CONDTIONS OF OPERATION

Adhering the Light Rail 5.0 Commercial Drive Motor assembly line will not be the old, new or improved. We subject first setting the delay to 30 sec- onds. Then after observing your growth you may want to change the length of the delay. A longer delay would accelerate more light on the ends and less in the middle. A shorter delay would be visa versa.

The first few weeks of operation will be the Drive Motors break-in period. The trolley wheels will turn gray as well as shed some nylon. The Drive Wheels O-Ring help spin faster, and it will too shed some skin. These are both normal conditions as the moving parts of the Drive Motor conform to their prospec- tive governs of the Rail.

Aftesr several weeks of operation you may notice a slight pause as the Drive Motor starts up after changing direction, this is normal. It is the D Hole of the modified Drive Wheel showing some wear and being up upon the Drive Motor’” shaft. Again this is normal and is a good thing as it will allow the Drive Wheel to self adjust upon the Motors’ shaft. As for the pause when the Drive motor changes direction, this also is normal and will reduce the load on the gear train while changing direction.

It is a good idea to use a timer on the Drive Motor. After all, the lamp need not be moving when the lights are out. This period of off time adds up, and will greatly reduce wear on the Drive Motor.

You should wipe the Rail off with a dry cloth from time to time. If clearing the rail becomes necessary use rubbing alcohol or window cleaner. Never use any petroleum or wax based substance on the rail or the rubber drive wheel.

If drive wheel slippage should ever become an issue, it is OK to clean the drive wheels rubber tires. Again use rubbing alcohol or window cleaner. Never use any petroleum or wax based substance on the rail or the rubber drive wheel.

LIGHT RAIL 5.0 LIMITED LIFETIME WARRANTY

A. Gualala Robotics Inc. warrants this Light Rail 5 Drive Motor to be free from defects in materials and workmanship for its usable lifetime. Gualala Robotics Inc. will repair or replace such product or part thereof, upon inspection by Gualala Robotics Inc., if found to be defective in materials or workman- ship. This lifetime warranty is limited to non serviceable items only and does not include drive and trolley wheels. As a condition to the obligation of Gualala Robotics Inc. to repair or replace such product, the product must be returned to Gualala Robotics Inc. together with proof-of-purchase satisfactory to Gualala Robotics Inc. This warranty is non transferable.

B. The Proper Return Authorization Number must be obtained from Gualala Robotics Inc. in advance of return. Call Gualala Robotics Inc. at 303 861 1266 to receive the Return Authorization Number to be displayed on the outside of your shipping container.

You must send your dated sales receipt along with a written statement setting forth the address, and daytime telephone number of the owner, together with a brief description of any claimed defects and the drive unit to Gualala Robotics, Inc., 14704 East 33rd Place, Unit H, Aurora, CO 80011. You must pay shipping to the factory. After repair or replacement of your drive unit, Gualala Robotics will ship it back at no charge. Parts or product for which replacement is made shall become the property of Gualala Robotics Inc.

Gualala Robotics Inc. shall use reasonable efforts to repair or replace any Light Rail 5 Drive Motor covered by this limited warranty within fifteen days of receipt. In the event repair or replacement shall require more than fifteen days, Gualala Robotics Inc. shall notify the customer accordingly. Gualala Robotics Inc. reserves the right to replace any product which has been discontinue from its product line with a new product of comparable value and function. This warranty shall be void and of no force of effect in the event a covered product has been modified in design or function, or subjected to abuse, misuse, mishandling or unauthorized repair. Further, product malfunction or deterioration due to normal wear is not covered by this warranty. Gualala Robotics Inc. disclaims any warranties, express or implied, whether of merchantability of fitness for a particular use, except as expressly set forth herein. The sole obligation of Gualala Robotics Inc. under this limited warranty shall be to repair or replace the covered product, in accordance with the terms set forth herein. Gualala Robotics Inc. expressly disclaims any lost prof- its, general, special, indirect or consequential damages which may result from breach of any warranty, or arising out of the use or inability to use any Gualala Robotics Inc. product. Any warranties which are implied and which cannot be disclaimed shall be limited in duration to a term of one year from the date of original retail purchase.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Gualala Robotics Inc. reserves the right to modify or discontinue, without prior notice to you, any model or style Light Rail 5 Drive Motor. If warranty problems arise, or if you need assistance in using your Light Rail 5 Drive Motor contact:

Gualala Robotics Inc.
14704 East 33rd Place
Unit H
Aurora CO 80011

NOTE: This warranty is valid to the U.S.A. and Canadian customers who have purchased this product from an Authorized-Gualala Robotics Inc. Dealer in the U.S.A. or Canada. Warranty outside the U.S.A. and Canada is valid only to customers purchased from a Gualala Robotics Inc. International Distributor or Authorized Gualala Robotics Inc. Dealer in the specific country and please contact them for any warranty service.

*TMDPATENTED

REPLACEMENT PARTS

Like all moving mechanical objects, parts wear out, i.e. your new car will need new brakes and tires someday. At some point in time your Drive Motor will need some parts as well. As not all Light Rail 5.0 Drive Motors manufacturers stocks these parts, you may want to order them today, so you will have them on hand when need- ed.

Gualala Robotics Inc., offers a refurbish kit for sale direct from the factory. It contains one (1) DRIVE WHEEL ASSEMBLY as well as one (1) TROLLEY WHEEL KIT with FASTENERS. This refurbish kit sells for $26.95. If you are interested in obtaining this refurbish kit, simply fill out the form below and send it and a money order payable to Gualala Robotics. We will fill your order promptly. Sorry, no C.O.D. or checks; credit card orders should visit www.lightrail5.com

Gualala Robotics Inc., offers refurbish services for non-warranty drive motors and a range of refurbished motors and part kits at www.lightrail5.com. If you have an older Light Rail 3 or 3.5 and it is not working or not working to expected standards. Go to www.lightrail5.com for details about how you can get your older Light Rail 3.5 Drive Motor refurbished at the factory or upgraded into a Light Rail 4.0.

REPLACEMENT PARTS ORDER FORM

Please send me ______ Refurbish Kit(s) @ $26.95 (U.S. dollars) each. Included is my money order payable to Gualala Robotics.

NAME

ADDRESS

CITY

STATE

ZIP

This warranty is non transferable.

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Light Rail 5
Installation Instructions

As you hang the first light, the unit will become very unbalanced and tip to one side. Don’t worry about it, just be careful, it will even out when you hang the second light. Or if another person is available, they can hold the opposite end while you hang the first light. We do not recommend trying to hang both lights simultaneously. We’ve tried. It does not work very well.

Ridged mounting lights to the cross bar is not recommended. Many horizontal reflectors incorporate wire vee hooks. We recommend using them or use chains and hooks to allow for lamp height adjustment.

Running the cords can be a cumbersome task. It is important that the Drive Motor can travel its full distance to both ends without restriction from the cords.

Some say it is best to bring the cords in from the side rather than bringing them in from the end. After bundling the cords together, run the system down to both ends to find the correct fastening point of the cords. Then fasten them to the ceiling or the wall leaving enough slack so the Drive Motor can travel its full distance to both ends without restriction.

Things to check before operation.

1. Straight, level and secure rail mounting is essential for both safety and operation. Please be sure of this.
2. Make sure the switch stop eye screws are tight and make contact with the Drive Motors switch actuator.
3. Be sure the lamps are hung securely from the crossbar.
4. If the cross bar is not level, you can adjust the wing nuts to help level the bar.
5. Be sure the Drive Motor can travel its full distance to both ends without restriction from the cords.
6. Be sure the yellow tag and wire tie have been removed from the Drive Motor.
**STEP FOUR: INSTALLING THE CROSS BAR**

*Tools you will need:* 7/16" wrench, Pliers

**Start** by inserting the 2 cross bar ends into the cross bar splint.

**Next** align the holes in the cross bar splint with the holes in the cross bar. There are 3 holes in each side of the splint to accommodate different cross bar widths. You must use the same holes in each side so the cross bar ends span an equal distance from the center of the splint. (fig. 4-1)

**After** inserting the 2 cross bar ends into the cross bar splint secure them using the 2 - 1/4" x 1 1/2" Crossbar to Splint Screws and 2 of the 1/4" Hex Nuts. (fig. 4-2)

**Next** install the 4 - Lamp Hanging eye screws with the remaining 1/4" Hex Nuts (fig 4-3). There are two sets of holes on each end to accommodate different light widths. Also, as in the Light Rail 5 logo you can see the cross bar ends are bent. If you have a particularly high ceiling you may want to hang the crossbar with the bends down opposite the logo. This you will need to decide so the 1/4" eye screws are mounted facing the right way.

**Now** that the cross bar is assembled it can be mounted to the Drive Motor. Locate the two holes in the center of the cross bar splint. Slide them over the two 1/4" screws protruding from the bottom of the Drive Motor and fasten it using the 2 - 1/4" Wing nuts fig 4-4. Be sure to tighten the wing nuts until the 1/4" screws on the bottom of the drive motor begin to protrude from the bottom of the wing nuts. (fig. 4-4)

**STEP ONE: RAIL ASSEMBLY**

*Tools you will need:* Phillips head screwdriver

**Start** by matching ends of rail halves with arrows. While making sure the alignment pins line up with their corresponding holes, push the two rail halves together (Fig 1-1); if needed you can tamp the rail end on the floor to assist in pushing the rail halves all the way together (Fig 1-2).

**Next** insert one slide nut in the slide nut channel on each side of the rail. Push them towards the middle until they cover the joint where the 2 rail halves meet. (Fig 1-3)

**Last** slide the rail coupler over the top of the rail and start each of the 4 - #10 machine screws into the threaded holes in the slide nuts (Fig 1-4). Tighten them just until they are snug, then stand the rail on its end and torque the screws tight while pushing down on the rail. (Fig 1-5)
**NOTE:** if you are mounting to a finished ceiling you must locate the joist beneath the drywall and mount to it. Never mount rail hanging brackets into drywall only. Also, we do not recommend using drywall anchors for mounting into drywall material. In addition, if you are mounting to joist under drywall you must use screws longer than the ones provided.

You will be using the 3 rail hanging brackets, 6 slide nuts and 6-#10 machine screws to hang the rail. Refer to diagram A for the rail hanging bracket locations.

**STEP TWO: HANGING YOUR RAIL**

Tools you will need: Tape measure, chalk line or string, drill, phillips driver bit & 1/8” drill bit.

**Warning:** straight, level and secure rail mounting is essential for both safety and operation. Mounting the rail should be done by a capable person. If you do not think you're capable, hire a carpenter or ask a friend who is one.

**NOTE:** if you are mounting to a finished ceiling you must locate the joist beneath the drywall and mount to it. Never mount rail hanging brackets into drywall only. Also, we do not recommend using drywall anchors for mounting into drywall material. In addition, if you are mounting to joist under drywall you must use screws longer than the ones provided.

It may be best to mount the assembled rail to a board and then mount that assembly above your garden, a good wood for this method is 1”x 6”x 10 foot Pine or Cedar. Either can be found at your local lumber store in ten foot lengths.

![Diagram A](https://example.com/diagramA.png)

**Rail Hanging Brackets**

You will be using the 3 rail hanging brackets, 6 slide nuts and 6-#10 machine screws to hang the rail. Refer to diagram A for the rail hanging bracket locations.

If you will be mounting the rail in line on a ceiling joist, the rail will need to be hung after the board is mounted to the joist. However it is easier to first mount the rail hanging brackets to the board.

**Before** mounting the rail to the rail hanging brackets, slide the remaining 8 slide nuts into the slide nut channel on the rail. 4 on each side, 2 from either end as the slide nuts can not pass by the middle of the rail because of the coupler.

Then, slide the rail into the rail hanging brackets and fasten them to the slide nuts closest to the ends as well as the slide nuts that line up with the center rail hanging bracket using the remaining #10 machine screws. When you're finished hanging the rail it must be mounted by one bracket on each end and one bracket in the middle near the coupler. Additionally there should be 1 unused slide nut on each side of the rail, either left or right of the coupler. These can be used for adjustable switch stops if desired. (Fig.2-1 and 2-2)

**STEP THREE: INSTALLING DRIVE MOTOR AND SWITCH STOPS**

**IMPORTANT:** You must allow the Drive motor to drive itself onto the rail, as it is impossible to push the drive motor onto the rail.

Start by plugging the Drive motor into its rated (check drive motor label) VAC power source.

**Next** pay close attention to the Drive Motors drive wheel assembly located in the center of the Drive Motor (fig. 3-1) With the motor running and the switch actuator in the forward position, line the small white trolley wheels up with the corresponding square channel in the center of the rail. Gently push the drive wheel assembly towards the rail and it should drive itself onto the rail (fig 3-1). If it won’t drive itself onto the rail, check that the switch actuator is in the forward position, (pushed towards the rail)

Now that the drive motor has driven itself onto the rail, unplug it and install the switch stop eye screws. If you would like the drive motor to travel the full length of the rail, install them in the remaining slide nut screw holes next to the rail hanging brackets at the ends of the rail. If you desire a shorter travel distance you can use the remaining unused slide nuts installed before you hung the rail (Fig 2-1 and 2-2) and slide them to any desired location. Make sure you install the switch stop eye screws on the same side of the rail as the switch actuator on the Drive Motor, and tighten them until the eye of the screw is vertical so the switch actuator will make contact (Fig 3-2).