

Congratulations on the purchase of your brand new AJ Aircraft 86" ARS 300 MkII!



From all of us at AJ Aircraft, we thank you for your business. Our custom designs, combined with top grade materials, are assembled with precision and care to provide you with one of the best airframes in the industry. We have gone the extra mile to make the final assembly of your airplane as simple and painless as possible. Once your airplane is complete, we know it will provide you with countless hours of thrilling flight. Prepare yourself for a new experience in R/C flight as you *Up Your Game* with AJ Aircraft!!

Safety Precautions and Warnings

All of AJ Aircraft's airframes have gone through many stages of extensive testing to ensure a high quality kit which results in a safe and reliable airframe when assembled properly. Poor assembly practices along with substandard equipment will lead to an unsafe model.

This product should not be considered a toy, but rather a sophisticated, working model that functions much like a full-scale airplane. Our products are not intended for use by small children. Anyone 14 years of age or younger should always be assisted by an adult while using our products.

The safe operation of this model is your responsibility and yours alone. If you are a beginner or have never flown a model of this caliber, you should solicit the help of an experienced pilot until you have become comfortable with it. Because of its performance capabilities, this product, if not assembled and operated correctly, could cause injury to you or spectators and damage to property.

Tips for Success

- Watch our build videos at www.aj-aircraft.com to familiarize yourself with the assembly process.
- Before starting assembly, make sure all of the components are in the kit and nothing is damaged. If something is missing or damaged, please call us at (734) 244-4015.
- Take a few minutes to go over all of the covering, especially the seams and trim details, with a covering iron set on low to medium heat. Use a sock on your iron to minimize any scratches.
- A drop of clear nail polish in areas like the tips of the stars will help to keep them from lifting.
- Inspect the fuselage for any interior joints that may have loosened during shipping. If any are found, apply a couple drops of thin CA to those areas.
- **ALL METAL BOLTS** must receive a drop of blue Loctite before final assembly.
- Install all major components (including engine, muffler, cowl, prop, spinner, servos, and linkages) prior to installing the flight battery and receiver. This will allow for easier CG adjustments at the end of the build.
- Test all electrical components to guarantee they are working properly before final assembly.
- Ensure servo endpoints in your radio are set to their maximum range for optimum performance.
- Pre-center and match any servos and servo arms prior to installation. Make sure to mark any matched pair(s) for later reference.
- Do your best to mechanically center all flying surfaces so that little to no sub-trim will be required.
- Use the suggested C.G. and throws at the end of this handout as your starting point. After your first few flights, fine tune them to your flying preferences.
- Color codes and names of the Ultracote covering used on all of our aircraft are listed on our website.
- If you have any questions, please contact us directly at (734) 244-4015 or by email through our website (www.aj-aircraft.com) before doing anything. We also suggest visiting the various RC forums like RCGroups and Flying Giants where all of our airplanes are discussed.

Contents of Kit

- ARS 300 fuselage covered in genuine Ultracote w/ color matched plastic canopy
- Set of pre-hinged main wings
- Set of pre-hinged horizontal stabilizers
- Pre-hinged, removable rudder
- Color matched fiberglass cowl & wheel pants
- Carbon fiber wing and stabilizer tube
- Carbon fiber main and tail landing gear
- Heavy duty wheels and steel axles
- Engine mounting templates
- Canister muffler mounts
- Individual bags of high quality hardware
- Foil wing bags

Recommended Equipment

- (Gas Engine) Desert Aircraft 50cc engine with KS86 canister muffler and 50mm drop header or standard mufflers
- (Electric Motor) Hacker Q80-8M with Castle 160a ESC
- Propeller – 23x8 (gas), 24x10 (electric)
- 6 Channel Full Range Receiver
- Five 400in. oz. high torque digital metal gear servos for all surfaces
- One standard size servo for throttle (Gas setup)
- 500 ml – 700ml gas tank (gas only)
- 4" Spinner
- Servo extensions:
 - (4) x 6" for ailerons
 - (2) x 48" for elevators
 - (1) x 12" for throttle/esc
- Aluminum Servo Arms:
 - (2) x 1.5" for ailerons
 - (2) x 1.75" for elevators
 - (1) x 3.5" for pull/pull rudder or 1.75" for push/pull

Recommended Tools Needed for Assembly

- Blue Painters Tape
- Denatured Alcohol & Paper Towels
- Blue Loctite
- Metric & Standard Allen Wrenches
- Hobby Knife & Fresh Blades
- 15 – 30 Minute Epoxy (or Gorilla Glue)
- Thin C/A
- Electric Drill with Assorted Small Bits
- Small Flat Head & Phillips Screwdrivers
- Sanding Block & Sandpaper
- Needle Nose Pliers
- Adjustable Wrench or Socket Set
- Measuring Tape & Ruler
- Fine-tip Sharpie Marker

Recommended CG Range and Control Throws

- ✓ The center of gravity (CG) range for the ARS 300 is located $\frac{1}{4}$ " to $\frac{3}{4}$ ", measured from the front of the wing tube insert located in the fuselage.

- ✓ **Aileron Control Throws**

- Low Rates – 15 deg. (30% Exp)
- Mid Rates – 35 deg. (40% Exp)
- High Rates – 45 deg. (50% Exp)

- ✓ **Elevator Control Throws**

- Low Rates– 15 deg. (30% Exp)
- Mid Rates– 35 deg. (40% Exp)
- High Rates – 45 deg. (50% Exp)

- ✓ **Rudder Control Throws**

- Low Rates– 15 deg. (30% Exp)
- Mid Rates – 35 deg. (40% Exp)
- High Rates – Max throw (50% Exp)