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## MEASURING COMBUSTION CHAMBER WITH KATECH WHISTLER

Note: Whistler requires 110-volt power supply and a compressed air supply. A portable air tank will run a whistler for 15 to 20 minutes. In addition, compressed air is needed to operate an air nozzle to purge gasoline vapors from the combustion chamber.

Prepare engine for measuring by removing any convenient spark plug. Crank engine with starter for a few seconds with ignition off. Engine should then be rotated to get piston near top dead center with both valves closed. (Cyl. #1 or #6 should be near TDC when timing mark is at zero.) Purge any remaining gasoline vapors from combustion chamber using a nozzle and compressed air. Screw whistle adapter into spark plug hole. At this time, check engine combustion chamber for temperature. A reading of plus or minus 5 degrees is close enough. If a thermometer or other temperature-measuring device is not available, the engine water temperature may be used.

Plug Whistler into 110-volt supply. Display should read all "8"'s for a moment and then 350.0. Set three switches on front of instrument as follows:

- Left Hand: Set 4, 6, or 8 cylinders.
- Center: Middle position to set engine size.  
Down position to set combustion chamber temperature.  
Up position to read out compression ratio.
- Right Hand: Move switch up or down until display shows correct engine size  
And temperature.

No other calibration is necessary.

Plug in air supply and adjust regulators until flow meter on front of instrument reads 20 SCFH. (Flow meter must be vertical to set airflow).

Insert whistle probe into adapter in spark plug hole, and set center switch to "CR" position. Whistle probe should make an audible noise and display will read compression ratio. Rotate engine slowly in either direction to determine if it is at TDC. Display will read highest compression ratio when piston is at TDC.



## BASIC RULES FOR ACCURATE READING

1. You must know the size of engine being checked to determine CR accurately. The engine size entered into the computer's memory is the number that the compression ratio is calculated on.
2. The temperature setting must be correctly set. Temperature will affect the compression ratio reading.
3. Purge the chamber being checked with compressed air before measuring. Any gasoline or vapors in chamber could drastically affect the "CR" reading.
4. Whistle probe must be inserted all the way into spark plug adapter, and holes on the rear of whistle probe must be unobstructed.

## IN CASE OF DIFFICULTY

No tone from whistle, unsteady reading Whistler

One or more valves open – engine not at TDC on compression stroke

Bent valve or other leak in chamber

Piston too far away from TDC

If you cannot get a steady tone from whistle, try another cylinder

Check tubing between whistle tube and whistler for bends or obstructions

Do not obstruct air exiting back of whistle tube with hand

\*\*\*\*\*IMPORTANT\*\*\*\*\*

ANY MODIFICATION OF THE WHISTLE OR SPARK PLUG ADAPTER WILL RESULT WITH AN IMPROPER READING ON THE L.E.D. DISPLAY.