



**PK-58**

# R2/ARO™

**Height: 38.75"**

**Weight: 42 oz.**

**Diameter: 4.00"**

**Single motor flights to over 2,200 ft.**

## Sample Motor Selections

F42T-4\*, F50W-6\*,  
G40W-7\*, G80T-7 \*, G64W-7\*  
H128W-M\*, H123W-M,  
I161W-M

\* requires MMA-2 Adapter

## Kit Features Include

Airframe Tubing  
Plywood Fins  
Plastic Nose Cone  
Pre-slotted Plastic Tail Cone  
Nylon Parachute Recovery

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



No decals are included with LOC Kits. Download the graphics FREE, at our website.

A FULL COLOR CATALOG DISPLAYING OUR 36+ MID AND HIGH POWER KITS IS ALSO AVAILABLE - ASK YOUR DEALER OR CALL LOC/PRECISION TODAY!



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The views above feature two popular variation schemes. See the Decal downloadable Acrobat file on our website.



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:

-  PK-1 AURA
-  PK-3 WEASEL
-  PK-4 LIL' NUKE
-  PK-5 NUKE PRO MAXX
-  PK-7 STARFIGHTER 152
-  PK-8 LEGACY
-  PK-12 ONYX
-  PK-16 GRADUATOR
-  PK-20 VIPER III
-  PK-24 VIPER IV
-  PK-25 ISIS
-  PK-26 SHADOWHAWK
-  PK-27 TWEED-B
-  PK-28 STARBURST
-  PK-32 FORTE
-  PK-45 NORAD PRO MAXX
-  PK-48 LOC-IV
-  PK-50 FANTOM
-  PK-51 FANTOM-EXL
-  PK-57 3.90 V2

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# PK-58 R2/ARO Assembly Instructions

<b>PARTS LIST:</b>	<b>1 NBT-3.90-11" Airframe Tube</b>	<b>1 NBT-1.52-13" Motor Mount Tube</b>
	<b>1 Shock Cord &amp; Mount Assy.</b>	<b>1 PNC-3.90 Plastic Nose Cone</b>
	<b>1 CR-3.90-1.52 Centering Ring</b>	<b>1 PTC-3.90 Pre-Slotted Tail Cone</b>

<b>1 LL-25 Launch Lug</b>	<b>1 Set of 4 fins</b>
<b>1 LHPC-36 Parachute</b>	<b>1 Bag of Ballast</b>
<b>1 CR-2.56-1.52 Bottom Centering Ring</b>	

- ◇ 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 familiarize you with 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 EPOXY!!!!**  
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 (coarse, medium & fine), Primer and paint, Epoxy (6 or 20 minute), Dremel tool.

## 3.90" V2 NOSECONE BALLAST INSTRUCTIONS

LOC/Precision's V-2 was scaled down from official blueprints. Its ratio of height, diameter, and fin area was retained for scale authenticity. Because of these dimension limitations, weight MUST be added to the nose cone for stability when using motors up to and including the recommended MAXIMUM re-loadable motor for flight. FOLLOW THESE STEPS FOR ADDING NOSE CONE WEIGHT FIRST BEFORE STARTING ON ASSEMBLY INSTRUCTIONS.

1. Locate the mold nipple in the nosecone's base and carefully remove its end using a sharp knife.
2. CAREFULLY pour some rubbing alcohol down into the hole made in step 1, slosh it around gently for 20 seconds and then pour the alcohol out. This will clean inside the nose cone for better epoxy adhesion. LET DRY!!
3. Securely set nose cone upside down so that when the nose weight is placed through the hole it will drop into the center portion of the nose cone tip.
4. Make a small funnel out of card stock that is to be inserted into nose cone base hole. Secure it in place with masking tape. Pour the contents of the ballast bag into the nosecone.
5. Mix EXACTLY 1 oz. (total weight of both parts) of 5 or 15 minute epoxy in a flexible 10 oz. plastic cup. After mixing the epoxy, pour it into the base hole completely covering the ballast. Shake the nosecone a bit to mix the epoxy into the ballast and let settle back into the tip of the nosecone. Some epoxies cure at high temperatures – be sure that the nosecone does not become hot to the touch while curing- if it seems to be heating up too much place nosecone in a cup of water. (As an alternant to epoxy, Liquid Nails makes a great substitution here.)
6. SET THE NOSE CONE TO A STRAIGHT UPSIDE DOWN POSITION UNTIL EPOXY IS FULLY CURED!!
7. Because of the extra nose cone weight, make sure that the nose cone has a SLIGHT snug fit inside the airframe.

## ASSEMBLY INSTRUCTIONS

1. Using fine sandpaper, sand the outside of the main airframe, motor mount tube, and launch lug for better epoxy adhesion.
2. Lightly sand plastic nose cone and tail cone to remove molding seam line. Install nose cone ballast per instructions.
3. Sand the bottom inside diameter of the slotted tail cone until the BOTTOM CENTERING RING fits snugly into it. A wrap of sandpaper around a dowel or broom handle can be used if a Dremel tool drum sander is not available. Sand down the thick web areas first for uniform wall thickness. Check for centering ring fit often while sanding! If you go too far don't panic. This ring is primarily used to keep exhaust from entering the tail cone.
4. Drill and de-burr 8 equally spaced 3/16" holes around the tail cone's shoulder that fits up into the main airframe. ALL holes are drilled on a 1/2" centerline from the tail cone's top. These holes will allow for better epoxy retention when the tail cone is epoxied to the inside of the main airframe.
5. Position the bottom centering ring onto the bottom of the tail cone flush with its bottom edge. Apply a continuous bead of epoxy around the inside of the tail cone where the bottom centering ring sets and let dry. SCOTCHWELD 1838 is suggested here.
6. Position the motor mount tube so that it protrudes 1 1/8" out from the aft centering ring. Apply a continuous bead of epoxy around the motor mount tube bottom centering ring joint inside the tail cone. Immediately position, BUT DO NOT EPOXY IN PLACE, the top centering ring down onto the top of the tail cone to center the motor mount tube. KEEP THE TOP CENTERING RING SECURED IN PLACE WITH MASKING TAPE UNTIL ALL THE FINS ARE EPOXIED TO THE MOTOR MOUNT TUBE. This will help to insure proper alignment of the motor mount tube.
7. Sand all fins smooth and round off their leading and trailing edges using medium then fine sandpaper.
8. Each fin has two fin tabs that protrude out from the fin's root radius edge. Test fit ALL four fins for proper seating of the fin tabs onto motor mount tube and at the rear end of tail cone's bottom centering ring and motor mount tube joint. If necessary, sand fin root radius edge. When properly seated there should be a slight gap between the full length of the fin root radius edge and the outer radius of the tail cone. This gap will be epoxy filled in Step 14.
9. Clean outer tail cone surface with rubbing alcohol for better epoxy adhesion. Place epoxy ONLY on the fin tab surfaces that come in contact with the motor mount tube and aft centering ring. Place one fin into the tail cone slot until it sets onto the motor mount tube and against the aft centering ring. Keep in a horizontal position while drying and make sure that the fin is straight up from the tail cone.
10. When dry, repeat this procedure with the remaining fins. 5 or 15 min epoxy can be used for this step if desired.
11. Remove the temporarily positioned top centering ring from the top of the tail cone. This is where the SCOTCHWELD 1838 epoxy or equivalent should be used. Add epoxy fillets to both sides of the exposed fin tabs that protrude INSIDE the tail cone. Use epoxy where the fin tab contacts the motor mount tube AND ALSO where it passes through the INSIDE of the tail cone.

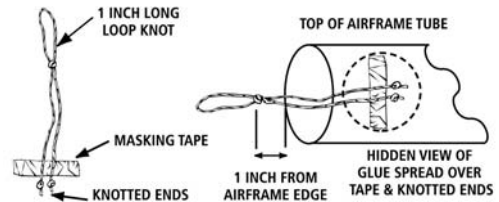
- Set in a horizontal position to dry. When dry, repeat this procedure with the remaining fin tabs.
- 12. The top centering ring is now epoxied in place. Apply a continuous bead of epoxy around the diameter of the motor mount tube and inside the top edge of the tail cone. Push the top centering ring onto the motor mount until it is seated against the tail cone's top edge. Set upside down and secure with masking tape until dry.
- 13. Using a thick slow cure epoxy, apply a continuous bead of epoxy around the inside of the main airframe, 1 3/4" up into one of its ends. IMMEDIATELY place epoxy around the tail cone's shoulder diameter and into the 8 drilled holes. Slide the tail cone/fin assembly into place until it seats against the airframe's bottom edge. POSITION tail cone EVENLY AROUND Airframe and let dry. \*\*\*For a smooth transition between tail cone and airframe diameters, sand airframe/tail cone junction, apply spot glazing putty, and finish accordingly.
- 14. Sight in the high point (center of airframe's diameter) of the airframe between any two fins. Make a small pencil mark 10.5" from the fins' bottom edge. From this mark, make a straight line up about 4" long. Cut the launch lug at an angle to reduce drag. Epoxy the launch lug directly on this line, making sure that it is parallel to the airframe. Set aside to dry in a horizontal position.
- 15. Give all fin and launch lug outer joints added epoxy fillets for MAXIMUM strength.
- 16. Install the shock cord mount SCM following the instructions provided in the package.
- 17. Seal fins and launch lug with sanding sealer using a brush. Sand lightly between coats to fill pores and obtain a smooth finish.
- 18. 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.

## 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 glue over the knotted ends and length of masking tape. Spread the glue around until they are completely covered and place the airframe in a horizontal position to dry. REPEAT STEP 4 UNTIL A SMOOTH GLUE LAYER IS ACHIEVED OVER THE MASKING TAPE AND KNOTTED ENDS.



## ASSEMBLY INSTRUCTIONS CONTINUED

19. The parachute is attached to the shock cord about 5" away from the nose cone. Using ALL the chutes' shroud line loop ends, tie a double knot around the shock cord and PULL ON IT tightly. ALWAYS CHECK DOUBLE KNOT RIGHT BEFORE LAUNCHING!
20. Select a motor for first flight. Because of all the different motor combinations available (with varying motor lengths), this kit uses no motor blocks. Instead, wrap 1" wide masking tape around the nozzle end of the motor to a diameter equal to that of the motor mount tube. This will keep the motor from pushing forward upon ignition. Friction fit the 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 motor from ejecting rearward upon activation of the ejection charge.
21. Because of the close proximity of the shock cord near the top of the motor mount tube, it is highly recommended that the motor mount tube be filled loosely with recovery wadding IN ADDITION to the wadding used to protect the shock cord and chute from the hot ejection charge gases.
22. Always follow motor manufacturer's instructions for motor ignition and launch this vehicle on calm, windless days to insure safe recovery.

