# Bat-3

The Bat-3 aircraft was designed and built by the MLB company for long endurance imaging missions. The aircraft uses a reciprocating gasoline engine for propulsion and has an onboard lithium-ion battery for powering the onboard sensors and cameras. The guidance system is housed in the fuselage in front of the wing. This system is responsible for autonomously guiding the aircraft around a prescribed waypoint grid. The aircraft has a working range of 6 miles with the onboard communication systems. This can be extended with higher power communication gear.

The camera bay is housed in the fuselage directly beneath the wing of the aircraft. The bay measures 11”x5x6.5”. Modifications to the nose and bottom of the fuselage can be performed to fit a variety of payload configurations. The Bat-3 has a maximum payload capacity of 7 lbs. The payload weight must include the weight of the battery required for powering the onboard sensors and cameras

The aircraft fuselage is a hollow Kevlar monocoque and features removable wings for transportation and storage. The tail sections are also removable for storage. The aircraft uses a catapult launching system, which can be mounted on the ground or on the roof rack of an appropriately sized vehicle. The performance specifications are provided in Table 1.

**Table 1: Aircraft performance specifications**

| | | |
|---|---|---|
| Empty weight | 12 | lbs |
| Maximum gross weight | 19 | lbs |
| Power system | Reciprocating gasoline engine | |
| Endurance (maximum) | 6 | hrs |
| Maximum altitude | 9000 | ft |
| Top speed | 50 | mph |
| Minimum speed | 25 | mph |
| Range | 6 | miles |

**Table 2: Aircraft dimensions**

| | | |
|---|---|---|
| Wingspan | 72 | in |
| Length | 56 | in |
| Height | 24 | In |
| Cargo bay (l x w x h) | 11x5x6.5 | in |

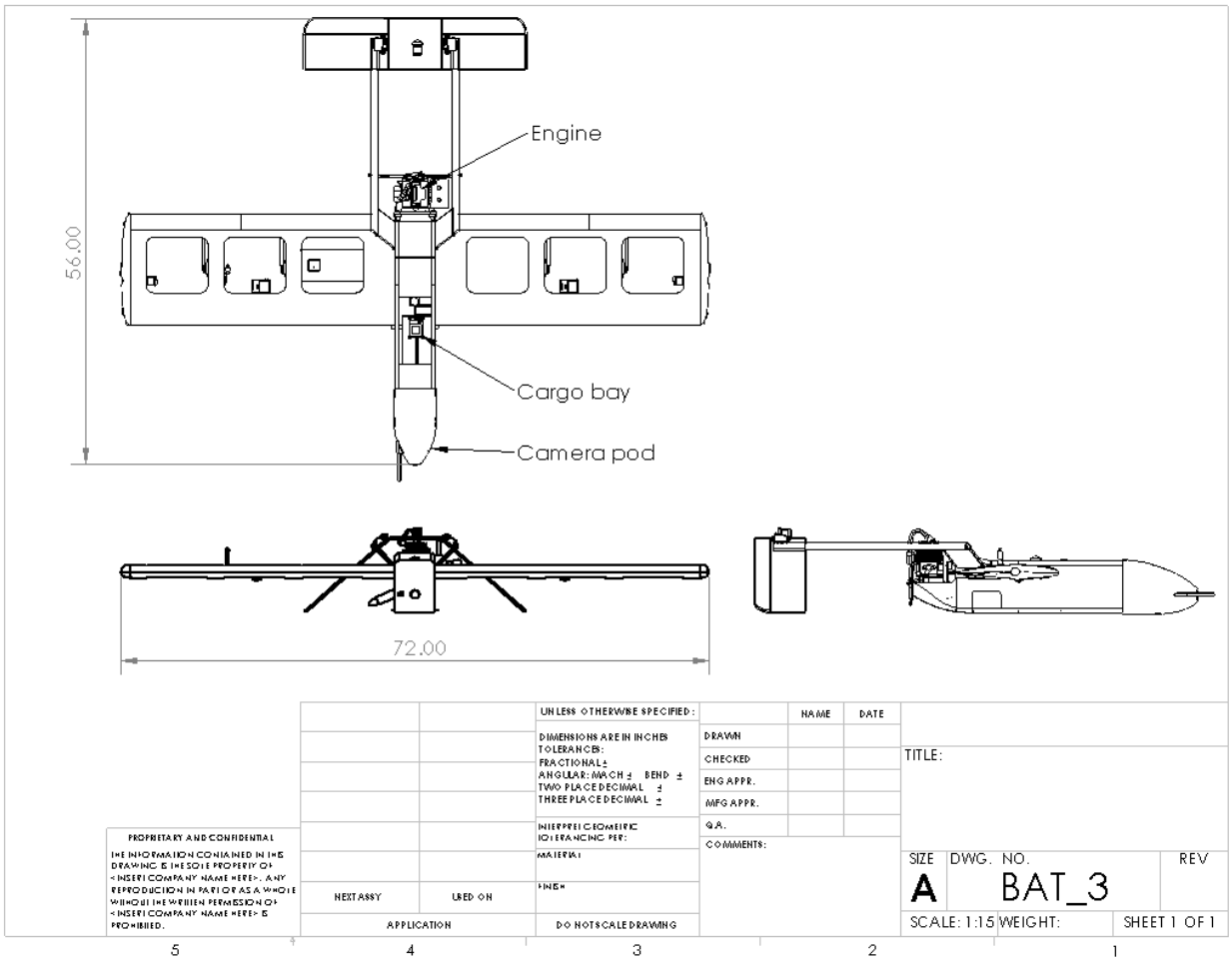


**Figure 1: Bat-3 dimensions in inches**