



**NOVEMBER 1999**

### ***What Do I Need Besides Flow Quik?***

We are often asked what equipment is needed besides Flow Quik to do Flow Testing.

1. Shop vacuum or other air supply. The size of the head dictates the air supply capacity. Heads can be tested with a weak air source, but results are better with a stronger source.
2. An adapter for connecting to the head which shrouds the valve in the same way that the cylinder walls do. Most Flow Quik owners are using standard flow bench style adapters. With these adapters you need a box on which to set the adapter. The standard flowbench hole for mounting flowbench style adapters is a 5 inch diameter hole with a square 4 hole bolt pattern around it. The bolt pattern is 5 inches on a side. The hose from Flow Quik to the box should enter the box on the bottom directly beneath the 5 inch hole. Connecting the hose to the side of the box can produce an uneven pressure distribution at the 5 inch hole.
3. A pair of special weak valve springs.
4. A mechanism to open the valve and measure the opening.
5. Radiused inlet guide for intake ports (necessary).
6. Stub pipe for exhaust ports (optional but recommended for best results).

### ***Cam Pro Plus Windows Software***

The Windows version of Cam Pro Plus is now available. This is not just a simple port of the DOS program but a total rewrite. Both versions use the same data file formats so you will have no problem using your existing files with the Windows version. The software is \$340. Upgrade from the DOS version is \$125.

### ***Flow Quik Magazine Articles***

The December 1999 issues of "High Performance Pontiac" and "Mustang Illustrated" magazines both have articles featuring Flow Quik. The articles describe a test session using Flow Quik. They feature lots of good photos and a comparison of Flow Quik data and standard bench data. The response to these articles has been gratifying.

### ***Engine Design Classes***

Dema Elgin and Alan Lockheed are teaching a two day short course on engine design November 13-14, 1999 in the San Francisco area. Alan's portion covers using software for engine design. Several different software packages are included in his presentation. Dema's portion deals with camshaft properties and issues related to camshaft selection. Cost of the classes is \$300. For more information contact Dema Elgin Cams in Redwood

City, CA at 650-364-2187.

## ***Valve Opener***

We are proud to announce the addition of a valve opener to the Flow Pro system. Flow Pro with the Depression Control and Valve Opener can perform automated flow tests. A complete 8 lift flow test takes about a minute. Cost for the Valve Opener is \$380.

## ***THE Book on Camshafts***

We highly recommend the Camshaft Reference Handbook by Don Hubbard. Don has years of experience in camshaft design and manufacturing. After his retirement from Camshaft Machine and Crane Cams, he spent almost 2 years writing the best book we have seen on camshafts.

The book is over 290 pages and includes a software disk. The Index shows 48 topics and 18 appendices. The topics cover camshaft measurement, camshaft design, camshaft blueprinting, camshaft manufacturing, camshaft evaluation, camshaft failure analysis, and fuel injection camshafts. The appendices fill almost half the book and are equally useful. The software disk includes 34 useful utility programs covering camshafts, valve trains, valve springs, marine applications, and vehicle applications.

At \$149 this is a bargain. It is worth several times that price. Order directly from Don: [dhubbard7@earthlink.net](mailto:dhubbard7@earthlink.net), Phone 941-936-0866, Fax 941-275-9936.

## ***Mitutoyo Digital Dial Indicator***

We have added support for a Mitutoyo digital dial indicator to Flow Pro. The Mitutoyo indicator has a 0.0005 inch resolution. The new valve opener requires either the Mitutoyo or the Ono Sokki dial indicator for feedback. The Mitutoyo indicator complete with cable for connection to Flow Pro is \$215.