August 1994

UPDATE

AUDIE TECHNOLOGY

To be or not to be...

We've been thinking about starting a free newsletter/advertising flyer. The motivation for this is not altruistic. We hope to write on topics that interest you, while reminding you of our great products. The following is a sample of what we have in mind. Are you interested? Please let us know.

Time is money

We've been hearing some amazing things from some Flow Pro owners. One leading Winston Cup shop tells us that Flow Pro cut their testing time by 66%. Randy Brzezinski Racing Products tells us that Flow Pro cuts typical testing time for two cylinders from 30 minutes to 10 minutes. This is testing time. Analysis time savings are even greater. The conclusion is clear: If you're not using flow Pro you're wasting time.

The world of Briggs & Straton

I've come across several items lately that all relate to the king of lawn mower engines:

1. Brzezinski Racing Products has an adaptor for flow testing the engines. Call them at (414) 246-8577.
2. Crane Cams has introduced a line of camshafts for these engines. Call Sandra at (904)252-1151 Ext. # 211.
3. Texas Supercars has a new totally mechanical throttle device called the Texas Two Step. It helps young racers maintain constant line RPM. Call them at (817) 561-9606.

Engine Simulation Software

We've been working with VP Engineering on an upgrade to Dynomation, their four stroke engine simulation program. The new program has the look and feel of our other products. It will easily use air flow data from Flow Pro and cam data from Cam Pro and Cam Pro Plus as inputs. The program simulates a stepped dyno test to produce torque, power, and volumetric efficiency curves.
An important part of the simulation is the effect of pressure waves in the ports on engine performance. Port pressure waves are calculated and plotted. Accuracy has been checked against real engine performance.
You can order from us as soon as its available, which it may be by the time you read this.

Address Change

You may have noticed our new address. We have not moved. The post office changed our address in preparation for the introduction of 911 emergency service in our area. Mail sent to the old address will still reach us, at least for a while longer.

Mushroom Tappets & Power

Contrary to what you may have heard, mushroom tappets by themselves don't make more power. The do, however, allow the use of cams with higher velocities.

At any instant, the contact point of the cam on the follower face id directly related to the velocity of the cam profile at that

instant. When velocity is zero the contact point is in the center of the follower. The higher the velocity the further from center the contact point will be. It is possible for the velocity to be so high that the contact point moves off the face of the follower. If this happens the edge of the follower gouges into the cam and quickly destroys it. thus a higher velocity (and possibly higher power) cam may require a larger diameter lifter or a mushroom lifter.

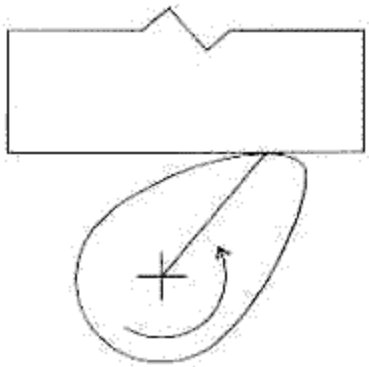

Figure 1

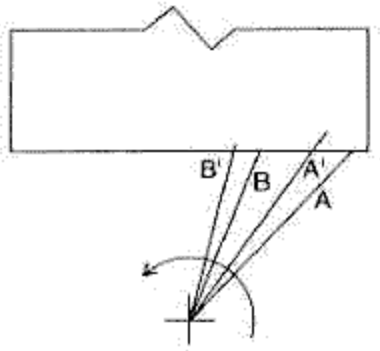

Figure 2

As long as the contact point stays on the face of the cam the lifter motion depends totally on the cam profile. A mushroom and a normal lifter used with the same cam will have the same motion. The mushroom lifter, however, allows the use of higher velocity cam profiles, and that may prove to be a winning combination.

Let's consider the relationship between contact point and velocity some more. The cam can be thought of as a lever that raises the lifter. the fulcrum of the lever is the center of the cam. The contact point establishes the effective length of the lever (figure 1). Figure 2 shows two levers, a long one (A) and a short one (B). Both are also shown after the cam has rotated a few degrees. The long lever will produce more lifter movement for the same amount of rotation (ie. it will move the lifter faster). Another way to say this is the long lever produces higher lifter velocity.

Valve Pro Status Report

Valve Pro is our latest project. It combines engine geometry with air flow and cam data for further analysis.

We've had many inquiries about the status of Valve Pro. Valve Pro is in the final testing stages. This has turned out to be a larger project then originally anticipated. Despite pressures to do otherwise we will not release it until it is ready. There will be a mailing (probably as a newsletter) when it is done. We also have a list of people who have requested that we phone or fax them as soon as it is available.