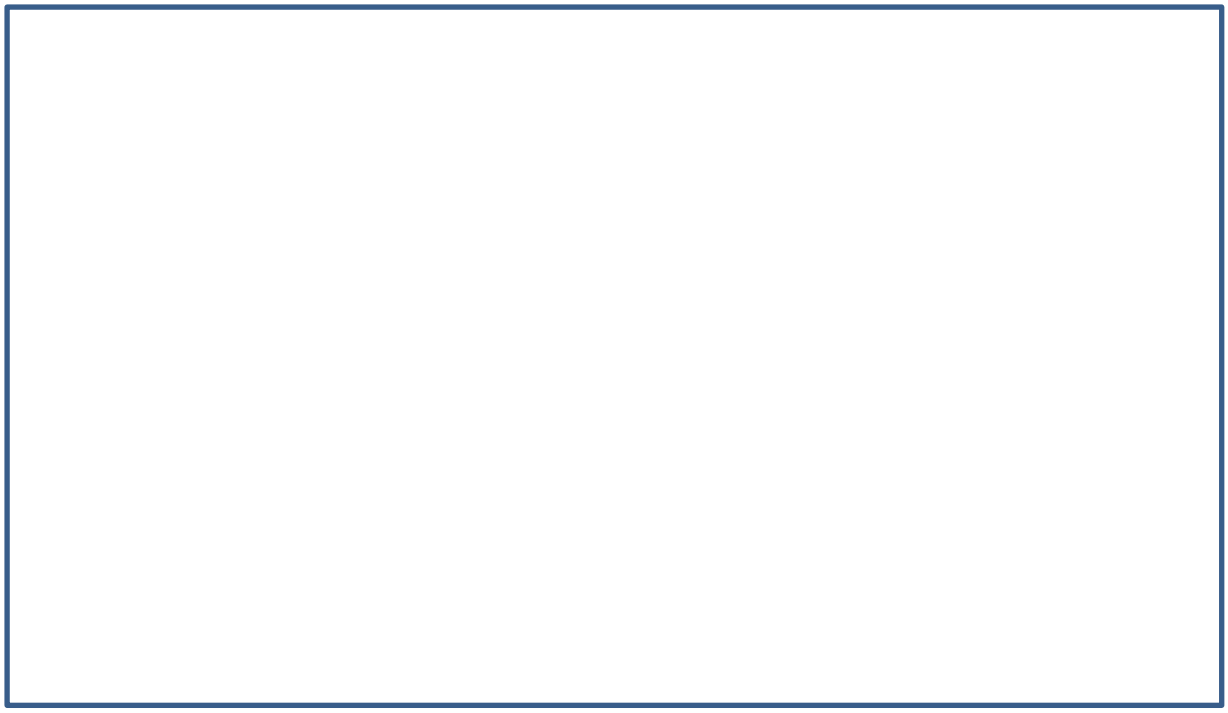
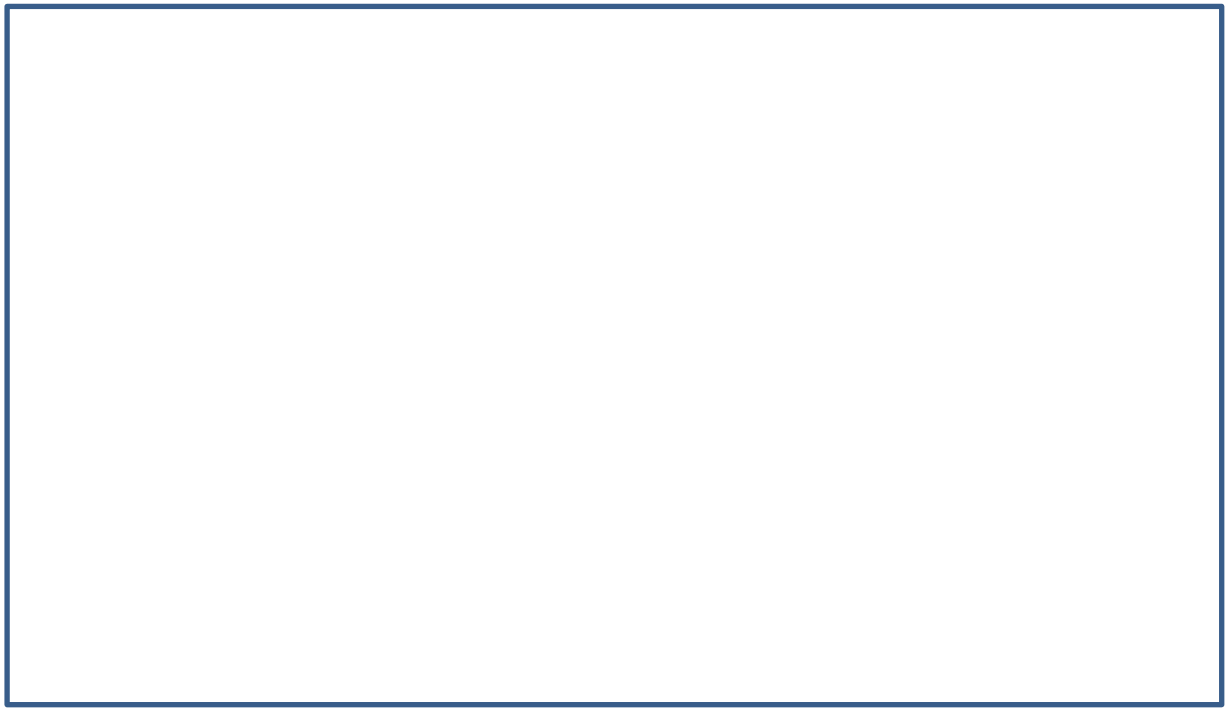
NAME: _____

Engine Disassembly Documentation

Section 1: Graphical Representation of Key engine Components. (10 Marks)

In the boxes below sketch and name four of the main components that make up an engine.





Section 2: Description of wear in the motor. (10 Marks)

Wear of motor components begin from the very first time they are cranked over. This wear varies on the use and care of the motor over time. Motor wear has an effect the efficiency an operation of motors. During the disassembly process note elements of wear in your notes, now provide a description of wear occurrences in your motor and likely effects on motor efficiency and/or operation.

Section 3: Engine Measurements. (5 Marks)

Accurately measure and document the following:

Cylinder Bore: Measure the bore 5mm down from the top edge in n the thrist face and then at 90^{o} to the first measurement. Repeat the process in the m iddle of the bore and then again at the bottom of the bore 5mm up from bottom edge.

Piston: Measure the piston across the top across the thrust face and then at 90^{o} to the first measurement. Repeat the process at the bottom of the piston.

Piton Rings: Measure each piston ring end gap at the top, middle and bottom of the bore.

Conrod Tunnels: Measure at two points in one direction across the tunnel and then again at two points across the journal when rotated 90^{o}

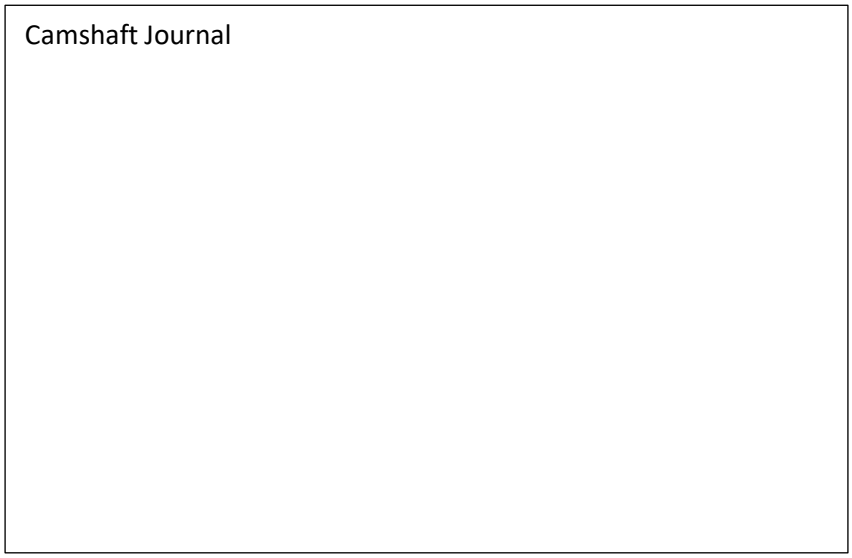
Camshaft bearing Journal: Measure at two points in one direction across the journal and then again at two points across the journal when rotated 90^{o}

All measurement should be in millimeters and to two decimal places i.e 25.04mm

In the boxes below, sketch where the measurements will be made of the components in the table.

Bore	Piston
Piton ring	Conrod tunnels

Camshaft Journal



Part Description	Measurement 1 (mm)			Measurement 2 @ 90^{o} (mm)
Cylinder bore (top)				
Cylinder bore (middle)				
Cylinder bore (middle)				
Piston top				
Piston bottom				
Top piston ring end gap	Top	Mid	Bot	
Bottom piston ring end gap	Top	Mid	Bot	
Conrod big end tunnel	P1			P1
	P2			P2
Conrod small end tunnel	P1			P1
	P2			P2
Camshaft bearing journal	P1			P1
	P2			P2

Section 4: Disassembly Processes. (15 marks)

Discuss the disassembly process. Include the preliminary motor inspection, pre-service operations and disassembly of engine.

Section 5: Design Principles. (10 marks)

Explain the concept of design principles and its purpose in the manufacture of engine components as well as its effect on the operation of engines.