

Name: \_\_\_\_\_

## A EN 2013 – Agricultural Power Units Power Unit Measurement Techniques Laboratory

### Micrometer, Dial Bore Gauge, Telescoping Gauge & Dial Caliper Skills

Directions:

- A. You have been provided the following tools:
  1. Micrometer – 1” & 3”
  2. Dial Caliper – 0”-6”
  3. Telescoping Gauge
- B. Complete the following measurements below.

Crankshaft Measurement:	Mag. Journal	Crank Pin	PTO Journal
Micrometer:			
Dial Caliper:			
Cylinder Bore Measurement:	Top	Middle	Bottom
Micrometer & Telescoping Gauge:			
Dial Caliper & Telescoping Gauge:			
Camshaft Lobe Measurement:	Lobe 1	Lobe 2	
Micrometer:			
Dial Caliper:			

### Torque Wrench Skill

Directions:

- A. You have been provided the following tools:
  1. Deflecting Beam Torque Wrench, in.lb.
  2. Small Micrometer Torque Wrench, in.lb.
  3. Large Micrometer Torque Wrench: ft.lb.
- B. Complete the following measurements below.
- C. YOU BREAK IT, YOU BUY IT!

Deflecting Beam Torque Wrench:	Bolt 1	Bolt 2	Bolt 3
Inch Pounds:	100	88	60
Small Micrometer Torque Wrench:			
Inch Pounds:	100	75	50
Large Micrometer Torque Wrench:	Bolt 4	Bolt 5	Bolt 6
Foot Pounds:	20	10	25

## Flat Feeler Gauge

Directions:

- A. You have been provided the following tools:
  - 1. Flat Feeler Gauge
- D. Complete the following measurements below.
- E. YOU BREAK IT, YOU BUY IT!

Flat Feeler Gauge:	Spark Plug Gap	Valve Clearance	Breaker Point Gap
Gap Size:			
	Gap 1	Gap 2	Gap 3
What did you measure?			
Gap Size:			

## Infrared Temperature Probe

Directions:

- A. You have been provided the following tools:
  - 1. Temperature Probe
- B. Find 3 warm, 3 room temperature, and 3 cool objects to measure.
- C. YOU BREAK IT, YOU BUY IT!

Infrared Temperature Probe:	Hot	Room Temp.	Cool

What were the items measured?

- |      |            |      |
|------|------------|------|
| Hot: | Room Temp. | Cool |
| 1.   | 1.         | 1.   |
| 2.   | 2.         | 2.   |
| 3.   | 3.         | 3.   |

## Small Engine Specialty Tools

Directions:

- A. You have been provided the following tools:
  - 1. See tool list below.
- B. Experiment with the tools listed below. Indicate their purpose.
- C. YOU BREAK IT, YOU BUY IT!

Small Engine Specialty Tool:	Purpose:
Compression Gauge:	
Valve Spring Compressor:	
Flywheel Holder:	
Starter Clutch Wrench:	
Piston Ring Compressor:	
Ignition Spark Tester:	
Valve Lapping Tool:	
Condenser Spring Compressor:	
Piston Ring Expander:	
Other:	
Other:	
Other:	
Other:	
Other:	

