



The Sixpack

Multi-Pad Rocket Launch System Instruction Manual



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1. System Description

The Sixpack is a multi-pad launch system designed for model rocket motors with igniters that require 12 volts or less to fire. Six completely independent circuits use the power from a single battery. You supply the battery, which can be anything from two six-volt lantern batteries wired in series, to a deep-discharge 12 volt marine or car battery. A removable cable with battery clamps is supplied with the system.

The Sixpack control box functions as your launch control center. Six 6-foot cables are supplied, with clips on one side and a standard two-prong plug on the other. The distance between the launch control and the pads is determined by the size of the rockets you will be launching. A common appliance extension cord of whatever length you need connects the pad cables to the control box. Depending on the size and strength of your battery, you can plug in more than 100 feet of cable.

Motor Size	Distance between Launch Control and Pad	Length of Extension Cord that You Supply
A-D	15 feet	9 feet
E-G	30 feet	24 feet
H-J	100 feet	94 feet

Each Sixpack pad has an independent transistorized continuity check circuit. This circuit signals that the connection with the igniter is good. It uses a tiny amount of current that will not set off the most sensitive igniter. Each pad's continuity is continually verified when the pad is switched to Armed. For multiple launches or drag races, more than one pad can be armed and fired at once by switching the pads from Safe to Armed and pushing the buttons simultaneously.

2. Connecting a Battery

The battery cable for the Sixpack has banana plugs on one end and battery clamps on the other. **First**, connect the banana plugs to the power jacks on the right side of the Sixpack control box. Push each banana plug into the hole. If you don't have a cable or it is broken, bare wire can be connected to the power jacks by loosening the plastic caps to expose the holes in the shafts, inserting the wires, and tightening the caps. **Observe correct polarity! Red is positive, Black is negative.**

Now connect the clamps to the terminals of your battery. **Check that the polarity is correct.** Insert the Safety Key. The Main Power indicator LED will glow if the battery is properly connected. If it does not glow, immediately remove the Safety Key and check to make certain that the cable is properly connected.

3. Connecting the Pad Cables

PLEASE NOTE: The Sixpack system uses standard two-prong plugs to allow you to use common household extension cords to increase the lengths of the Pad Cables. DO NOT allow the Pad Cables to be plugged into a wall socket or connected to house current!

Each six-foot Pad Cable has a standard two-prong connector on one end and a pair of alligator clips on the other. Place the cables on the ground with the clips at the launch pads. Plug the cables into appliance-type extension cords (either two or three prong extension cords will work). Plug the extension cords into the sockets on the back of the Sixpack.

Connect each pair of clips to each other. Return to the Control Box and insert the Safety Key. The Main Power indicator will glow. Now you can check the continuity of each Pad Cable by switching each pad from Safe to Armed. If the cable is properly connected and the clips are touching each other, the indicator LED will glow when the pad switch is moved from Safe to Armed.

4. Flight Operations

Before anyone approaches a launch pad, make sure the Safety Key is removed. **Keep the Safety Key under your control at all times.**

When the pads have been loaded and the pad area has been cleared, you can insert the Safety Key and check continuity at each pad by briefly switching the pad from Safe to Armed. The LED indicator will glow if the circuit through the igniter is complete.

Make sure everyone in the area understands what is going on during launch operations.

Announce which pad is being fired. Switch that pad from Safe to Armed. Give a loud countdown of at least five seconds. Press the Ignition button. It may be necessary to hold the Ignition button for a second or two depending on the condition of your battery. Do not hold the Ignition button longer than five seconds.

In the event of a misfire, wait at least 30 seconds before approaching the pad.

Follow the National Association of Rocketry Safety Code when you conduct launch operations. A copy of the Code is available at the NAR's web site, www.nar.org.

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