

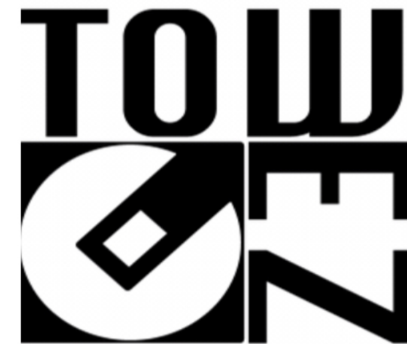


We give you three easy ways to contact us:

- 📍 [www.tow-EZ.com](http://www.tow-EZ.com)
- 📞 Call (918) 688-6416
- ✉ Email [info@tow-EZ.com](mailto:info@tow-EZ.com)

## TOW-EZ AIRCRAFT TUG

### User Guide



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## Technical Support

The Tow-EZ was designed and built on location in Livingston, Texas. Call Technical Support at 918-688-6416 for assistance.

## Warranty

Returns for defective workmanship or mechanical failure will be covered for a period of 1 year from customer's receipt of the Tow-EZ.

Returns for other reasons will be subject to a 20% restocking fee, plus shipping and handling back to the manufacturer to be paid by the customer.

Reasons for returning the Tow-EZ must be documented in advance by email and sent to [info@tow-EZ.com](mailto:info@tow-EZ.com).



## Troubleshooting

Problem	Solution
<b>Tow-EZ loses signal or receives interference from another source</b>	The Tow-EZ was designed with built-in loss of signal and interference protection. It will shutdown momentarily if it loses signal or has a corrupted signal. Turn the unit back on to reestablish the signal.
<b>Tow-EZ won't release aircraft</b>	The aircraft wheel may be in a position that won't allow the unit to release. Work with the unit to align the aircraft wheel with the front of the unit and ensure that the wheel is not pressing either against the swivel carriage's front or its back rollers. This will allow the swivel carriage to release and the aircraft wheel to clear the unit.
<b>Tow-EZ can't get needed traction to load aircraft nose wheel</b>	There may be some instances where traction is an issue. If so, make a little "run" at the aircraft wheel to aid in loading. If that doesn't work, the loading surface may need to be evaluated. You can try to use an anti-skid mat in extremely slick situations.
<b>Tow-EZ unit "creeps"</b>	The factory setting on the handset has inadvertently been altered. Consult the Spektrum manual to reset and install desired trim settings.

## Thanks for Buying the Tow-EZ

We're glad you purchased a Tow-EZ. Everything we know about aircraft towing went into the design and construction of the Tow-EZ. The Tow-EZ brings out the best in aircraft towing solutions.

Our patented technology has eliminated lifting, positioning, electrical cords, fueling and the need for difficult-to-start traditional aircraft towing machinery.

The Tow-EZ offers a precision, ruggedly-built towing machine that will allow the user to position an aircraft in close quarters with ease. The Tow-EZ has the ability to rotate the aircraft inside of its own wingspan. With its hybrid zero-turn capability and fully-articulated, self-locking carriage, turn limits of the aircraft nose wheel cannot be exceeded. The powerful 24 volt DC motors are regulated for smooth starts and stops while delivering the power you need to put your aircraft asset out on the ramp or back in the hangar.

We know you are anxious to use the Tow-EZ and get flying, but please read this helpful instructional booklet first. Not only does it provide important safety information, it also discusses how to use the unit.

## Important Safety Instructions

Read and understand all the instructions and labels on the Tow-EZ before operating.



In this manual, the terms “**Tow-EZ**” and “**unit**” are used interchangeably.




### Warnings

When using the Tow-EZ, basic precautions should be observed, including the following:

- Always practice with the unit in an area free of obstacles or structures before attempting to load an aircraft.
- Exercise extreme caution when mounting and dismounting the Tow-EZ from the aircraft.
- Always chock wheels of plane before loading/unloading the plane into the Tow-EZ.
- Always align three-bladed props prior to loading the aircraft to ensure proper clearance for the Tow-EZ.
- Exercise extreme caution when selecting the vantage point from which to operate the unit.
- Never sit inside the plane while using the Tow-EZ.
- Always walk with the unit and maintain clear visibility while using the Tow-EZ.
- Always place the unit on blocks before performing any work on the unit.
- Be aware of and follow all terrain and slope limitations.
- Never place hands, feet or objects in or around the swivel carriage. Any obstruction of the loaded swivel carriage while turning may result in personal injury or aircraft damage.
- Never operate the Tow-EZ while impaired.

## Preventative Maintenance (continued)

Schedule	Maintenance Item
Yearly	Lubricate the roller chains and chain tensioning. Use light-weight oil typically used on bicycles.
As needed	If excessive chain play is observed, use the tensioners mounted on the frame to increase tension as required. Be careful not to create a chain/sprocket alignment problem while increasing chain tension.
As needed	<p>If a sprocket or wheel hub becomes loose, ensure the sprocket or hub is aligned with its respective drive prior to securing. Failure to do so may cause an alignment problem and the chain may come off the sprocket. An alignment problem may be identified by the unit making a popping sound during operation.</p> <div data-bbox="1407 787 1974 958" style="border: 1px solid black; padding: 5px;">  <p><b>ENSURE ALL HANDS AND FEET ARE CLEAR OF ROTATING PARTS. FAILURE TO DO SO MAY RESULT IN INJURY.</b></p> </div> <p>To fix the alignment:</p> <ol style="list-style-type: none"> <li>1. Remove cowlings and place the unit on blocks.</li> <li>2. Run the unit to identify which sprocket / chain is misaligned.</li> <li>3. After identifying the misalignment, turn the unit off at the power switch and turn off the Spektrum controller. It is very <b>IMPORTANT</b> to <b>VERIFY</b> all power is off prior to aligning sprocket or hub.</li> <li>4. Align the sprocket or hub.</li> </ol>

## How to Operate the Tow-EZ (continued)

Step	Action
3	Align the airplane wheel within the unit's swivel carriage.
4	Stand in front of the airplane where you have adequate sight lines to ensure that the airplane is clear of all hangar and environmental obstacles.
5	Smoothly drive the unit from the airplane's hangar using the unit's throttle and steering wheel. It is quite possible to adjust both controls at the same time to achieve a smooth curve. This becomes easier with practice. Remember to take your time and never leave a loaded unit on a hill or slope!

## Preventative Maintenance

The Tow-EZ was designed to be virtually maintenance free. However, some maintenance will help ensure the longevity of the unit.



Before removing the Tow-EZ's cowlings, place the unit on blocks so that the wheels do not touch the ground.



TURN OFF THE TOW-EZ UNIT AND SPEKTRUM REMOTE CONTROL BEFORE PERFORMING ANY MAINTENANCE. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY.

*Continued on next page...*

## Package Contents

Let's review what comes with your Tow-EZ.

		<b>Tow-EZ Unit</b>
		<b>Spektrum Remote Control and Spektrum Owner's Manual</b>
		<b>Optional Equipment:</b> <ul style="list-style-type: none"> <li>• External power cable</li> <li>• Trailer attachment</li> </ul>

## Product View

### Front View



Swivel Carriage

### Back View



Power Switch and Remote Receiver

Charger Plug In

*Continued on next page...*

## How to Operate the Tow-EZ

The Tow-EZ was designed to be as intuitive to operate as possible. In only minutes, the average user should be able to easily maneuver all sizes of planes and trailers using the unit. Practice prior to loading and pushing your aircraft from/into the hangar. The Tow-EZ was specifically designed to provide adequate distance for the operator to tow an aircraft while stepping back to visually clear the areas around the aircraft. It was not designed to tow aircraft to one side of an airport while the user stays on the opposite. We have determined that a distance of approximately 80 feet is acceptable.



Key points about using the Tow-EZ:

- No brake — motor acts as brake.
- Pushing the throttle trigger forward (away from the grip) causes the unit to roll toward its rear — the closed end of the Tow-EZ's U-shaped body.
- Pulling the throttle trigger backward (toward the grip) causes the unit to roll toward its front — the open end of the Tow-EZ's U-shaped body.
- Releasing the throttle causes the unit to stop – the unit moves neither forward nor backward – **DO NOT LEAVE LOADED UNIT ON A HILL OR SLOPE IN THIS STATE!**
- Unit goes faster forward than reverse. This can also be changed.

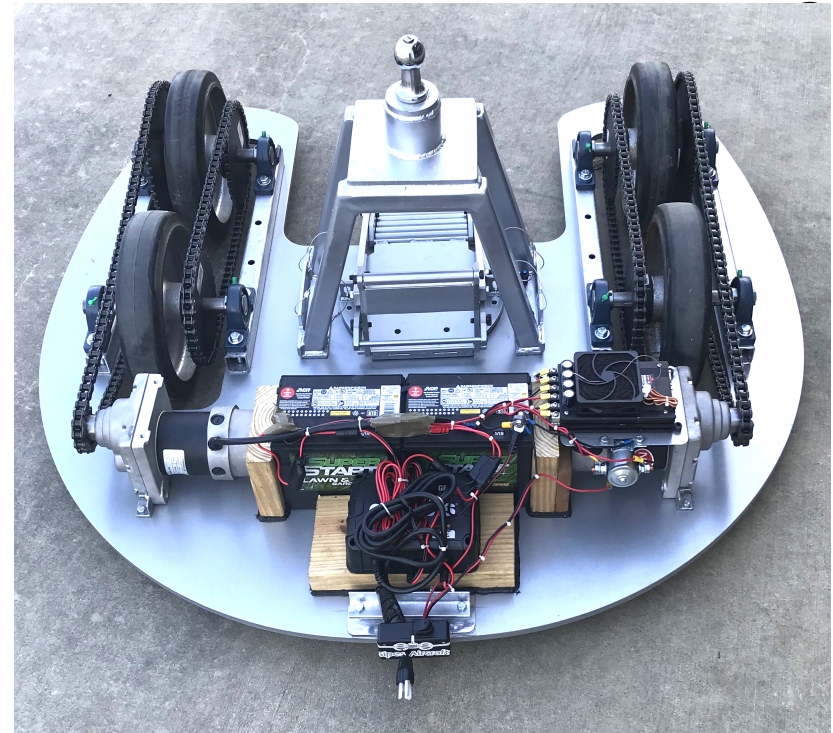
Step	Action
1	Inspect the airplane and the hangar to ensure that all tools, cords, gas containers, ladders, luggage, etc. have been cleared from both the airplane's and unit's path.
2	Load the airplane onto the unit and remove the airplane's wheel chocks.

*Continued on next page...*

## How to Unload the Aircraft from the Tow-EZ (continued)

Step	Action
2	<p>Lift up on bar at the rear of the Tow-EZ until the release mechanism on the swivel carriage unlocks.</p> <div data-bbox="268 418 921 526" style="border: 1px solid black; padding: 5px; margin: 10px 0;">  <p>Chock the aircraft wheels before unloading the plane from the Tow-EZ.</p> </div>  <p><b>Figure 10, Tow-EZ</b></p>
3	<p>Drive the Tow-EZ out from underneath the aircraft. If the Tow-EZ doesn't release the aircraft wheel, the aircraft wheel may be in a position that won't allow the unit to release. Work with the unit to align the aircraft wheel with the front of the unit and ensure that the wheel is not pressing either against the swivel carriage front or back rollers. This will allow the swivel carriage to release and the aircraft wheel to clear the unit.</p>

## Inside Picture



Shown with optional trailer hitch ball, for moving your trailer, boat, or camper.






## Unit Features and Capabilities

The Tow-EZ's features and capabilities are listed in the following table.

<b>Unit dimensions</b>	38" Wide x 46" Long x 12" High
<b>Unit weight</b>	450 pounds
<b>Ground clearance</b>	2 inches
<b>Maximum towing capacity</b>	15,000+ pounds gross weight
<b>Maximum towing speed</b>	1.7 feet per second
<b>Motors</b>	Powerful Reversible 24 volt DC Motors
<b>Construction and frame</b>	Rugged steel construction and powder-coated frame
<b>Possible terrain</b>	Asphalt and concrete recommended
<b>Wheels</b>	<ul style="list-style-type: none"> <li>• Trouble-free cast iron rims with non-marking moldon wheels</li> <li>• Hybrid Zero-Turn Capability about Stationary Nose wheel</li> </ul>
<b>Casters</b>	2 balancing casters
<b>Radio remote control (programmable)</b>	Built-in interference protection featuring Spektrum's new 2.4 GHz technology
<b>Batteries</b>	SLA1156 Sealed Lead Acid Series 12 V
<b>Range with standard batteries</b>	80 feet
<b>Charger and charge time</b>	8 hours
<b>Options</b>	<ul style="list-style-type: none"> <li>• 12 or 24 volt ground power</li> <li>• Different nose wheel carriage sizes</li> <li>• Trailer towing add-on</li> </ul>

## How to Unload the Aircraft from the Tow-EZ





Releasing the aircraft is easy. A foot pedal release allows the operator to unlock the swivel carriage and merely drive the Tow-EZ from beneath the aircraft wheel. Follow the steps below to unload the aircraft from the Tow-EZ.

Step	Action
1	<p>Position the Tow-EZ so that the roller bars on the swivel carriage face the front of the Tow-EZ.</p> 

**Figure 9, Roller Bars In Locked Position Facing Front of Tow-EZ**

*Continued on next page...*

## How to Load the Aircraft onto the Tow-EZ (continued)


Step	Action
3	<p>Roll the unit swivel carriage under the aircraft wheel until the aircraft wheel is seated in the carriage and the carriage locks (i.e., back roller bars raise up and lock). When loaded, the unit will tip back slightly because the traction shifts to the back wheels.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;">  Check the aircraft wheels before loading the plane into the Tow-EZ.         </div> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;">  If traction is a problem, make a little "run" at the aircraft wheel to aid in loading. If that doesn't work, the loading surface may need to be evaluated. You can try to use an anti-skid mat in extremely slick situations.         </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;">   </div> <p><b>Figure 8, Loaded Tow-EZ</b></p>
4	Move the aircraft to the desired location.

## Use and Care of Unit

This section provides instructions on how to use the Tow-EZ. It also includes information on preventative maintenance.

### Getting to Know the Remote Control

The Spektrum remote control comes pre-programmed with all the functionality that most users will ever need. Each remote is electronically linked with a single unit through an electronic process called binding. This means that each remote will operate only the unit to which it is bound.

 Be careful while handling the Spektrum unit to not inadvertently change factory settings. Changing settings may alter the commands given to the Tow-EZ either during operation or when the Tow-EZ is powered on, but not receiving commands from the handset. Symptoms of setting changes may include, but are not limited to, the Tow-EZ "creeping" when no commands are being sent by the Spektrum handset. Refer to the Spektrum manual for information on restoring factory settings and trimming of the Tow-EZ.

The Spektrum DX 2.0 remote control comes with standard AA batteries; however, a complete NiCd rechargeable battery system is available through the Spektrum website – [www.spektrumrc.com](http://www.spektrumrc.com).

Replacing the AA batteries will not cause the Spektrum DX 2.0 to lose its pre-programmed factory settings as each remote comes equipped with a lithium ion battery backup to protect and retain all factory settings. When the AA batteries fall below the required 9 volts and require either replacement or (with the purchase of the optional rechargeable battery system) recharging, the remote will begin beeping and will flash **BAT** in the **3 Character Name Input** field in the remote's multidata LCD display.

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## Getting to Know the Remote Control (continued)

The following picture shows the features available on the Spektrum DX 2.0 remote control. For most Tow-EZ user's, the only buttons required for the successful operation will be the **Remote Power Switch**, the **Throttle Trigger**, and the **Steering Wheel**. The **Digital Voltage Reading** provides the current voltage reading of the remote's AA batteries.



\* To remove the Battery Cover, press down where it says "press" and push the cover in the direction of the arrow. Remove the battery cover and install 8 "AA" batteries in the direction shown molded in the battery case. If the transmitter voltage fails to register, check for correct battery installation and review voltage again.

## How to Load the Aircraft onto the Tow-EZ

The Tow-EZ's loading sequence is as easy as driving the unit directly under the aircraft's wheel. The Tow-EZ is engineered so that when the aircraft loads, the weight of the loaded aircraft does not inhibit its zero-turn capability. Follow the steps below to load the aircraft onto the Tow-EZ.

Step	Action
1	Turn on the Tow-EZ and remote control.
2	Position the swivel carriage in front or back of the aircraft wheel.




Figure 7, Tow-EZ Swivel Carriage

*Continued on next page...*

## How to Charge the Unit

The Tow-EZ comes fully charged from our factory. Each side of the unit is powered by a heavy-duty, powerful 24 volt motor designed to give years of trouble-free service. Each motor is powered by its own 24 volt marine-type 10 amp battery capable of powering the motor for approximately 4 hours prior to the need for recharging.



We recommend that users leave the Tow-EZ plugged in when not in use. The batteries can not be overcharged. Follow the steps below to charge the unit.

Step	Action
1	The Tow-EZ's Charger Plug Is located on the <u>back of the unit</u> .
2	The on-board marine-grade charger is equipped with a standard 110-volt plug.
3	Plug the internal battery charger/maintainer into a standard 110-volt wall socket using a standard extension cord rated for at least 10 amps.



## Basic Remote Use

Button	Action
Steering Knob	• <b>Turn right</b> – causes the unit to turn right.
	• <b>Turn left</b> – causes the unit to turn left.
Power Switch	• Sliding the switch turns the remote on and off.
Throttle Trigger	• <b>Pushing throttle trigger away from the handgrip</b> – causes the unit to move in reverse.
	• <b>Pulling throttle trigger toward the handgrip</b> – causes the unit to move forward.
	• <b>Release/Neutral</b> – places the unit in a neutral state, neither moving forward nor in reverse. Do not leave loaded Tow-EZ unattended on a hill or slope in this position.



## Advanced Remote Use

The Spektrum remote control can be easily customized by users to provide different functionality. For instance, the Tow-EZ currently is programmed to go faster in forward than in reverse. It is quite easy to program the remote to change this setting. We recommend that a user desiring such changes study the Spektrum DX 2.0 Owner's Manual carefully before attempting any changes to the programming.

## How to Turn On the Tow-EZ

Step	Action
1	<p>Turn on the Tow-EZ's Power Switch. The Power Switch is located on the back of the unit.</p>  <p><b>Figure 1, Tow-EZ Power Switch</b></p> <p>The Spektrum controller will scan for open frequencies, and lock out any that are being used or are corrupted. Then the controller will identify open frequencies within the band and frequency "hops" on the remaining 80 available channels. This ensures interference-free operation.</p>
2	<p>Slide the Power Switch on the remote control to the "On" position.</p>  <p><b>Figure 2, Spektrum Remote Control</b></p>

## How to Turn Off the Tow-EZ

Step	Action
1	<p>Turn off the Tow-EZ's Power Switch. The Power Switch is located on the back of the unit.</p>  <p><b>Figure 3, Tow-EZ Power Switch</b></p>
2	<p>Slide the Power Switch on the remote control to the "Off" position.</p>  <p><b>Figure 4, Spektrum Remote Control</b></p>