

Congratulations on the purchase of your brand new AJ Aircraft 105" Laser 230z!



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

- 105" Laser 230z fuselage covered in genuine Ultracote
- Set of Main Wings w/pre-installed hinges and sealed aileron hinge gap
- Set of Horizontal Stabilizers w/pre-installed hinges and sealed elevator hinge gap
- Pre-hinged, removable rudder
- 5" Carbon Fiber Spinner
- Embroidered quilted wing and stabilizer bags
- Carbon fiber wing and stabilizer tubes
- Carbon fiber main and tail landing gear
- Color matched fiberglass cowl, wheel pants, landing gear cuffs and canopy
- Heavy duty wheels and steel axles
- Engine mounting templates
- Canister muffler mounts
- Basic sheet of vinyl graphics
- Individual bags of high quality hardware

Recommended Equipment

- Desert Aircraft 100cc to 120cc gas engine
- (2) KS3086 canister mufflers with 90mm flexible drop header.
- (8) x 400+in. oz. high torque digital metal gear servos for all surfaces
- (1) x standard size servo for throttle
- Aluminum Servo Arms:
 - (6) x 1.75" for ailerons & elevators
 - (2) x 3.5" for pull/pull rudder or (2) x 1.75" for push/pull
- 9+ Channel Full Range Receiver
- Ignition Spark Switch or Optical Kill Switch
- Servo extensions:
 - (2) x 24" for outer ailerons
 - (2) x 6" for inner ailerons
 - (4) x 6" for receiver to wing
 - (2) x 48" for elevators
 - (2) x 24" for throttle & ignition
 - (2) x 36" for push/pull rudder (none for pull/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) for the 105" Laser 230z is located 1 ½", 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)