

Safety Arming Switch

Model 210SAS-STD, Standard Size
Model 210SAS-MICRO, Micro Size

Features

The propeller in a radio-controlled electric aircraft propulsion system poses a significant hazard. It can seriously injure fingers and other body parts if it unexpectedly begins rotating. Two common situations illustrate this danger:

- The propeller can rotate when you connect the battery to the propulsion system and the transmitter's throttle control is not in its off position.
- The propeller can rotate if the propulsion system is powered up and the transmitter's throttle control is accidentally moved from its off position.

The FMA Safety Arming Switch helps minimize the danger by giving you positive control over the propulsion system's motor. The switch connects between the receiver and FMA Quazar or similar BEC-equipped Electronic Speed Controllers. When the switch is in its OFF position, it provides a "throttle off" signal to the ESC. In this condition, the motor is disarmed and cannot turn, but the receiver, servos and ESC are fully functional. This enables you to adjust servos, calibrate your Co-Pilot or carry your aircraft to the flight line without the danger of the prop suddenly spinning up.

Precautions

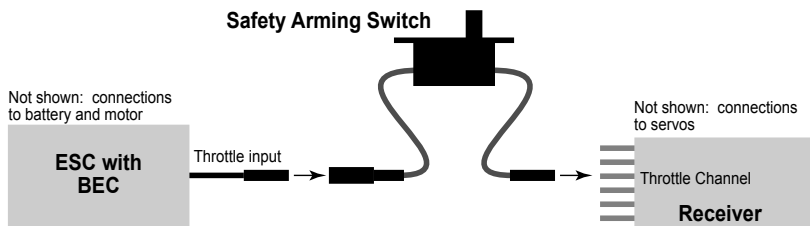
- The Safety Arming Switch is designed for use with FMA Quazar ESCs and similar ESCs with BECs (it does not work with standalone BECs). It has been tested with most major ESC brands, but not all brands. Regardless of brand, you must **CAREFULLY** test the switch to determine that it disarms the motor. To test the switch:
 1. Configure your receiver and electric propulsion system, then install the Safety Arming Switch as described later in this manual. Do not connect the battery at this time.
 2. Set the Safety Arming Switch to its OFF position.
 3. Turn on the transmitter and set its throttle control to the OFF position.
 4. **STAY CLEAR OF THE PROPELLER.** Connect the battery to the ESC.
 5. **STAY CLEAR OF THE PROPELLER.** Move the transmitter's throttle control away from its OFF position. The motor should not turn. *If the motor turns, the Safety Arming Switch does not work with this ESC. Go to step 8.*
 6. **STAY CLEAR OF THE PROPELLER.** Set the Safety Arming Switch to its ON position. The motor should turn. *If the motor does not turn, the Safety Arming Switch does not work with this ESC.*
 7. Set the Safety Arming Switch to its OFF position. The motor should stop turning.
 8. Move the transmitter's throttle control to its OFF position.
 9. Disconnect the battery from the ESC.

If the switch does not disarm the motor, disconnect it and return it to FMA for a refund.

- If the motor is turning and you set the Safety Arming Switch to its OFF position, the Quazar ESC will shut down the motor in about 2 seconds. Other ESC brands may take as long as 4 seconds to shut down the motor, but otherwise function as expected.
- Even if the Safety Arming Switch is OFF, the ESC will draw current from the battery. To avoid depleting or damaging the battery, disconnect the battery when it is not needed.

Installing the switch

1. Use the supplied hardware to mount the Safety Arming Switch. To maximize safety, mount the switch far from the propeller (for example, behind the wing). Be sure the mounting location enables the switch to connect to the ESC and receiver.
2. **Before connecting the battery to the ESC**, connect the Safety Arming Switch between the ESC's throttle connector and the receiver's throttle channel, as shown in the diagram below.



3. **Carefully** test the Safety Arming Switch (see "Precautions," earlier in this manual) to assure it works with your ESC to disarm the motor.

CAUTION: STAY CLEAR OF THE PROPELLER AT ALL TIMES. Until you determine that the Safety Arming Switch works *as intended with your ESC*, assume the propeller can begin rotating at any time.

Using the switch

- **To disarm the motor:** Move the Safety Arming Switch to the OFF position. When the motor is disarmed, you can safely connect the battery, adjust servos and perform preflight checks.
- **To arm the motor:** **STAY CLEAR OF THE PROPELLER.** Move the transmitter's throttle control to the OFF position, then move the Safety Arming Switch to the ON position. When the battery is connected and the motor is armed, the motor will respond to the transmitter throttle control.

FMA limited warranty

FMA, Inc. warrants this product to be free of manufacturing defects for the term of 90 days from the date of purchase. Should any defects covered by this warranty occur, the product shall be repaired or replaced with a unit of equal performance by FMA or an authorized FMA service station.

Limits and exclusions

This warranty may be enforced only by the original purchaser, who uses this product in its original condition as purchased, in strict accordance with the product's instructions. Units returned for warranty service to an FMA service center will be accepted for service when shipped postpaid, with a copy of the original sales receipt or warranty registration form, to the service station designated by FMA.

This warranty does not apply to:

- Consequential or incidental losses resulting from the use of this product.
- Damage resulting from accident, misuse, abuse, neglect, electrical surges, reversed polarity on connectors, lightning or other acts of God.
- Damage from failure to follow instructions supplied with the product.
- Damage occurring during shipment of the product either to the customer or from the customer for service (claims must be presented to the carrier).
- Damage resulting from repair, adjustment, or any alteration of the product by anyone other than an authorized FMA technician.
- Installation or removal charges, or damage caused by improper installation or removal.

Call (301) 668-4280 for more information about service and warranty repairs.