The Pratt & Whitney PurePower® PW1200G engine successfully completed its first flight on April 30, launching the engine family’s flight test program. The PW1200G engine for the Mitsubishi Regional Jet (MRJ) aircraft flew on a specially designed stub wing aboard Pratt & Whitney’s Boeing 747SP flying test bed at the company’s Mirabel Aerospace Centre, in Mirabel, Quebec, Canada.

“We’re really pleased to have started our initial flight test program with the PW1200G engine,” said Bob Saia, Vice President, Pratt & Whitney Development Programs. “Results from altitude testing will complement the PW1200G sea level data we have collected during the more than 1,000 hours of full engine testing with our 2,000 endurance cycles. Results continue to validate the geared architecture’s dependability, reduced fuel consumption, lower noise and environmental benefits. We’re very confident in its performance and that the PurePower engine programs will meet customer commitments. We currently have four PurePower engines at test and nine engines in the build cycle.” Overall, we have completed in excess of 2,500 hours and 8,400 cycles of full engine testing for the entire PurePower Geared Turbofan™ engine program, of which more than 250 hours have been in flight tests. This initial PW1200G flight test program will validate performance, engine operability and in-flight starting.

Why the stub wing? Pratt & Whitney tests larger engines on the ‘number two’ position, the inboard engine mount on the left wing. Larger engines provide enough thrust for the aircraft to maintain directional control under all flight conditions, using the rudder and engine power setting. At 17,000lbs of thrust, the PW1200G engine delivers almost three times less thrust than the 747SP’s Pratt & Whitney JT9D engines, not enough to cover for the number two JT9D it would replace, instead, it is installed as a 5th engine. The stub wing also allows us to fit side-mounted engines, such as those found on business jets. By using the pylon or the stub wing, depending on the size of the engine, we can test our entire product range.