

Tail-Dragger Conversion



Many RC flyers prefer tail-dragger landing gear for use on rough grass fields. Changing to tail-dragger gear will not affect the flying characteristics of the Knockabout, but the combination of the Knockabout's high lift wing and the tail down attitude of a tail-dragger on the ground will make it harder to take off and land on hard surfaces. We have tested the Knockabout extensively in the tail-dragger configuration, and **we do not recommend this conversion for use on hard surface runways.**

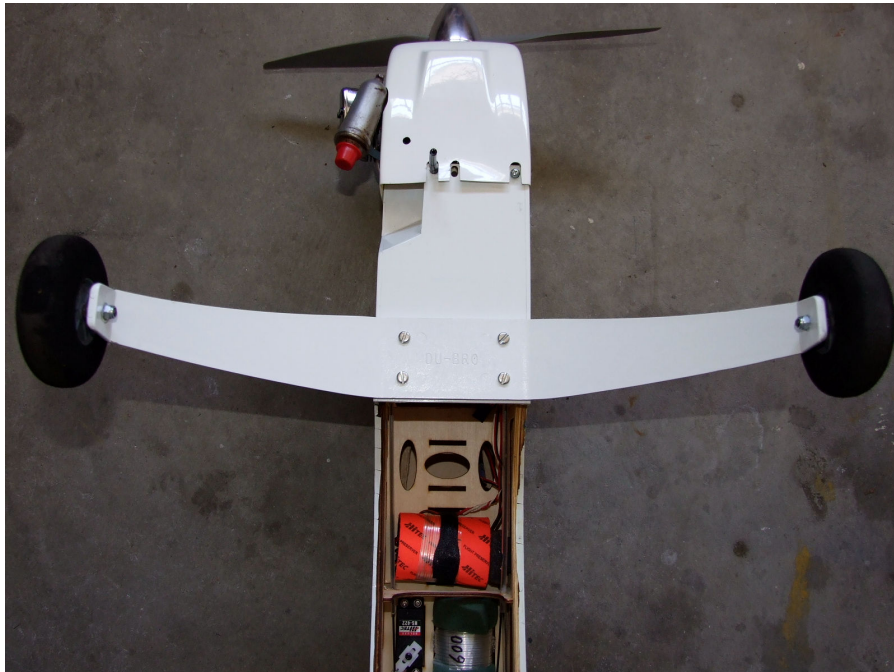
The float/main gear mount and the tail-wheel mount that are built into the Knockabout's fuselage make conversion to tail-dragger gear easy, especially if your airplane is not yet assembled. If your Knockabout is already finished, you will need to remove the rudder before installing the tail-wheel.

The following materials (not included in the kit) are required to convert the Knockabout to a tail-dragger:

- A main landing gear strut, with 14 to 16 inches width between the wheels and 4 1/2 inches or more height from the axles to the bottom of the fuselage. Many 40-60 size sport planes use this size gear and it may be available from their distributors as a spare part. You may also use the Dubro #789 "Super Strength Landing Gear", or Goldberg #256 "Landing Gear, 40-60".
- A pair of 5/32" axles for the main gear.
- A 1" or 1 1/4" tail-wheel.
- A nine inch piece of Sullivan S259 .075" Music Wire, or K&S .078" Music Wire.
- A three inch piece of K&S 1/8" (outside diameter) hard brass tubing.
- One or two 3/32" wheel collars.

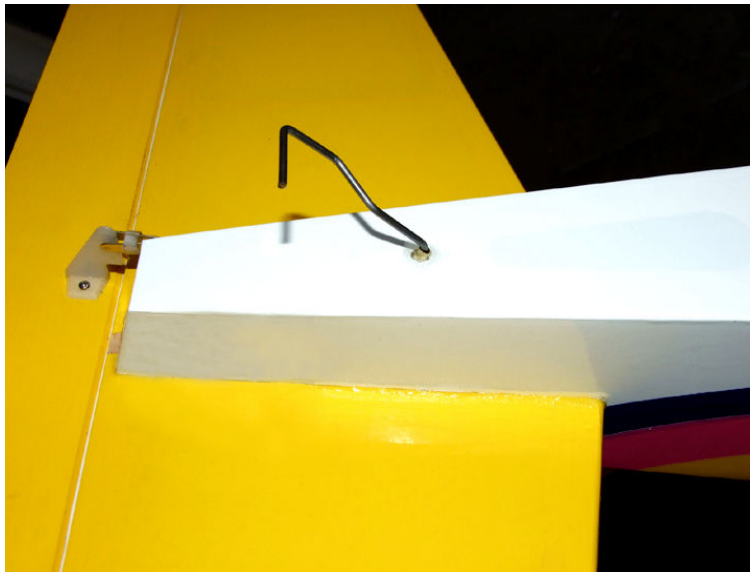
Main Gear

- Install the axles on the gear strut and add the kit wheels and wheel collars.
- Position the strut on the bottom of the fuselage as close to the wing leading edge as possible and then simply drill pilot holes and use #8 or #10 sheet metal screws to hold it in place. (See photo below) We do not recommend bolts and blind nuts to hold the gear on. If you have a crash landing, the sheet metal screws will pull out of the wood, whereas bolts and blind nuts would remove the entire bottom of the airplane.



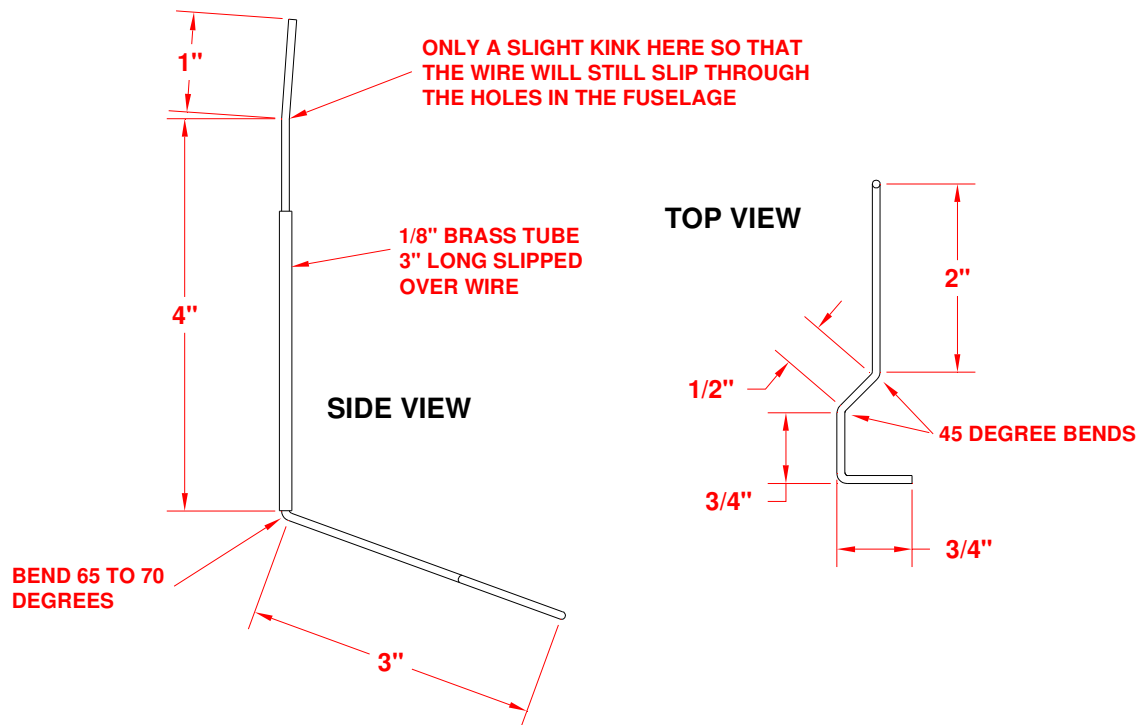
Tail Wheel

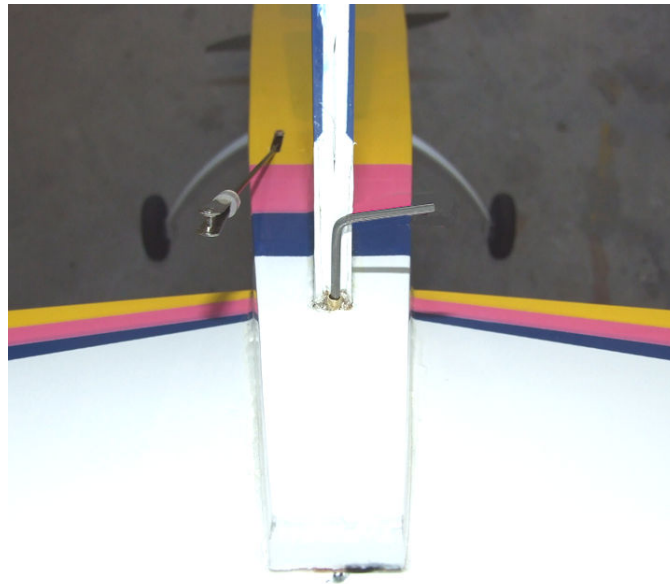
- The simplest way to install a steerable tailwheel on the Knockabout is to use a torque rod driven by the rudder. This tailwheel design puts no significant stress on the rudder hinges and minimizes the forces transmitted to the servo. (If your rudder is already attached to the fin, cut through the hinges to remove it.)
- You need to run a 1/8" brass tube through the fuselage along the back edge of the fin and out the bottom of the fuselage. After installing the horizontal stab, but before installing the vertical fin, make the fin slots in the top of the fuselage and inside the fuselage at the top of the stab, 1/8" longer at the rear. Also drill a 3/16" hole through the stabilizer at the rear of the inside slot.
- Drill a 5/32" hole in the bottom of the fuselage centered 3" from the rear end.



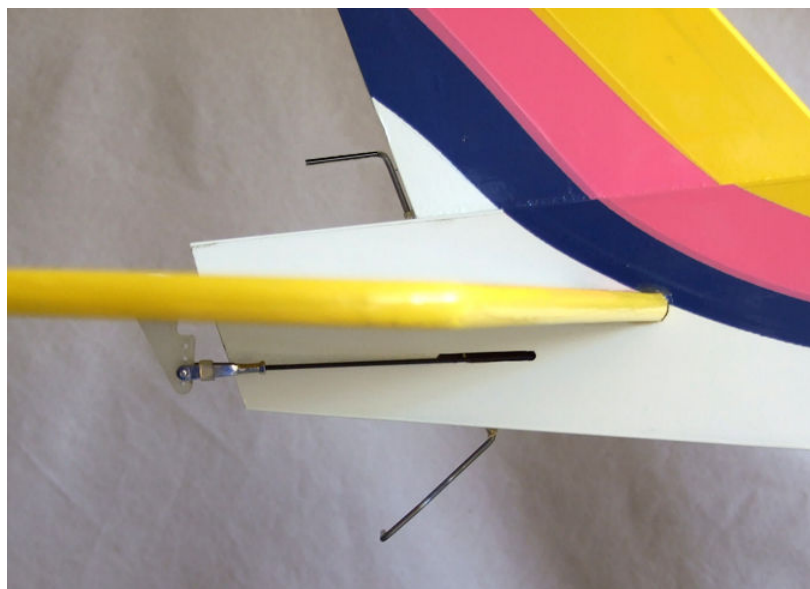
- Test fit the fin and the tube, to make sure that everything fits properly. When you are happy with the fit, glue the fin permanently in place.
- Bend the Music Wire as shown below. Cut the brass tube down to 3" long, rough up the ends and slip it over the wire **before you make the top bend**.

KNOCKABOUT TAILWHEEL STRUT





- Push the wire and the tube through the holes and slots so that the tube protrudes equally from the top and bottom of the fuselage. Use medium CA to glue the tube in place.
- Push the tailwheel up and turn it 90 degrees to the side, then bend the wire at the kink so that the top part will be roughly parallel with the top of the fuselage after the tailwheel is turned back to straight ahead. This takes some muscle and a good pair of pliers. Take your time and be careful not to slip. Once this is done, the rest is easy.



- Install the control horn on the rudder, then hold the rudder in place and mark it where the music wire will enter. It should be sandwiched by the control horn. Drill a 3/32" hole into the rudder for the wire, cut a groove from the hole to the bottom of the

rudder and test fit the rudder in place. When you are happy with the fit, fill the hole with epoxy and use CA to glue in the rudder hinges.



- Install the tail wheel and you are done. No separate tailwheel steering pushrod is required.