



## Description

The Corvid-50 (known as the B50i engine in the US) is the most recent two-stroke UAV engine system developed by Currawong Engineering with US partner Power4Flight.

With an industry workhorse Desert Aircraft DA50 cylinder and piston, the Corvid-50 features a custom crank case, induction manifold, integrated isolation mount and low noise exhaust, paired with proven Currawong products including a starter generator and electronic fuel injection system.

The Corvid-50 engine package includes:

- Currawong three-bearing crank case
- Desert Aircraft DA50 cylinder and piston
- Currawong induction system with manifold and throttle body
- CDI ignition system
- Miniature engine control unit (ECU)
- Self-priming fuel pump
- Automotive grade fuel injector
- Manifold and cylinder head temperature sensors
- Crank sensor
- Integrated isolation mount
- Low noise exhaust
- Starter-generator
- Optional power supply including on-board starting feature
- Detailed operation & service manual and interface control document

## Specifications

Engine Type:	Air-cooled 2-stroke single		
Displacement:	50 cc		
Typical Weight:	3.9kg (8.6 lbs)		
	Core Engine		1778g
	Generator & Power Supply		740g
	Low Noise Exhaust		502g
	Isolation Mount		443g
	EFI Components		451g
Power Output:	2.8 kW (3.8 HP) at 7,000 RPM*		
Fuel Consumption:	503 g/kW-hr (0.83 lb/HP-hr) at 5,500 RPM and 40% throttle*		
Generator Output:	250 W (500 W intermittent duty cycle)		

## Features

- Durable customised three-bearing crank case
- 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
- Plug-and-play compatibility with Cloud Cap Technology's Piccolo Autopilot and documented API for CAN and Serial
- Integrated starter-generator for powering EFI system and on-board batteries and other electrical and electronic devices
- Excellent reliability – the EFI system maintains optimal engine operating parameters in all regimes of flight. Eliminates issues like carburetor icing, top-of-climb engine stalls or incorrect fuel-air ratios, regardless of the conditions
- Reduced BSFC compared with carbureted engines of similar capacity
- Improved power output compared with carbureted engines of similar capacity
- Custom low noise exhaust featuring wrap-around design to minimise cross sectional area
- Outstanding TBO - over 350hrs of endurance operation on a single engine under FAR33 testing profile, with no power loss and minimal wear

*Co-developed and distributed in the US & Canada by:*



The typical performance of the Corvid-50 engine is shown below.

