

DRAGGER TUGS

PHONE: 800-535-8640

EMAIL:

info@dragger.com

3380 W. 137th St., Cleveland, OH 44111

WEB: www.dragger.com

Nose-Dragger Dragger™ Electric

ASSEMBLY AND OPERATION

GENERAL

Thanks for purchasing the Nose-Dragger Dragger™. We hope that this unique powered dolly will help you fly more by allowing easy ground handling. Like all other airplane moving devices, this unit has some limitations. It will not take your airplane over large curbs or craters, but it will perform well on gentle slopes and hard surfaces. The Nose-Dragger Dragger™ will also handle wet surfaces and light snow. It can be fitted with snow chains. It is simple to operate. It takes some practice and planning to use it, but once accustomed to the handling, it is like having a strong buddy along every time you must push your plane back into the hangar. Practice driving forward, neutral and reverse. Next, try moving your airplane in the open, away from the hangar and other obstacles. When you practice moving the unit into the hanger, have a friend watch the wings and tail to help avoid bumping into obstructions. It also pays to have wheel chocks in place to prevent pushing back too far. Lines painted on the hangar floor and ramps will also help guide you to safe parking.

Your new Nose-Dragger Dragger™ comes partially pre-assembled from the factory. The procedures listed below are all you need to get your unit fully operational.

SAFETY

Be thoroughly familiar with the controls and the proper use of the Nose-Dragger Dragger™. Know how to stop it and disengage the controls quickly. Never allow children to operate it and keep them away while it is operating. Never allow adults to operate the Dragger without proper instructions. Keep the area of operation clear of all persons, particularly small children and pets. Exercise caution to avoid slipping or falling, especially when operating in reverse. Thoroughly inspect the area where the Nose-Dragger Dragger™ is to be used and remove foreign objects. Wear proper footwear that will improve footing on slippery surfaces. Always wear safety glasses or shields during operation.

TOOLS NEEDED

1. 7/16" Box Wrench or crescent wrench
2. 1/2" Box Wrench or crescent wrench
3. 9/16" Box Wrench or crescent wrench
4. Phillips head screw driver

BATTERY REQUIRED

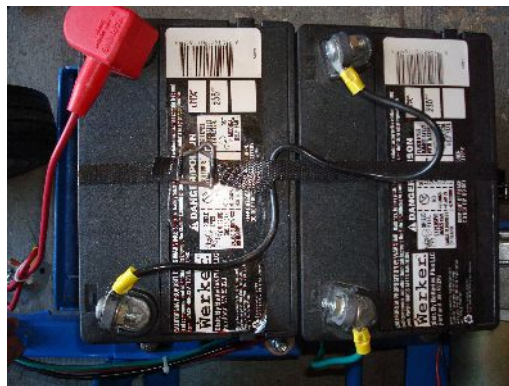
RECOMMENDED:

FOR 12 VOLT SYSTEM: One (1) 12 Volt 35-100 amp hour deep cycle battery with square tab on top with a through hole (the battery must fit inside battery tray dimensions: 13.5" x 11").

FOR 24 VOLT SYSTEM: Two (2) 12 Volt 35-100 amp hour deep cycle batteries with square tab on top with a through hole hooked in series (the batteries must fit inside the battery tray dimensions: 13.5" x 11").

Please note: a lower amp hour rating equates to a slightly shorter run time between charging yet it will provide equal power to a higher amp hour battery.

HOOKED IN SERIES: This means that the positive lead (red wire) from the handle will go to the Positive Terminal of the first battery and the negative lead (black wire) from the handle will go to the Negative Terminal of the second battery. And then using the supplied wire connection, connect the Negative Terminal of the first battery to the Positive terminal of the second battery (see picture below). Secure wires to terminals with a phillips screw driver and 7/16" wrench or crescent wrench.



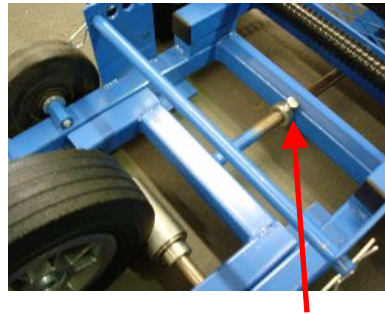
ASSEMBLY

1. Slide the handle into the 1 ¼" tube just beneath the battery tray. Slide the handle in until it stops, and tighten the two (2) cinch nuts under the battery tray to secure the handle.
2. Connect the motor wires (red and black) to the spade terminals of the red and black wires coming from the handle – red to red and black to black.
3. Connect the battery as specified above.

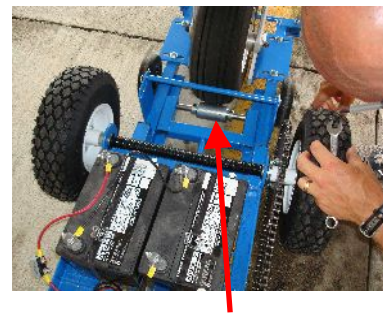
ADJUSTMENTS

1. ADJUSTING THE ROLLERS / LOADING:

The rear roller is mounted on a floating frame. A one-time adjustment must be made when going from a large nose wheel tire to a small one. Place the Nose-Dragger Dragger™ on plane, drop the kickstand and close the swing gate, then slide the collar back to the stop and lock the setscrew until both rear and front rollers are low and snug against the tire of the nose wheel. The Swing-gate should still open and close, and latch with a small effort (push firmly down when swinging and latching the gate).



Collar with set screw

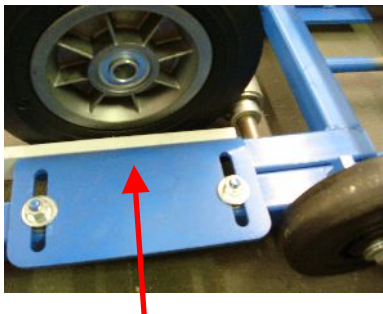


Roller in contact w/ nose-

wheel

2. ADJUSTING THE NYLON SIDE GUIDE:

Side guides should allow light contact with the sidewall of the tire. Keeping the side guide as high as possible will ensure good turning ability (the guide can be flipped so the nylon is up to achieve desired contact on wheel). Washers may be used to shim the side guides up.



Nylon Side Guide

3. RESTRAINT SYSTEM

Two side brackets act as a support for a bumper bar, which prevents the nose wheel from over-riding toward the operator. Place the bumper bar in a position close to the nose wheel. The bumper bar cannot be used on airplanes with wheel pants. Many times the plane can be moved on level surface without using the bumper bar. You be the judge, but remember “better safe than sorry.”



Bumber Bar

4. TIRE PRESSURE:

The tire of both airplane and the Dragger must be properly inflated when moving the aircraft. Use 30-40 P.S.I. for air wheels on the Nose-Dragger Dragger™.

OPERATIONS

MOVING THE UNIT WITHOUT POWER:

Just lift on the handlebar until main wheels are off the surface, and roll the unit around on the small front wheels (casters).

SWITCHES

The directional rocker switch has 3 positions: forward, neutral, and reverse.

CAUTION: Switch is always “hot”! Its wise to un-hook battery cable when not in use.

OPERATING SPEED

The unit is designed to operate at a slow walking pace for safety. This slow speed will sometimes lead the operator to believe the motor lacks power or that the battery is low. Actually, the motor has plenty of power, and the move from hangar to ramp will take only a minute.

USE CHOCKS

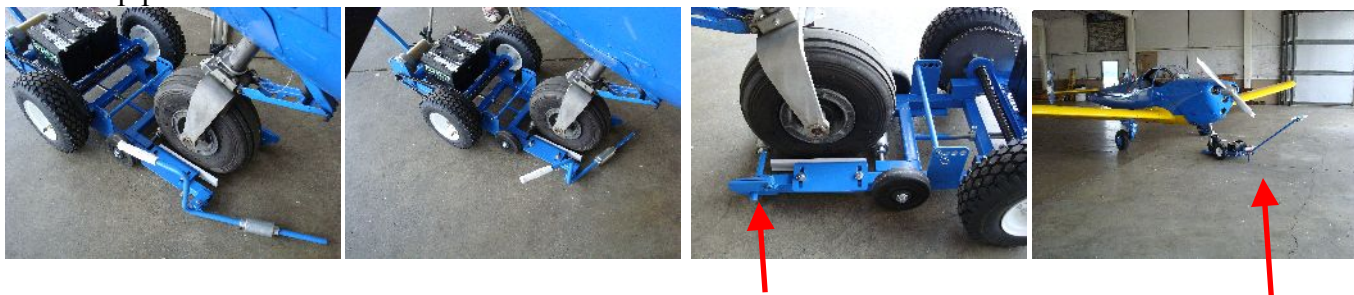
Use chocks when backing into a tight parking space to protect against accidental collision with objects or walls nearby.

PRACTICE IS HIGHLY RECOMMENDED

Operating your new Nose-Dragger Dragger™ before hooking up to the plane is essential. Get familiar with handling, speed, maneuvering, etc. Then try moving the airplane in the open. Do not attempt to park in a tight space until you are thoroughly familiar with the unit. Always check for clearance around the fuselage and propeller.

SWING GATE ROLLER

The latch can be released with your foot. The swing gate roller assembly swings open to allow the Nose-Dragger Dragger™ to be pushed on to the nose-wheel. Next, lower the kickstand. To close, push down firmly on the swing gate handle to stabilize the Nose-Dragger Dragger™ against the ground and close the swing gate. Rollers should now be pressing against the nose wheel. Be sure the gate is latched before moving the airplane. Use of the kickstand, at rear of unit helps the hook up procedure.



Kick stand

Latch

TRACTION

When accelerating, push down on the handle. This will give immediate traction. Operator must continue using “down pressure” on handle while moving the plane with the exception of turning.

STEERING / TURNING

Steering is accomplished by lifting on the handlebar. The nylon side guides direct the nose-wheel as they press against the tire sidewall. It is sometimes helpful to stop the motion and then lift and turn to desired direction.

CASTERING NOSE WHEELS SUCH AS CIRRUS, DIAMOND, GRUMMAN, V-“A”

- Caster wheels must be in forward location. This will help steering.
- Front and rear rollers must be adjusted for firm contact with nose wheel (low and snug) to prevent dolly parts from contacting the wheel fairings.
- For proper steering, the nylon side guides must be close to but not touching the nose wheel sidewall. Use flat washers as shims for fine-tuning this fit. An occasional spray of ArmorAll will help keep this area friction-free.
- The most troubling problem in using the Nose-Dragger Dragger™ on a caster nose wheel is that the nose wheel constantly tries to swivel when pushing back. It will usually go straight for a few feet, but eventually it will try to turn. When this happens, the operator must stop, lift on the handle, move the handle laterally to correct, and then restart. This maneuver sounds difficult but it will get easier as the operator gains experience.

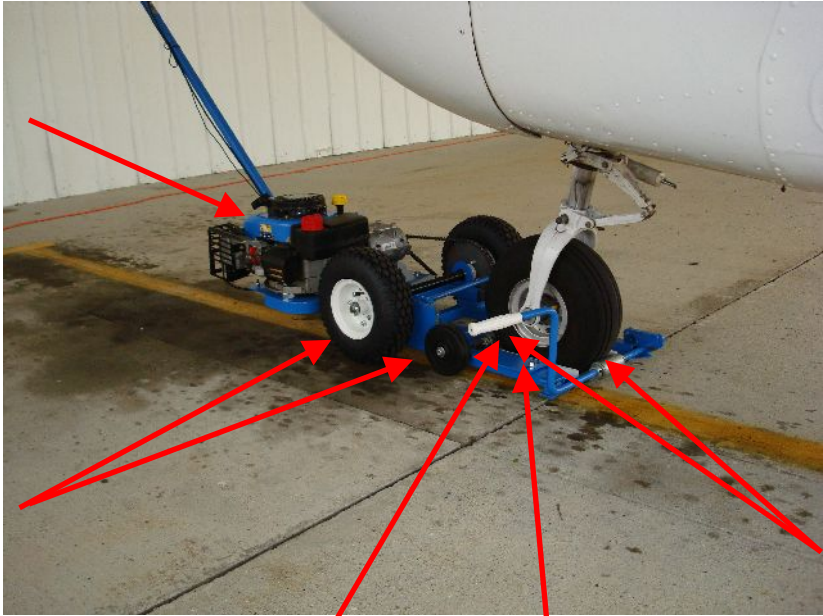
*****CAUTION*****

Do not attempt to steer the nose wheel of the airplane beyond manufacturer’s limits, as damage may occur.

First time on plane, you must make sure all four (4) Dragger wheels make contact with the ground and both rollers make positive contact with the nose-wheel tire as shown below.

Kick stand must be in down position to help install Dragger on plane. Once the Dragger is ready to go, then rotate the kick stand up and out of the way.

Dragger Wheels



Rollers

The rear roller must be locked in place using the collar & set screw/bolt against the frame member. This will keep the rollers low on your tire.

Adjust the side guides up to the tire so that it lightly contacts the tire.



Take your time and get to know your **Nose-Dragger Dragger™**. It will serve you well. For problems or questions? Please call Dragger at 800-535-8640 (9am - 4pm EST)