

PK-47

# CYCLOTRON™

Height: 57"

Weight: 35 oz.

Diameter: 3.100" to 2.260"

Single motor flights to over 5,300 ft.

## Motor Suggestions:

Single Use: G80T-4, G125T-5, H55W-S, H124J-S

Reloadable: F62T-S, G64W-S, G75J-S, G60, H110, I170, H123-S, H128W-S, H238T-S, H97J-S, H180W-S, H73J-S, H123W-S, H112J-M, I161-M

## Kit Features Include:

- 38mm Main Motor Mount Option
- Heavy Duty Airframe Tubing
- Precision Cut Plywood Fins & Rings
- Pre-slotted Airframe
- Plastic Nose Cone
- Plastic Airframe Reducer
- Nylon Parachute Recovery

\* Skill Level IV.

This kit is recommended for those with previous model rocket building experience.

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**NOTE:  
Schools, Clubs,  
& other groups**



LOC/PRECISION MULTI-PACKS are now available for this and other LOC/PRECISION models. For more information on launching model rockets in your area contact the National Association of Rocketry (NAR) at [www.nar.org](http://www.nar.org) or the Tripoli Rocketry Association at [www.tripoli.org](http://www.tripoli.org)

### OTHER KITS AVAILABLE:



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# PK-47 CYCLOTRON ASSEMBLY INSTRUCTIONS

## PARTS LIST:

1 main airframe BT-3.00-34"	2 Centering rings	1 Airframe Reducer AR-3.00-2.14	1 Parachute LPHC-36
1 Plastic nosecone PNC-2.14	6 Tube Fins	1 MMA-2 motor adapter	1 Launch lugs LL-25
1 38mm motor mount tube	1 Shock cord mount	1 Shock cord	1 Payload PL-2.14 10"

- ◇ Due to the high thrust motors that can be flown in this kit, it is strongly recommended that epoxy be used throughout its entire construction.
- ◇ Before beginning construction, read over assembly instructions to become familiar with the proper construction sequence. Check rear and side exposed views (shown at bottom of instructions) carefully for fin positions and motor mount/centering ring placement inside the main airframe.
- ◇ TEST FIT PARTS BEFORE BONDING TOGETHER WITH GLUE!!!! It may be necessary to lightly sand some parts to obtain a proper fit.
- ◇ The following items will be needed for the construction & finishing of this kit: 12" ruler, Modeling knife, Pen or pencil, Masking tape, Sanding sealer, Paint brushes (assorted sizes), Sandpaper (medium & fine), Primer and paint, Yellow Carpenter's Glue, Epoxy (5 or 15 minute), CA Glue (cyanoacrylate).

## Main Airframe Assembly Instructions

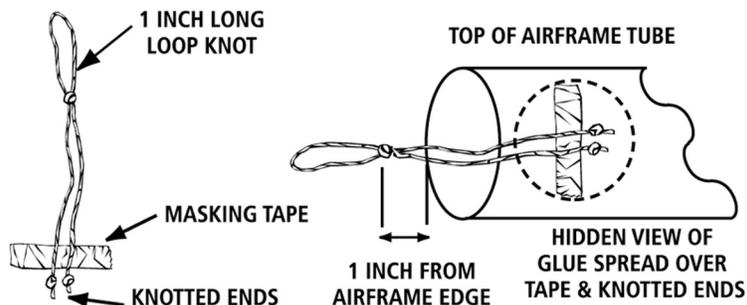
1. Take the six tube fins and lay them in three separate sets of two, on a flat surface, with their edges even. Epoxy the three separate sets of motor mount tubes by placing a light bead of epoxy lengthwise, in valley joints where each set of the motor mount tubes meet. When dry, turn the sets over and fillet the opposite side joints.
2. Using a doorframe or other straight edge as a guide, lightly pencil a straight line the length of the 3" airframe as a launch lug installation guide. Epoxy the 6" launch lug directly on this line starting at the aft edge of the airframe, making sure that it is parallel to the airframe. Set aside to dry in a horizontal position. Make a mark 24" up from the aft end of the airframe and epoxy the shorter launch lug in place starting at this mark and again make sure it is parallel with the airframe and in line with the lower launch lug. Fillet both sides of each lug.
3. Stand the main airframe on a flat surface. Arrange the three pairs of tub fins equally spaced around the aft airframe. Epoxy each pair in place on the airframe and fillet.
4. The mount tube assembly has 2 centering rings, one on each end. Epoxy one centering ring 1/4" down from the top of the motor mount tube assembly and epoxy the other centering ring 1/4" up from the opposite end. When dry, give both sides of the two centering ring/motor mount tube joints a good fillet coat of epoxy to insure maximum strength. Do one side at a time, letting it dry in an upright position before starting on the opposite side.
5. Apply a continuous bead of epoxy around the inside of the main airframe, 12" in from its bottom end. Take the centering ring/motor mount tube assembly (centering ring end first) and push it straight up into the epoxied end of the main airframe about half way up. Before the epoxy sets up, apply another bead of epoxy approximately 1/2" in from the bottom end of the airframe and continue pushing until the bottom centering ring is 1/8" below the main airframes edge. Set in an upright position to dry. When dry, turn assembly upside down and give exposed bottom centering ring a light layer of epoxy for additional strength. Set aside to dry.
6. Install shock cord mount per instructions and let dry.

## Shock Cord Mount Instructions

LOC/PRECISION'S Shock Cord Mount is easy to make and install, yet is very strong! This mounting system makes shock cord attachment quick and easy. Follow instructions carefully!

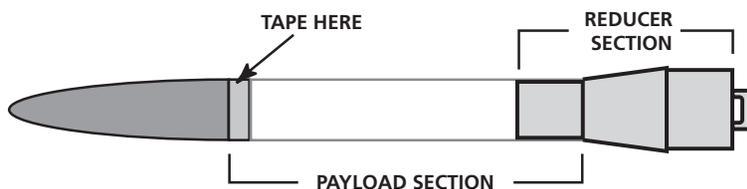
1. Take the length of nylon braided cord and at its center make a 1" long loop knot and pull it tight. Make a knot a 1/4" away from the end of EACH of the two loose ends.
2. Cut a piece of masking tape 1/4" wide by 1 1/4" long. This is centered crosswise just ahead of the two knots.
3. Carefully place the two knotted loose ends of the Shock Cord Mount, with tape attached, inside the top of airframe tube so that the 1" long loop knot is protruding out about 1" from the airframe tube's edge. Using a small piece of wooden dowel, press the masking tape down firmly around the inside of the airframe tubing. The masking tape will keep the Shock Cord Mount in place while gluing.
4. Place a generous bead of epoxy over the knotted ends and length of masking tape. Spread the epoxy around until they are completely covered and place the airframe in a horizontal position to dry.

REPEAT STEP 4 UNTIL A SMOOTH EPOXY LAYER IS ACHIEVED OVER THE MASKING TAPE AND KNOTTED ENDS.



## Main Airframe Assembly Instructions Cont'd

7. Lightly sand plastic nose cone with fine sandpaper to remove molding seam line and friction fit with tape or Epoxy the nosecone to the payload tube.
8. Friction fit with tape or Epoxy the other end of the payload tube to the Airframe Reducer.



9. When you are satisfied with the smooth sanded finish of your model, it is ready to prime and then paint in the color or colors of your choice.
10. When the paint is completely dry, take one end of the shock cord and pass it through the loop of the shock cord mount. Secure it with a double knot. Take the other end of the shock cord and pass it through the eyelet of the plastic nosecone and also secure it with a double knot. Place a SMALL drop of epoxy on both knots to keep them permanently secured.
11. Attach the chute to the shock cord about 3" away from the nose cone. To do this, take the chute shroud line loop ends in one hand, and with the other hand, take the chute and go around the shock cord, passing the chute through the shroud line loops. When the chute is pulled through tightly it will form a knot.
12. Assemble the MMA-2 using the instructions enclosed. Because of all the different motor combinations available (with varying motor lengths), this kit uses no motor blocks. Instead, wrap 1/2" wide masking tape around the nozzle end of each motor to a diameter equal to that of the motor mount tube. This will keep the motors from pushing forward upon ignition. Friction fit each motor in place by wrapping masking tape around the motor in two places for a snug fit in the motor mount tube. This will prevent the motors from ejecting rearward upon activation of the ejection charge.
13. Remember to use enough recovery wadding to protect the chute from the hot ejection charge gases.
14. Always follow motor manufacturer's instructions for motor use and ignition, and launch this vehicle on calm, windless days to insure safe recovery.

CROSS SECTION OF CENTERING RINGS/ MOTOR MOUNT TUBE ASSEMBLY IN MAIN AIRFRAME.

