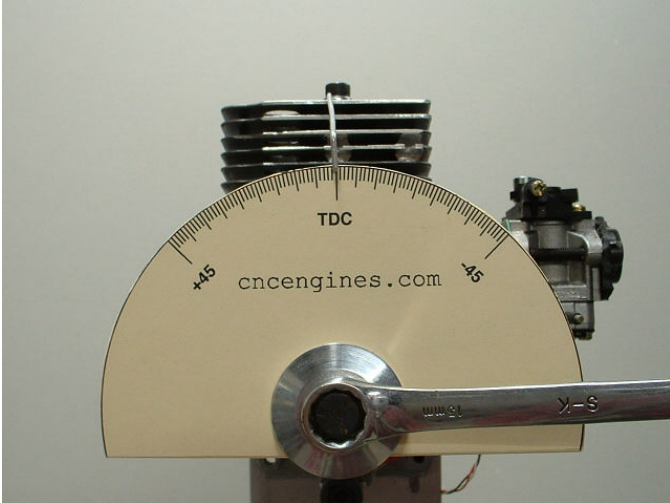
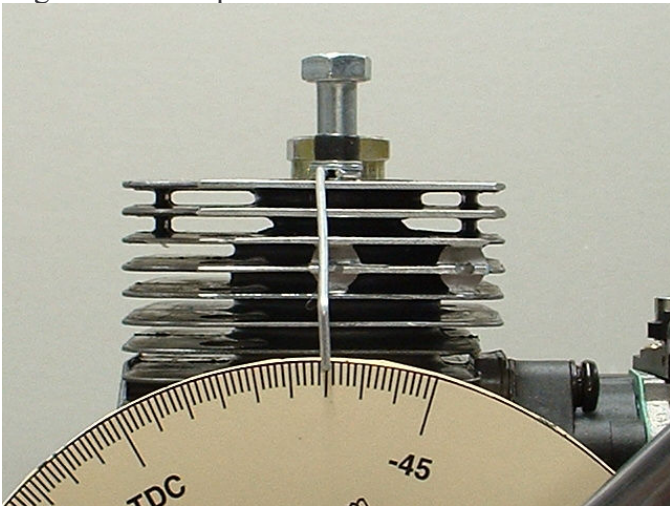


# FINDING TRUE TOP DEAD CENTER



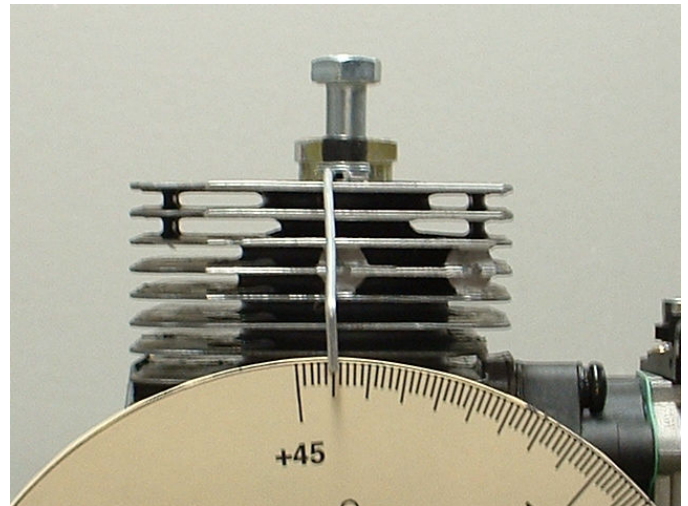
## Step 1:

Attach the degree wheel and pointer. Rotate the crankshaft until the piston is as close to TDC as you can visually get it by looking through the spark plug hole. Adjust the degree wheel so the TDC mark is aligned with the pointer.



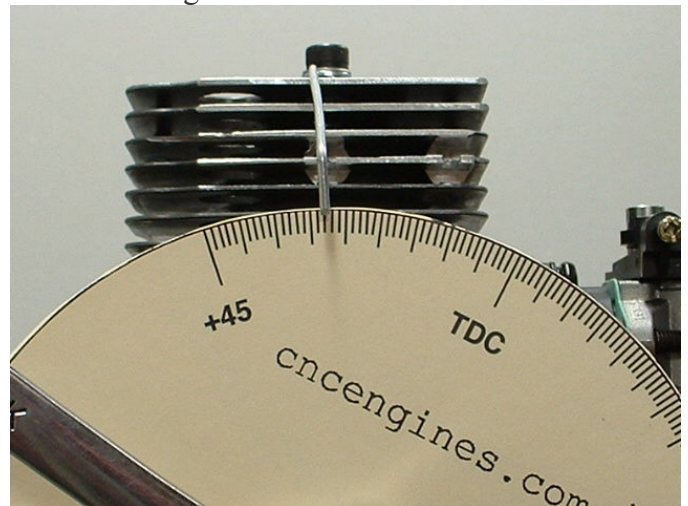
## Step 2:

Install a piston stop. The piston stop shown here was made from an old spark plug which had the porcelain and side electrode removed and the center hole taped for a bolt. You can also use a small diameter (3/32) soft wire for a piston stop. The wire will have to be bent so it fits inside the spark plug hole and extends to the wall of the cylinder. Anchor the wire with a bolt or clamp so it doesn't move while adjusting the degree wheel. Rotate the crankshaft counter clockwise (CCW) until it stops. It is at -30 degrees in the photo but we only need the value which is 30. Write this number down for the next step.



## Step 3:

Rotate the crankshaft in the opposite direction until it stops again. Add the two numbers together and divide them by 2. Here it is at 40 degrees. Add 30 and 40 together for a total of 70, and divide by 2 to get the result 35 for our set point. Now loosen the degree wheel and without letting the crankshaft rotate adjust it so the pointer is at 35 degrees. Now rotate the crankshaft from stop to stop and check to make sure both readings are identical. You will need to adjust the degree wheel until both numbers are the same. You now have the degree wheel and crankshaft aligned at true TDC.



## Step 4:

Remove the piston stop to adjust the ignition system timing. The timing is correct when the plug fires at 28 to 30 degrees BTDC as shown in the picture. You will need the ignition system powered up and a spark plug properly grounded to perform this step. If you are using our timing tool the LED will turn off and at the precise moment it lights again the pointer should be aligned with the proper timing mark.