THE ARMSAFE® SYSTEM

*PATENT PENDING*

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Introduction

Schumacher Products LLC developed the *patent pending* **ArmSafe®** System to have all the features that RC modelers want:

1. High Current Rating
2. Small Size and Light Weight
3. Proven Connector Reliability
4. Easy to Install
5. Easy to Use

When the ArmSafe® System is correctly installed and correctly used it can help improve the safety and convenience of electric RC models. The system provides the user with more control of WHEN they energize and WHEN they de-energize their models. The ArmSafe® System uses genuine Deans® Ultra Plugs® Patent No. 5,533,915.

The ArmSafe® System is the lightest and the highest amperage capacity arming system on the market. This makes the ArmSafe® System ideally suited for both small park flyer RC models and large high powered RC models. Examples of ArmSafe® installed in small and large RC models are shown below.
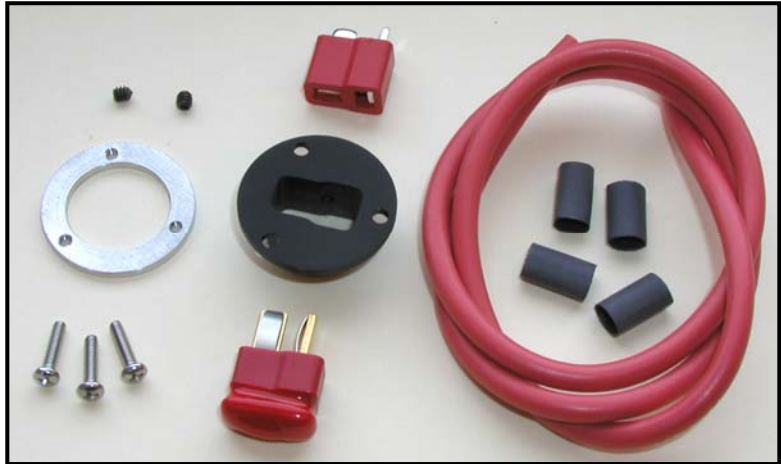
Above is the **Cox Sky Cruiser** 2S - 250mAh with 28" wing span x 0.20 lbs.

Right is the **Wolf Samson II** 6S – 8000mAh with 60" wing span x 15 lbs.

ArmSafe® Products

The ArmSafe® System comes in the following five configurations:

SUD0301   ARMING PLUG

Spare ArmSafe® Arming Plug. Always make sure that ALL is safe before plugging in the Arming Plug. An Arming Plug is required to energize a RC Model by plugging it into the ArmSafe® Base. The Arming Plugs are very compact and aerodynamic, when plugged in they measure only about 0.28" x 0.5" x 0.5". Weight is 3.7 grams.
This Package includes the following:
1 – Arming Plug

SUD0302   ARMING BASE - BLACK

The ArmSafe® Arming Base includes the parts for installing the Base into one RC model. The user supplies the wire and shrink tubing as required. The base is very compact, it measures only 1.0" diameter x 0.55" deep, making it easy to install into most RC models. Weight is 6.3 grams.
This Package includes the following:
1 – Black Base Bracket
1 – Deans® Female Ultra Plug®
1 – Aluminum Nut Ring
3 – Mounting Screws (Pan Head 2-56 x 1/2 Lg)
2 – Set Screws (Sharp Point 4-40 x 3/16 Lg)

SUD0303   ARMING KIT 14AWG Wire

The ArmSafe® Kit with 14AWG wire is rated for 50Amps continuous and 75Amps Burst. BUT these limits are only a guide, see below.*

SUD0304   ARMING KIT 12AWG Wire

The ArmSafe® Kit with 12AWG wire is rated for 80Amps continuous and 120Amps Burst. BUT these limits are only a guide, see below.*

SUD0305   ARMING KIT 10AWG Wire

The ArmSafe® Kit with 10AWG wire is rated for 100Amps continuous and 150Amps Burst. BUT these limits are only a guide, see below.*
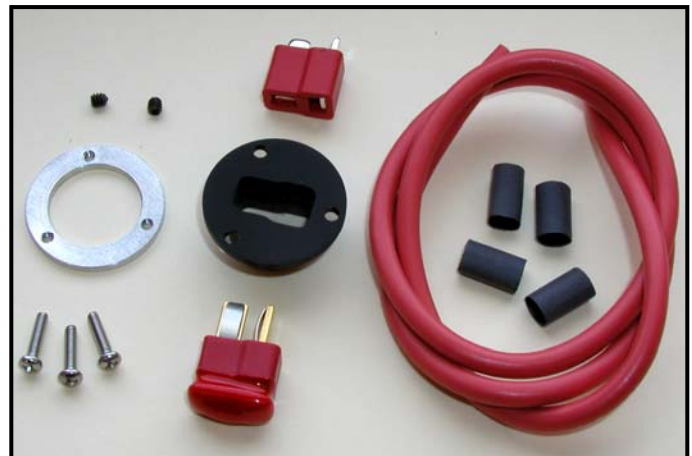
The Kit Packages include everything needed for one complete arming system:
1 – SUD0301 Arming Plug
1 – SUD0302 Arming Base
1 – 18" of Super High Flex Silicone Wire
1 – Shrink Tubing for 4 Solder Joints

* The above amperage limits are provided as a guide to help size ArmSafe® for RC models. But this is just a guide, you MUST test all installations at FULL load conditions to make sure that the wire and connectors do not get hot. These amperage guides are rated with 10mph x 80degF air flow for eight minutes, with burst ratings for 5 seconds provided the average current (including the bursts) does not exceed the Max Continuous amperage rating. Many factors will affect the amperage carrying capacity of wire, connectors, and wire harness assemblies such as; wire lengths, air temperature, amount of air movement, quality of the solder joints, wire quality, connector quality, and how long the current flows through the wire.

Safety

It is CRITICAL to fully understand that no product can guarantee your safety with RC models. ArmSafe® is just a tool to help modelers reduce, not eliminate, the risk of propeller strikes when working with electric RC models. ArmSafe® ONLY helps modelers have better control of WHEN they energize and WHEN they de-energize their models. The arming plug should ONLY be inserted into a properly installed ArmSafe® base, nothing else!! ArmSafe® will NOT keep you safe if you decide to energize your model before ALL is safe. ONLY insert the arming plug if ALL is safe, you are completely qualified to operate the RC model, and the ArmSafe® system is properly installed. The person in charge of the RC model must handle and operate the model carefully at all times. The person in charge of the RC model is 100% responsible for the safety of themselves and other people, as well as responsible for any and all personal property.

Installation

1. Open your ArmSafe® Kit, it contains:
   1 Female Deans® Ultra® Plug, 1 Black Base, 1 Aluminum Nut Ring, 3 Pan Head Screws 2-56 x 1/2, 2 Sharp Point 4-40 x 3/16 Set Screws, 18" of High Flex Silicone Wire, Shrink Tubing, and 1 Arming Plug.

2. Select the mounting location for the ArmSafe® Base in your RC model. The location must allow the user to safely install and remove the Arming Plug from behind the propeller. The ideal location would be close to the battery & ESC to reduce the wiring length. If this is not possible, be sure to use large enough wire to carry the amperage without having the wires get hot during operation.

3. Using the Nut Ring as a template, trace out the inner diameter and the three screw locations, as shown below-left. Then cut out the inner circle and the three small screw holes.

4. The next step is to solder the Female Deans® into the red wire that goes from the ESC to the battery plug, as shown to the right. Use the red wire in the kit to extend the length of the ESC red wire to make the Female Deans® reach the hole, as shown below–right. Use shrink tubing over all of the solder joints.
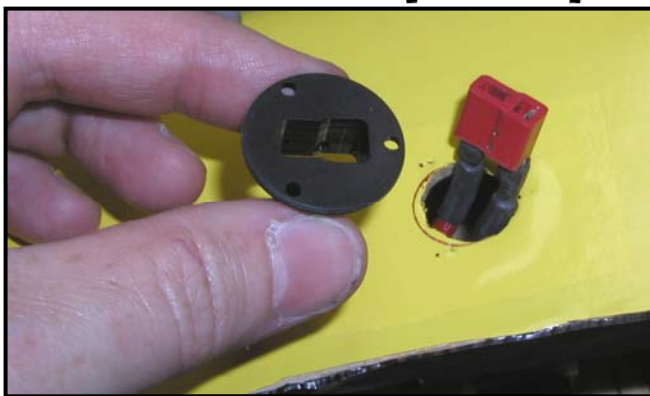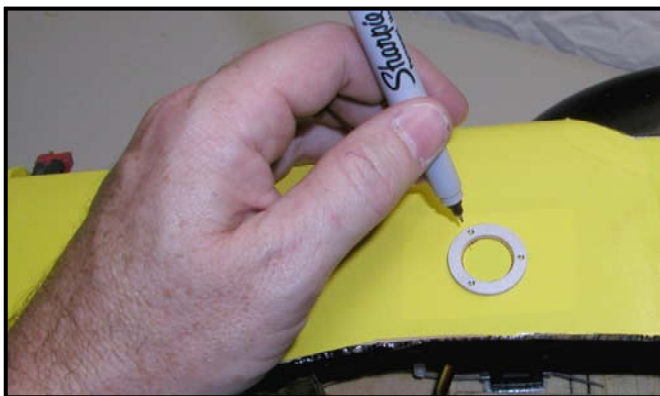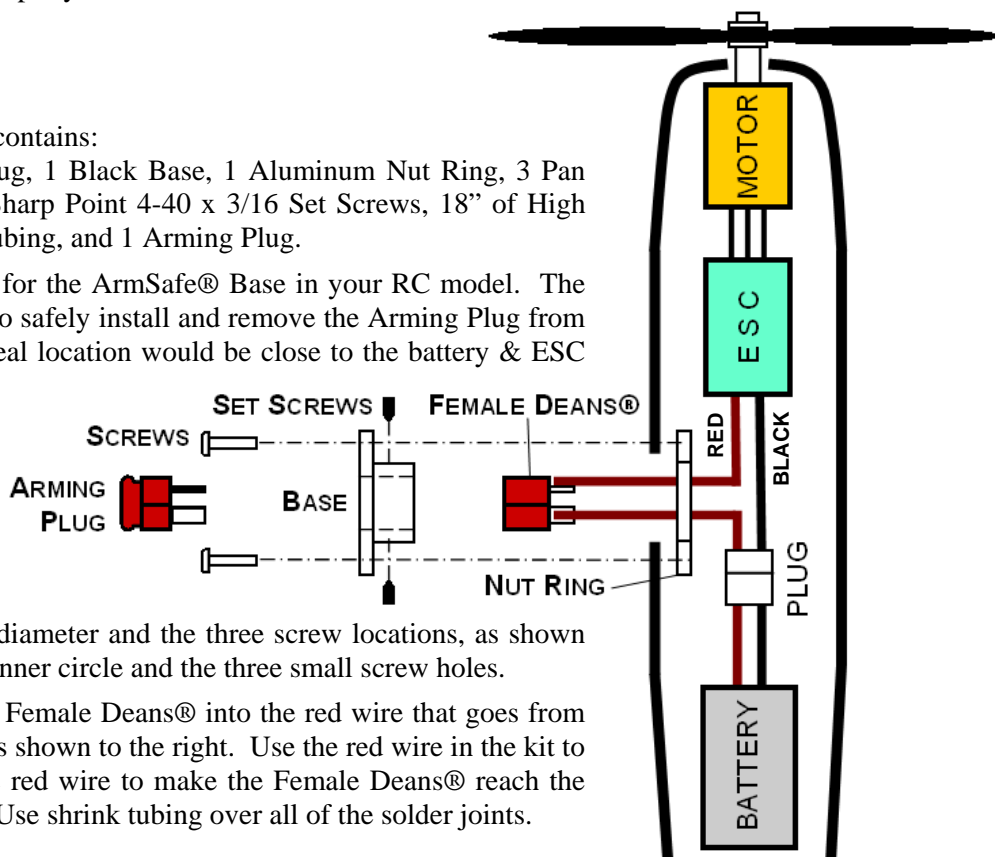
5. The 2-56 x 1/2 long screws are *thread forming* screws. Use these screws to make the threads in the 3 small holes in the Aluminum Nut Ring by installing the screws into the holes and then removing them.

6. Put the Nut Ring over the Female Deans® and onto the wires. Feed the Female Deans® through the hole in the fuselage with the Nut Ring on the inside of the fuselage, as shown above-right.

7. Slide the Black Base onto the Female Deans®, and gently tighten the 2 set screws to secure the Female Deans®. **DO NOT over tighten the set screws, their sharp points hold great!!** Severe over tightening of the set screws can cause the Black Base to change its shape, and it will not fit into the Nut Ring. Test the holding power of the set screws by pushing hard on the Female Deans® to insure that it is secure.

8. Insert the Black Base into the hole in the fuselage. Use the three 2-56 x 1/2 long pan head screws to secure the Black Base to the Nut Ring, as shown to the right. This completes the installation.

User Guide

Below is a user guide for the ArmSafe® System. This is just a guide; it is NOT a 100% guaranteed safe operating procedure. RC models are dangerous by their very nature, and it is the responsibility of the person in charge of the RC model to ensure the safety of themselves, other people, and any and all personal property.

1. Make sure you are FULLY knowledgeable with general RC safety; this is a MUST before proceeding.

2. If you are not qualified to do these preflight checks; DO NOT proceed!!! You NEED to get the help and training from an experienced RC modeler. Perform a preflight check on the model to ensure all components are installed properly, and the RC model is safe to operate. Also perform a range check on the model's Tx/Rx per the manufacturer's recommendation.

3. Make SURE the ArmSafe® Arming Plug and the LiPo battery are removed from the model. SECURE the RC model so that it can NOT move, even under full throttle.

4. ALWAYS handle the model from a safe location behind the propeller, and handle the model as if it were always energized and could start at any moment. AGAIN, make SURE the ArmSafe® Arming Plug is removed from the model. Turn ON your transmitter, and select the correct model.

5. Make sure EVERYONE is at a safe location behind your (or your club's) safe flight line, and install the LiPo battery into the model. Even with the Arming Plug removed, ALWAYS handle the RC model from a safe location behind the propeller, and handle the model as if it were always energized and could start at any moment. Move the model to the safe flight line.

6. SECURE the model so that it can NOT move, even under full throttle. When ALL is safe and you are prepared (and qualified) to operate the RC model, install the ArmSafe® Arming Plug into the ArmSafe® Base in the model to energize the model. Test all of the control surfaces and test the throttle to ensure everything is working correctly.

7. Operate the RC model in a safe manner, and always be aware that you are 100% responsible for the safety of yourself, other people, and any and all personal property.

8. After landing the RC model, remove the Arming Plug as soon as possible to de-energize the model, and then also remove the LiPo battery as soon as possible. You must ALWAYS handle the RC model from a safe location behind the propeller.