

"The Boss" Tail-Dragger Aircraft Tug Assembly Instructions



[Fig.2] Steel shoe



[Fig.3]



[Fig.1]



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, (1/8" Allen wrench for Milwaukee power system) and large adjustable wrench to assemble your tug.
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 torque selector turned to 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 1" into the drill hub. 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 in 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 main frame [Fig.1] onto the tug with 4- 5/16" X 3/4" bolts and speed nuts. **NOTE IT IS INSTALLED OFFSET.**
7. Install the casters onto the sway bar with 8- 5/16" x 3/4" bolts and nuts. Install the sway bar onto the main frame [Fig.2] with the 1/2" x 7" bolt, lock washer and flat washer and tighten securely. Note that sway bar bolt is offset. (Facing tug from front, short side should be to the left.) Insert foot pedal arm into lifting lever socket.
8. Be sure the stainless steel compression clamp 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 black depth mark (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 above. **It is critical that this connection is always tight while the tug is in use.**
9. Familiarize yourself with the drill operation and assure that the drive wheels rotate in both directions and that the drill trigger rheostat and speed changer (if equipped) function properly.
10. Position your tug with lifting cradle [Fig.3] in its lowest position steering it toward a 1:00 position to the right side of the tail wheel. Turn the tug CCW pivoting on the left drive wheel and position the tail wheel between the tug rear shoe and adjustable pin and firmly against the lifting bar. Tire air pressure and other factors will dictate the best spacing. We recommend adjusting the space between the tug rear shoe and pick-up pin at three fourths the tail wheel diameter to start. Adjust the aircraft tail wheel tire to rest as low as possible between the rear shoe and lifting pin for best towing performance. While adjusting for fit, securely tighten the lifting pin before lifting aircraft. Damage to the adjustment slot or lifting cradle may result otherwise. Once adjusted and satisfied of fit, tighten lifting pin securely in slot.
11. Beware that the maximum lifting capacity of the tug is **250 lbs.** To lift tail wheel, press the foot pedal down and to the right to clear locking pin. Press foot pedal to the left to engage locking pin and release pressure. Reverse to lower tail wheel. Aircraft tire should clear +/- 1" above surface. Slowly pull the drill trigger all the way in to move aircraft. 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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