

iTowBot

user guide





AIRCRAFT TOWING SOLUTIONS FOR THE FUTURE

TABLE OF CONTENTS

THANKS FOR BUYING THE ITOWBOT	3
IMPORTANT SAFETY INSTRUCTIONS	4
PACKAGE CONTENTS	5
PRODUCT VIEW	6
UNIT FEATURES AND CAPABILITIES	7
USE AND CARE OF UNIT	8
GETTING TO KNOW THE REMOTE CONTROL	8
ADVANCED REMOTE USE	9
HOW TO TURN OFF THE ITOWBOT	9
HOW TO CHARGE THE UNIT	9
HOW TO LOAD THE AIRCRAFT ONTO THE ITOWBOT	10
HOW TO UNLOAD THE AIRCRAFT ONTO THE ITOWBOT	11
HOW TO OPERATE THE ITOWBOT	12
PREVENTATIVE MAINTENANCE	13
SCHEDULE /MAINTENANCE ITEM	13
TROUBLESHOOTING	14
TECHNICAL SUPPORT	15
WARRANTY	15



THANKS FOR BUYING THE ITOWBOT

We're glad you purchased an iTowbot. Everything we know about aircraft towing went into the design and construction of the iTowbot. The iTowbot brings out the best aircraft towing solutions.

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

Trace Towbots offers a precise, ruggedly-built towing machine that will allow the user to position an aircraft in close quarters with ease. The iTowbot 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 into the hangar.

We know you are anxious to use the iTowbot 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.

Sincerely,

Trace TowBot



IMPORTANT SAFETY INSTRUCTIONS

Read and understand all the instructions and labels on the iTowbot before operating.



In this manual, the terms "iTowbot" and "unit" are used.



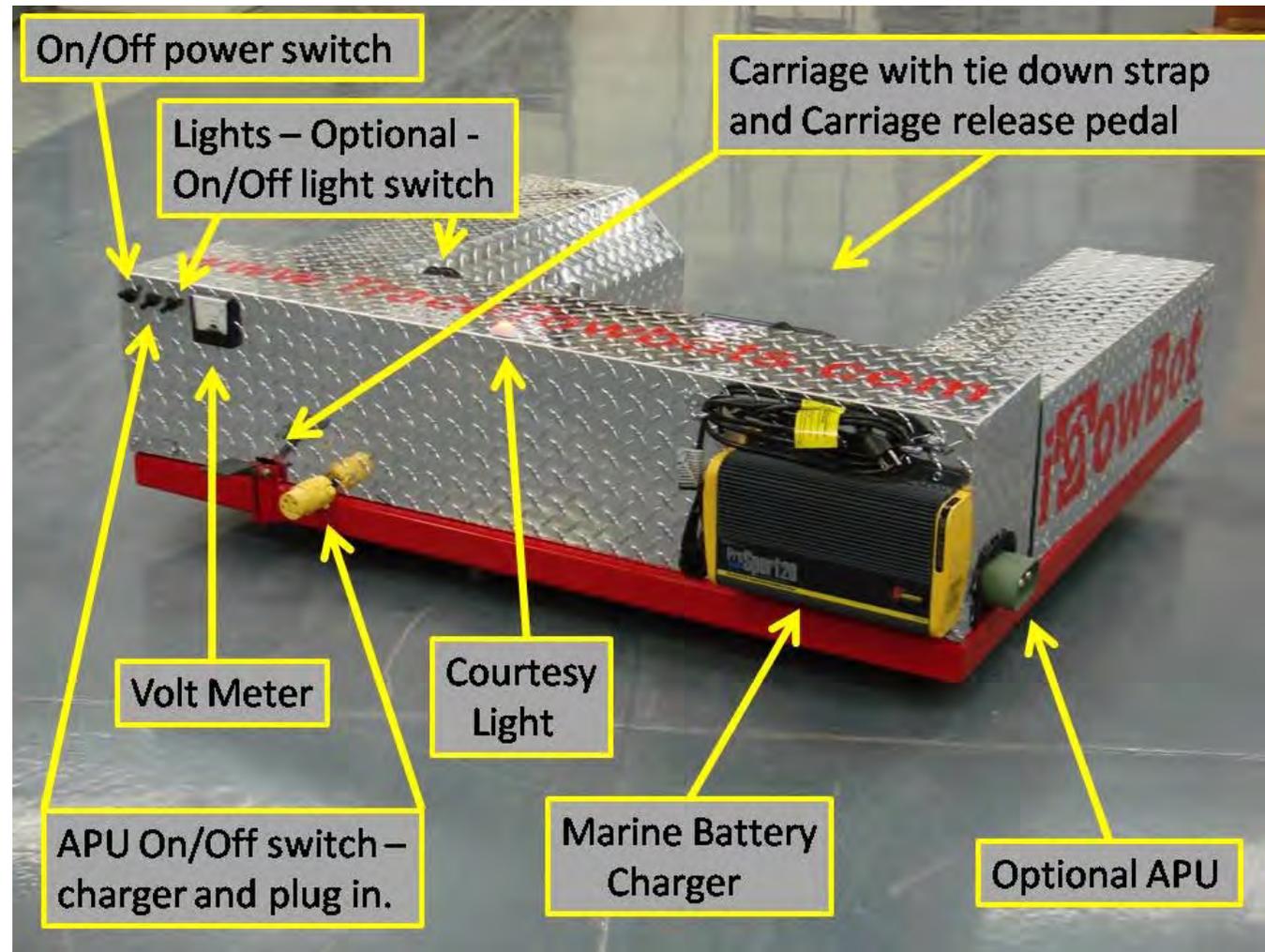
WARNINGS

When using the iTowbot, 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 iTowbot from the aircraft.
- ✓ Always chock wheels of plane before loading/unloading the plane into the iTowbot.
- ✓ Always align three-bladed props prior to loading the aircraft to insure proper clearance for the iTowbot.
- ✓ Exercise extreme caution when selecting the vantage point from which to operate the unit.
- ✓ Always use a "tie-down" strap to insure aircraft from leaving carriage while towing.
- ✓ Never sit inside the plane while using the iTowbot.
- ✓ Always walk with the unit and maintain clear visibility while using the iTowbot.
- ✓ 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 iTowbot while impaired.

PACKAGE CONTENTS

Let's review what comes with your iTowbot.

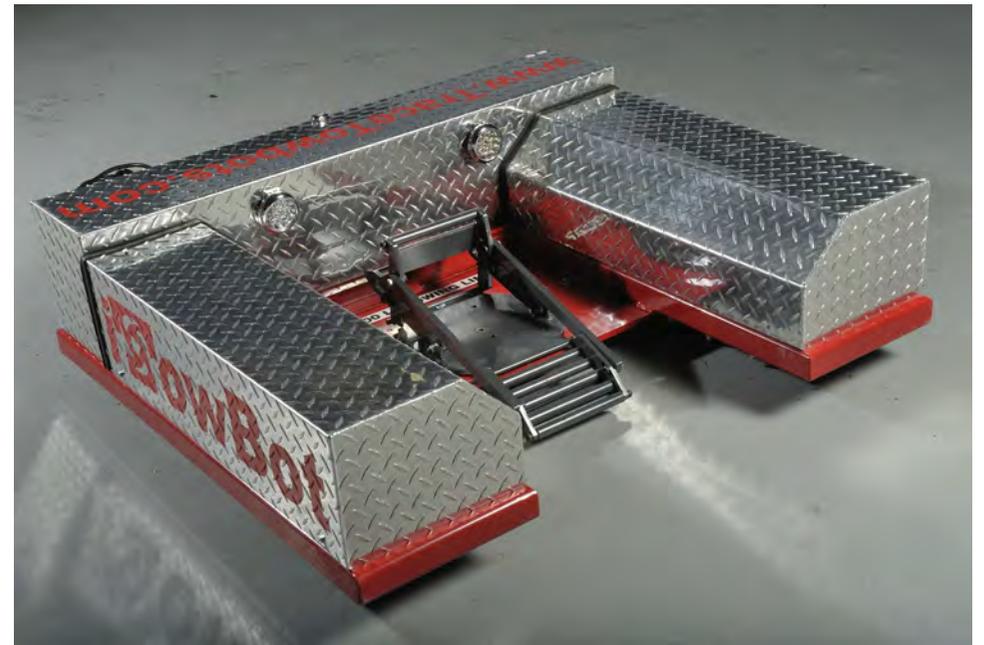


PRODUCT VIEW

Front View



Back View



UNIT FEATURES AND CAPABILITIES

The iTowbot features and capabilities are listed in the following table.

Unit Dimensions	38" Wide x 46" Long x 12" High
Unit Weight	550 pounds
Ground clearance	2 inches
Maximum towing capacity	15,000+ pounds gross weight
Maximum towing speed	1.7 feet per second
Motors	Powerful Reversible 24 volt DC motors
Construction and frame	Rugged steel construction and powder-coated frame
Possible terrain	Asphalt and concrete recommended
Wheels	Trouble-free moldon wheels with cast iron rims
Casters	2 balancing casters
Radio remote control	Built-in interference protection featuring Spektrum technology
Batteries	24 volt sealed lead Acid Series
Range with standard batteries	80 feet
Charger and charge time	Up to 8 hours
Options	28 volt ground power, different nose wheel carriage sizes, trailer towing add-on



USE AND CARE OF UNIT

This section provides instructions on how to use the iTowbot. 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 iTowbot either during operation or when the iTowbot is powered on, but not receiving commands from the handset. Symptoms of settings changes may include, but are not limited to, the iTowbot “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 iTowbot.

The Spektrum DX 2.0 remote control comes with standard AA batteries. 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.

The following diagram shows the features available on the Spektrum DX 2.0 remote control. For most iTowbot users, 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.

REMOTE FEATURE IDENTIFICATION & LOCATION



* 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.

Basic Remote Use

Button	Action
Steering Knob	Turn Right – causes unit to turn right. Turn Left – causes unit to turn left.
Power Switch	Sliding the switch turns the remote on and off.
Throttle Trigger	Pushing throttle trigger away from the handgrip – causes the unit to move in reverse. Pulling throttle trigger toward the handgrip – causes the unit to move forward.
Release/Neutral	Places the unit in a neutral state, neither moving forward nor in reverse. Do not leave loaded iTowbot 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 iTowbot currently is programmed to go faster in forward than 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 Charge the Unit

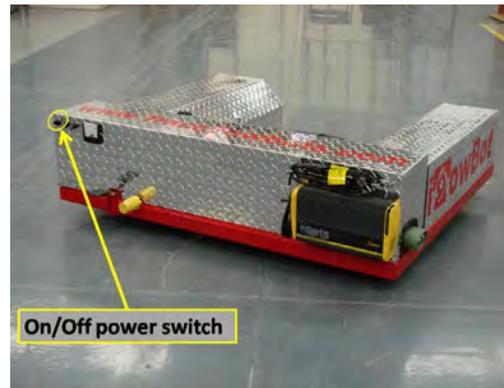
The iTowbot comes fully charged from our factory. Each side of the unit is powered by a heavy-duty powerful 24 volt motor designed to give years of trouble-free service. Both motors are powered by the 24 volt marine-type battery system capable of powering the motor for approximately 4 hours prior to the need for recharging.

We recommend that users leave the iTowbot charger plugged in when not in use. The batteries can not be overcharged. Simply plug in the marine charger into any 110 AC outlet.

How to Turn On the iTowbot

Step / Action

- 1 Turn on the iTowbot's Power Switch.
The Power Switch is located on the front of the unit.



Step / Action

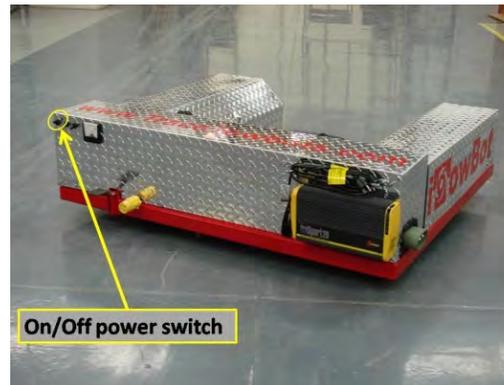
- 2 Slide the Power Switch on the remote control to the "On" position.



How to Turn Off the iTowbot

Step / Action

- 1 Turn off the iTowbot's Power Switch.
The Power Switch is located on the front of the unit.



Step / Action

- 2 Slide the Power Switch on the remote control to the "Off" position.

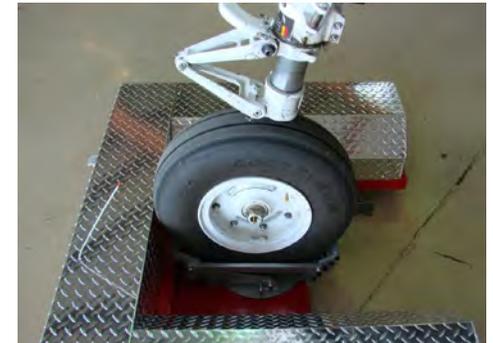
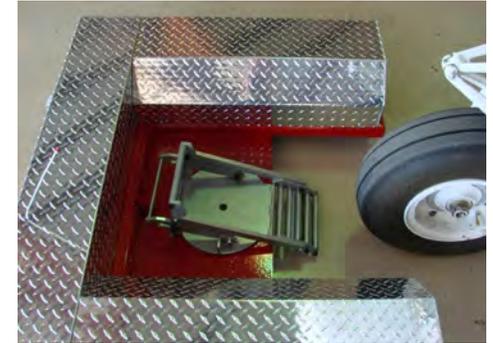


How to Load the Aircraft onto the iTowbot

The iTowbot loading sequence is as easy as driving the unit directly under the aircraft's wheel. The iTowbot 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 iTowbot.

Step / Action

- 1 Turn on the iTowbot and remote control.
 - 2 Position the swivel carriage in front or back of the aircraft wheel.
 - 3 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.
-  Chock the aircraft wheels before loading the plane onto the iTowbot.
-  "Tip" 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.
- 4 Move the aircraft to the desired location.



How to Unload the Aircraft onto the iTowbot

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

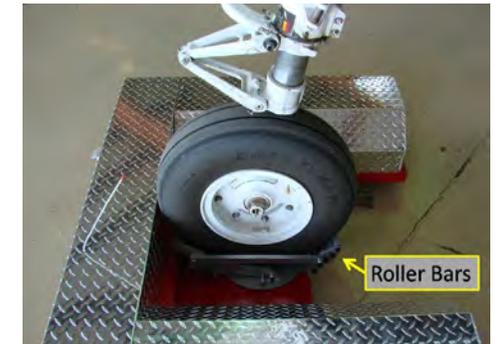
Step / Action

- 1 Position the iTowbot so that the roller bars on the swivel carriage face the rear of the iTowbot.
- 2 Step on the foot pedal release at the front of the iTowbot until the release mechanism on the swivel carriage unlocks.

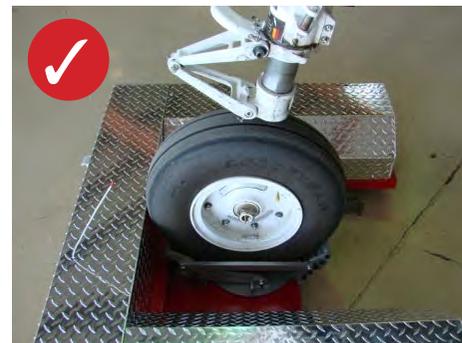


Chock the aircraft wheels before unloading the plane from the iTowbot.

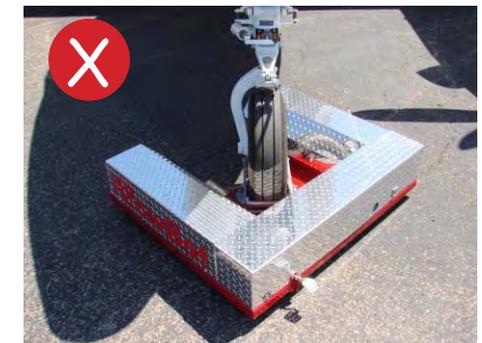
- 3 Drive the iTowbot out from underneath the aircraft. If the iTowbot doesn't release the aircraft wheel, the aircraft wheel may be in a position that won't allow the unit to release. Work with the unit to align the aircraft wheel with the rear of the unit and ensure that the wheel is not pressing either against the swivel carriage front or back rollers. This will allow the swivel carriage to release and the aircraft wheel to clear the unit.



CORRECT



INCORRECT





HOW TO OPERATE THE ITOWBOT

The iTowbot was designed to be as intuitive to operate as possible. In only minutes, the average user should be able to easily manoeuvre all size of planes and trailers (with optional attachment) using the unit. Practice prior to loading and pushing your aircraft from/into the hangar. The iTowbot 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 iTowbot:

- No brake – motor acts as brake.
- Pushing the throttle trigger forward (away from the grip) causes the unit to roll toward its rear – the open end of the iTowbot's U-shaped body.
- Pulling the throttle trigger backward (toward the grip) causes the unit to roll toward its front – the closed end of the iTowbot's U-shaped body.
- Releasing the throttle causes the unit to stop – the unit moves neither forward or 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.

Key points about using the iTowbot:

- 1 Inspect the airplane and the hangar to ensure that all tools, cords, gas containers, ladders, luggage, etc. have been cleared from the airplane's and unit's path.
- 2 Load the airplane onto the unit and remove the airplane's wheel chocks.
- 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 iTowbot was designed to be virtually maintenance free. However, some maintenance will help ensure the longevity of the unit.



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



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

Schedule / Maintenance Item

Yearly Lubricate the roller chains and check the chain tensioning. Use light-weight oil typically used on bicycles.

As needed If excessive chain play is observed, tighten the chain by unbolting the pillow block to a free state, pull tension into the chain, then retighten pillow block. Chain tension brackets are mounted on the frame to aid in this process. Be careful not to create a chain/sprocket alignment problem while increasing chain tension.

As needed 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.



ENSURE ALL HANDS AND FEET ARE CLEAR OF ROTATING PARTS. FAILURE TO DO SO MAY RESULT IN INJURY.

To correct the alignment:

- 1 Remove the cowlings and place the unit on blocks.
- 2 Run the unit to identify which sprocket/chain is misaligned.
- 3 After identifying the misalignment, turn the unit off at the power switch and turn off the Spektrum controller. It is very **IMPORTANT** to **VERIFY** all power is off prior to aligning sprocket or hub.
- 4 Align the sprocket or hub.



TROUBLESHOOTING

Problem

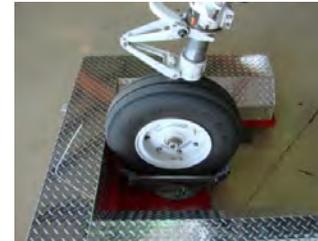
iTowbot loses signal or receives interference from another source

Solution

The iTowbot 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 re-establish the signal.

iTowbot won't release aircraft when foot pedal is pushed down

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 rear 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.



Correct...



Incorrect...

iTowbot can't get needed traction to load aircraft

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.

iTowbot unit "creeps"

The factory setting on the handset has inadvertently been altered. Consult the Spektrum manual to reset and install desired trim settings.



TECHNICAL SUPPORT

The iTowbot was designed and built on location in Midland, Texas.

Contact Graham Fuller at **(08) 8234 4433** or info@itowbots.com.au for assistance.

WARRANTY

Returns for defective workmanship or mechanical failure will be covered for a period of 12 months from customer's receipt of the iTowbot.

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 iTowbot must be documented in advance by email and sent to info@itowbot.com.au

WE GIVE YOU THREE EASY WAYS TO CONTACT US:



www.itowbot.com.au



Call **(08) 8234 4433**



Email info@itowbot.com.au



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