

What is INDRA RV25: 240N?

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About INDRA RV25: 240N

- It is a micro turbojet engine.
- It is designed and developed indigenously by Hyderabad-based firm Raghu Vamsi Machine Tools with support from IIT Hyderabad.
- It has primarily been developed for unmanned aerial vehicles (UAVs) or drones.
- The engine has applications in UAVs, air taxis, jetpacks, auxiliary power units, range extenders, and power generation in the future.

What is a turbojet engine?

- A turbojet engine is a jet engine which produces all of its thrust by ejecting a high energy gas stream from the engine exhaust nozzle.
- In contrast to a turbofan or bypass engine, 100% of the air entering the intake of a turbojet engine goes through the engine core.
- Components: The component parts of a turbojet engine are the inlet, the gas turbine engine, consisting of a compressor, a combustion chamber and a turbine, and the exhaust nozzle.
- Working:

- Air is drawn into the engine through the inlet and compressed and heated by the compressor.
 - Fuel is then added to the combustion chamber and ignited.
 - The burning fuel adds energy to the exhaust stream by heating and expanding the air.
 - Sufficient energy to drive the compressor is extracted from the exhaust stream by the turbine.
 - The remainder of the exhaust energy is used to produce thrust, a process which is enhanced by the geometry of the exhaust nozzle.
 - As the exhaust gas passes through the nozzle, it is accelerated to high speed as it expands, thus providing propulsion.
 - The thrust produced by the engine can be selectively increased by incorporating an afterburner or re-heat into the engine design.
 - Turbojet aircraft work on the principle of accelerating a relatively small mass of air to a high speed.
 - As optimum efficiency is achieved when the speed of the accelerated air approximates that of the aircraft, turbojet engines do not reach peak efficiency until speeds approach Mach 2.
 - Thus, turbojets have relatively poor propulsive efficiency at lower airspeeds, limiting their usefulness to high-speed aircraft.
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Q1) What is a turbofan engine?

A turbofan engine is the most modern variation of the basic gas turbine engine. As with other gas turbines, there is a core engine, whose parts and operation are discussed on a separate page. In the turbofan engine, the core engine is surrounded by a fan in the front and an additional turbine at the rear. The fan and fan turbine are composed of many blades, like the core compressor and core turbine, and are connected to an additional shaft.

Source: [First of its kind Micro Turbojet Engine made in India](#)

Source: <https://vajiramandravi.com/current-affairs/indra-rv25240n/>

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