

# Tumble Meter

## What is Tumble?

Tumble and swirl are both motions of the intake charge in the cylinder. Swirl is similar to the spinning action of water going down a drain. Tumble is a rolling action. It is oriented 90 degrees to swirl and measuring it requires a different meter. Swirl is usually found in 2 valve heads, but not found in 4 valve heads. In 4 valve heads the swirl induced by one intake valve is canceled by the opposite swirl induced by the other intake valve. In some applications it might be helpful to measure both swirl and tumble.

## Balanced Design

The Audie Technology tumble meter uses a standard technique to convert the tumble's rolling motion into a motion that is similar to swirl moving sideways. Our tumble meter has two sideways-mounted pickups that are similar to our swirl meter paddle pickup. Two pickups (some meters only have one) let us detect tumble on two sides at the same time and keep the meter from producing an asymmetrical imbalance. The tumble meter electronics box features dual digital displays and an average lock switch to get good readings from turbulent tumble. Tumble readings can be read directly into your computer using Flow Pro software.

## Standard Sleeves

The tumble meter uses the same master sleeve and insert sleeve system that is used on the Mondello and Brzezinski head adapters. This system makes it easy to adapt to different bore sizes. You can use the sleeves from your head adapter or purchase new ones from Mondello or Brzezinski.