



JAYA SAKTHI ENGINEERING COLLEGE

Thiruninravur – 602 024

DEPARTMENT OF MECHANICAL ENGINEERING

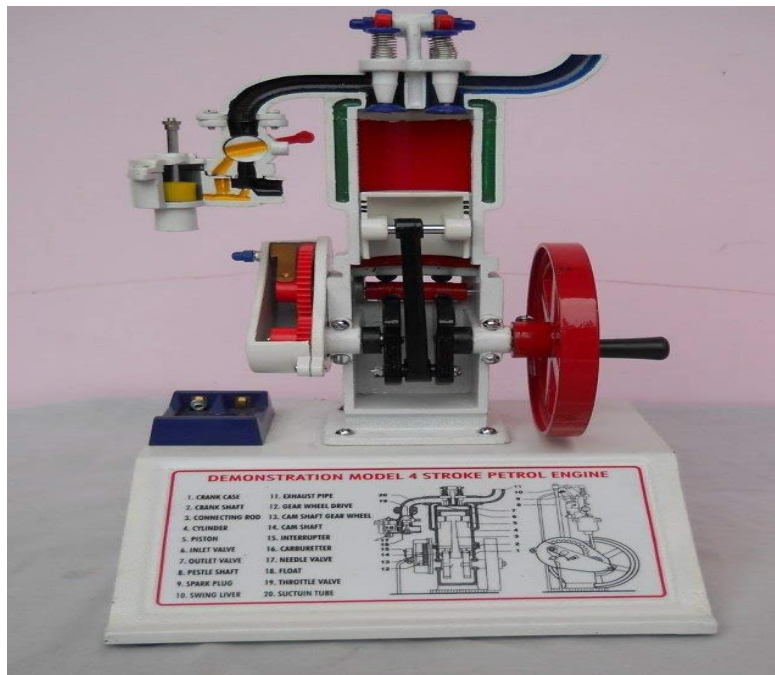
RESEARCH CENTRE FOR IC ENGINE

Engine Research Centre started in 12.06.2021 with primarily engages in the investigations on combustion, testing of Alternate fuel and performance of IC engines. We intend to promote the IC Engine Research in young aspirant engineers to come up with new ideas that would enhance the performance, reducing the fuel consumption and emission. DDAS plays a vital role in collecting in cylinder pressure, temp and ca degree data for analysis

Due to the stringent emission norms and the fuel depletion, it is inevitable to come up with such research works. The global warming caused by the greenhouse gases is yet another problem faced by the automotive industry as the fuel used are Hydrocarbons (HC), Carbon monoxide (CO) Carbon dioxide(CO₂), Oxides of Nitrogen and particulates are its end product.

The centre aims to promote the research activities related to the performance enhancement, Combustion and acoustic analysis of Internal Combustion engine. Currently, the research works are going on in the fields related to the flow, Combustion, Emission and Smoke Analysis to

predict the engine operating parameters. Also, the research works related to the computational analysis of the flow through the engine manifolds are also under progress. The experimental facilities for studying the performance of IC engine. Those who wish to do the theoretical and computational analysis related to Internal Combustion engine are welcome.



ENGINE CUT SECTION MODEL

IC. ENGINE TEST RIG	DATA ACQUISITION SYSTEM
	<p>The screenshot shows the 'ENGINE SOFT' interface with tabs for 'Specification', 'Combustion', and 'Performance'. The 'Performance' tab is active, displaying a graph of Pressure (MPa) versus Crank Angle (deg). The graph shows a sharp peak in pressure during the combustion phase. On the right side of the interface, there are buttons for 'TDX Connection', 'Measure', 'Data', 'Save', and 'Open'.</p>

EMISSION TEST

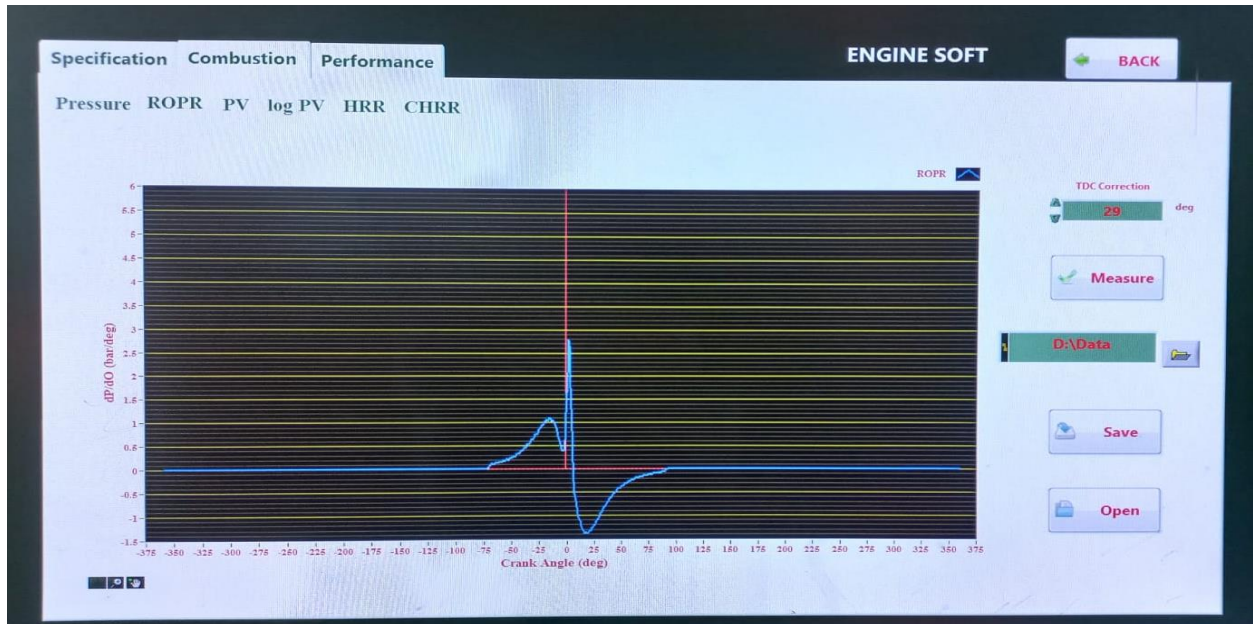


SMOKE METER

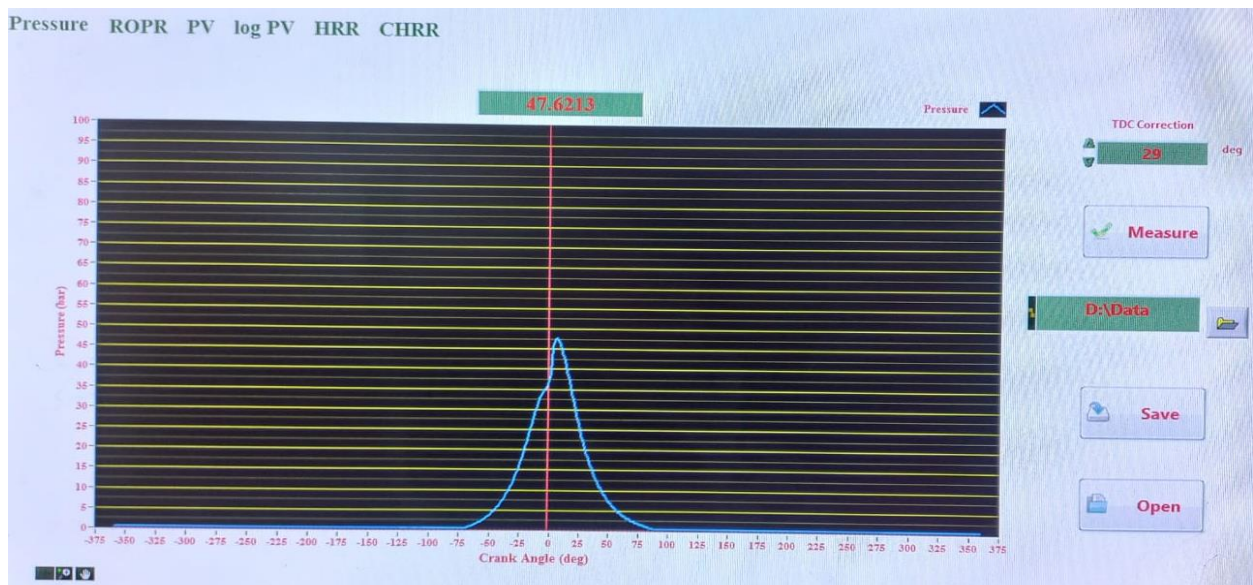


ENGINE		VCR MULTI FUEL ENGINE	
NUMBER OF CYLINDERS	1	STROKE LENGTH (m)	0.11
CYLINDER TYPE	+STROKE	BORE DIAMETER (m)	0.0875
SPEED (IS rating at rpm)	1500	LENGTH OF CONNECTING ROD (m)	0.233
FUEL USED	DIESEL	STROKE VOLUME (cc)	661.453
POWER IN HP	5	NOMINAL COMPRESSION RATIO	16.5 : 1
POWER IN KW	3.728	CLEARANCE VOLUME (cc)	42.6744

ENGINE SPECIFICATION



HEAT RELEASE RATE(HRR)



PRESSURE VS CRANK ANGLE

Coordinator

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