

# TIP TANKS



## D'Shannon Aviation

*Realize the Potential of Your Bonanza*

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### EXPERIENCE

For over 40 years D'Shannon Aviation has been the provider of the best known and sought after tip tank for the Bonanza fleet. From the original 12 gallon Flight Extenders to the latest 20 gallon model, the D'Shannon tank has been the favorite of Bonanza pilots everywhere. With scores of years of experience, our manufacturing, engineering and product placement staff have a greater understanding of your needs than any other provider. Even with all of that experience, we routinely consult with experts in aerodynamics, composite materials and composite construction to make sure we are providing the best tank possible to our pilots. As a result, our tanks are under continuous improvement in construction, quality and utility.

### QUALITY

The D'Shannon Aviation tip tanks are STC'd and PMA'd. They are designed, sourced and manufactured at our facilities in Minnesota. We use 120 manufacturing quality checks to make sure that each tip tank conforms to our very high standards before we apply our part number, serial number and PMA stamp. The tip tanks are shipped in custom containers to your FBO. We include a full installation kit, comprehensive installation instructions and flight manual supplement.

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## FEATURES

- ▶ D'Shannon Aviation tanks are of composite construction, using vacuum bagging and counter mold techniques. They are much more resistant to hanger rash, bumps and small mishaps than aluminum tanks. Our tanks are incredibly strong. They get their strength from their shape and from the resilience of the material. We recently had a customer who lost one of his main landing gear on landing. The tank was damaged, but saved the entire wing. All he needed was a replacement tank from us.
- ▶ The resin employed in the construction is a cross-linked isophthalic polyester and is highly fuel resistant, including oxygenated fuels. Repair materials are readily available in the field to remedy mishaps. We offer full customer service to guide your FBO through installation.
- ▶ All seams are permanently sealed and all tanks are pressure tested twice before leaving our factories.
- ▶ Our tanks are sent out fully primed and ready to paint.
- ▶ Each metal item on and inside the tank is electrically bonded using flat braided grounding strap conforming to QQ-B-575. The strap is clamped to all wire and fuel lines, the fuel cap mount, the forward lamp assembly, the quick drain, fuel vent, and the remote fuel transmitter or the remote fuel transmitter plate. The bonding strap is then clamped to a large bonding lug on the cuff area of the tank. On installation of the tank the bonding lug is grounded to the wing tip with an additional two pathway strap, putting all the metal items on and inside the tank at the same ground plane as the rest of the aircraft. If lightning strikes the tank, it will exit the tank via the bonding straps to the airframe. We have never had a tank failure due to a lightning strike.
- ▶ The fuel filler cap is of the flipper design found on the main tanks of your Bonanza. It provides a positive seal and is flush with the tank surface.
- ▶ Each tip tank is equipped with a canted mounting cuff which reduces the drag of the tank in flight by 2-1/2 drag counts, or 1.25%, over a tank with a straight cuff. The cuff and tank interface has been carefully crafted to lower induced drag at the wing tip by responding more like the standard Hoerner tip.
- ▶ Fuel pumps for transferring fuel are easily accessible in the landing gear bay. The pumps are controlled by individual panel mounted switches and are rated for running 'wet' or 'dry'. There is no need to be concerned if you forget to turn the pump off after you have transferred your fuel. The fuel is filtered three times before it is delivered to the main tank.
- ▶ Fuel quantity is monitored via the standard sight strips installed in the tanks and/or by an optional panel mounted fuel gauge.

- ▶ Exhaustive vibration analysis has been performed to determine the change in stiffness of the wing with the tank installed and to determine the modes and frequency that may be relieved. That is why each D'Shannon Aviation wing tank installation includes aileron balance weights to positively control potential flutter in all flight regimes required by FAA certification, up to and including 1.2Vd for all fuel conditions and the aircraft's altitude range.
- ▶ The factory or aftermarket installed magnetometer in the left wing tip is not relocated or disturbed. Nor do we create large holes in the wing to relocate the device. Although the magnetometer rarely needs service if not disturbed, the tip tank can be removed as easily as the original wing tip to service the unit.
- ▶ Depending on equipment installed, between 200 and 400 lbs. of gross weight increase is available. All of this increase is available in the cabin when the tip tanks are empty.
- ▶ With continuous improvement, the tip tank weight is 17 lbs each. Total kit installed weight, less the removed wing tips, is 34.2 lbs.
- ▶ TSO'd LED products which include LED strobes are currently few and far between. D'Shannon offers a highly regarded LED lighting solution for nav lights and LED strobes for our tip tanks. The product is thoroughly engineered to offer the best possible LED lighting including reduced heat and greater life. With our assistance, FSDOs have been more than willing to field approve this system.

## WARRANTY

To the original purchaser, D'Shannon Aviation will warranty the tip tanks against defects in materials or workmanship for the life of the tank. The tank will be repaired or replaced at our option. The installation kit, optional fuel level sensing system, fuel cap, light bulbs or other wear items have a warranty of two years from installation. The warranty is not transferable.



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