ASSEMBLY INSTRUCTIONS

JET HANGAR INTERNATIONAL, INC.
Post Office Box 1607
Hawaiian Gardens, CA 90716
phone: 562-467-0260
fax: 562-467-0261
email: larrywjhi@jethangar.com
www.jethangar.com
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TO OUR VALUED CUSTOMERS

Thank you for purchasing the A-7 Corsair II ARF. We hope you have an enjoyable and exciting experience flying this model aircraft. Please read the instructions and note the technical data included in the literature provided with the kit. Our goal is to produce a product which is safe to operate, easy to build, and fun to fly within the limits of its intended use.

The Jet Hangar International, Inc. (JHI) A-7 Corsair II ARF is designed for use with 8-10 lbs. thrust turbine engines or 5" ducted fan units for glow engines or electric motors. The A-7 is most suitable for use with the Wren MW-44 Gold or the Turbax ducted fan unit. The Turbax may be used with .45-.48 c.i. glow ducted fan engines; an electric version of the Turbax is also available. Recommended takeoff weight should not exceed 15 lbs. (7 kg). Use of power systems other than those recommended by the manufacturer is done without the endorsement of Jet Hangar International, Inc., which assumes no liability resulting from the use of this product.

JHI is further not liable for incidents or occurrences during flight of its model aircraft as flying safety and aircraft maintenance are the sole responsibility of the individual consumer or flyer.
1.0 INTRODUCTION

This kit is a custom built almost-ready-to-fly (ARF) aircraft designed as a high performance, scale jet for use with 7-12 lb thrust turbine engines or 5” ducted fan systems. The aircraft is designed for ease of assembly and maximum performance. We hope you will find this to be a rewarding and enjoyable addition to the world of jet flight. As always, your letters, emails, and phone calls are most welcome. Our aim is to make jet flight as commonplace at the flying field as any other type of scale flying.

1.1 Operation of R/C Jet Aircraft

Flying a high performance R/C jet aircraft requires an experienced R/C pilot to operate. The high rate of speed at which these models travel can result in serious property damage or personal injury; greater than most other R/C aircraft. If this is your first jet aircraft, seek experienced help for the initial setup and flights of your A-7 Corsair II. Additionally, we are here to help you be successful with this jet so please feel free to email or call with any questions. In all cases exercise good judgment in the operation of this R/C jet aircraft and remember: discretion is the better part of valor.

1.2 The Academy of Model Aeronautics (AMA)

It is recommended that anyone operating an R/C aircraft of any type have an AMA membership. This offers liability insurance coverage in the event of an incident resulting in property damage or personal injury. Additionally, operation of a turbine powered model in the United States requires an AMA turbine waiver. Operation of a turbine aircraft without a turbine waiver is strictly prohibited.

Academy of Model Aeronautics
5151 East Memorial Drive
Muncie IN 47302-9252
(800) 435-9262
www.modelaircraft.org

2.0 ABOUT THE A-7 CORSAIR II

Developed out of the Navy’s need for a single seat tactical attack fighter with greater range and payload than the A-4 Skyhawk, the A-7 Corsair II was born from the Vought F-8 lineage. Built as a subsonic version of the F-8 Crusader, and named after the famous WWII Vought F4U Corsair, the A-7 Corsair II was flown by the Navy (A-7E), Air Force (A-7D), Air National Guard, and export nations for military service and was one of the first aircraft to feature a heads-up display (HUD) and a doppler-bounded inertial navigation system (INS). Considered one of the most accurate strike aircraft made, between six pylons, and two fuselage launch stations the aircraft had the capability of carrying 15,000 lb of payload. With a typical weapons loadout, the A-7 Corsair II was capable of
delivering its ordinance within a 700 mile radius and return home without requiring additional fuel. The A-7 Corsair II’s military career with the US stems from Vietnam (A-7A in 1966) all the way through the Gulf War in 1991 where the last remaining Navy A-7E squadrons flew their last cruise. By 2004, approximately 100 examples of the A-7 were still in military service with Greece and Thailand.

![A-7D/E Corsair II General Layout Drawing](image)

3.0 GENERAL BUILDING TIPS

Before beginning assembly of this ARF kit, it is recommended that these instructions be studied in detail so that the modeler becomes familiar with the assembly process prior to assembling his aircraft. Be sure to follow each step in detail during the assembly process. Construction of the various assemblies (wing, fuselage) may be done in any sequence. However, the flow of this instruction manual represents the easiest step by step process.

3.1 Lightness

No modifications are needed to this kit for use with the intended propulsion systems. Extra additions (reinforcements, extra doublers, etc.) outside the factory built aircraft and what is in the instructions can add unnecessary weight.

3.2 Adhesives

Clean and sand fiberglass surfaces before gluing. Roughen the surface with coarse sandpaper for best results, then clean with a paint thinner. For best
adhesion, only slow cure epoxy glues (30-minute or slower) should be used when gluing any materials to the fiberglass fuselage and in other high stress areas.

3.3 Retracts

As with all of our kits, the ARF A-7 Corsair II is designed for use with retractable gear. The use of the scale JHI oleo landing gear system is recommended.

3.4 Finishing

This ARF kit comes either fully painted or ready-to-paint.

**Fully Painted**: A complete set of water transfer decals are included to add the finishing touches to the model. A decal placement diagram is included to aid in application of each decal. Though not required, it is recommended following application of the decals that a clear coat be applied for protection of the decals. The model is painted with cellulose nitrate lacquer paint and will accept most types of clear coat. For a turbine aircraft, most solvent based clear coats will work. For a ducted fan aircraft, nitro methane can be a bit corrosive, so a two-part PPG clear coat is recommended.

**Ready-to-Paint**: Your model comes pre-primered ready for paint application. The base primer is a lacquer automotive primer which will accept virtually any type of paint. It is recommended that all surfaces be lightly wet sanded with a 320-600 grit sand paper and be cleaned with a de-greaser prior to any application of paint.

4.0 REQUIRED TOOLS AND EQUIPMENT

The assembly of this ARF kit requires a small assortment of tools and accessories for assembly as listed below. Though some items listed may not be specifically referenced in the assembly processes listed in Section 6, they will be useful during assembly (not to mention useful for maintenance) of the aircraft.

4.1 Tools

- X-acto knife or similar
- Electric Drill and drill bit set
- Dremel tool with cutter and cutoff wheel bits
- Sandpaper
  - 80-180 grit for assembly
  - 320-600 wet/dry for finishing (ready-to-paint version only)
- Needle nose pliers
- Side cutters
- 4-40 drill and tap
• Small to medium sized screwdrivers, phillips and flat ends
• 3/32" ball end for hex end bolts
• Basic L-shaped allen wrench set
• 12” ruler
• Paint Thinner or Denatured Alcohol

4.2 Adhesives

• Cyanoacrylates (CA)...better known as ZAP
  o ZapCA “Thin”
  o Zap-a-Gap “Medium”
  o Slo-Zap “Thick”
• 5-minute epoxy
• 30-minute epoxy
• Phenolic Microballoons (for thickening epoxy)

5.0 KIT CONTENTS

Included in this Almost-Ready-to-Fly A-7 Corsair II kit are the following items. Inspect that all items are present. In the event an item is missing, please contact Jet Hangar International, Inc.

5.1 Turbine A-7 Packing List

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<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Item Number</th>
<th>Quantity</th>
<th>Unit</th>
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<tr>
<td>2</td>
<td>Stab Fairings</td>
<td>PA7M01</td>
<td>2</td>
<td>Each</td>
</tr>
<tr>
<td>3</td>
<td>Fuselage</td>
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<tr>
<td>4</td>
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<td>Each</td>
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<tr>
<td>9</td>
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<td>Set</td>
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<tr>
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5.2 Ducted Fan A-7 Packing List

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<td>Stab Fairings</td>
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<tr>
<td>5</td>
<td>Fuselage</td>
<td>PA7F01</td>
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<tr>
<td>6</td>
<td>Canopy Hatch</td>
<td>PA7CH01</td>
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<td>Each</td>
</tr>
<tr>
<td>7</td>
<td>Wing</td>
<td>PA7W01</td>
<td>1</td>
<td>Pair</td>
</tr>
<tr>
<td>8</td>
<td>Turtle Deck Hatch</td>
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<td>Each</td>
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<tr>
<td>9</td>
<td>Pylons</td>
<td>PA7PL01</td>
<td>6</td>
<td>Each</td>
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<td>10</td>
<td>Screws for Pylons</td>
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<td>12</td>
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<tr>
<td>11</td>
<td>Al. Tube and Bulkheads inside Pylon</td>
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<td>12</td>
<td>Stabs</td>
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<td>Screws for Servo Mount</td>
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<tr>
<td>15</td>
<td>Wing Attach Bolts</td>
<td>PA7WH02</td>
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<td>Each</td>
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<tr>
<td>16</td>
<td>Flat Washers</td>
<td>PA7M02</td>
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<tr>
<td>17</td>
<td>Aileron, Flap and Stab Control Arms Assembly (wheel collars, screws and horn bracket linkage included)</td>
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<td>Rudder Control Arm Assembly (wheel collar, screws and horn bracket linkage included)</td>
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<td>1</td>
<td>Set</td>
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</tbody>
</table>
5.3 Additional Aircraft Accessories

The following represent optional accessories required for the completion of this ARF kit. All items are available from Jet Hangar International, Inc.

5.3.1 Landing Gear

1  Scale Oleo Nose Strut
2  Scale Oleo Main Struts and Air Cylinders
1  Belly Mount Nose Retract + Air Control Kit

5.3.2 Turbine Operation

1  Wren MW-44 “Gold” Turbine Engine
1  Wren Designed Double Walled Titanium Thrust Augmenter Pipe

5.3.3 Ducted Fan Operation

1  Turbax 48 Ducted Fan System
1  OS 46 VXDF Ducted Fan Engine
1  MACS Tuned Pipe
6.0 AIRCRAFT ASSEMBLY PROCESS

The following are the required steps to get the ARF A-7 Corsair II ready to fly. If at anytime you have a question please feel free to email or call. We are here to help you have a good experience and enjoy this hobby.

6.1 Wing Assembly (Flaps/Ailerons)

1. Locate the wing servo mounting plate (1 for each wing panel). This will mount the flap and aileron servos. Note that there is a left and a right.
   - Test fit the part into the wing saddle. If necessary, remove any interference material to achieve a proper fit. Remove the balsa cross brace to allow for the servo leads.
   - Mount the flap and aileron servos into the servo mount pulling the servo leads through the center hole.

2. With the servos installed, glue the wing servo mount into the wing root using 5-minute epoxy. Ensure no interference with the servo leads in the event a servo is to be removed.
   - Center each of the servos and install the servo arms. **Note:** The forward (closest to leading edge) servo is the aileron servo with the arm directed downward towards the fuselage. The rear servo is the flap servo with the arm directed upwards toward the main hatch. This is the intended configuration.

3. Locate 4 each of 4-40x¾” bolts, ¼” wheel collars, and 4-40 horn brackets.
   - Using a Dremel cutoff wheel bevel the head of each of the 4-40 bolts. This will allow for the horn bracket to reach to the top of the bolt.
   - Thread each of the horn brackets onto the 4-40 bolts. Ensure they are screwed completely to the top of the bolt head.
   - Test fit the ¼” wheel collar onto the wing torque tubes. Additionally, check fit the 4-40 bolts into the ¼” wheel collar. Ensure the 4-40 bolt tightens well. **Note:** horn bracket orientation should be parallel to servo actuation when bolt is fully tightened.
4.  
- Locate the #108 push rods. Trim them to the appropriate lengths: approx. 3.75" for flaps, 5" for ailerons.
- Solder a clevis on the non-threaded end (solder this clevis only!) for each of the 4 pushrods.
- Final install the 1/4" wheel collars onto the torque tubes. Ensure the bolts are fully tightened, unable to loosen. **Note:** The orientation of the bolt should be such that the horn bracket hole is inline with the center of the pivot, otherwise, differential deflections will be seen.
- Install the pushrods onto the servos and horn brackets. For the flap pushrod, a hole may need to be drilled for the pushrod to extend through the spar. This will not structurally affect the strength of the wing.
- Your flaps and ailerons are now ready for fine tuning deflections.

6.2  Fuselage Assembly

6.2.1  Rudder

Rudder servo locations differ for ducted fan and turbine. The turbine installation can use a standard servo if desired. The ducted fan installation requires a mini servo. If desired, the ducted fan servo installation can be used for the turbine installation, but NOT vice versa. The control horn setup described below is common to both versions. The rudder servo installation for each is described in Sections 6.2.1.1 and 6.2.1.2.

5.  
- Locate a 4-40x3/4” bolt, 3/32” wheel collar, and 4-40 horn bracket.
- Using a Dremel cutoff wheel bevel the head of the 4-40 bolt. This will allow for the horn bracket to reach to the top of the bolt.
- Thread the horn bracket onto the 4-40 bolt. Ensure it is screwed to the top of the bolt head.
- Test fit the 3/16” wheel collar onto the rudder torque rod. Additionally, check fit the 4-40 bolt into the 3/16” wheel collar. Ensure the 4-40 bolt tightens well. **Note:** horn bracket orientation should be parallel to actuation when bolt is fully tightened.
- Final install the control horn onto the rudder torque rod.
6.2.1.1 Turbine
A mini servo is recommended for use on the rudder actuation. A standard servo can be used if desired. Carbon arrow shafts with plastic ends are required for this step.

6. Locate the rudder servo mount parts (rudder mount, RB).
   Key the parts RB into place and glue vertically to the sides of the rudder mount as shown using 5-minute epoxy.

7. Mount the servo into the servo mount. Note: The servo slot is sized for mini servos. Mounting a standard servo requires the removal of the inner cross brace as shown and the slot widened approximately 3/32”.
   With the servo still in place, glue the servo mount into the airframe using a slow cure epoxy. Placement should be such that the servo arm is approximately in line with the forward wheel well bulkhead with the bottom of the servo resting on the engine mount parts. Note: Depending on the type of servo used, some custom fitting may be required to mate to the side of the fuselage.

8. From a carbon arrow shaft, cut an approximately 20” length for use as the rudder pushrod.
   Locate a 2-56x12” Dubro #108 push rod. Trim the threaded end to approximately 4” and the unthreaded end approximately 3”.
   Solder a clevis onto the unthreaded wire. Using 5-minute epoxy, glue this assembly into the plastic end leaving approximately 1.5” exposed (including the clevis). Note: To ensure a good positive bond, roughen the wire prior to bonding with the plastic end.
   Glue this assembly into one end of the 20” carbon pushrod using 5-minute epoxy. Sand the mating surface of the pushrod end prior to gluing.
   Again with 5-minute epoxy, glue the threaded wire into the plastic end keeping the required exposed length. Once cured, epoxy into the open end of the pushrod. Note: Gauge the necessary exposed length for the threaded wire by test fitting in airplane. Approximately 1.5-2” of exposed wire should be required.
Install the pushrod into the airplane. Note: Attach the solder clevis at the rudder.

Adjust the 2-56 clevis to suit the centerpoint of the servo. Bend a slight “joggle” into the wire at the servo to lower pushrod below wing saddle.

6.2.1.2 Ducted Fan
To clear the exhaust liner, a mini servo is required for use on the rudder actuation for the ducted fan. The process below will also elevate the servo. If desired, this method can be used for the turbine installation also. Note: if a larger servo is used, the servo will not fit into the rudder location.

9. Locate the rudder servo mount part “rudder mount”. Remove material from the servo mount so that the servo slides all the way through it.

From scrap 1/8” lite plywood, cut 2 pieces 5/16”x3/4” and 2 pieces 9/16”x3/4”. Note: Adjust the parts sizes to accommodate the servo used. An Airtronics 94557 servo was used on the prototype model.

Glue the 5/16”x3/4” parts on the backside of the rudder mount flush to the inboard servo opening using epoxy.

Glue the 9/16”x3/4” parts onto the 5/16”x3/4” parts using epoxy. Approximately ¼” of the plywood should be exposed in the servo opening.

Install the servo into the servo mount.

10. Test fit the servo mount into the airplane.
Insert the servo from the rear of the aircraft placing it into the dorsal base opening approximately 1” back from the forward rear bulkhead (F6). Sand any interference material to fit the servo in place. Note: The servo should be centered in the dorsal base opening.

With the servo in place, glue the servo mount into the airframe using a slow cure epoxy. Placement should be as described above. Allow to fully cure before setting up the rudder push rod.
11. Locate a 2-56x12" Dubro #108 push rod. Cut to an overall length of approximately 5.25".
- Solder a clevis onto the unthreaded wire.
- Thread the 2-56 clevis onto the threaded end.
- Install the pushrod into the airplane. Note: Attach the solder clevis at the servo.
- Adjust the 2-56 clevis to suit the centerpoint of the servo.

6.2.2 Elevator

Again, different servo installations are required for the elevator installation on the turbine and ducted fan versions. If desired, the ducted fan servo installation can be used for the turbine installation, but NOT vice versa. The control horn setup described below is common between the two kits. The elevator servo installation for each is described in Sections 6.2.2.1 and 6.2.2.2.

12. Locate the two elevators, 2 each ¼" wheel collars, and two each 4-40x1" hex head bolts.
- Using a Dremel cutoff wheel, bevel the head of the 4-40 bolts. This will allow for the horn brackets to reach to the top of the bolts.
- Thread the horn brackets onto the 4-40 bolts. Ensure they are screwed completely to the top of the bolt head.
- Drill and tap a 4-40 hole into the ¼" wheel collar.
- Test fit the elevators onto the fuselage. Ensure smooth action of the elevators. If necessary, the action can be smoothed out by pressing a sharpened 9/32" brass tube into the bushing on the elevator. Note: The elevators angle upwards (dihedral) when installed.
- With the elevator in place, test fit the 1/4" wheel collar onto the elevator torque rod. Ensure the 4-40 bolt tightens into the 1/4" wheel collar securely. With the assembly tightened, check for any lateral movement of the elevator; there should be none. If necessary, add 1/64" spacers to the fuselage to alleviate any lateral movement or rubbing against fuselage.
- Final install the elevators onto the fuselage. Ensure the 4-40 bolt is completely tightened.
6.2.2.1 Turbine

13. Locate the elevator mount parts, elevator mount, EF, and ER. **Note:** There are two sets of parts.
   - Key the parts, EF and ER into the appropriate slots and glue vertically to the sides of the elevator mount as shown using 5-minute epoxy.
   - Mount the servo into the servo mount, routing the servo wire through the hole in the front plate. **Note:** Depending on the servo used, removal of some material may be required. A 70 in-oz torque servo was used for each elevator on the prototype model. **Note:** Use Dubro HD Servo Arms.
   - With the servo still in place, glue the servo mount into the airframe using a slow cure epoxy. Placement should be as rearward as possible while still remaining access to all of the servo mounting screws. The servo pivot should be forward with the servo arm facing inward.

14. Locate the arrow shaft pushrods and single rod nylon ends.
   - Cut two 8.5”-9” lengths from one arrow shaft for use as the elevator pushrods (2 required).
   - Locate 2 ea. 2-56x12” Dubro #108 push rods. Trim the threaded end to approximately 4” and the unthreaded end approximately 3”.
   - Solder a clevis onto the unthreaded wire. Using 5-minute epoxy glue this assembly into the plastic end leaving approximately 1.5” exposed (including the clevis). **Note:** Roughen the wire prior to bonding with the plastic end for a stronger bond.
   - Glue this assembly into one end of the 9” arrow shaft using 5-minute epoxy. Sand the mating surface of the pushrod end prior to gluing.
   - Again with 5-minute epoxy glue the threaded wire into the plastic end keeping the required exposed length. Once cured, epoxy into the open end of the pushrod. **Note:** Gauge the necessary exposed length for the threaded wire by test fitting in airplane. Approximately 1.5-2” of exposed wire should be required.
   - Install the pushrod into the airplane. **Note:** Attach the solder end to the elevator.
   - Adjust the 2-56 clevis to suit the centerpoint of the servo.
6.2.2.2 Ducted Fan

15. Locate the elevator mount parts, elevator mount, EF, ER and the retract assembly plate. **Note:** There are two sets of parts.

- On each of the EF and ER parts, remove the lower half (from the hole center to the rounded tip) and remove 1/8” of material from the flat side. **Note:** The completed servo mount will be epoxied onto the retract assembly plate, the 1/8” slot is to create an offset to account for the thickness of the retract assembly plate.

- Key the parts, EF and ER into the appropriate slots and glue vertically to the sides of the elevator mount as shown using 5-minute epoxy.

- Mount the servo into the servo mount and test fit the servo mount assembly onto the retract assembly plate. The servos should be located as rearward as possible on the plate allowing space for access to the retract plate mounting screws (see section 6.2.3) with the servo arms rearward also. **Note:** Depending on the servo used, removal of some material may be required. A 70 in-oz torque servo was used for each elevator on the prototype model.

- When satisfied with the location and fit, remove the servo and glue the servo mounting plates in place onto the retract mounting plate.

- Install the elevator servos. **Note:** Use Dubro heavy duty servo arms on elevator.

**IMPORTANT!**

Before proceeding with the next steps, it is recommended that section 6.2.3 be completed first; at minimum the retract actuator should be installed onto the retract assembly plate (step 21). The installation continues on the following page.
16.  
- Cut two 8”-8.5” lengths from the supplied arrow shafts for use as the elevator pushrods (2 required).
- Locate 2 each 2-56x12” Dubro #108 push rods. Trim the threaded end to approximately 4” and the unthreaded end approximately 3”.
- Solder a clevis onto the unthreaded wire. Glue this assembly using 5-minute epoxy into the nylon end leaving approximately 1.5” exposed (including the clevis). **Note:** Roughen the wire prior to bonding with the plastic end for a stronger bond.
- Glue this assembly into one end of the 8” arrow shaft using 5-minute epoxy. Sand the mating surface of the pushrod end prior to gluing.
- Again with 5-minute epoxy glue the threaded wire into the plastic end keeping the required exposed length y. Once cured, epoxy into the open end of the pushrod. **Note:** Gauge the necessary exposed length for the threaded wire by test fitting in airplane. Approximately 1” of exposed wire should be required.
- Install the pushrod into the airplane. **Note:** Attach the solder clevis at the elevator.
- Adjust the 2-56 clevis to suit the centerpoint of the servo.
- Repeat these steps as necessary for installation of the second elevator.

### 6.2.3 Retracts and Landing Gear

17.  
- Locate the nose landing gear strut, retract unit, 2 ea 2-1/4” wheels, and 3/16” wheel collars.
- Install the 2-1/4” tires onto the axle and secure in place with 3/16” wheel collars. Ensure wheels roll freely. **Note:** For more scale installation, see Appendix D.
- Once complete, install the nose landing gear strut into the retract unit.
- Replace the stock centering spring on the retract unit with 1/16” wire. **Note:** The stronger spring is required to hold the nose wheel straight as it retracts into the wheel well. It cannot be allowed to flop to either side.
- Using thin wire or fishing line, route the steering cables through the steering arm. Allow excess for steering setup.
18. ❑ Test fit the retract unit into the aircraft nose gear mount. Remove any interference material as necessary. **Note:** There should be approximately 1/8” between the front of the wheel well and the nose strut.

❑ Once satisfied with the fit and location of the retract unit, drill the required mounting holes into the retract mount using #4 x ½” sheet metal screws. **Note:** It is easiest to mark and drills these holes with the nose strut in the retracted position.

❑ Install the required airlines onto the retract unit and install the nose gear into the aircraft.

19. ❑ Assemble the main retracts by dismantling the cylinder bracket. **Note:** Remove the rear screw and twist open the two brackets.

❑ Remove from the cylinder the existing pivot brackets to expose the pivot hole.

❑ Place the cylinder into the retract bracket by sliding the cylinder hole onto the pivot shaft and screwing the cylinder actuator arm onto the threaded shaft on the retract locking mechanism.

❑ Reassemble the cylinder bracket by closing the brackets together and screwing the assembly together.

❑ If necessary, remove the “e” clip from the open pivot rod. Remove the rod and slip the retract gear slider into place. Reinsert the rod and reapply the “e” clap to hold the assembly together.

20. ❑ Install the main retracts into the aircraft by installing 4 ea. 4-40x3/4” screws from the rear of the main retract bulkhead through the retract mounting flanges exposed through the front pivot brackets.

❑ Install 4 ea. 4-40 lock nuts from the front and tighten each assembly in place.

**NOTE:** For the ducted fan version, clear away as required the bottom of the intake duct at the face of the fan to clear the main wheels so that they fully retract into the wheel wells.
21. Locate the retract plate assembly and parts RA1, RA2, and RA3.
   Laminate the two RA3 parts together. Laminate 1 RA1 part on top of RA2 oriented such that the etched circle patterns would align. Laminate the last RA1 part onto the bottom center of the retract plate assembly part.
   Drill 1/16” holes at the two ends of the retract plate assembly using the etched circles as guides. Drill 1/16” holes into the RA2 and RA3 assemblies.
   Screw into place the RA2 and RA3 assemblies onto the underside of the retract place assembly using 4 #2x7/16” screws.
   Assemble the 4-way valve and servo actuator assembly as required per the retract manufacturers instructions and check fit on the retract assembly plate. Shim the 4-way valve if necessary for alignment with servo.
   Install the 4-way valve and servo onto the retract plate assembly in the desired location. For ducted fan, the actuator assembly must be at the front of the plate. Note: Install the servo using two of the supplied 6mm basswood rails onto the retract place assembly.
   If not already done so, install the air lines as required onto the 4-way valve.
   Install the retract plate assembly into the aircraft behind the main retract bulkhead by gluing the RA2 and RA3 assemblies to the internal fuselage using 5-minute epoxy. The RA3 assembly should be forward towards the nose fitting between the balsa stiffeners installed in the aircraft. Note: The retract plate assembly should be removable, so only glue the RA2 and RA3 assemblies.
   Once all of the landing gear and the retract plate assembly have been installed into the aircraft, finish connecting all of the airlines to complete the system.
   Install the air tank in the desired location. Note: For ducted fan, the air tank is recommended installed below the duct forward of the main retracts. For turbine, the air tank is recommended installed above and to the side of the fuel tank.
6.2.4 Steering

22. Locate the parts, steering mount, 2 ea. SM-A, and 2 each of the 22mm hardwood rails.
   - Using slow CA or 5-minute epoxy, glue the SM-A parts to the back of steering mount as shown.
   - Once cured, bevel the lower rear edge of the servo mount.
   - Mount the 22mm hardwood rails onto the desired steering servo. **Note:** An Airtronics 94557 (43/54 in-oz) mini servo was used on the prototype model.
   - With the hardwood rails still mounted to the servo, using 5-minute epoxy, glue the hardwood rails onto the front face of the steering mount as shown.

23. Install two “EZ-connectors” opposite one another on the servo arm. With the arm installed on the servo, the “EZ-connector” orientation should be vertical as shown.
   - Using a slow cure epoxy with micro balloons to thicken, glue the steering servo mount assembly into the nose bay. **Note:** The assembly should be located at the rear right of the wheel well out of the way of retraction of the nose gear.

24. Place a 1/16” brass tube into each EZ-connector and lightly tighten the set screws so that the brass tubes do not move.
   - Route the steering cable from the nose retract placing one cable end into one of the brass tubes and the other cable end into the other brass tube.
   - With the nose retract down and locked, pull tight each of the steering cables (using a locking tool like forceps) until the nose wheel is centered well. **Note:** For best results, have the steering servo powered on through a radio and centered.
   - Once satisfied with the positioning of the nose wheel and steering cables, use a crimping tool to pinch the brass tube onto the steering lines. Your steering lines are now complete.
   - Make minor adjustments as necessary to true up the nose wheel so that the aircraft tracks straight, then fully tighten the EZ-Connector set screws.

**Caution:** For turbine, recess assembly into fuselage so it doesn’t collide with fuel lines.

**Note:** Two crimps at the forward most part of the brass tube should be sufficient to hold the cable in place. Use a bead of Zap CA on the cables after crimping if desired.
6.2.5 Landing Gear Doors

The following procedure is presented as an easy alternative to the landing gear doors installation and actuation. This method uses typical hobby items namely, .025 wire, a 1/16” brass tube, and 2 ea. #24 rubber bands. If desired, air cylinders may be installed in place of the method described herein.

6.2.5.1 Main Gear Doors

25. Test fit the main landing gear doors. Ensure a proper fit is attainable with the gear retracted.

- Remove the gear doors and locate the top main gear door.

- Using thin CA, glue a patch (approx. ¾"x1") of 2oz. fiberglass cloth on the inside of the door approximately 4" from the front of the gear door. Note: Lay the cloth in correct location and wet out with thin CA to glue in place. This acts as a stiffener.

- Cut approximately 1.75" from a piece of .025 wire. Make a z-bend in the middle of the wire to make a torsion type spring. Bend one of the long ends to match the desired angle of the door in the gear down position. Note: The main wheel needs to clear the door during retraction.

- Insert the spring into the 1/8" balsa stringer at the top of the door in the area of the fiberglass patch.

- Test fit the door in place to check alignment and glue the torsion spring in place once satisfied with the geometry. Note: The spring end should be pushed through the balsa door stiffener in the fuselage.

26. Cut approximately 3.5" from a piece of .025 wire. Make a Z-bend approximately 1" from one end. Bend the long end of the wire downward to make an approximate 60° angle. Note: This will be the actuation arm. This interacts with the strut to pull the door closed.

- Using CA, glue this actuation arm in place onto the fiberglass patch with the long side facing downward. CA a second patch of fiberglass over the glue joint.

- Cut approximately 2” from a 1/16” brass tube and slip it over the .025 wire. Note: This acts as a stiffener for the wire to minimize bending.
Test fit the door in place to test the actuation and the interaction between the actuation arm and the gear strut. Manually retract the landing gear by hand to check the geometry. Increase or decrease the downward angle on the actuation arm to achieve correct fit to the fuselage.

Once satisfied with the fit and actuation of the gear door, oil the hinges and glue the 3 hinge flanges into the fuselage using thick CA. **Note:** The gear door can be removed by pulling the 3 hinge.

Repeat steps for the opposite side gear door.

27. Locate the **lower main gear door** and test fit in place. Sand any interference areas as necessary.

When satisfied with the gear door fit, oil the hinges and glue the 3 hinge flanges in place into the fuselage using thick CA. **Note:** The gear door is removable by pulling the 3 hinge pins.

Using 2 ea. #64 rubber bands cut the rubber bands at one end to create a rubber strip.

Glue one end of a rubber strip to the forward inside door approximately 1/8”-1/4” back from the forward edge with the rubber band edge approximately mid door.

Glue one end of the second rubber band to the rear inside door approximately 1/8”-1/4” back from the rear edge with the rubber band edge approximately mid door.

Using the rubber bands through the opposite side wheel well, with the landing gear retracted, pull the lower gear shut. Ensure there is positive pulling force in the up position. **Note:** The gear door should want to pull itself shut and will be kept open by the main gear strut.

When satisfied with the fit of the gear door, glue the rubber band in place inside the fuselage between the landing gear.

Trim away the excess rubber pieces.

Using 1/8” lite plywood, create a small wedge shape and glue it to the base of the main gear as shown. **Note:** This helps to push away the main gear to help clear the tire as it retracts into the wheel well.

Repeat these steps for the opposite side gear door.
6.2.5.2 Nose Gear Doors

28. Locate the **nose gear doors** and test fit in place. Sand any interference areas as necessary. **Note:** The gear in the down position angle out approximately 110° from the bottom of the fuselage.

- When satisfied with the fit of the doors, using thick CA, glue the 2 hinges in place to the fuselage. **Note:** The nose doors angle outward approximately 15° in the down position.

- Cut approximately 2.5" from .025 wire. Bend a 90° angle at one end leaving approximately ¼" at the base.

- Cut about ¼" from 1/16" brass tube and place it over the .025 wire so that it sets at the 90° bend. Glue in place with thin CA.

- Bend the long side of the .025 wire approximately 60° in the perpendicular direction to the 90° bend approximately 3/32" above the brass tube.

- Twist the wire outward so that the 60° bend angles outward approximately 15°.

- Glue the .025 wire spring into the wheel well where the brass tube is glued to the rear face of the retract plate. **Note:** Once in place, bend the wire as required to achieve the correct gear door orientation. The door should close and spring open.

- Repeat the above steps for the opposite side door.


- Glue the balsa onto the interior of the gear doors approximately mid door.

- Screw into each balsa part a #2x3/16" screw with a washer. Do not fully tighten.

- Cut a 6" length of fishing line or similar string and loop one end around one of the #2 screws and tighten the screw down.

- Loop the other end of the string onto the other screw keeping some slack in the line.

- Test the actuation of the retracts and adjust the length of string between the doors until the doors fully close as desired.
6.2.6 Propulsion Installation

6.2.6.1 Turbine

Installation of the turbine into the aircraft is best done with the exhaust pipe in hand. It is recommended that these steps not be performed until the complete turbine and pipe are available for installation into the aircraft.

30. □ Assemble the fuel tank per the turbine engine instructions. **Note:** Ensure a filter clunk is installed into the tank per Wren instructions. Tank will be installed upside down, so ensure vent tube is oriented accordingly.

□ Install the fuel tank (upside down with the front facing toward the nose of the aircraft) into the compartment behind the inlet and in front of the forward main gear door bulkhead as shown. **Note:** If necessary, remove any interference material, ie. the top cross member from the main wheel well bulkhead (F4), etc.

□ Find the part “fuel tank retainer” and 6 each retainer spacers. With the fuel tank in place, determine the number of spacers required to offset the “fuel tank retainer” and glue the parts together. **Note:** There should be positive contact with the tank to hold the tank to a snug fit.

□ Tack glue the retainer spacers to the outer tips of the fuel tank retainer. Drill a 1/16” diameter hole as shown on the part.

□ Secure two small #2x3/8” sheet metal screws into the holes.

□ With 5 minute epoxy, glue the retainer spacers to the rear side of the front main wheel well bulkhead (F4) to secure the fuel tank in place. Ensure the fuel tank is held securely in place. Scrap plywood applied as necessary can be used to aid in holding the tank securely. **Note:** The fuel tank retainer can be removed by loosening the two screws.
31. Install the engine mounting rails using 30 minute epoxy. The wide portion of the engine rails is where the engine and pipe mount. Use the pipe to gauge the approximate location of the engine. There is to be a 1-1/8" (30mm) gap between the rear of the MW-44 tailcone and the exhaust pipe bellmouth.

- Insert the exhaust pipe into the fuselage from the rear of the aircraft (exhaust). The flanges on the pipe should rest on the engine mounting rails. **Note: In the side view, the pipe should be flush to the aft exhaust of the fuselage.**
- With the pipe held in place at the correct location, mark and drill pilot holes into the engine mount for the flange attachments.
- Using 2 ea. #3x1/2” screws, secure the pipe.

32. Place the engine onto the mounting rails with 1-1/8" (25-30mm) space from the rear of the tailcone to the face of the pipe. **Note: To accommodate thrust line, it is recommended that** a 1/16” shim (supplied) be added under the engine and pipe for the first flight. Cut to the desired length and install under the engine and pipe mounting flanges. This part should be removable.

- Using 4 ea. #4x1/2” screws, secure the engine in place.

**IMPORTANT!**
The distance from the tailcone to the pipe (25-30mm) is critical for optimum aircraft performance. The recommended pipe is a Wren thrust augmenter tube which actually increases your engine thrust when installed in the airplane!

33. Route the necessary fuel tubing, propane line, electrical wires, etc. and complete the propulsion system installation per the manufacturer’s instructions. **Note:** The fuel pump is intended to be installed into the accessory panel (Section 6.2.7). The ECU and fuel pump battery are intended to be installed into the nose of the aircraft (next to the receiver).
6.2.6.2 Ducted Fan

34. ❑ Assemble the ducted fan unit per the manufacturer’s instructions. **Note:** This aircraft is intended for use with the JHI Turbax 46 ducted fan system.
   ❑ Trim the aluminum mounting rails on the fan back approximately 11/32”. **Note:** This is necessary for the fan to fit inside the fuselage.
   ❑ Drill two new mounting holes into each of the mounting rails.
   ❑ Test fit the ducted fan into the fuselage. Trim any interference material as required to get the fan to set in place. **Note:** The fan shroud is intended to fit inside of the inlet duct.
   ❑ Mark and drill the required mounting holes for the fan.
   ❑ Drill the fan mounting holes and temporarily mount the fan in place.
   ❑ Before removing the fan for the next steps, mark the location of the trailing edge of the aluminum fan mounts and the trailing edge of the fan shroud.

35. ❑ Locate the two fiberglass exhaust ducts. **Note:** It is a two piece duct system with the largest diameter mating to the rear of the fan and tapering down to the smallest diameter at the aircraft exhaust.
   ❑ Remove the scale exhaust cone by flexing the fiberglass and removing the three wire pins from their tubes.
   ❑ Test fit the rear exhaust liner into the aircraft pushing the liner as far back as possible to achieve a snug fit. **Note:** Remove interference material as required at the trailing edge of the wing saddle to allow duct to slip into place.
   ❑ Trim the exhaust side of the liner to fit in place as required. The liner should extend approximately ¼” beyond the rear bulkhead. **Note:** The prototype model required that approximately 1” be trimmed from the exhaust.
   ❑ Once trimmed, mark the three locations for the scale exhaust cone attachments. Using a Dremel cutoff wheel, cut slots at each location in the direction of the exhaust flow. **Note:** This is only required if installing the scale exhaust cone into the aircraft for static display or flight.
36. With the rear exhaust liner in place, test fit the front exhaust liner into place. **Note:** The rear of the front exhaust liner has a beveled edge. The top of liner should orient the bevel angle with the longest side at top, shortest at bottom of aircraft.

   - While in the aircraft, note the location of the fan mounting rails and trim the exhaust liner to fit. **Note:** It is best to split the difference from the front and rear of the exhaust liner. For example, the prototype model required about 1" trimmed, ½" was trimmed from either end.

   - Place the engine cover cap in place on top of the exhaust liner and trace the outline onto the exhaust liner.

   - Remove the exhaust liner from the aircraft and trim away the area for the engine cover cap allowing for a ½″ flange around the aft three sides. At the fan mating surface cut away approximately 1 ½″ for the engine cylinder.

   - Test fit the fan into the aircraft to ensure things align correctly. Retrace the outline of the engine cover cap if necessary.

37. Remove the fan from the aircraft.

   - Glue a scrap piece of polyethylene hinge or fiberglass material on the exhaust liner at each of the two attachment points of the exhaust liner to the fan shroud. This will prevent screws from tearing the fiberglass ducting material. **Note:** For best results, the exhaust liner attachment points should align to the fan stators.

   - Using a #2×⅜” screw, a washer and a servo eyelet, attach the forward exhaust liner onto the fan unit temporarily. **Note:** The washer should be at the top with the servo eyelet with the flange at the fan.

   - Cut 3/8″ strips and 1/2″ strips of fiberglass sheet or 1/64″ plywood.

   - Glue the ½″ strips around the perimeter of the engine cover cap.

   - Glue the 3/8″ strips onto the ½″ strips leaving a 3/16″ overlap towards the engine.

   - Test fit the engine cover cap. Remove once satisfied with the fit.

**Note:** See TurbaX fan instructions for additional information and diagrams of this step.
38. Locate the desired throttle servo. **Note:** This aircraft requires a mini servo for throttle capable of 40+ in-oz torque.
- Cut two ea. ½”x¼” parts from some scrap ¼” basswood.
- Drill the attachment holes for the servo into the basswood rails and screw into place on the servo.
- Epoxy the basswood rails onto the outside of the exhaust duct. **Note:** Placement is approximately 6” back from the leading edge of the duct centered along the longitudinal center.
- Install an ez-connector onto the servo arm using a Dubro #108 pushrod and Dubro #190 ball joint.
- Cut a slot in the duct to allow the throttle pushrod to pass through the duct freely.
- Determine the necessary length for the push rod and install the ball joint onto the threaded end.
- Connect the ball joint onto the engine and set the throttle servo as desired. Tighten the ez-connector onto the pushrod once satisfied with the results.

39. Find the supplied tuned pipe hanger pylon TPH and 2 ea. TPH-A.
- Glue the parts TPH-A on either side of the base of the pylon matching the lower contours.
- Using wax or petroleum jelly as a barrier, tack glue the pipe hanger assembly in place on the tuned pipe. Create an epoxy fillet using epoxy and micro balloons around the mating surface. **Note:** Useful for creating an exact fit to pipe.
- Place the fan unit on the work surface with the forward exhaust liner attached vertically and with the fan facing downward.
- Remove the rear exhaust liner from the aircraft and place it onto the forward exhaust liner.
- Place the tuned pipe onto the engine exhaust with the tuned pipe hanger in place.
- Mark the location of the tuned pipe pylon and cut a 1/8” slot in the duct to receive the tuned pipe hangar.
- Glue the tuned pipe hanger in place in the exhaust duct using epoxy. Glue scrap 1/8” square balsa on either side of the pylon on the outside.

**Note:** Be careful to avoid making the slot in the exhaust liner larger than necessary! It should only be sufficient to pass the pushrod through! Too large a slot may result in loss of performance.

**IMPORTANT!**
Tuned pipe length should measure 9 ¾” from the glow plug to the apex of the tuned pipe. Additional information and diagrams can be found in Turbax fan instructions.
40. Drill holes in the exhaust duct to allow for the carburetor and tuned pipe fuel lines. The carburetor line should be drilled approximately 4.5” from the front of the forward exhaust duct on the left, and the tuned pipe line approximately 2.5” from the front of the rear exhaust on the right. **Note:** Use of rubber grommets is recommended to avoid chaffing or cutting of the fuel lines during operation. Also, ensure fuel line clears ducted fan mounting rails installed in aircraft.

- Remove the exhaust ducts from the fan unit and install them into the aircraft.
- Install the ducted fan unit into the aircraft.
- Install the tuned pipe onto the engine from the back of the aircraft and capture on the tuned pipe pylon using o-rings.
- Connect the throttle linkage and place engine cover cap onto the exhaust duct.

41. Assemble the desired fuel tank per the manufacturer’s instructions.

- Install into the turtle deck area between the canopy hatch and the wing saddle. Secure the tank in place using silicone, E6000, or a similar material.
- Connect the remote needle valve.
- Screw the remote needle valve into a ¼” thick basswood block.
- With the wing setting in place, install the remote needle valve onto the top of the duct between the main wing spars.
- Remove the wing and finalize the installation of the fuel lines. **Note:** The feed valve is connected to the remote needle valve which connects to the carburetor. The vent connects to the tuned pipe.
- Cut a small opening in the forward intake duct in the canopy area for the starter probe. Ensure starter probe fits as required.
6.2.7 Final Hardware Installation

6.2.7.1 Turbine

42.  Once all servo installations have been completed, route the servo wires forward into the nose of the aircraft.

   - Install the receiver, receiver and pump batteries, and engine ECU into the nose of the aircraft as shown.

   - Route the receiver switch, flap and aileron extensions, and air fill receptacles into the forward wing saddle area.

43.  Find the hardware accessory panel, UP6 platform, and 2 ea. 7/8”x1/4” hardwood rails.

   - Using slow CA or epoxy, glue the hardwood rails to the lower outer edge of the UP6 platform. Allow to cure.

   - Using slow CA or epoxy, glue the UP6 platform assembly to the hardware accessory panel in the etched rectangular outline.

   - Install the brake servo into the servo slot. Install the UP6 valve onto the platform.

   - Connect the airlines for the brake system and install the brakes onto the main landing gear per the manufacturer’s instructions.

   - Install the air fill valves for the retracts and brakes into the designated holes for these items.

   - Install the receiver switch into the accessory panel.

   - Install the receiver charge jack along with the aileron and flap extensions into “charge receptacles” and install into the accessory panel.

   - Install the engine pump into the designated hole into the accessory panel. **Note:** If the pump is a loose fit into the hole, wrap masking tape around the pump to build up and create a tight fit into the accessory panel.
44. Locate the 7/8"x1/2" hardwood rails and glue onto the front top of the engine mounting rails using slow CA or epoxy.

Drill the 4 outer attachment holes into the accessory panel.

Screw the accessory panel into place on the hardwood rails. **Note:** The wood may be soft enough that pilot holes are not required in the basswood rails.

Finish connecting the engine and radio equipment.

Test fit the wing and connect the flap and aileron connections. Clean up as necessary any loose wires to allow accessibility to the accessory panel.

### 6.2.7.2 Ducted Fan

45. Once all servo installations have been completed, route the servo wires forward into the nose of the aircraft.

Install the receiver and receiver battery as required to accommodate the aircraft cg.

Route the receiver switch, flap and aileron extensions, and air fill receptacles into the forward wing saddle area.

46. Find the hardware accessory panel and 2 each 7/8"x1/2" hardwood rails.

Cut the accessory panel down so that it measures 3"x2.25".

Install the air fill valve for the retracts and the receiver switch into the accessory panel.

Install the receiver charge jack, aileron, and flap extensions into “charge receptacles” and install into the accessory panel.

Drill 4 attachment holes into each of the 4 corners of the trimmed down accessory panel.

Screw the accessory panel into place on the hardwood rails. **Note:** The wood may be soft enough that pilot holes are not required in the hardwood rails.
47. Glue the completed assembly onto the top of the inlet duct in the area from the leading edge of the wing saddle to front of the forward wing spar. **Note:** Ensure wires and airline do not interfere with wing spar or saddle.
Test fit the wing and connect the flap and aileron connections. Clean up as necessary any loose wires to allow accessibility to the accessory panel.

7.0 AIRCRAFT SETUP AND CG
Once all aspects of the assembly have been finished, ensure the aircraft is setup and balanced as noted below. Note these are recommended start values for the first flights. These can be tailored to suit personal preferences as desired once the initial flights have been completed.

- **Center of Gravity – Center of Gravity** – Balance the aircraft at the leading edge of the wing saw tooth (landing gear down and the tank empty). This equates to approximately 8-1/4” back from the leading edge of the wing saddle at the root. **DO NOT BALANCE THE AIRPLANE FORWARD OF THIS MARK; it is already slightly nose heavy!** Adjustment of some of the components may be required to accommodate the CG location, which is preferable to adding weight.
Control Throws – The control throws shown below are recommended for use for the first flights. Fine tuning can be done to suit personal preference as desired. Additionally, setting up dual rates for elevator and aileron is recommended and listed below.

- Elevator – Neutral elevator carries approximately 1° up elevator.
  - High Rate – 1-3/8” up and down ← First Flight Setting
  - Low Rate – 1” up and down
- Ailerons –
  - High Rate – 3/8” up and down
  - Low Rate – 1/4” up and down ← First Flight Setting
- Rudder –
  - 1” left and right
- Flaps – Down elevator mixing required, approximate start points shown below.
  - Half – 7/8” down, 3/32” down elevator mixing
  - Full – 1-1/2” down, 3/16” down elevator mixing (3/32” additional to half)

8.0 FLYING THE A-7 CORSAIR II

The ARF A-7 Corsair II is a high performance R/C jet aircraft. It has been designed for scale accuracy and flight performance. The aircraft flies like a high performance trainer as it is extremely stable in all axes of flight. Capable of high speeds upwards of 160-180 mph with the Wren MW-44 turbine, the aircraft also retains excellent slow speed handling. The high lift provided by the A-7’s fixed droop leading edge, coupled with trailing edge flaps, allows for very positive control at incredibly slow flight speeds. The aircraft possesses a long glide, making it very docile to land while the high lift wing requires only moderate take-off speeds to become airborne. Target weight with Wren MW-44 is 13.5 lbs.

8.1 Range Check

A range check is always recommended prior to any models’ first flight. This is to ensure the model retains good radio communication prior to any attempts to fly. Though not as critical for the glow ducted fan, for turbine and electric ducted fan operations, it is advisable to also range check the model with the propulsion system running as the engine/motor electronics could interfere with the radio system. If unable to achieve a good range check, rerouting of the receiver antenna and relocation of some of the electronics may be required.

8.2 Taxi Tests

It is advisable to do some taxi testing of the airplane prior to attempting the first flight. Mostly, this is to get a feel for the ground handling of the aircraft and to do some last minute checks of the system. Be advised however that high speed taxi testing (not recommended) could result in an unexpected test flight! So, exercise
common sense not to get the aircraft up to flying speed until ready for the first flight. You will find that the aircraft will accelerate quickly on the takeoff roll.

8.3 First Flight

When accelerating the aircraft down the runway for takeoff, carry a very slight amount of up elevator during the ground roll. The reason is two fold: first, it will desensitize the nose wheel steering and, secondly, it will maintain positive attitude on the ground roll. Once in the air, get a feel for the control of the aircraft prior to exercising any maneuvers. Perform some slow flight and check how the aircraft responds to the different flap settings before attempting to land with flaps. With the correct amount of flap/elevator mixing, the aircraft should not change trim with flap deflections. Lastly, if you find that the aircraft changes trim with different throttle settings, check the thrust line and add or remove shims (supplied) as required to set the thrust line. No more than a 1/16” shim should be required.

This is a very easy flying aircraft which we hope you will enjoy! If we can help in any way, please do not hesitate to contact us.
APPENDIX A: Coloring Diagrams/Decal Placement
A.1 Decal Application Instructions

IMPORTANT! These are not your ordinary water transfer type decals. There is no carrier film once applied to the model as is present on most other water transfer decals. Please read and follow the instructions carefully. It is a simple process, but all steps must be taken.

1. Carefully cut out the desired decal to be applied from the decal sheet. Cut around the pink colored carrier film leaving an approximate ¼” offset from the edge.
2. Put the transfer decal into water for 10-20 seconds; in some cases soaking up to 30 seconds may be required for the decal to slide off easily.
3. Remove the decal and place it onto the model in the desired location. It is best to slide the decal from the paper onto the model without physically lifting the decal off of the paper.
4. When in the desired location, squeeze out any excess water and air bubbles.
5. Apply additional decals as desired using the same process described above.
6. Once complete, set the model aside for 3+ hours to allow the decals to dry.
7. After the 3 hours has passed, carefully peel away the clear/pink carrier film. It is best to pull the carrier film back behind itself as it is removed from the surface. It is recommended to allow some additional time for the decals to set once the carrier film has been removed.
8. Finally, it is recommended to spray a clear coat over the decals to protect them from fuel, UV light, etc.
A.2 Edwards Air Force Base A-7D
A-7 CORSAIR II
DESER STORM A-7E DECAL PLACEMENT

NAVY
VA-72

FUSELAGE BOTTOM

USAH JOHN F. KENNEDY
NAVY
VA-72

Bare Metal

Ps30140

Ps31575

A-7E
160552

Bare Metal

VA-72

400

Chris Wolfe, 2006
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APPENDIX B: Cockpit Diagrams
B.1 Assembly Notes

The following represents the plans for building of the cockpit kit. The cockpit kit is made of vacuum formed plastic which can be assembled using any of the various types of CA glues or epoxy. Color notes as well as picture references are provided for your convenience.

Remove the plastic parts by using a sharp Xacto knife to score the material. Typically, two passes will score the plastic enough to remove the part. If it is not, score the material as required and carefully remove the part. Be careful as the plastic will tear if the score is not deep enough, so keep this in mind.

Build the various assemblies using CA glue. Where higher strength is needed, use epoxy. When mounting the cockpit into the aircraft, it is recommended that the cockpit be part of the canopy hatch such that it vacates the airplane when the canopy hatch is removed. This will maintain easy access into the front cockpit compartment. Additionally, it is recommended that the cockpit be removable from the canopy as well for easy maintenance.

The following are the paint colors recommended as labeled on the following drawings. Any type of plastic model paint is sufficient. It is recommended that a primer be sprayed over the parts prior to painting any of the paint colors. Additionally, commercially available instrument placards are recommended for use on the instrument panel.

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<th>Gunze Color</th>
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<tbody>
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<tr>
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<tr>
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<tr>
<td>H324</td>
<td>Light Gray</td>
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</tr>
</tbody>
</table>
B.2 Assembly Drawings

H2 (instr. only)

H317

INSTRUMENT PANEL

H324

TOP

SIDE

HEEL FLOOR

Have questions? Call us at 562-467-0260 or email larrywjhi@jethangar.com
B.3 Cockpit References
APPENDIX C: Weapons Pylons Installation Drawings
C.1 Assembly Notes

The weapons pylons are included with this kit as an added feature for the scale enthusiast. The A-7 full sized aircraft rarely flew without pylons, so why should the model? The installation is simple as hardpoints are already installed in the wing and the parts are included with the kit.

On the underside of the wing are pilot holes for the wing hardpoints. Carefully drill and tap the hardpoints to a 4-40 size (be sure not to drill through the wing!). Note that the orientation of the pylons is perpendicular to the ground and NOT the wing. Assemble the pylons as shown in the following drawings. Installation of the wood parts as shown is required. This is done by noting the location of the hardpoints onto the pylons, routing out the location on the bottom of the pylon only and then assembling and gluing into place the wood parts. The pylons are held in place using 2 ea. 4-40x1” screws for each pylon. The 4-40 screw should be housed in an aluminum tube as shown. This will ensure proper alignment of the screw without any guess work.
C.2 Assembly Drawings
APPENDIX D: Landing Gear Scale Details
D.1 Notes

These are some simple scale details that can be added to the aircraft wheels which help enhance the scale looks of this aircraft. You will be surprised at the difference it makes in appearance!
D.1 Nose Gear

48. Using the pattern below, cut two each wheel hubs out of 1/64” plywood. For drilling the holes, the use of a sharpened brass tube is recommended.

- Glue the wheel hub onto the tire with thin CA.
- Mask and paint the wheel hub white.

49. Remove the wheel axle from the nose strut and cut it in half using a Dremel cutoff wheel.

- Solder the appropriate sized washers (3/16” ID) onto one end of each the axles and paint the exterior white.
- Drill and tap to 4-40 the center collet in 4 places (2 for each axle) and insert 4-40 set screws.
- Locate 2 ea. 3/16” wheel collars. Note: These are spacers for wheel clearance of the strut.

50. Slide the axles through the wheels. Insert the 3/16” wheel collar onto the axle.

- Insert the axle into the collet while on the strut and tighten the set screws. Repeat for the second wheel.
- Paint the very center of the hub black.
D.2 Main Gear

51. □ Disassemble the Robart wheels.
    □ Paint the rear wheel hub white and the front wheel hub black.
    □ Drill out the center of the Robart wheel cover and paint it white. Paint the center hub black.
    □ Slim down two 3/16” wheel collars. **Note:**
    This can be using a bench sander/grinder or using a dremel cutoff wheel.
    □ When the paint has dried, reassemble the Robart wheels

52. □ Slip the wheel into place onto the wheel axle.
    □ Install the wheel collar onto the axle. Ensure the wheel rotates smoothly and freely.
    □ Install the Robart wheel cover. It is a friction fit, so tack a bit of thin CA to hold it in place.
APPENDIX E: ARF A-7 Corsair II Plans