

# Tail-Dragger Aircraft Tug Assembly Instructions



[Fig.1]



[Fig.2]



1. Carefully unpack contents of 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 a (1/8" Allen wrench for Milwaukee 28v) to assemble your tug.
2. **DEWALT DRILL:** Locate the 1/2" drive shaft and chuck the end with three machined 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 torque selector turned to the **drill bit image** position, and in speed selector switch setting **1**. Rotate drill per image above and tighten compression clamp to prevent drill from rotating in handle tube.
3. **MILWAUKEE DRILL:** Locate the 1/2" drive shaft and insert the end with one machined flat fully into the hub of the drill.(1") Be sure the flat aligns with threaded set screw holes. **Apply blue thread lock to both set screws** and install **tightening securely** with a 1/8" Allen wrench being sure that 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 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 foam alignment insert. Visually check inside handle end. Rotate drill per image above and tighten compression clamp to prevent drill from rotating in handle tube.
5. Install wheels onto axels 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 wheel lift assembly [Fig.1] onto the tug with 2- 5/16" X 3" and 2- 5/16" X 3/4" bolts and lock nuts. Fit the adjustable wheel pick-up pin loosely into the lifting bar slot with washer against the lifting bar. We recommend adjusting the space between the rear tire shoe and the pick-up pin at three fourths the tire diameter to begin with. Initially adjust for tire to sit "low" in the cradle.
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 charged battery into the drill and note that it "snaps" into place. Install the handle tube into the tug receiver fully 1-7/8" 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, trigger rheostat functions and the planetary gear speed changer functions properly.
9. Position your tug in its lowest position steering it toward at the 1:00 position to the right side of the tail wheel. Turn the tug CCW pivoting it on the left drive wheel and positioning the aircraft tire between the rear tire shoe and pick-up pin and firmly against the lifting bar. Tire air pressure and other factors will dictate the best spacing. Once satisfied of fit, tighten securely the pick-up pin. Beware that the maximum lifting load of the tug is **125 lbs**. For best performance we recommend adjusting so that tire rests as low as possible in the cradle. Push down on the tug handle to lift the aircraft tire from the surface 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. Avoid sudden 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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