2.2.4 Aerial

Building Requirement

S42 Aerial must be mounted with fully enclosed propeller cage, and the propellers must not be exposed. The Aerial should be able to strike a rigid surface at a horizontal speed of \((1.2 \pm 0.1)\) m/s without suffering significant damage.

- Fully enclosed propeller cage: A structure that fully protects each propeller.

The grid dimension constraint of the fully enclosed propeller cage will be updated subsequently. Mavic Pro Propeller Cage is displayed as below for reference:

![Fully Enclosed Propeller Cage](image)

2.2.6 Dart System

2.2.6.1 Building Requirement

- Participating teams must not disassemble or modify Dart trigger device; otherwise, the team will be held responsible for resulting problems related to pre-match inspection or Dart damage detection.

To ensure a fair and just competition, Dart needs to be installed with a Dart trigger device provided by the RoboMaster Organizing Committee (RMOC). Structure and dimension of the Dart trigger device will be updated subsequently.
Dart Trigger Device

Dart trigger device is a plastic shell and has built-in red/blue bicolor LED light beads, 940 nm infrared-ray LED light beads and infrared receive light beads. Since the device structure is hollow, teams can install camera within it.

Advantages of Dart trigger device are as follows:

- Protect camera
- Distinguish between Darts of the red team and blue team
- Emit modulated infrared light to detect whether Dart has hit the target

Mounting Requirement:

Dart trigger device needs to be securely installed on the front end of the flight direction of Dart, so that the device can have a direct contact with and effectively hit the target.
2.5.2 Power Rune

3. Activating

When the Power Rune is activating, if a projectile hits the Armor Module with flowing arrow lights on the central axis of the mounting bracket within 2.5 seconds, the bracket will be fully illuminated. At the same time, the Power Rune will randomly illuminate one of the remaining four Armor Modules, and so on and so forth, as shown below:

Figure 2-18 Graph of Power Rune Activating