DUMMY RADIAL ENGINE

ASSEMBLY AND FINISHING INSTRUCTIONS

The Top Flite® Dummy Radial Engine (hereafter referred to as *Radial*) is patterned after the Pratt & Whitney radial engines that powered numerous aircraft from the *Golden Age* of aviation. Modeled to fit the Top Flite F4U Corsair and AT-6 Texan, this 1/7th scale Radial will fit any cowls with a frontal opening of 6-1/2" to 7". Not only does the Radial enhance scale appearance, but it also serves as an air-flow baffle for more efficient engine cooling.

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WARNING
Do not attempt to start your engine unless the Radial has been modified to permit cooling airflow to the engine! See text for more information.

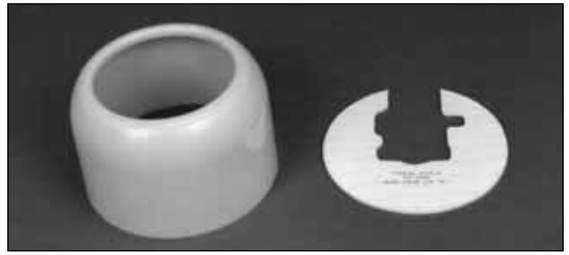
 RADIALP1

TOOLS AND SUPPLIES NEEDED (Not Included)
- Hobby Knife with # 11 Blade
- Hand Drill or Dremel® Moto-Tool®
- 1/16" and 1/8" Drill Bits
- CA - Medium (Great Planes® Pro™ recommended)
- 1/8" x 8" x 8" Lite-ply
- Round File or 1/2" Drum Sander
- Small Paint Brushes
- Paint (see painting instructions)
- Scroll or Coping Saw
- Rubber Cement or Spray Adhesive
- 100 & 240 Grit Sandpaper

ASSEMBLY

The following procedure covers the assembly and modifications required for a **flying model.** Static display models require no modification.

❑ 1. Measure the inside diameter of your cowl about 1-1/2" from the frontal opening and match this size to the concentric circles on the **Baffle Template**. *The correct size for the Top Flite Corsair and AT-6 is the innermost circle.*

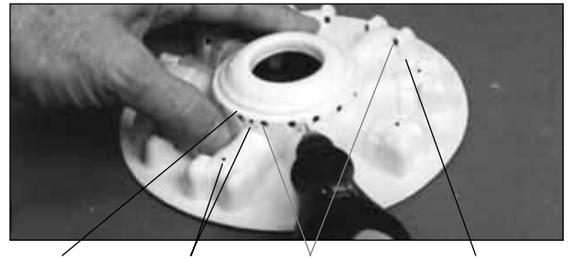


❑ 2. Trace or photocopy the Baffle Template, then glue the copy to a sheet of 1/8" lite-ply (not included). Cut around the circumference and the engine opening with a scroll or coping saw.

❑ 3. **Score** around the **inside** corner of the **Radial** with a hobby knife. **Flex** the plastic around the rim until it breaks off.

❑ 4. Cut away the prop shaft opening from the center of the Radial. Smooth the edges with a round file or drum sander.

❑ 5. **Tape** the Radial to the ply baffle, then test fit the assembly inside the cowl. If necessary, sand the ply baffle for a better fit. The forward edge of the Crankcase should be flush with the outside forward edge of the cowl.



Crankcase 1/16" Holes 1/8" Holes Rocker Arm Cover

❑ 6. Drill a **1/8"** hole through each of the *indented marks* around the perimeter of the Crankcase and also through the *bottom* of each Rocker Arm Cover. Drill a **1/16"** hole through the *dimple* near the top of each Cylinder and also into the Ignition Harness Ring between the Push Rod holes.

❑ 7. Use 240 grit sandpaper to lightly sand the full length of the **3 plastic tubes** for better glue and paint adhesion. Cut **18 pieces 1-1/4"** long to use for the Push Rod Tubes.

❑ 8. Sand the **16" wire**, then cut **9 pieces 1-1/2"** long to use for the Ignition Leads. Make a 90 degree bend 3/8" from one end. Randomly bend the *long* section to simulate flexible wires.

Note: *As you will probably be removing at least one Cylinder when you use the Radial as an air baffle, you **need not** install Push Rod Tubes and an Ignition Lead in **one** Cylinder. Complete all 9 cylinders if you will **only** be using the Radial for static display.*

Painting Hint: *Most modelers find that it's easier to paint this type of structure **before** final assembly. If this is your preference, skip down to the section on **Painting** then return to step 9 when you are ready to proceed.*

❑ 9. Insert the Push Rod Tubes into the Rocker Arm Covers and the crankcase as shown in the photo. They should protrude **inside** the Radial about 3/32" at each end of each piece. Don't worry about gluing them yet.

❑ 10. Insert the Ignition Leads into the Crankcase and the Cylinders.

❑ 11. Turn the Radial over and apply a drop of CA to both ends of all Push Rod Tubes and Ignition Leads. (From the inside)

❑ 12. **(Flight Modification)** Trim away one of the Cylinders but leave excess backing material in place. This material will be trimmed off during final fitting to the engine.

❑ 13. Glue the Radial to the ply baffle with CA. Be sure to align the "removed Cylinder" with the opening in the baffle. **Hint**: *Roughen the back surface of the Radial with coarse sandpaper for a better glue bond.*

❑ 14. Tape the Radial assembly inside the cowl. Make final adjustments to the fit between the cutouts and the engine. By working from the ***inside*** it's possible to remove material from the Radial without affecting the Push Rods Tubes and Ignition Leads. Pay special attention to provide **unrestricted throttle and needle valve movement**.

❑ 15. When satisfied with the fit, smooth all rough edges with fine sandpaper then paint the Radial. **After painting**, epoxy the baffle to the inside of the cowl.

PAINTING SUGGESTIONS

We painted our prototype Radials with Enamel paint (not fuel proof) then sprayed two light top-coats of K&B® Super Poxy Satin over the completed job to fuel proof the finish. This finish withstands fuel and normal wear and tear quite well.

If you are building a scale replica of a particular aircraft, paint the Radial in similar colors to the full scale version. The colors we chose represent typical P&W colors with *chrome plated* Push Rod Tubes and Ignition Harness Ring.

PAINTING SEQUENCE AND COLORS USED

Top Flite® LustreKote™ (Aerosol)
1. Entire Exterior – Gray Primer

Testors Model Master Enamel (Brushed on)
2. Crankcase – Gunship Gray
3. Cylinders – Euro Gray
4. Background – Light Gray
5. Push Rod Tubes & Ignition Harness Ring – Silver
6. Ignition Leads & Rocker Arm Covers – Black
7. Spark Plug Connectors – Gold or Copper
8. Cylinder Fins and weathering – Silver & black Random Fine Lines On The Fins.
9. Engine I.D. Plate – Black with Silver details

K&B® Super Poxy (Sprayed with Air Brush)
10. Satin Finish Clear Coat - Fuel Proofing

PARTS LIST

Qty.	Description	Part No.
1	ABS Plastic Radial	RADIAL01
3	8" Plastic Push Rod Tubes	PLTB025
1	16" Wire for Ignition Leads	WIRES58
1	Instruction Sheet	RADIALP1

Baffle Template

The cutout in this baffle is sized to fit an O.S.® .61SF Engine and should provide a starting point for other 2 Stroke engines in the .60 - .90 range.