



ENGINE TOP END MEASURE

# Outdoor Power and Recreation

POST-SECONDARY

## 2 Stroke Top End Measurement

**Do not start this lab until told that the competition is ready to start.**

**If there is something you don't understand, you may ask for clarification from the person in charge.**

**Locate and Record the following:**

Engine Type 2 or 4 Stroke	
Type of Induction	
Engine Displacement	
<b>Torque Specs</b>	
Cylinder Head Nut Torque Final	<b>10ftlb</b>
Cylinder Base Nut Torque Final	<b>15ftlb</b>
Spark Plug Torque	<b>14ftlb</b>

**Using the supplied tools and equipment:**

- Remove the cylinder heads and cylinders
- Remove the pistons from the connecting rods
- Carefully remove the top piston rings
- Measure all the components and calculate clearances to complete the following table
- Record all measurements, and clearances in **METRIC** and in the tables provided and include the unit of measure.
- Re-assemble the top end components torquing all fasteners to **the spec above**. Have the Judge verify your torque settings.

**Enter all measurements in the table on this page.**

**Show calculations when possible.**

Part name	Measurement						
Piston Diameter (taken 10mm from bottom)	MAG						
	CEN						
	PTO						
Cylinder Bore Diameter		D1	D2	D3	D4	D5	D6
	MAG						
	CEN						
	PTO						
Piston To Cylinder Clearance	MAG						
	CEN						
	PTO						
Top Ring End Gap	MAG						
	CEN						
	PTO						
Top Ring Groove Clearance	MAG						
	CEN						
	PTO						

<b>Cylinder Taper</b>	<b>MAG</b>
	<b>CEN</b>
	<b>PTO</b>
<b>Cylinder Out of Round</b>	<b>MAG</b>
	<b>CEN</b>
	<b>PTO</b>



NUMERACY



READING



WRITING



PROBLEM SOLVING