

# **The Gator Supercharger**

## **AT LAST... AN AFFORDABLE EXTREME DUTY SUPERCHARGER FOR SMALL ENGINES**

The vast majority of engines built today are 4 liters or smaller and millions are used in recreational vehicles like snowmobiles, personal watercraft, all-terrain vehicles, 4 cyl. Jeeps, motorcycles, and ultra-light aircraft. Most are driven hard under harsh conditions and demand a high degree of reliability, and most owners would opt for power if there was a practical, affordable answer. A small super-charger could easily provide more power for the above vehicles or small engined cars and trucks, but unfortunately no such product exists today. Modern superchargers are costly, difficult to install and repair, and the boost usually limited to high rpm.

After spending 3 decades as an editor of Studebaker performance newsletters and books, I have followed the rise and fall of the Paxton supercharger from beginning to end. With 20/20 hindsight I view the McCullochs and Paxtons as an opportunity missed. These blowers were introduced as original equipment on the 1954 Kaiser inline L-head 6 with variable speed clutch to reduce wear. A good product that usually outlasted the engine. A couple of years later Ford went a step further for its NASCAR program by installing their "Direct Oiling" system, using recirculating crankcase oil to provide unlimited lubrication even under tough NASCAR racing conditions. Again, an even better product.

A great beginning for practical supercharging, but then Paxton decided to sacrifice reliability to increase profits and proceeded to promote the use of the blower for ever larger engines. Prices rose, and time between costly rebuilds plummeted. No longer practical for most applications, they became rich kid's toys limited mostly to show cars and boulevard cruisers. Unfortunate.

So back in 2001, after Paxton shut down production of this model, we launched a project in our long running super/turbo newsletter to build a low cost belt drive turbo that could fill the needs of the other ninety percent of the engines used today that don't have access to a practical supercharger for various reasons. Wishing to avoid the problems associated with all superchargers built in recent times, we set down so tough requirements for our own ....

- 1) Build it specifically for small engines and their special needs
- 2) Make it affordable to anyone -- not just the rich
- 3) Make it reliable -- large superchargers are notoriously fragile
- 4) Make it serviceable anywhere with common toolbox tools

- 5) Use readily available, competitively priced off-the-shelf parts
- 6) Make it impervious to water, dirt, and external heat/cold
- 7) Make it work equally well in any position -- no "right side up"
- 8) Make it easy for do-it-yourselfers to install with common tools
- 9) Make it run cool, not hot like other blowers -- no intercoolers!
- 10) Make it capable of producing high boosts on small engines

2003: All the above requirements have been met or exceeded, and limited production has begun for newsletter subscribers to start in-the-field-testing.

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