

## ***46ESS-77: Pratt-Whitney Civil Gas Turbine Engines and Technology Evolution***

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*Gas turbine is an engine that extracts chemical energy and translates it into mechanical work where working fluid (air) is being used in this internal combustion engine to power the aircrafts, trains, ships, tanks also generate electricity. Today's turbine engines have revolutionized the aircraft industry where Pratt & Whitney is distinguished as a world leading company in the design, manufacture and service of aircraft engines and auxiliary power units.*

*This paper's prime objective is to provide a comprehensive conspectus on Pratt-Whitney's civil gas turbine engines and their advances in propulsion technology evolution. The history goes back to early 1925, precluding with the piston engine (Wasp, Hornet) experience, then, the transition to gas turbine engine to turbojet (J42, J48, J52, J57, J58, J75, J91, JT12) development followed by the progression to higher and faster turbofans (JT3D, JT8D, TF30, F100, F119, F135) thereupon to the high by pass turbofans (JT9D, PW2000, PW4000, PW6000D, GP7000, V2500) and hereafter, to the modern era evolution of geared turbofans (PW1000G, PW1200G, PW1400G).*