

# Cessna (wheel pants) Aircraft Tug Assembly Instructions



[Fig.1]



[Fig.2]

1. Carefully unpack contents of shipping carton and locate the charger and battery. The battery may or may not be installed in the drill. Plug in the charger and charge the battery for at least one hour. You will need a 1/2" and two 7/16" boxed-in wrenches and two large adjustable wrenches to assemble your tug. Milwaukee drill will require a 1/8" Allen wrench.
2. **DEWALT DRILL:** Locate the 1/2" drive shaft and chuck the end with three flats into the Dewalt drill. Be sure the flats align with the jaws in the chuck and are seated on the jaw tips. Tighten by hand as hard as you can with the drill in the **drill bit image** position, and in speed selector switch setting **1**.
3. **MILWAUKEE DRILL:** Locate the 1/2" drive shaft and insert the end with ONE machined flat fully into the drill hub.(1) Be sure the flat aligns with the threaded set screw holes. **Apply blue thread lock to both set screws** and install **tightening securely** with a 1/8" Allen wrench being sure they are centered on the flat of the drive shaft. Allow one-hour dry time before use. Install side handle into drill right or left side. Failure to follow this assembly procedure exactly will cause damage to the drive shaft and will not be covered under our warranty.
4. Visually check to see the foam drive shaft alignment insert installed 8" inside the handle end which inserts into the tug receiver. With the drive shaft installed in the drill, insert it into the expanded handle end and see that it slips through the center of the foam alignment insert (a light source at the end of handle tube is helpful) and push the drill into the handle as far as it will go noting that it fits squarely to the drill collar and that drive shaft is centered in the handle. (Visually check inside handle end) Rotate drill per image above with Minimax label facing up. Tighten compression clamp to prevent drill from rotating in handle.
5. Install wheels onto axles with 1/4" x 2" bolts and lock nuts. The wheel hubs are designed to be somewhat "loose" on the drive axel to protect the drive train gears and also aid in turning your tug. Air tires to **22-25 PSI** and maintain this air pressure at all times.
6. Install the riser into the lower most holes of your tug. [Fig.1] **Position with arrow on bottom of riser mounting plate pointing toward aircraft.** Secure with 4- 5/16" X 3/4" bolts and speed nuts. Install fork assembly with 3/4" x 3-1/2" bolt, (Lubricate with 20-30 weight oil) lock washer and nut onto of riser. Tighten that fork is slightly stiff to swivel. The fork assembly has been bench assembled and adjusted by our technicians. There may be minor scratches in the paint as such.
7. Be sure the stainless steel compression clamp [Fig.2] is fit onto the tug handle receiver approx. 1/8" from the top. Install the battery into the drill and note that it "snaps" into place. Install the handle tube into the tug receiver fully to the black depth marker line rotating as necessary or lightly "bumping" the drill trigger to engage the square drive socket. Tighten compression clamp snugly with drill in the position shown. It is critical that this connection is always tight while the tug is in use.
8. Familiarize yourself with the drill operation and assure that the drive wheels rotate in both directions using the drill forward/reverse switch and that drill rheostat and speed changer (if equipped) function properly.
9. Gently lift fork locking bar to clear catch pin and open forks fully. Attach tug to your aircraft nose gear positioning left fork onto aircraft left tow pin as you position the opened right fork onto the right tow pin and close until locking bar "Snaps" onto the catch pin. (**See Fork Adjustment Instructions.**) You are now ready to tow your plane. Push down on the tug handle and slowly pull the drill trigger all the way in to move your plane. When stopping, slowly let off on the drill trigger until plane stops. You can control towing speed with the trigger rheostat or speed changer.
10. To remove tug from aircraft, gently lift locking bar to clear catch pin, open right fork, turn tug left to disengage left tow pin. Power drill in reverse to back away from aircraft. Avoid sudden under-load starts and stops as this can damage the transmission gears in your tug. Maintain tug per "Use and Care Guide".

**NEVER LEAVE TUG ATTACHED TO AIRCRAFT WHILE NOT IN USE!**

Practice makes perfect! Thank you for buying a Minimax Aircraft Tug!

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