



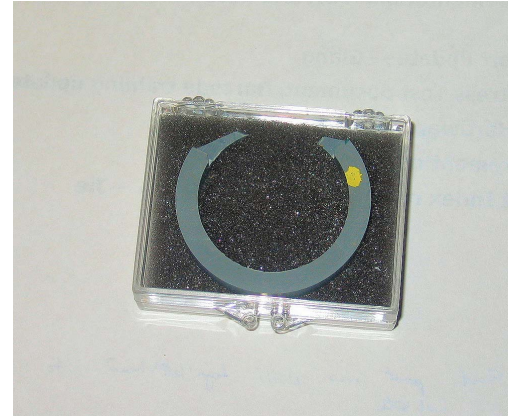
## $\frac{1}{5}$ & $\frac{1}{5.5}$ Suzuki Throttle Insert – Installation Instructions

Thank you for purchasing the  $\frac{1}{5}$  or  $\frac{1}{5.5}$  Suzuki throttle insert!

This custom-made insert will decrease the amount that you have to twist the throttle grip on your Suzuki motorcycle in order to reach full throttle, translating into much quicker throttle response and acceleration.

- A typical throttle grip twists  $\frac{1}{4}$  ( $90^\circ$ ) to reach full throttle
- $\frac{1}{5}$  ( $72^\circ$ ) insert reduces the amount of twisting by 20%
- $\frac{1}{5.5}$  ( $65^\circ$ ) insert reduces the amount of twisting by 27%

Since this product significantly increases throttle response, the rider must exercise finer and smoother throttle control. Exercise caution during initial operation.



### Compatibility:

This  $\frac{1}{5}$  or  $\frac{1}{5.5}$  insert will fit the following Suzuki motorcycles with throttle tube #57110-46E01:

- TL1000: TL1000R and TL1000S (all model years)
- SV650: SV650 (99-05), SV650s (99-05)
- Hayabusa: GSX-1300R (99-05) and GSX-1300RZ (02-04)
- Bandit: GSF600s (96-03), GSF1200sa (97), GSF1200s (97-04), GSF1200 (01-04)
- Katana: GSX600F (98-04), GSX750F (98-04)
- GSX-R: GSX-R600 (97-03), GSX-R600z (03), GSX-R750 (96-03), GSX-R1000 (01-04), GSX-R1000z (04), GSX-R1100w (93-98)

These instructions describe how to install either the  $\frac{1}{5}$  or  $\frac{1}{5.5}$  throttle insert on a 2003 Suzuki TL1000R. Parts on other motorcycles (listed above) may be slightly different than shown here.

### Tools Required:

- Phillips screwdriver (stubby preferred)
- Strong side cutters or bolt cutters
- Small flat-blade screwdriver
- Mini tubing cutter  
(available from hardware or plumbing supply stores)



1. Locate the cable tensioners for the 2 throttle cables leading to the throttle housing. Measure the amount of adjustment on each adjuster so you have a rough idea of how much to re-adjust them after installation.
2. Slacken both cable tensioners on the throttle cables but first loosening the large lock ring and then loosening the cones.

The slackened cables should give you some working space for disassembly.

*Alternatively:*

If you undo the pinch bolts for the front brake lever/master cylinder assembly. This should give you enough cable length without having to release the cable adjusters by the throttle bodies.



3. Remove your bar end weight from the right side clip-on.

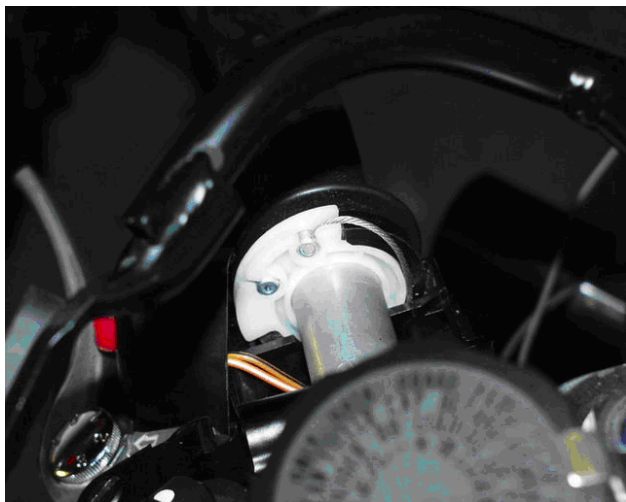
4. Take apart your throttle housing by removing the 3 Phillips head screws in the bottom of the lower housing.

The 2 screws in opposite corners hold the housing together; the 3<sup>rd</sup> screw between the cables holds the cable guide plate.



5. Slip the cable ends out of their holes in the white plastic throttle tube.

This should be easy with the cable tensioners backed off, but may require a small flat-blade screwdriver to push the cable ends out.



6. With the cables removed from the throttle tube, slide the throttle tube off the clip-on.
7. Clean the inside of the throttle tube and the surface of the clip-on, and lube it with a light lubricant (for example, WD40®) when you put everything back together. (See step 14.)

The throttle insert increases throttle speed but also increases the torque needed to return the throttle to idle. Sometimes the throttle body spring isn't strong enough to return the throttle to idle when the clip-on and throttle tube is very dirty. After lubing mine with WD40® I didn't have any problems.



8. Now you need to trim the end of the cable guide tube on the **forward cable**. The tip of the forward cable guide tube protrudes into the area where the throttle insert will be when installed.

You DO NOT need to trim the end of the cable guide tube for the rearward cable.

**USE A MINI TUBING CUTTER to trim the end of the cable housing tube.**

**DO NOT use a hacksaw to trim the cable housing tube. Even a very small nick on the cable will start the failure process so use a tubing cutter... YOU HAVE BEEN WARNED!**

**BEFORE**



**AFTER**



9. Use the mini tubing cutter to cut  $\frac{1}{4} - \frac{3}{8}$ " from the end of the forward cable guide tube.

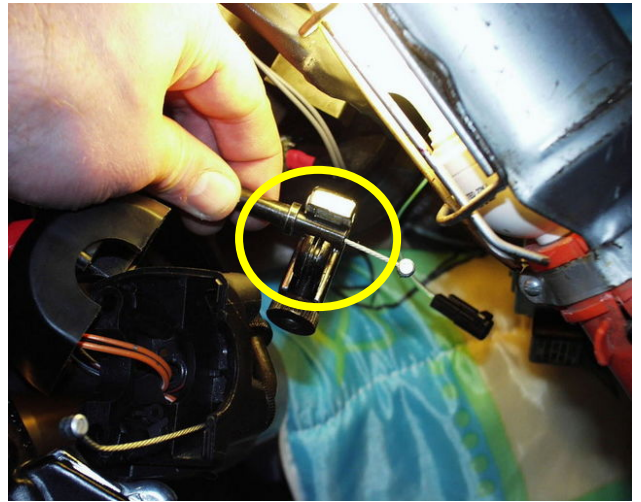
You may cut the end off the tube in one or two cuts; cutting off two smaller sections may be easier to remove than one larger section. (See step 10.)

When you cut through the throttle guide tube, the cut piece will break off like this.

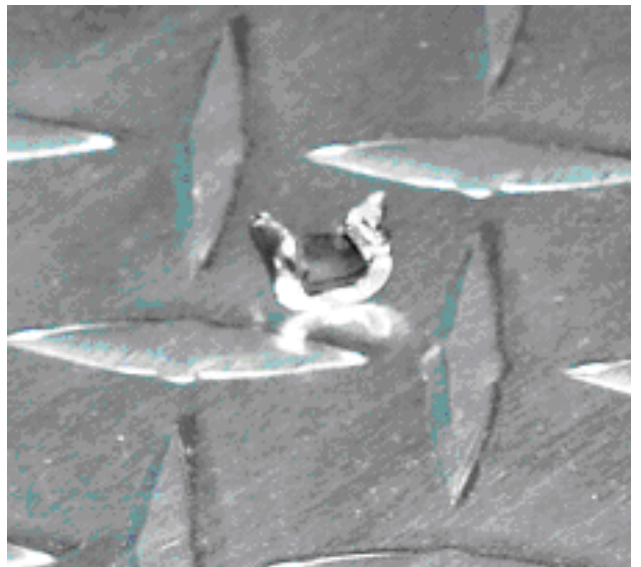
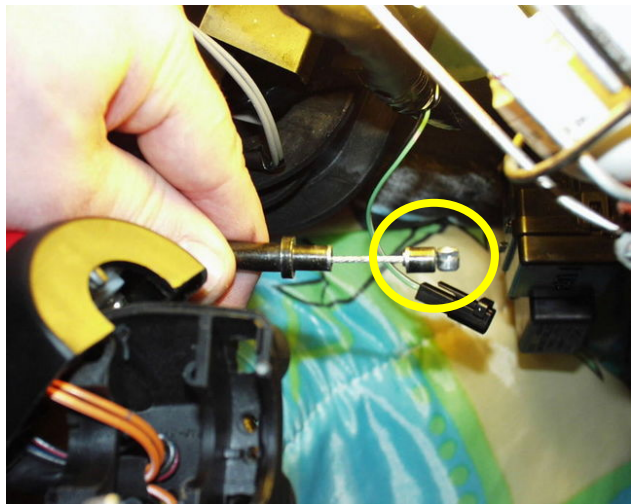
10. Use side cutters or bolt cutters to CAREFULLY cut off the excess piece of tube.

**Be sure you do not nick the cable!  
Even a very small nick on the cable will start the failure process.**

### **CUTTING**



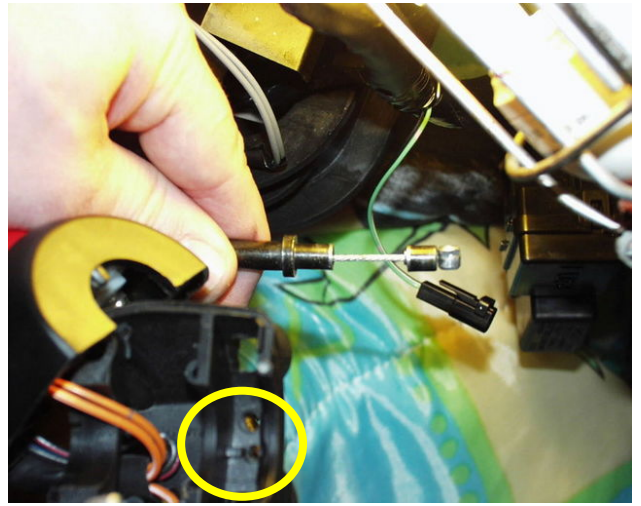
### **FINISHED**



11. There is a small tab molded into the inside of the lower throttle housing where the throttle tube sits (see indicated).

You must remove this tab or the throttle tube will rub against it and bind when the insert is installed.

Use a Dremel tool, side cutters, or knife to carefully remove the tab.



12. Reinstall the cables into the lower housing.

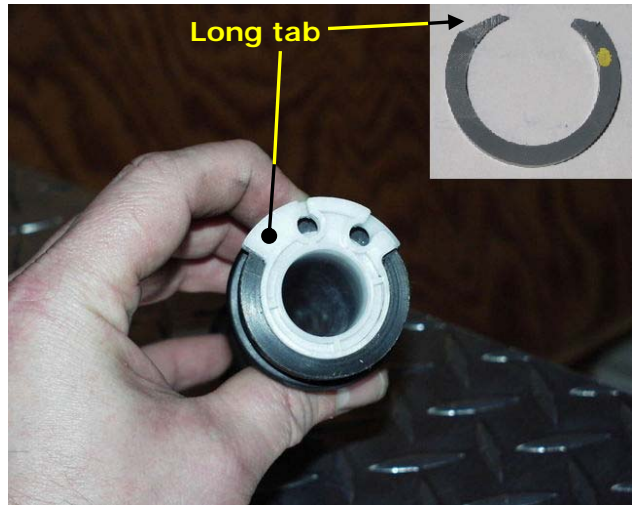
You can now see that you have plenty of room for the throttle insert to fit.



13. Install the insert on the plastic throttle tube.

- Slip the long tab of the insert into the long side of the throttle tube.
- Pull the insert open a little bit and then slip the shorter tab into the other side of the throttle tube.

Look at the cable holes in the throttle tube. The ends of the insert should NOT show in the holes. If you can see part of the insert in the holes, trim the insert with a knife as required.



14. Time to reinstall the cables in the throttle tube!

- Lube the throttle tube and clip-on, and then slip the throttle tube onto the clip-on. (See step 7.)
- Place the lower housing over the end of the throttle tube, and hold the housing against the clip-on.
- Slip the end of the forward cable into the forward hole of the throttle tube.

- Twist the throttle tube open slightly, and then slip the end of the rear cable into the rear hole of the throttle tube.

*HINT:*

When inserting the cable ends in the throttle tube, let the cable slip off the new throttle insert. There should be enough slack to get it in if you don't have the cable over the insert.



15. Slowly roll the throttle tube and the cables should slip over top of the insert. Give them a slight nudge if necessary.



16. Place the upper throttle housing over the assembly.

Make sure the small tab in the upper housing fits into the hole in the clip-on (indicated).



17. Squeeze the upper and lower housings together by hand and move them around until properly seated.

Give the throttle a few test twists. If something is wrong you will feel it before you break something or get it all back together and have to take it apart again. If you don't and install the two screws, nothing will fit and you will crush the little tab.

18. Put in the two remaining screws, long one in front, short one in rear, and then tighten. Keep twisting the throttle and making sure nothing is binding or hanging up. Make sure not to pinch the kill switch wires up against the insert.

19. Re-tighten the cable adjustments but NOT TOO TIGHT!

You just want to take the play out of the throttle. I initially tightened them too much and the throttle wouldn't spring return to idle.

**Now that the screws are back in and tight and the throttle operates freely you are ready to rock 'n roll with your new  $1/5$  or  $1/5.5$  throttle!**

**Just be careful out there... this will unleash the beast!**

*Double Z Racing*

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