
INSTALLATION AND MAINTENANCE MANUAL

INTRODUCTION

Thank you for your purchase of the most innovative and user-friendly kicker steering system on the market. In this manual, you will find step-by-step installation instructions, as well as, maintenance tips and some basic troubleshooting steps in the unlikely event of a failure.

Please read through all of the information carefully before beginning your installation and if you have any questions, please feel free to contact our technical service department at 1-800-466-7697.

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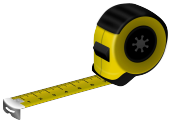
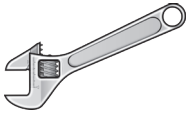
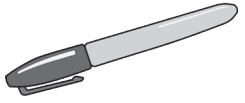
Tools Required

- Tape Measure
- Adjustable Wrench
- Permanent Marker







ATTENTION!

Failure to properly follow the installation steps WILL VOID any and all warranty protection.

If you have any questions, please contact our Customer Service team at 1-800-466-7697. You can also email us at info@powrtran.com

STEP 1

Clean your outboard's steer tube of debris with an air compressor or with some canned air cleaner.

STEP 2

Determine on which side of the outboard you will install the Linkage. You need 9" of clearance on the Linkage side and 7.5" of clearance on the Motor side.

STEP 2

Remove the gray Wiper Nut from the Actuator.

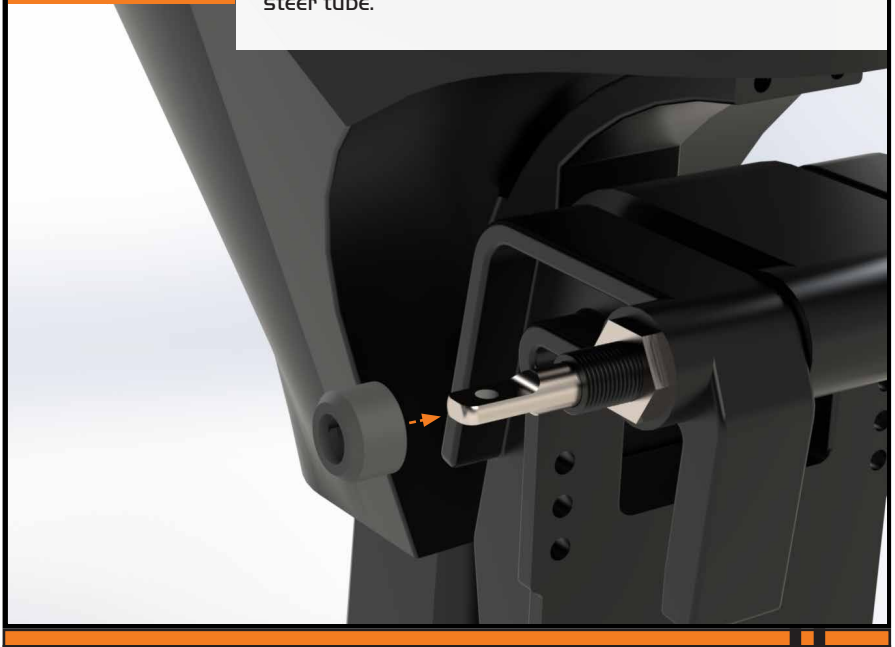
STEP 3

Slide the Actuator through the tilt tube so that the threaded tab-end finishes on the side of the outboard you will mount your Linkage to.

Note: For the purposes of this instruction, we will show the STARBOARD application.

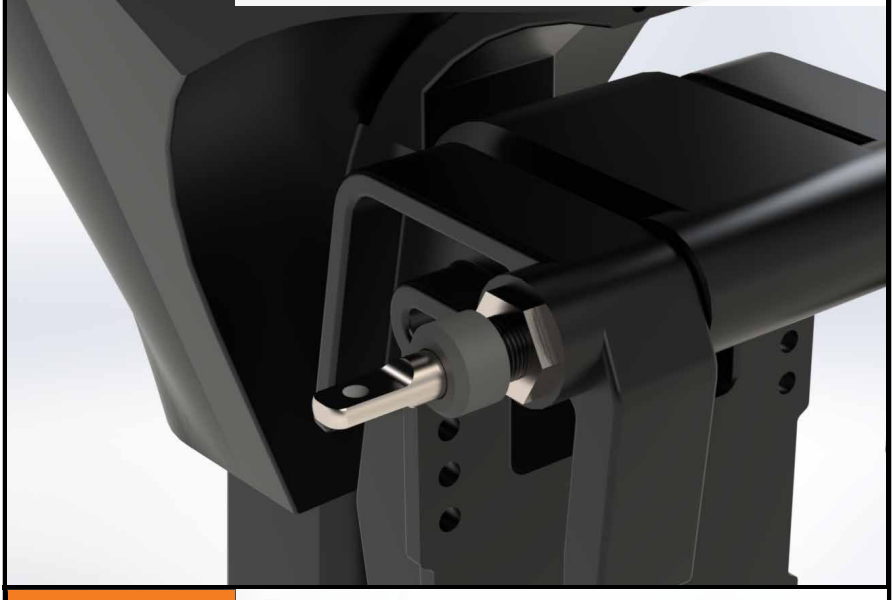
STEP 4

Insert the Wiper Nut over the Actuator and onto the steer tube.



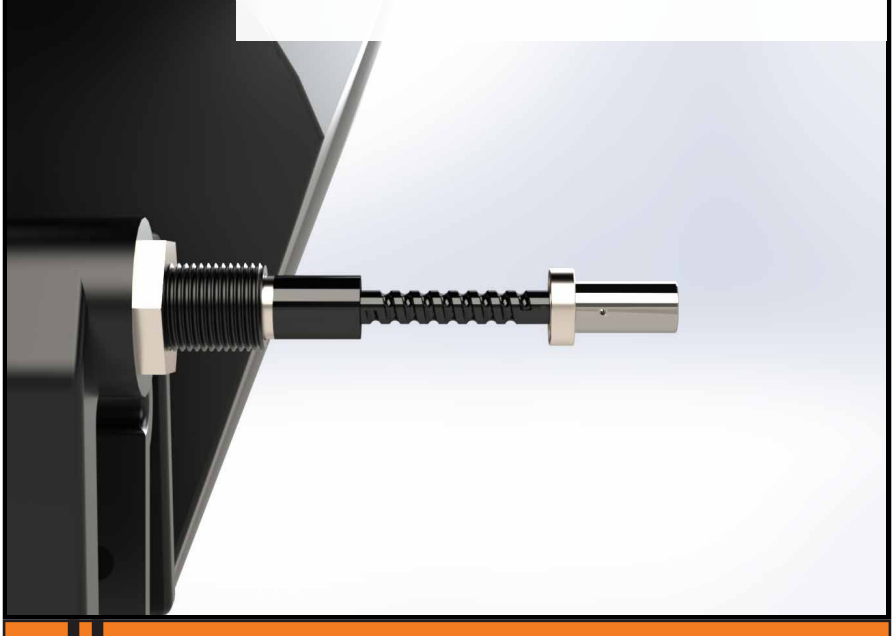
STEP 6

Twist the Wiper Nut onto the steer tube. You do not need to use a tool to tighten the Wiper Nut but it should be secure.



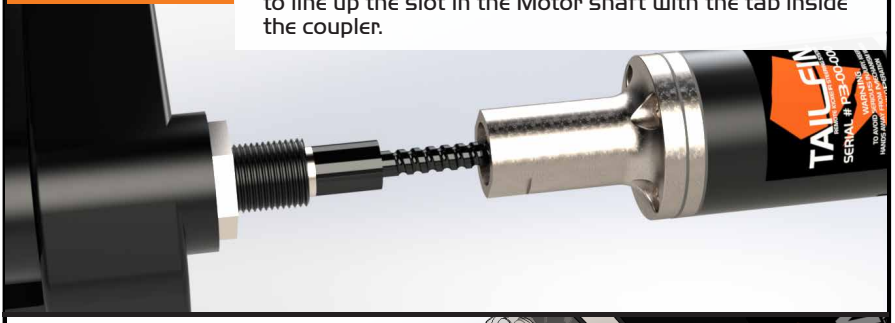
STEP 7

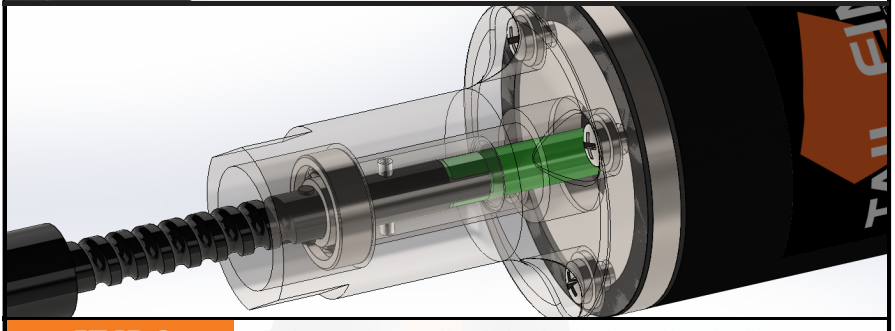
Twist the screw out a few inches.



STEP 8

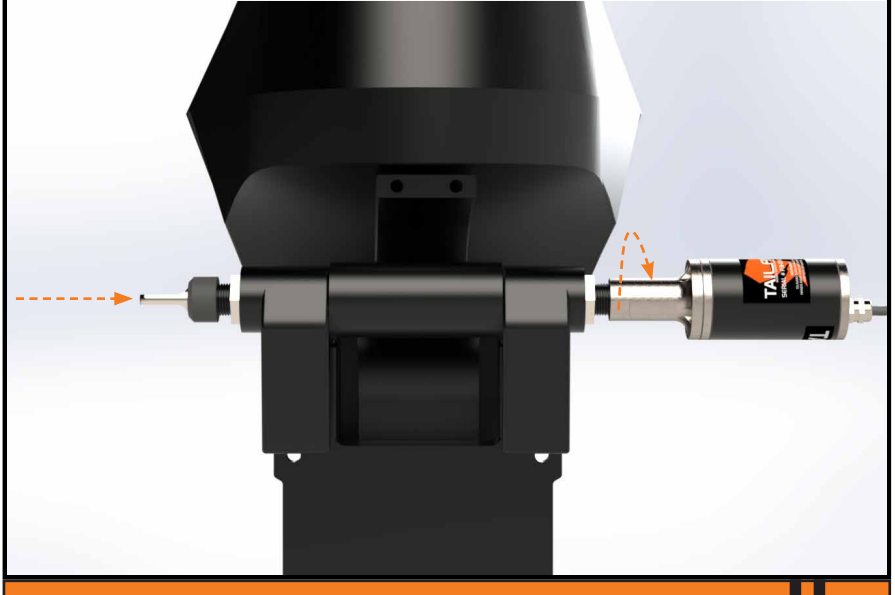
Slide the Motor over the Actuator coupler. Make sure to line up the slot in the Motor shaft with the tab inside the coupler.





STEP 9

Put pressure on the Actuator to keep the shafts engaged as you twist the Motor onto the steer tube.



STEP 10

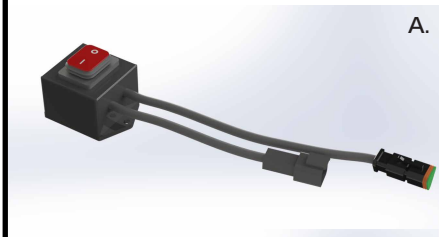
Use an adjustable wrench to tighten the Motor in place. The Motor is tight when you feel the bearing bottom out inside the Motor cone.

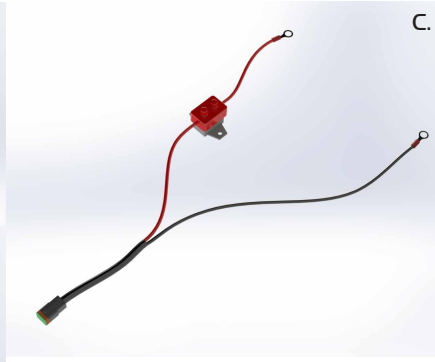
STEP 11

Route the Motor cable down to your battery compartment.

STEP 12

Locate the three components of your Control Module.

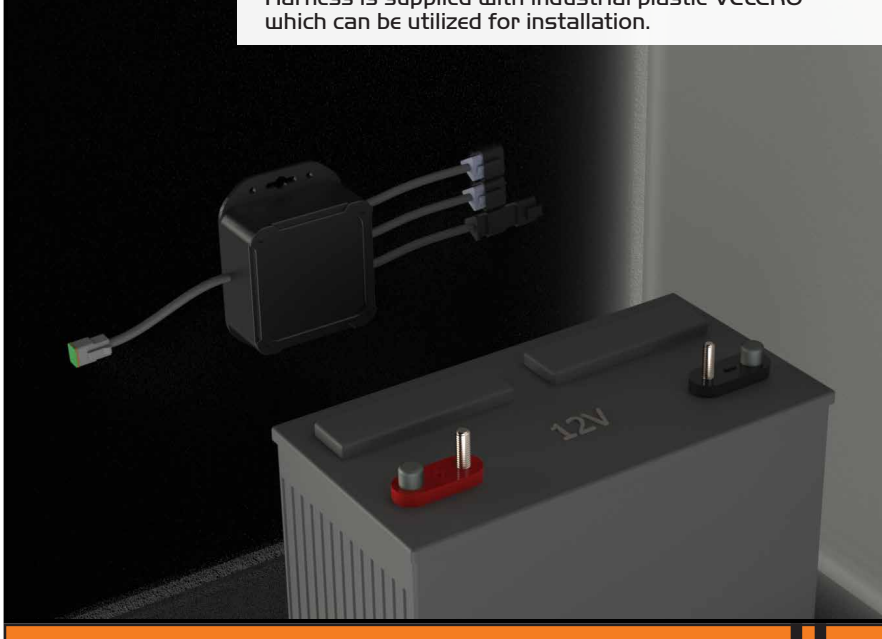




A. LED SWITCH
B. CONTROL HARNESS
C. POWER LEAD

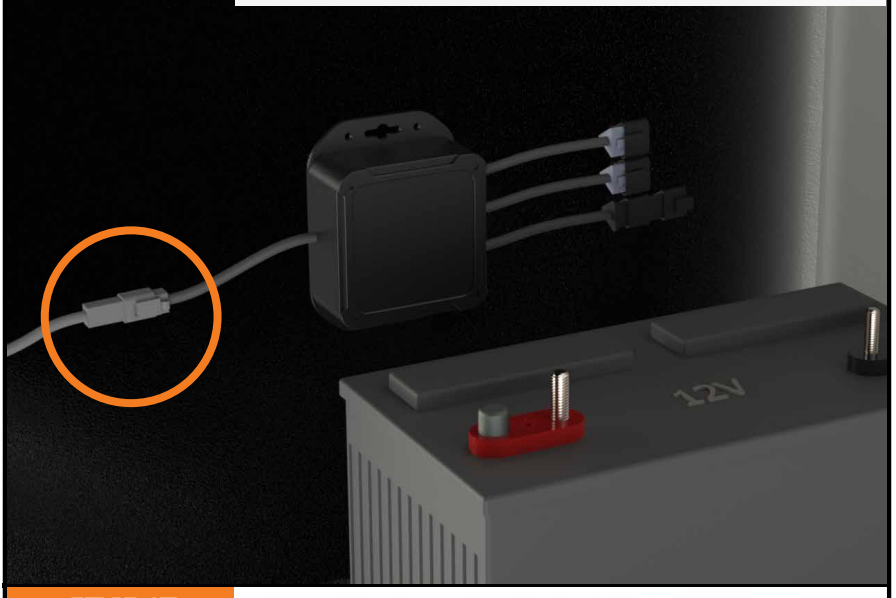
STEP 13

Mount the Control Harness inside the battery box. The Harness is supplied with industrial plastic VELCRO which can be utilized for installation.



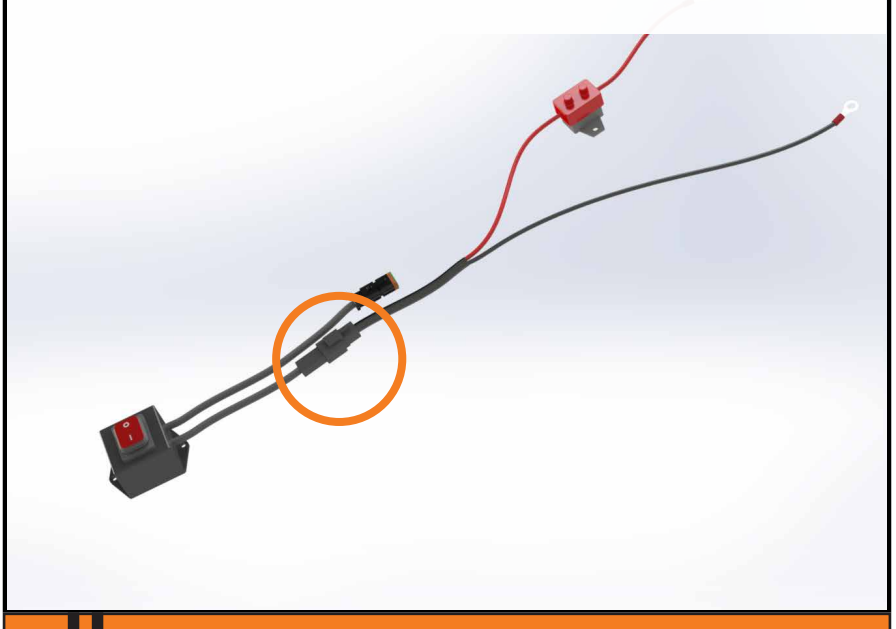
STEP 14

Plug the Motor cable into the Motor output on the Control Harness.



STEP 15

Connect the Power Lead to the LED Switch.



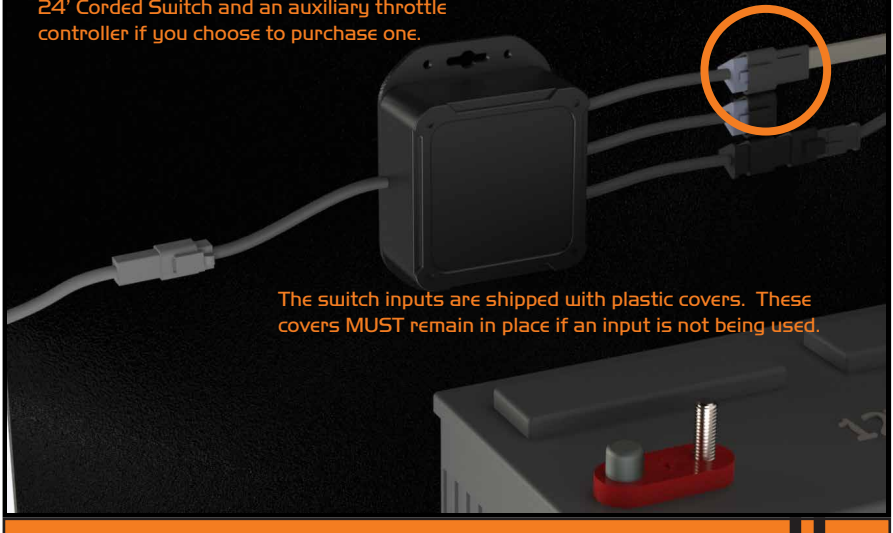
STEP 16

Connect the LED Switch to the Control Harness.

STEP 17

Connect the 24' Corded Switch to one of the switch inputs on the Control Module.

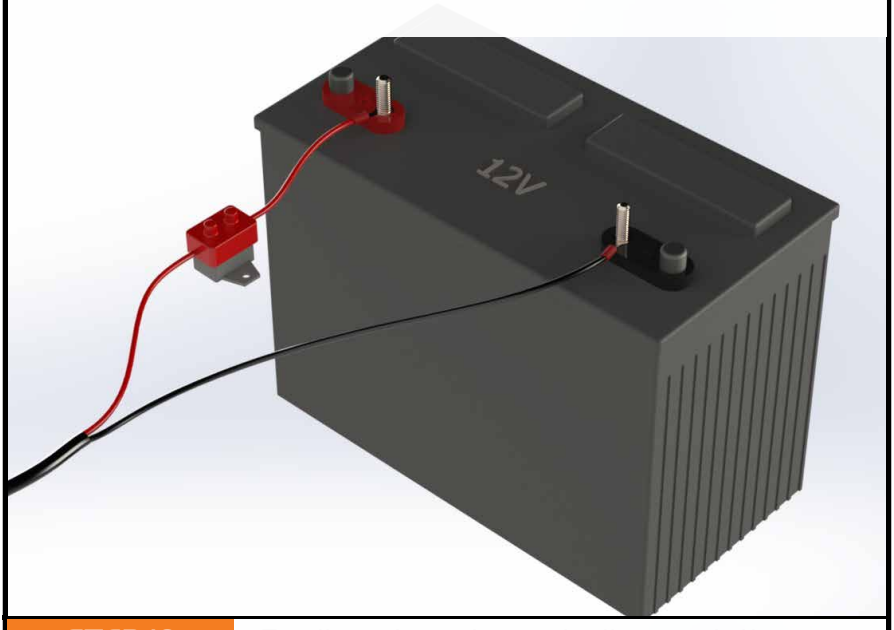
Note: The Module is supplied with two switch inputs. This allows you to connect both your 24' Corded Switch and an auxiliary throttle controller if you choose to purchase one.



The switch inputs are shipped with plastic covers. These covers MUST remain in place if an input is not being used.

STEP 18

Connect the Control Module to your 12V battery.

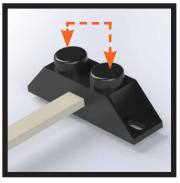


STEP 19

Turn the system on by pressing the power button on the LED switch. The LED will blink slowly to indicate that the system is on and connected to power.

STEP 20

Pair your Wireless Remote to your system.



Press and hold BOTH directional buttons on the 24' Corded Switch for 5 seconds.

The LED Switch will go solid indicating the system is in pairing mode.

Press and hold EITHER directional button on your Wireless Remote for 1 second. When the LED Switch begins blinking again, the Remote should be paired.

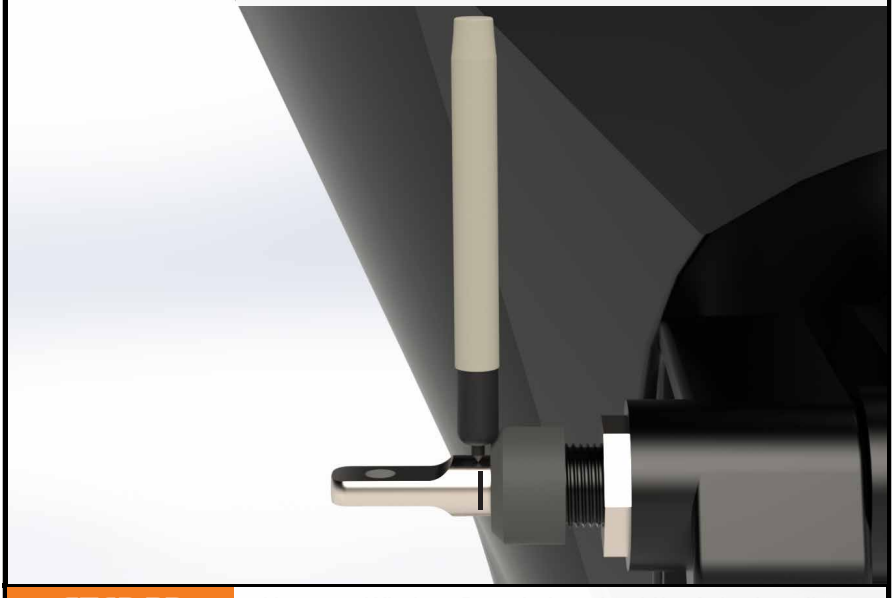
STEP 21

Using your Wireless Remote, retract the actuator all the way in.

Note: Your installation will determine which directional button you need to push to retract the actuator. You can reverse how the system responds by following directions found on Pg. 27.

STEP 22

With a permanent marker, mark the Actuator at the point where it meets the Wiper Nut.

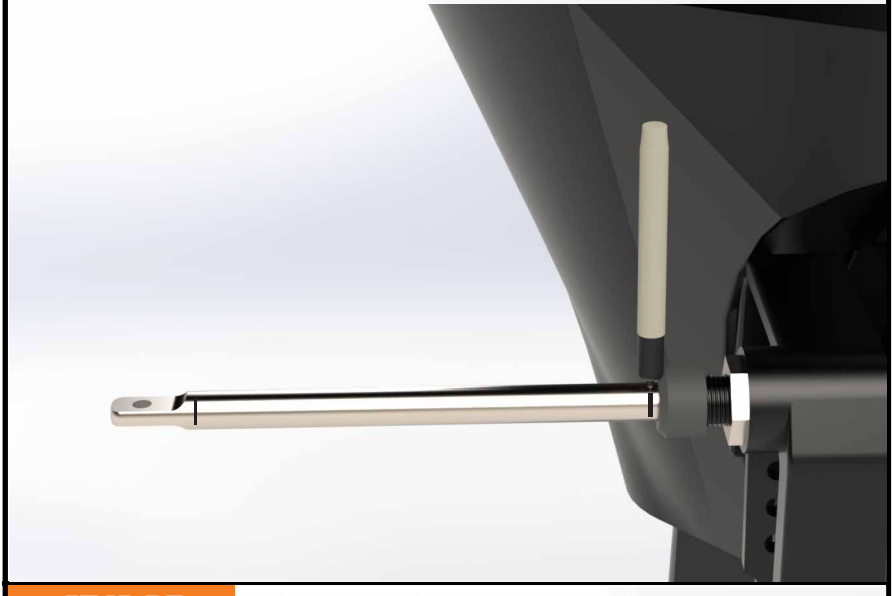


STEP 23

Use your Wireless Remote to extend the Actuator all the way out.

STEP 24

Mark the Actuator again at the point where it meets the Wiper Nut.



STEP 25

Measure the distance between the marks you drew in Steps 22 and 24. At the halfway point between those two marks, draw a third mark on the Actuator.

STEP 26

Retract the Actuator so that the mark you made in Step 25 meets the Wiper Nut.

INSTALLING YOUR LINKAGE

Most outboard motors have two bolts located below the power head for installing a tiller handle. The bracket supplied with the TAILFIN System is designed to utilize one of these bolts. See Fig. A on Pg. 19.

On YAMAHA tiller motors, there is an arm coming across the front of the motor with a vertical hole in the center. We supply all systems with a longer Ball Stud to be mounted through this hole. Since the tiller bolts are not easily accessible on these motors, utilizing the vertical hole is the recommended installation point on YAMAHA tiller motors. See Fig B.

On the bottom of Pg. 19, you will find a diagram of how the Linkage is mounted based on what side of the kicker motor you are installing it on. Notice that the curved portion of the Linkage Arm will attach to the outboard in either orientation.

NOTE: The Linkage Adjustment Nut is shipped with a protective covering in place to guard the finish from marring while you are tightening it. Leave this covering on until after you have made your final adjustments.

STARBOARD-SIDE LINKAGE INSTALLATION

PORT-SIDE LINKAGE INSTALLATION

STEP 27

Position your outboard so it is facing straight forward. This ensures that when the Linkage is attached, the motor will have even turning in both directions.

STEP 28

Twist the long Quick-Connect Stud into the threaded hole in the tab-end of the Actuator. The 3/8" Nut will be on the top-side of the tab.

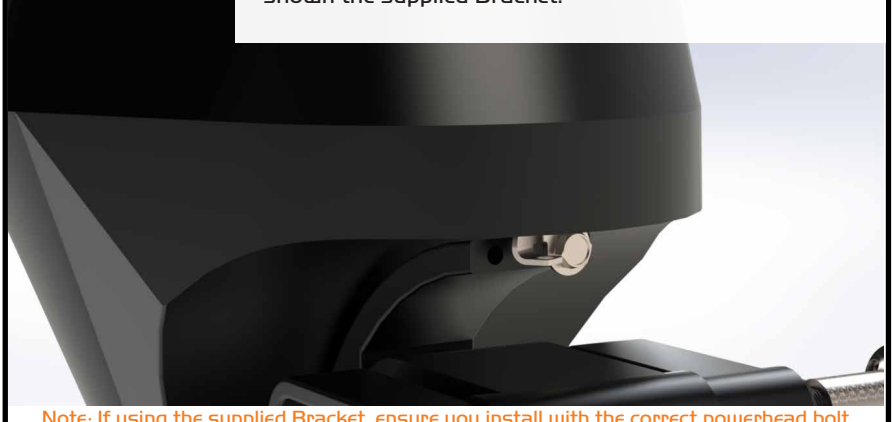
Note: Do not tighten the 3/8" Nut at this time. Once you have installed and adjusted the Linkage arm properly, you will use the 3/8" Nut as a jam to keep the Stud in place.

STEP 29

Attach the Linkage to the Actuator by installing the Quick-Connect housing to the Long Stud.

STEP 30

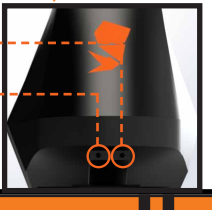
Install your motor connection point. Here we have shown the supplied Bracket.



Note: If using the supplied Bracket, ensure you install with the correct powerhead bolt.

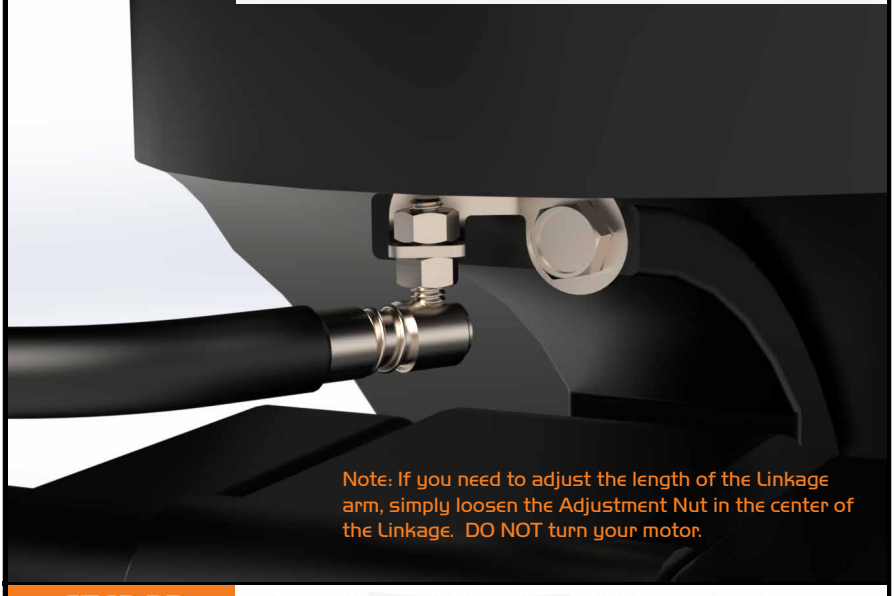
Starboard-side Linkage = Port-side bolt

Port-side Linkage = Starboard-side bolt



STEP 31

Attach the Linkage to the motor. The Quick-Connect Stud will need to be installed first. See Figures A and B on Pg. 19.



Note: If you need to adjust the length of the Linkage arm, simply loosen the Adjustment Nut in the center of the Linkage. DO NOT turn your motor.

STEP 32

Ensure that the Linkage is parallel to the steer tube. Failure to do so can result in wear on the system and will shorten the life of the Actuator.

STEP 33

Use an adjustable wrench to tighten the Linkage Adjustment Nut.

STEP 34

Securely tighten the Jam Nut on the Long Stud.


Read Owners Manual
CO-PILOT
STEERING
FRICTION
INCREASE
DECREASE


PRO
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PROGRAMMING THE SYSTEM

Located on the master shut-off switch near the motor, is an LED indicator, which is used for programming the system and troubleshooting. For normal operation, the LED will blink at a rate of one blink/second (1Hz) with a 50% duty cycle.

Pairing the Remote:

1. Press and hold both the LEFT and RIGHT buttons on the corded switch and hold for 5 seconds. After 5 seconds, the controller LED (the box with the on/off switch) will go solid, indicating it is in pairing mode.
2. Release the LEFT and RIGHT switch buttons and press either directional key on the remote. Hold for 1 second.
3. After releasing the remote key, the controller and remote will be paired.

Configuring the Acceleration Time:

1. Press and hold the '2' key for 5 seconds. The LED will go solid until the '2' key is released, indicating user is in the program mode for the acceleration rate.
2. LED will flash to indicate acceleration rate. Default is 1 second to full speed.
3. Pressing and holding the LEFT key will increase the acceleration time. The LED will flash slower giving an indication of the new value.
4. Pressing the RIGHT key will decrease the acceleration time. The LED will flash faster, indicating a quicker acceleration rate.
5. To save the new value, press the '2' key one time.
6. To abort and use the previous value, either press the '1' key or don't press any key for 20 seconds.

The acceleration rate range is 10 ms to 3 sec.

Configuring the Speed:

1. Press and hold the 'I' key for 5 seconds. The LED will go solid until the 'I' key is released, indicating the user is in the program mode for the motor speed.
2. LED will flash to indicate speed, default is 50% of full speed (and full current).
3. Pressing and holding the LEFT key will increase the speed. The LED will flash faster giving an indication of the new value.
4. Pressing and holding the RIGHT key will decrease the speed. The LED will flash slower indicating a slower speed.
5. To save the new value, press the 'I' key one time.
6. To abort and use the previous value, either press the '2' key or don't press any key for 20 seconds.

The speed is dependent on the battery voltage and the load of the motor. The range of the speed is 5 – 100% where 100% is full speed at max load which is 6A.

Changing the Motor Direction

1. On the remote, press the '2' key while on the corded switch, activate either the LEFT or the RIGHT input for 1 second (Both keys at the same time).
2. After one second, the LED will flash rapidly for 3 seconds to indicate the command has been accepted.
3. Release both keys and verify the motor direction has now been reversed.

Reset to Factory Default Settings

1. On the remote, press the 'I' key while on the corded switch, activate either the LEFT or the RIGHT input for 5 sec. (Both keys at the same time.)
2. After five seconds, the LED will flash rapidly for 3 seconds to indicate the command has been accepted.
3. Release both keys and the controller will be reset to the factory defaults.

CARE AND MAINTENANCE

OVERVIEW

The TAILFIN Steering System was designed to withstand and perform in the harshest marine environments. With that said, a few simple steps can help maximize the life and performance of your system.

GENERAL CARE

After using your boat, open the battery compartment to allow any trapped moisture or gases to escape. This will not only help protect your relay module, but other accessories and batteries as well.

When not in use, turn off power to the system via the switch near the electric motor.

If your boat has been exposed to salt, either through running in saltwater, or being trailered through snowy streets, wash down all exposed components with freshwater when you have a chance. Although the system is built from salt-resistant materials, salt is a corrosive substance and care should always be taken to keep it off the system as much as possible.

Your kicker motor can be trimmed up with the system installed. However, if you have a motor strapping system like the Mercury Pro Kicker, ensure that the motor is facing straight forward before trimming the motor up.

SERVICING YOUR ACTUATOR

Taking apart your actuator to clean and re-grease it, is a great way to ensure the ballscrew inside avoids unnecessary wear and continues to function properly. It is advised that this be done at least twice per season.

Before you begin, you will need to remove the actuator from your motor. To do this, simply twist off the electric motor and disconnect the linkage arm. You will then twist off the gray wiper nut and the actuator will slide right out of the tilt tube. Cont. on Pg. 29.

To properly disassemble the actuator, you will want to secure it in a vice. Great care must be taken when doing this to ensure the actuator tube is not marred or crushed. It is HIGHLY recommended you pad the vice jaws with a towel first and avoid over-tightening.

Remove the flat tab end (A) from the actuator tube. The actuator is installed with threadlocker, so you will have to break that seal to remove the tab.

Once the tab is removed, remove the ballcage (B) from the actuator. It is also installed with threadlocker so a vicegrips-type pliers works best at removing it.

Now that the ballcage is removed, unscrew the ballscrew (C) from the actuator tube and remove it completely.

Next, clean the actuator tube (D) of any debris or old grease—shop towels with denatured alcohol work well for this. Give the tube a few shots of air from an air compressor to help dry inside and remove any last remnants.

Next, clean the threads on the ballcage and tab end of any dried-on threadlocker.

Once the tube is clean and dry, clean the ballscrew of any old grease or debris. Again, a shop towel with denatured alcohol works great for this.

Next, fill the tube with grease. If you are using the maintenance kit, use one of the supplied grease packets. If you are using a grease gun, 14 pumps is usually perfect. Whichever method you use, be sure not to get any grease on the threads inside the tube.

Next, make sure the ballscrew is all the way screwed into the ballcage and insert the ballscrew on the same side of the tube you greased from. Apply a liberal bead of permanent threadlocker to the threads on the ballcage and tighten it in place.

Finally, apply a liberal bead of permanent threadlocker to the threads on the tab end and tighten it back into place on the actuator tube.

LED Indicator Fault Codes

If the controller encounters a fault condition, the LED will blink to indicate the fault. The blink cycle is 3 blinks every 3 seconds and the blinks will either be a short or long blink indicated by a 0 or 1.

FAULT	LIMIT	BLINK 1	BLINK 2	BLINK 3	VALUE
UNUSED	UNUSED	0	0	0	0
LOW-VOLTAGE	BATTERY VOLTAGE < 7.5V	0	0	1	1
OVER-TEMP	MODULE TEMP > 100C	0	1	0	2
OVER-CURRENT	MOTOR CURRENT > 6A	0	1	1	3
HIGH-VOLTAGE	BATTERY VOLTAGE > 16V	1	0	0	4
UNUSED	UNUSED	1	0	1	5
EEMEM	MEMORY ERROR	1	1	0	6
IIRQ	EXCESSIVE OVER CURRENT	1	1	1	7

If you encounter one of these faults, please discontinue use immediately and contact Powrtran Customer Service at 1-800-466-7697.

TROUBLESHOOTING

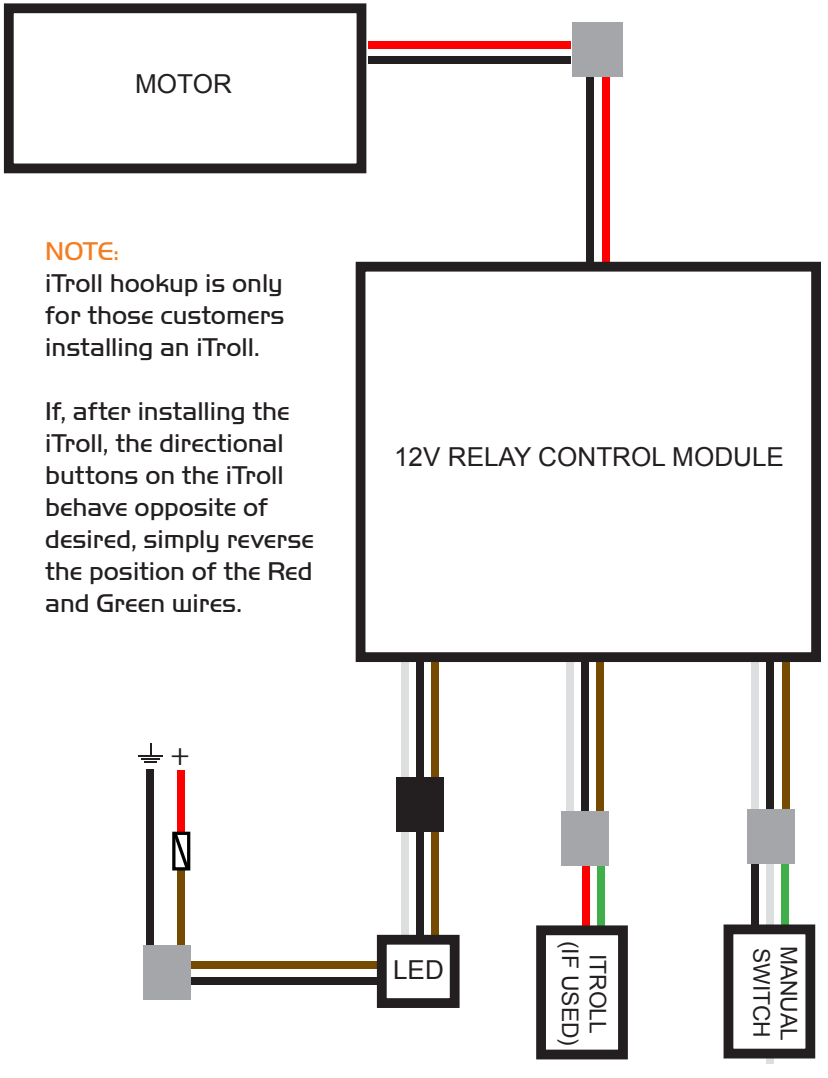
If the issue is not called out by the LED, there are a few more items to check:

- Ensure all electrical connections are properly engaged.
- Check all wires for damage and/or strain.
- Use a volt meter or multi-meter to test your battery. Please note, even if your battery is brand new, you should still check to ensure it is carrying a proper charge.

PROBLEM	POSSIBLE CAUSE	SOLUTION
System only turns one direction or does not turn at all	Motor and actuator shafts not fully engaged	Remove and reinstall the motor ensuring shafts remain engaged
	Linkage is causing stress to the actuator	Ensure linkage arm is parallel to the actuator
System makes grinding noise	Actuator not properly lubricated	Remove and re-grease actuator (see pg. 39)
Wireless remote not working	Remote battery dead	Replace remote battery
	Remote not synced with system	Sync remote with system (see pg. 36)
System turns more one way than the other and/or not turning lock-to-lock	Actuator not properly set	Follow steps 20-26 to set the actuator center-point, then install linkage
	Linkage mounting point incorrect	Adjust or reinstall the linkage mounting point, keeping it as close to the center of the outboard as possible

If your problem still persists, please contact Powrtran Customer Service at 1-800-466-7697.

WIRING DIAGRAM



NOTE:
iTroll hookup is only for those customers installing an iTroll.

If, after installing the iTroll, the directional buttons on the iTroll behave opposite of desired, simply reverse the position of the Red and Green wires.

You got steering, now how about throttle?

The iTroll allows you to set up a remote kicker control station anywhere in your boat. If you pair your TAILFIN with the iTroll, you can steer and control throttle right from the iTroll, while also using the TAILFIN's wireless remote to steer.

These two products were made for each other, and together, create the most accurate and customizable trolling experience on the market.

Industry-Exclusive Features:

- Fully-Submersible
- Unlockable Software Upgrades
- Can Control Main Motor As Well
- 1000 Throttle Positions
- 32 Character Display
- Backlit Display
- Neutral-Safety Feature
- Optional Hunt Mode For Programming Speed-Varying Patterns

WARRANTY

It is Customer's responsibility to make a careful inspection of the Product for evidence of loss or damage, both apparent and concealed. For loss or damage by motor freight, freight forwarders, railway express, rail or air shipments, secure a notation of any loss or damage on Customer's copy and on the carrier's copy of the delivery receipt, retain products and shipping containers, and call carrier immediately for an inspection and file a claim with the carrier.

To the extent that this order is covered by a prior written contract between the parties, it is accepted on the terms and conditions in that contract and the terms and conditions expressed herein are not intended to modify, change, or supersede such prior contract. To the extent that this order is not covered by such a contract, this instrument contains all of the terms and conditions with respect to the sale and purchase of the Products named herein. Manufacturer can change its applicable terms and conditions at any time unless otherwise explicitly stated on the face hereof or in an effective prior written contract. No modifications of these terms and conditions shall be of any force unless such modification shall be in writing and signed by the party claimed to be bound thereby. If any of the provisions of Customer's purchase order or other writings are in conflict with the terms and conditions of this document, the terms and conditions of this document shall govern. This sales agreement is not assignable or transferable by Customer, in whole or in part, except with the written consent of Manufacturer.

Manufacturer's liability as to delivery ceases upon making delivery of the Products purchased hereunder to carrier at shipping point in good condition. Title and risk of loss for the Products supplied hereunder will pass at the F.O.B. point specified in Manufacturer's applicable published price schedule for all Products shipped by Manufacturer. Title and risk of loss for all Products picked up by Customer at Manufacturer's designated shipping locations will pass to Customer at the point the Products are deposited by Manufacturer onto Customer's owned or leased equipment.

MANUFACTURER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO ITS PRODUCT, WHETHER AS MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER EXCEPT THAT ITS PRODUCTS WILL BE FREE FROM DEFECTS IN MATERIAL AND IN WORKMANSHIP AND WILL CONFORM TO THE SPECIFICATIONS THAT HAVE BEEN PUBLISHED IN WRITING BY MANUFACTURER AND MADE AVAILABLE TO CUSTOMER. THE CUSTOMER ASSUMES ALL RISKS OF LIABILITY WHATSOEVER RESULTING FROM THE USE OF MANUFACTURER'S PRODUCTS WHETHER USED SINGULARLY OR IN COMBINATION WITH OTHER ITEMS. MANUFACTURER'S LIABILITY FOR NONCONFORMING PRODUCTS IS EXCLUSIVELY LIMITED TO THE REPLACEMENT IN WHOLE OR IN PART OF THE DEFECTIVE PRODUCTS FOR A PERIOD OF TWO YEARS AFTER THE DATE OF SALE, PROVIDED THE CUSTOMER COMPLIES WITH MANUFACTURER'S CURRENT PUBLISHED RETURN POLICY. UNDER NO CIRCUMSTANCES SHALL MANUFACTURER BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. NOTWITHSTANDING ANY OF THE ABOVE TO THE CONTRARY, MANUFACTURER'S MAXIMUM LIABLE SHALL NOT EXCEED THE COST OF THE PRODUCT.

This warranty shall not apply to Products that have been repaired or altered by anyone other than Manufacturer. This Warranty shall not apply to any Products subject to misuse due to common negligence or accident, or any product which has been improperly installed.

Any oral statement concerning the Products inconsistent with this warranty shall be of no force or effect. The only warranties concerning the Products are made in writing by Manufacturer. The Customer may not rely upon any statement or representation concerning the Product made by any other person.

This Warranty is available to the Customer and is not transferable.

Customer shall examine any such Products for any damage, defect, or shortage. All claims for any cause whatsoever (whether such cause be based on contract, breach of warranty, negligence, strict liability, other tort, or otherwise) shall be deemed waived unless made in writing and received by Manufacturer within thirty days after Customer's receipt of such Products or before such Products are used, whichever shall occur first, or if such claim is for non-delivery of such Products, within thirty days after the date upon which such Products were to be delivered; provided that as to such claim not reasonably discoverable within such thirty-day period (including such claims discoverable only in processing, further manufacture, other use, or resale), such claim shall be made in writing and received by Manufacturer within 180 days after Customer's receipt of the Products. Failure of Manufacturer to receive written notice of any such claim within the applicable time period shall be deemed an absolute and unconditional waiver by Customer of such claim irrespective of whether the facts giving rise to such claim shall have been discovered or whether processing, further manufacture, other use, or other resale of the Products shall have taken place. Products sold under this Agreement shall not be returned without Manufacturer's permission and transportation charges for return shall not be paid by Manufacturer unless authorized in advance.

It is expressly understood that any technical advice furnished by Manufacturer with reference to the use of its Products is given gratis and Manufacturer assumes no obligation or liability for the advice given or results obtained. All such advice is given and accepted at Customer's risk.

The agreements between the Manufacturer and Customer were made and entered into by the parties in the State of Minnesota. In the event a dispute arises, said dispute shall be settled in the District Court, Stearns County, Minnesota. The agreement between Manufacturer and Customer shall be construed and interpreted according to the laws of the State of Minnesota.

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About Powrtran Inc

Powrtran has been providing the marine industry with high-quality performance accessories for over 30 years. Our growing portfolio of brands remain dedicated to providing electromechanical alternatives to existing market products as well as an eco-friendly approach to new ideas.

We are steadfast in our commitment to continuous innovation achieved through an active social ear and constantly inquisitive minds. As fishermen and boaters ourselves, we strive to create products that enhance the user's experience on the water while fostering the love of fishing and conservationism in the next generation.

Check out our website, www.powrtran.com, to see how we can

Elevate Your Boating Experience!

ABYC Boating Safety... Built In

AMERICAN SPORTFISHING ASSOCIATION

NMMA

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