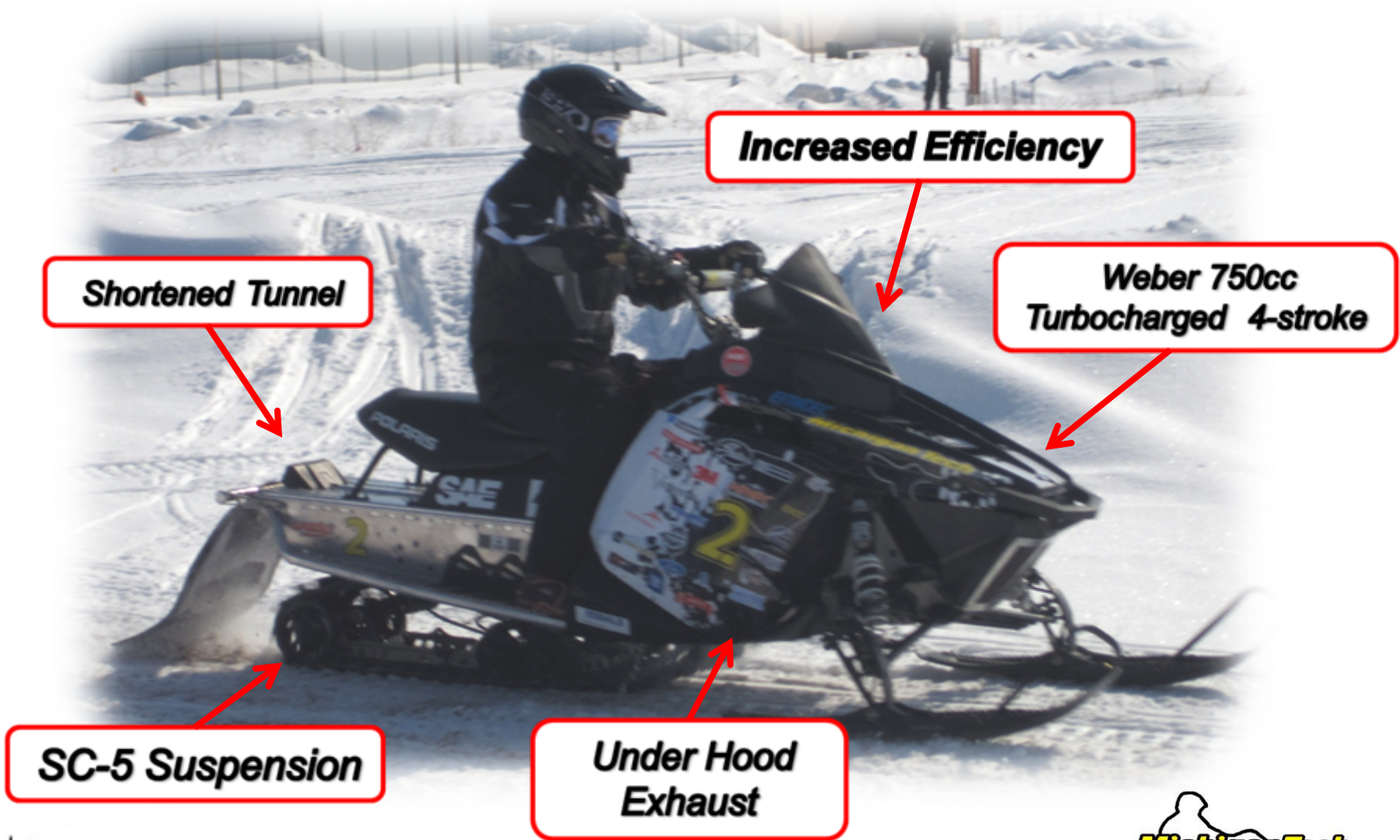
- Reduce Emissions
- Reduce Noise
- Increase Fuel Efficiency
- Reduce Weight
- Maintain Rideability
- Maintain Stock Manufacturing Cost



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Key Features



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Chassis Update

- 2011 Switchback Assault
 - Lightweight 2-Stroke Chassis
 - Improved Ergonomics
 - Modern Styling and Design



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Motor Mounts



**Bulkhead
Reinforcement**



Rear Mag Mount



PTO Mount



Front Mag Mount

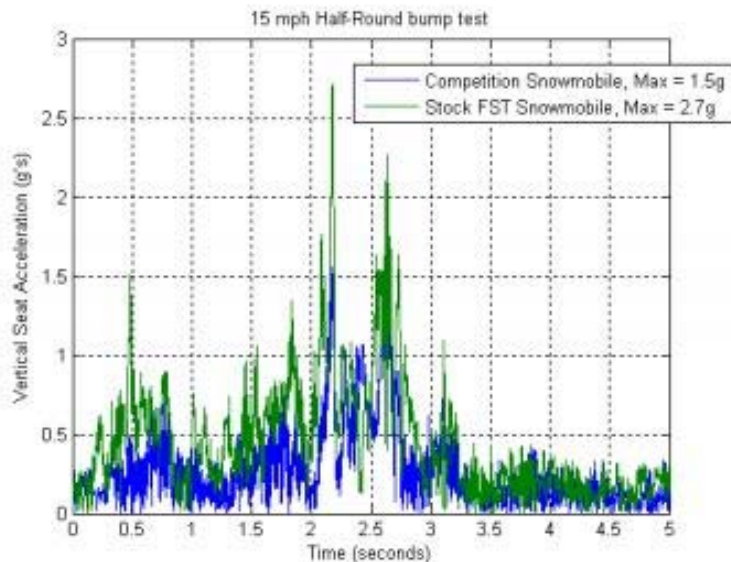


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Rear Suspension

- *Ski-Doo SC-5*
 - *Light weight configuration*
 - *20 pound reduction*



- *Bump Course Data*
 - *Closed constructed bump course*
 - *Max acceleration reduction*



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Tunnel Modifications



Original Long Tunnel



Finished Short Tunnel

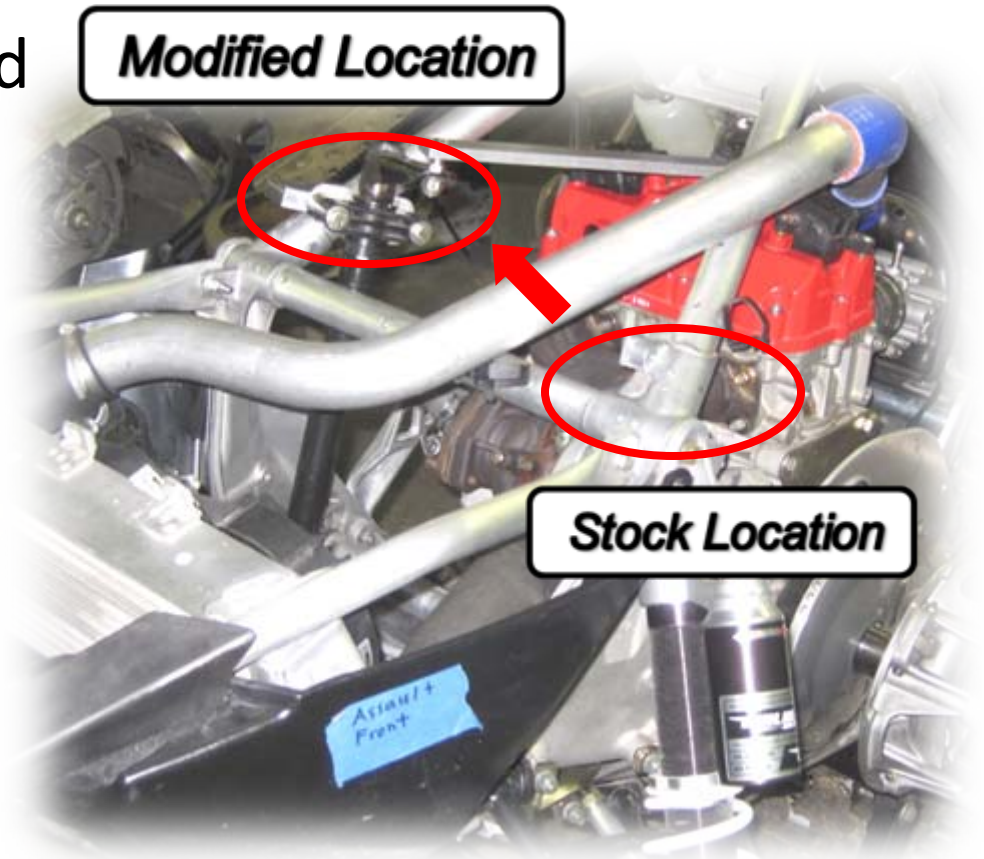


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Steering Relocation

- Steering post relocated
 - Turbo Clearance
 - Stock Geometry



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Engine Specifications

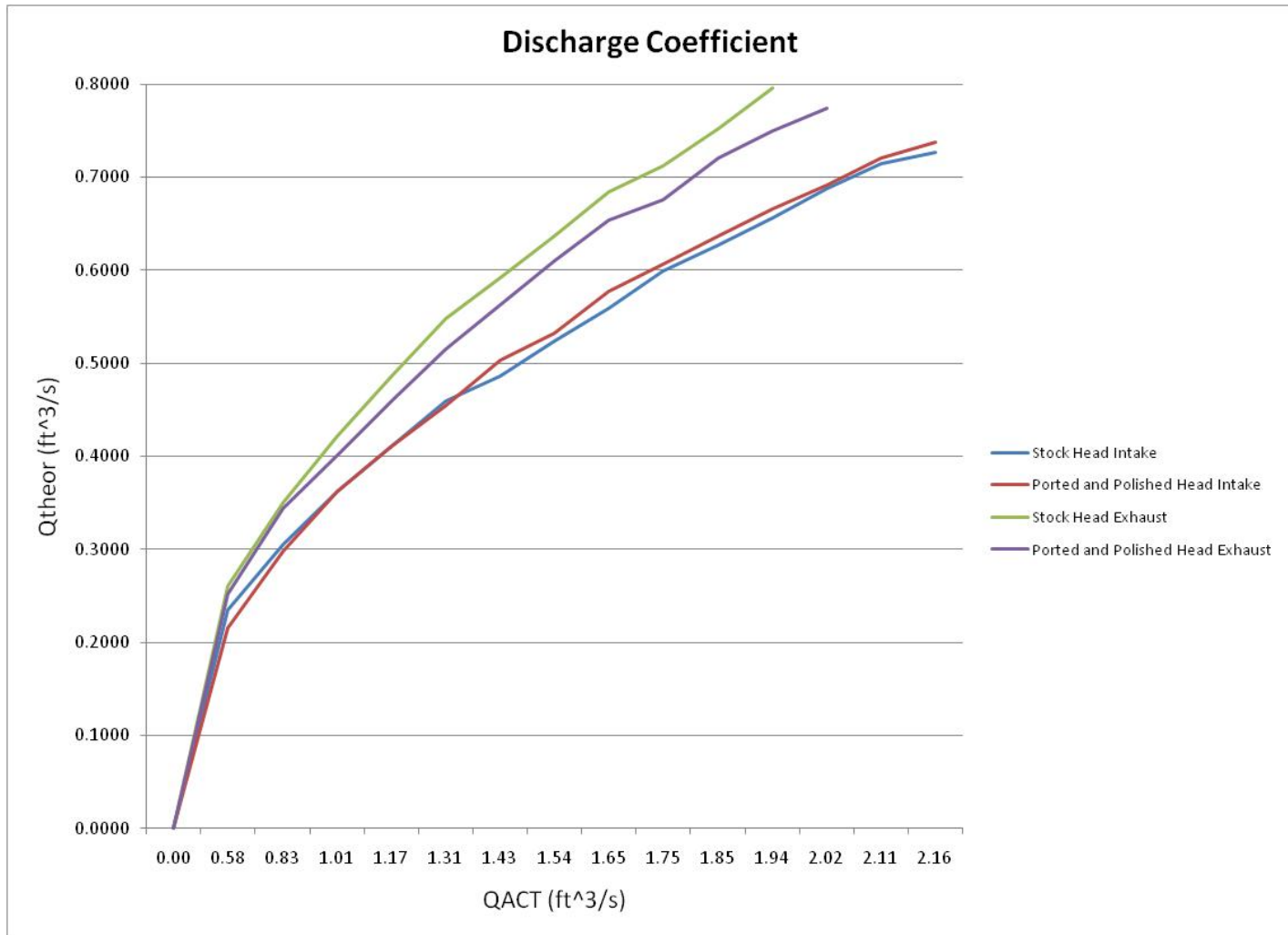
- Weber MPE 750
 - 4-stroke
 - Turbocharged
 - Stator Charging System
- AEM
 - Standalone Engine Management
 - Precise Fuel and Ignition control



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Flowbench Head Testing



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Engine Components

- Smaller Oil Bottle
 - Lightweight
 - Packaging



2011 Oil Bottle



2011 Intake Runners

- Shorter Intake runners
 - Accommodate stock plenum and throttle bodies



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Engine Exhaust

- Components
 - Tuned Resonator
 - 3 Pass Cat
 - Glasspack
- Packaging
 - Within stock plastics
- Heat
 - Vents
 - Ceramic wrap
 - Turbo blanket
 - Side panel modification

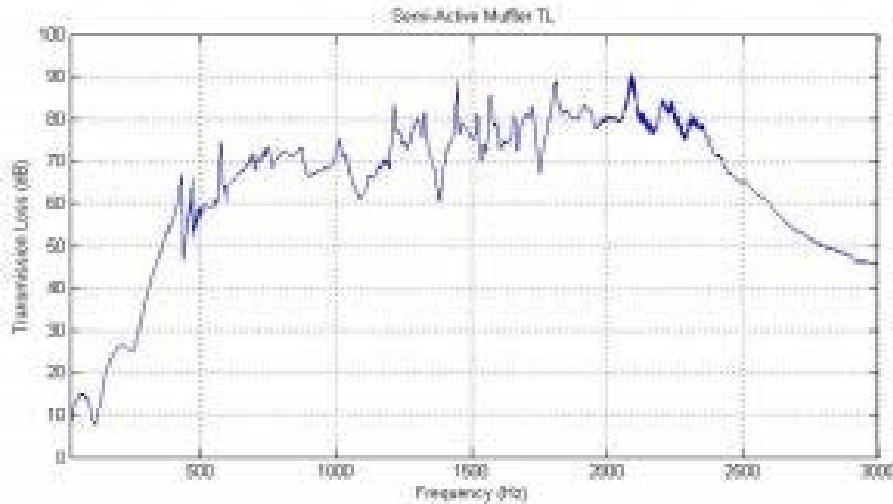


2011 Exhaust

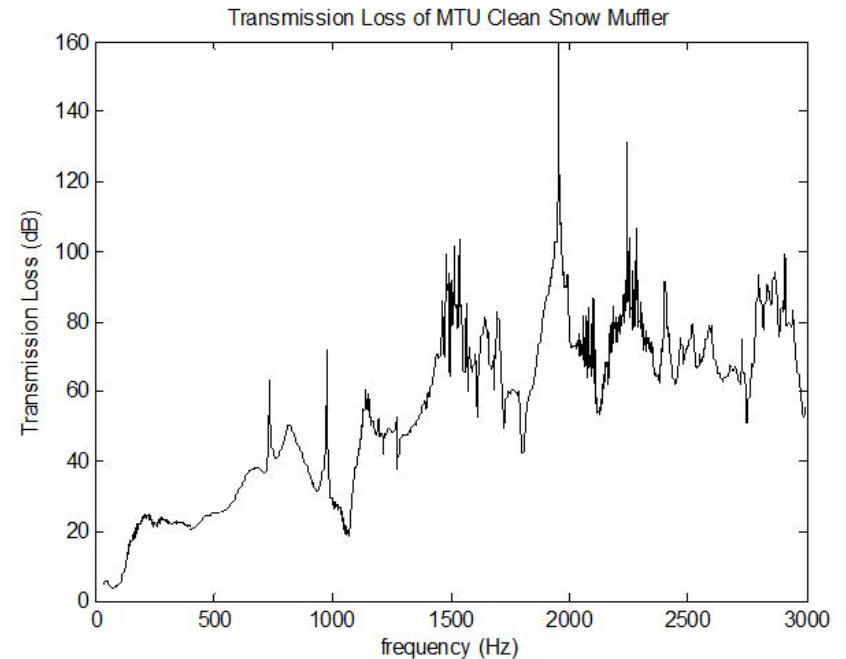


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Engine Exhaust



**2010 Exhaust
Transmission loss**



**2011 Exhaust
Transmission Loss**



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MSRP

- All parts designed and fabricated with mass manufacturing intent
- Used commercially available parts whenever possible
- Result MSRP:
 - \$12,707.33
 - Compare to stock MSRP:
 - \$11,199.00



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Conclusion

- All new engine and chassis configuration
- New MTU fabricated intake and exhaust
- Significant weight reduction
- Improved rider ergonomics and rider comfort
- Reasonable MSRP



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-Questions-

