

Description

In 2013 Currawong teamed up with Power4Flight and Cobra Aero to create the 29cc single cylinder two stroke fuel injected Corvid-29 engine (known as the B29i engine in the US). It has a 3W-28 engine as its base with a completely new custom designed crankcase, throttle body and low noise exhaust. Currawong's robust electronic fuel injection (EFI) system is also integrated into the engine system.

The generator is mounted alongside the engine rather than concentrically on the crankshaft to allow for a higher power density motor to minimise the weight of the aircraft, insulate the generator from the heat of the engine and to provide much easier air cooling of the generator.

The Corvid-29 engine package includes:

- base engine with modified crankcase
- induction system with manifold and throttle body
- CDI ignition system
- miniature engine control unit (ECU)
- self priming fuel pump
- super atomising fuel injector
- manifold and cylinder head temperature sensors
- crank sensors
- generator (optional)
- low noise exhaust (optional)
- power supply (optional) with on board starting feature
- isolation mount (optional)
- associated wiring
- detailed operation and service manual



The performance data is shown overleaf.

Specifications

Engine Type:	Air-cooled 2-stroke single
Displacement:	28.5 cc
Weight:	1.98 kg (4.4 lb) (bare engine and generator, excluding power supply)
Power Output:	1.8 kW (2.4 HP) at 9000 RPM
Fuel Consumption:	500 g/kW-hr (0.82 lb/HP-hr) at cruise
Generator Output:	250 W (500 W intermittent duty cycle)

Features

- Low noise exhaust design
- Stall-resistant throttle response
- Significantly expanded throttle-RPM envelope
- Full EFI suite including automotive-quality ECU processor, self-priming fuel pump, ignition, sensors, injector and custom intake, all with over 40,000 hours on UAV platforms
- Calibrated for the customer's application
- The EFI system is plug-and-play compatible with Cloud Cap Technology's Piccolo Autopilot as well as having a documented API for CAN and Serial
- Integrated generator for use in powering the EFI system and providing power to charge on-board batteries and other electrical and electronic devices
- Excellent reliability as a result of the ability of the EFI system to maintain optimum engine operating parameters. No more problems with carburetor icing, top-of-climb engine stalls or incorrect fuel-air ratios, regardless of the conditions
- Ability to be started from cold between -20°C and +50°C (~0°F and 120°F)
- Reduced BSFC compared with carbureted engines of similar capacity
- Improved power output compared with carbureted engines of similar capacity
- Has passed two 150 hour endurance tests (based on the US FAR 33 standard) without the need for a major overhaul
- Ability (with additional components) to operate on heavy fuel

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