

INTERLOCK™ LAUNCH CONTROLLER FOR MODEL ROCKETS

Assembly and Operation Instructions

BEFORE YOU BEGIN:

- Study the illustrations and sequence of assembly. The sequence of assembly is important. Review the parts list and become familiar with all parts before assembly. If any parts are missing or damaged, contact RCS at 1-435-865-7100 or email at warranty@erotech-rocketry.com.
- If the INTERLOCK™ Launch Controller was purchased separately, save the package it came in. It makes a handy range box for carrying and storing the completed controller, rocket motors, igniters, motor adaptors, and various tools.
- Read and follow the Model Rocket Safety Code of the National Association of Rocketry (NAR) and comply with all federal, state and local laws in all activities with model rockets.

PARTS:

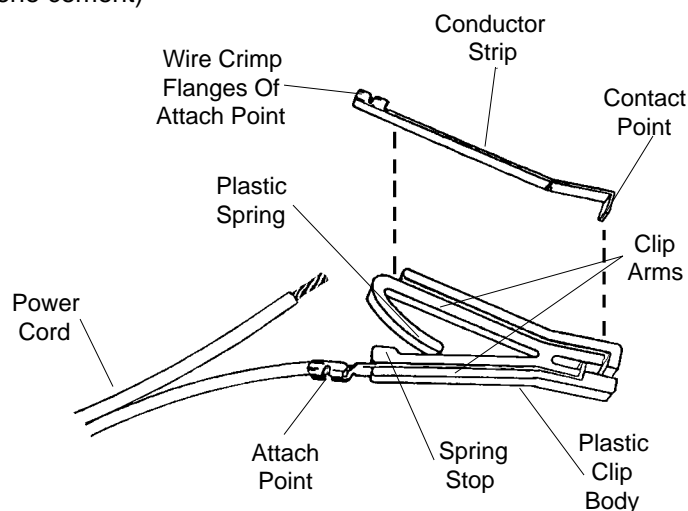
Igniter clip body	(93030)	1
Igniter clip conductor strips	(93025)	2
Power cord-40 feet	(93040)	1
Battery clips	(93091)	2
Battery clip insulators-red	(93092)	2
Battery clip insulators-black	(93093)	2
Round head screws	(93081)	4
Warning buzzer	(93099)	1
6" wire	(93060)	1
Base	(93003)	1
Contact washers	(93023)	2
Contact strips	(93021)	2

Launch button stem	(93013)	1
Launch button top	(93012)	1
Launch button spring-0.75"	(93075)	1
Arming slide contact holder	(93015)	1
Arming slide	(93014)	1
Arming slide spring-1.25"	(93113)	1
Faceplate	(93002)	1
Flat head screws	(93080)	4
Safety key	(93011)	1
Launch procedure checklist	(93101)	1
Cover	(93001)	1

ASSEMBLY INSTRUCTIONS (Use liquid solvent type polystyrene cement)

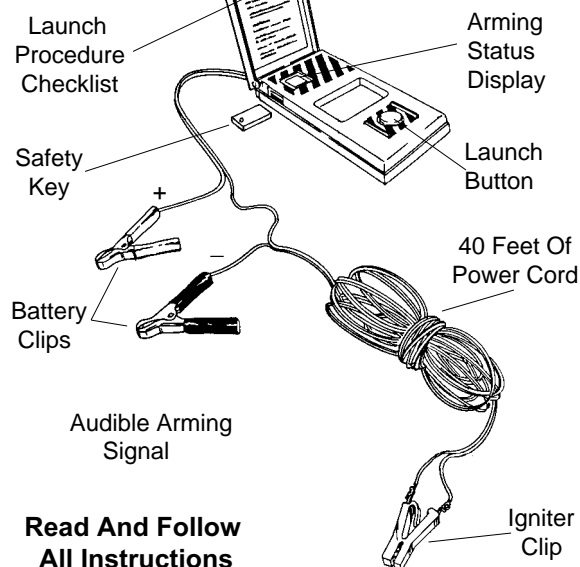
IGNITER CLIP

1. Using a pair of pliers, carefully insert the two conductor strips into the plastic body of the igniter clip. Make sure the wire crimp flanges of each attach point face outward as shown in the clip diagram.
2. Gently spread back the arms of the clip and bend the plastic spring between the arms and past the spring stop as shown.
3. Crimp the stripped leads at the end of the 40 foot power cord to the igniter clip attach points. (**NOTE:** For a stronger electrical connection, solder the crimped attach points.)



COMPLETED INTERLOCK™ LAUNCH CONTROLLER

Can Be Used
With All
Model Rockets

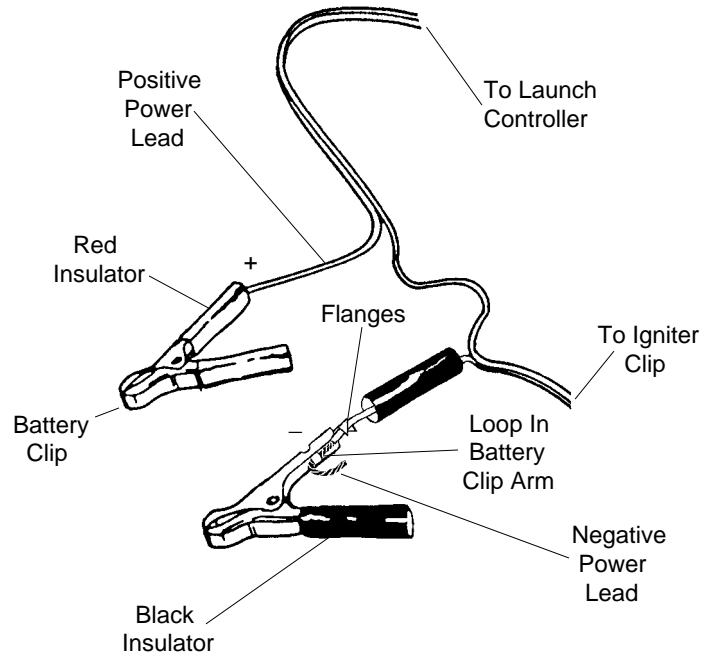


**Read And Follow
All Instructions**

AEROTECH produces a full line of advanced model rocket products. See your AEROTECH model rocket dealer or contact AEROTECH for more information.

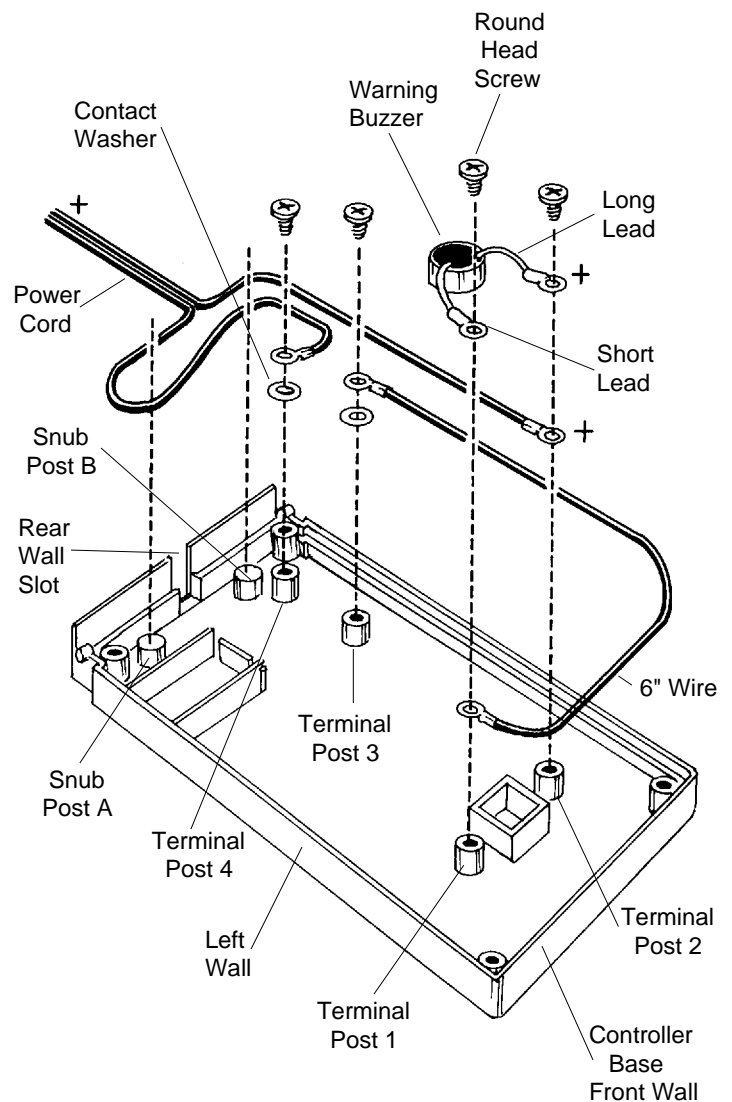
BATTERY CLIPS

1. Slide a red battery clip insulator over the stripped end of the positive power lead. (**NOTE:** The positive power lead is marked with **red** tape.)
2. Pass the stripped end of the positive power lead through the loop in an arm of a battery clip. Loop the stripped end back upon itself and twist together. (**NOTE:** For a stronger electrical connection, solder the power lead to the loop in the clip arm.)
3. Crimp the flanges on the end of the battery clip arm around the insulation of the positive power lead.
4. Slide the red battery clip insulators onto the arms of the clip.
5. Repeat this assembly process to attach the remaining battery clip and the black insulators to the negative power lead.



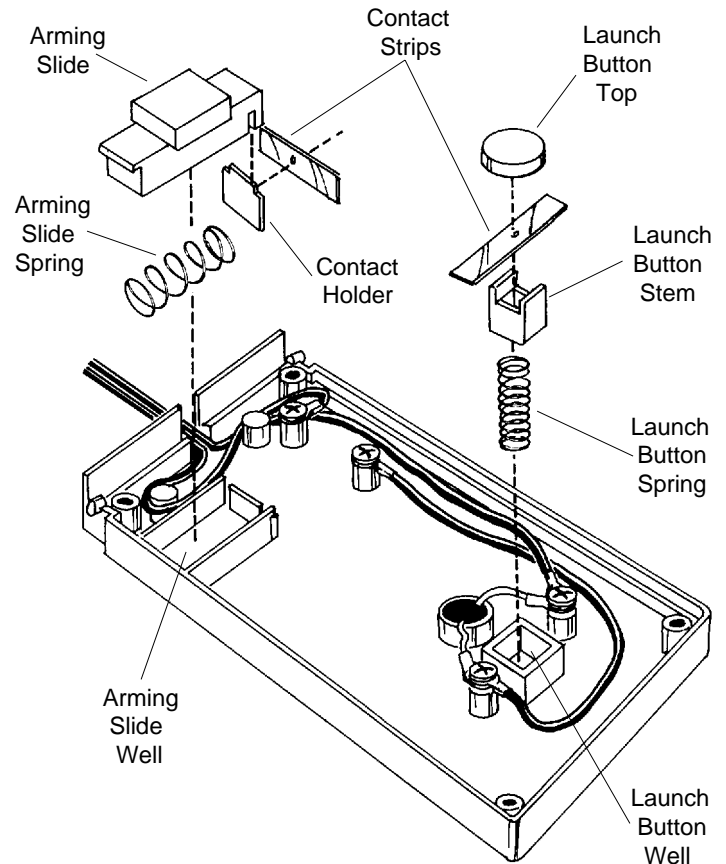
CONTROLLER WIRING

1. Check the terminal posts in the controller housing for any plastic "flashing" and carefully remove it with a hobby knife.
2. Remove the decal from the warning buzzer and ignore its message to wash the buzzer.
3. Pass a round head screw through the negative (short lead) ring terminal of the warning buzzer and one ring terminal of the 6" wire. Angle the ring terminal stem toward the controller base front wall as shown and fasten the screw to terminal post 1.
4. Run the 6" wire along the front and right walls of the base to terminal post 3. Pass a round head screw through the ring terminal of the 6" wire and a contact washer. Angle the ring terminal stem toward the controller base right wall as shown and fasten the screw to terminal post 3.
5. Pass a round head screw through the positive (long lead) ring terminal of the warning buzzer and the positive ring terminal of the 40 foot power cord. Angle the power cord ring terminal stem toward the front of the controller base wall and fasten the screw to terminal post 2. (**NOTE:** The positive ring terminal is marked with **red** tape.)
6. Run the positive power cord lead, attached to terminal post 2, along the right edge of the controller base, behind snub post B and out the slot in the rear wall.
7. Pass the remaining round head screw through the negative ring terminal of the power cord and a contact washer. Angle the ring terminal stem toward the base right wall and fasten the screw to terminal post 4.
8. Run the negative power cord lead, attached to terminal post 4, along the right side of the base, behind snub post B, in front and then behind of snub post A, and out the slot in the base rear wall.



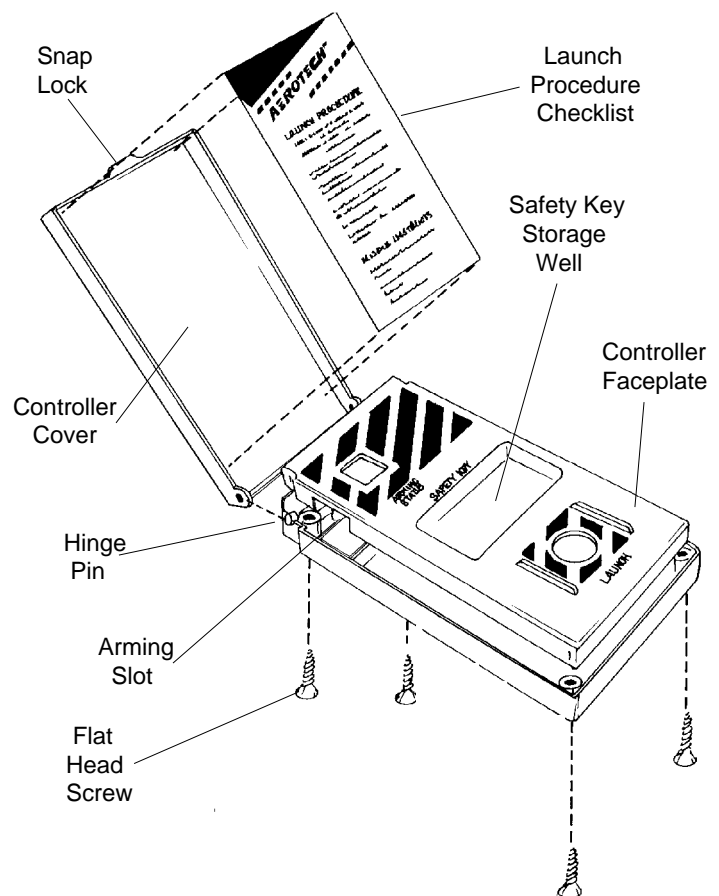
ARMING AND LAUNCH MECHANISMS

1. Center a contact strip between the flanges of the launch button stem. Cement the launch button top to the flanges. Be sure the small pin in the launch button top passes through the hole in the conductor strip.
2. Lightly sand the lower surface of the launch button contact strip to remove any oils left from the manufacturing process. Place the launch button spring (0.75") in the launch button well and insert the launch button assembly over the spring with the contact strip ends over terminal posts 1 and 2.
3. Check that the launch button moves freely and the contact strip ends make contact with the screws in terminal posts 1 and 2 when the button is depressed.
4. Place the other contact strip over the pin of the arming slide contact holder. Cement the contact holder and contact strip into the arming slide. Be sure the lower edge of the contact holder is flush with the bottom of the slide and that the contact holder pin points to the outside of the slide.
5. Lightly sand the outward facing surface of the contact strip. Place the arming slide spring (1.125") in the arming slide well and insert the arming slide assembly into the well. The spring should be completely covered by the arming slide assembly.
6. Check to see that the arming slide moves freely and that the contact strip ends make contact with the contact washers on terminal posts 3 and 4. Be sure controller wiring and ring terminals do not interfere with the arming slide movement.



COVER AND FACEPLATE

1. Fasten the controller faceplate to the controller base with the four (4) flat head screws. Insert the safety key into the arming slot and check to see that the arming slide moves freely when the safety key is pushed in. If the arming slide sticks, loosen the four flat head screw slightly until the slide moves freely.
2. Apply the launch procedure checklist to the inside of the controller cover. Be sure the top of the checklist is at the snap lock end of the cover.
3. Snap the cover onto the hinge pins on the side of the controller base. Insert the safety key into the safety key storage well and close the controller.



OPERATION INSTRUCTIONS

1. **TESTING:** To test the INTERLOCK™ Launch Controller, place a piece of aluminum foil between the jaws of the igniter clip. Make sure the foil touches both contact points of the conductor strips. Attach the battery clips to a 12 volt battery such as a lantern battery. The positive (red) clip should be attached to the positive terminal of the battery. Arm the launch controller by pushing the safety key into the safety key slot as far as it will go. A warning tone should result if a good electrical circuit exists. If there is no tone, check that the foil is touching both igniter clip contact points, all electrical connections are correct and complete, and the battery is not low. (**NOTE:** If the warning buzzer is not connected to the positive and negative terminals properly the controller will not arm and no warning tone will be produced. It is easy to check for this situation by reversing the battery clip connections to the battery. Should a warning tone then be produced, mark the battery clip connected to the positive terminal of the battery with a "+".)

2. **PRE-LAUNCH CHECKOUT:** Before each launch session go through the testing procedure above and make sure that the INTERLOCK™ Launch Controller is in proper working order.

3. **TROUBLE SHOOTING:** If rocket motor ignition cannot be achieved even though the controller checks out as working properly look for the following problems:

No warning tone-- Igniter is not touching both igniter clip contact points, the battery clips are reversed, or the igniter is defective.

Warning tone but no ignition-- There is a short circuit at the rocket.

Weak warning tone-- Battery is low.

4. **LAUNCH AREA:** Launch model rockets in a cleared outdoor area free of tall trees, power lines, and buildings. The size of the cleared area should be appropriate for the size model rocket and motor being used. An area for a

radius of at least 5 feet from the launcher should be clear of dry grass or other flammable substances.

5. LAUNCH PROCEDURE:

- Check to see that all observers are at least 30 feet away from the launch pad.
- Check to see there are no aircraft in the vicinity of rocket flight path.
- Insert safety key until arm tone sounds and hold.
- Give audible 5-second countdown.
- Press launch button.
- After launch, remove safety key. Keep safety key with you if additional rockets are to be flown, otherwise, return key to storage well.
- Close controller.

6. MISFIRE PROCEDURE:

- Remove safety key. Keep safety key with you.
- Close controller.
- Do not approach rocket for at least one minute.
- Replace igniter if necessary and follow launch procedure again.

7. **TRANSPORT AND STORAGE:** If the INTERLOCK™ Launch Controller was purchased separately, save the package it came in for carrying and storing the controller and other range materials. The inside flap that covered the power cord can be removed to make more room.

Instructions No. 93999

NOTICE: As we cannot control the storage and use of our products, once sold we cannot assume any responsibility for product storage, transportation or usage. RCS shall not be held responsible for any personal injury or property damage resulting from the handling, storage or use of our product. The buyer assumes all risks and liabilities therefrom and accepts and uses AeroTech/RCS products on these conditions.

No warranty either expressed or implied is made regarding Aero-Tech/RCS products, except for replacement or repair, at RCS's option, of those products which are proven to be defective in manufacture within one year from the date of original purchase. For repair or replacement under this warranty, please contact RCS. Proof of purchase will be required. Note: Your state may provide additional rights not covered by this warranty.

Interlock Controller Assembly Addendum

Please follow these instructions when attaching the igniter clips to your Interlock controller leads.

1. Solder or crimp the included copper plated micro-clips to the clip ends of the controller wire as shown:



2. The micro-clips are suitable for attaching to all types of two-lead igniters. When using a Copperhead™ igniter, simply attach the included "Copperhead™ clip to the ends of the micro-clips as shown:

