



AVIT
AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY



VINAYAKA MISSION'S
RESEARCH FOUNDATION
(Deemed to be University under section 3 of the UGC Act 1956)



DEPARTMENT OF MECHANICAL ENGINEERING

ALTERNATE FUEL TESTING RESEARCH LAB

Safety Precautions

Apex Make Research Engine Test Setup

Single Cylinder, 4 Stroke, Multifuel VCR with Diesel and Open ECU for Petrol Mode

Please follow the below mentioned safety instruction before you start the experiment.

Do's

- ✓ Check the electrical connection properly before you start the process
- ✓ Check the working condition of eddy current dynamometer, pressure sensors, temperature indicator, voltmeter, circulating pump and other electronic accessories of the system.
- ✓ Check the water flow inside the engine and calorimeter.
- ✓ Check the CR ratio in engine (18 ratio for diesel 10 ratio for petrol) is very must for engine starting stage.
- ✓ Check and change the diesel filter after using bio fuel.
- ✓ Keep monitoring the above parameters continuously with regular intervals.
- ✓ Engine flow rate of 250 LPH and calorimeter flow rate of 100 LPH is constantly maintained.
- ✓ Applying load in the dynamometer during the process is slow and steady.
- ✓ Check the fuel line and availability of the fuel of the fuel in tank, opening of the fuel valve, air lock in fuel line and any leakage in filter and fuel line.
- ✓ If any air lock exists, it is necessary to replace it before operation.
Start the engine with no load condition.

Don'ts

- ❖ Can't try to start the engine with low compression ratios (Blow 17R)
- ❖ Don't use water mixing Bio fuels
- ❖ Don't use any welding near Engine setup
- ❖ Don't place the any things on the Engine setup and Dynamometer
- ❖ Don't run the engine without cooling water
- ❖ Don't switch off water cooling pump during the engine running.