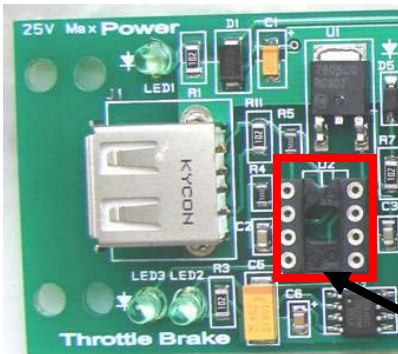




Linear 200 Control Chip Installation Instructions



Introduction

Linear 200 controllers feature a control chip that can be replaced by the user to modify the controller's throttle and/or braking characteristics. The chip is installed in a socket on the controller's transistor power module and can be replaced using common hand tools. No soldering is required

Tools You Will Need

- Small flat bladed screwdriver
- Xacto knife

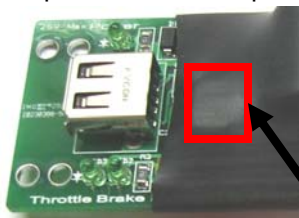
Control chip socket

Before You Begin—A Few Words on Anti-Static Protection

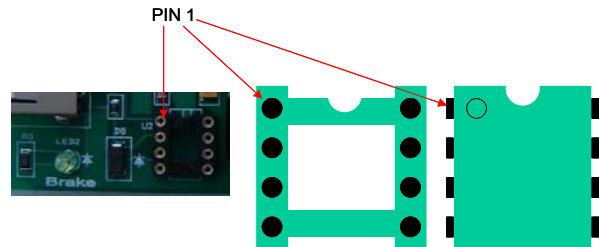
The control chip and other integrated circuits on the board can be damaged by static discharge. However, with a few simple precautions the risk of damage is greatly minimized. The single most effective precaution is to ground yourself before handling the control chip and cutting the protective shrink wrap insulation on the transistor module. You can ground yourself by touching a metal pipe or conduit...or even the case of your plugged in power supply. Then, sit or stand at your workbench or table and complete the chip replacement without walking around, rubbing your feet on the carpet, etc.

Step 1. Accessing the Control Chip

The control chip is located on the board near the USB connector. Using a sharp Xacto knife (or similar) carefully cut a hole around the chip, exposing the chip and its socket. When you remove the insulation, note the orientation of the chip in its socket. Both the socket and the chip have a very small notch on one end to indicate the correct orientation. Additionally, the chip has a small dimple on it to identify PIN 1.

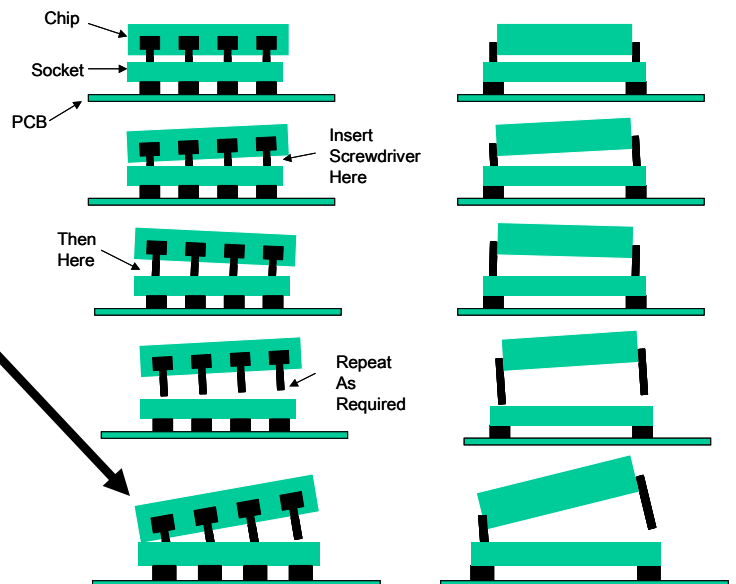


Cut here



Step 2. Removing the Control Chip

Slip the flat bladed screwdriver between the chip and socket at one end. Gently rotate the screwdriver slightly clockwise, then counter-clockwise to begin prying the chip from its socket. Alternate this action from each end so the chip rises out level. Holding the chip with one hand while prying with the other will help keep it level. Be sure that it remains level both front-to-back and side-to-side.



DON'T DO THIS!

What you don't want to do is get the chip cocked in the socket. If it starts to get cocked, push down gently on the chip and start over. If the pins come completely out of the socket, don't panic. Grab the chip with one hand and slowly work the remaining pins out of the socket. The pins are made of soft metal and you can often straighten them out without breaking them off.

Learn more about the JayGee Racing Linear 200 controllers at www.jaygeeracing.com

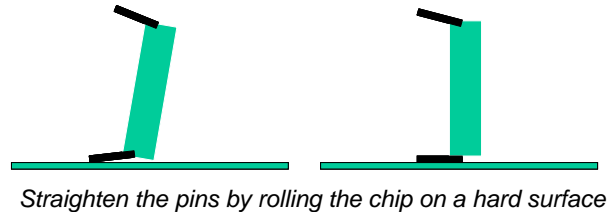
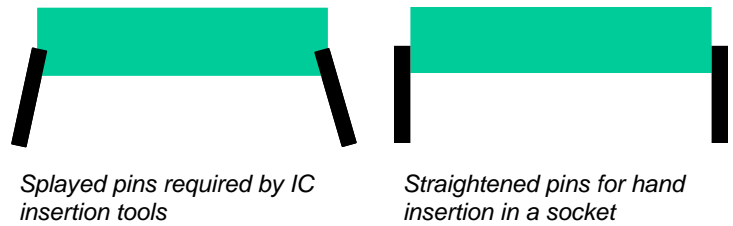


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Step 3. Adjusting the Chip's Pins for Installation

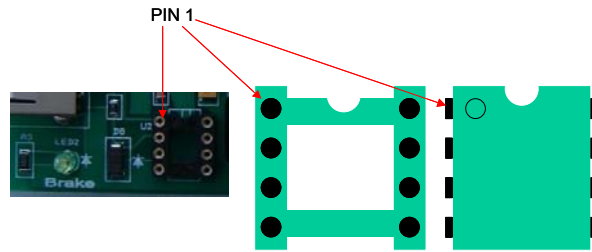
When delivered from the factory, the chip's pins are bent outward slightly. Automated pick and place machines and other integrated circuit insertion tools used during PCB manufacturing rely on this bend to grab the chip properly. This bend must be eliminated when inserting the chip by hand.

Rather than use pliers for this, you can place the chip on a hard surface and gently "roll" it so that all the pins are straightened the same amount. Performing this action on both sides will make the pins parallel to each other. The chip can now be easily installed in the socket.



Step 4. Installing the Control Chip

Insert the control chip in its socket. Both the socket and the chip have a very small notch on one end to indicate the correct orientation. Additionally, the chip has a small dimple on it to identify PIN 1.



A word on frequent control chip changes

If you are going to frequently swap control chips, you may wish to consider purchasing another transistor module to minimize the chances of damaging the chip's pins or damaging the board by static electricity. However if you choose not to, be aware that the board is not warranted against damage from static electricity, nor is the chip warranted against damage from static electricity or bent leads.

Technical Support

JayGee Racing Linear 200 controllers are designed, serviced and manufactured in the United States. Jeff Goldberg, the Linear 200's designer and owner of JayGee Racing, can be reached by email at jeff@jaygeeracing.com or through our website. The most up-to-date technical information and replacement component information will be found the website's Tech Info page.

Learn more about the JayGee Racing Linear 200 controllers at www.jaygeeracing.com