

## **Internal Throttle: Installation Instructions**

1. Cut the right hand end of your handlebars at the exact point you want your grip to 'start'.

2. Installing the handlebar insert into the bars:

The handlebar insert needs to be firmly, or even permanently installed in the end of your bars. This can be achieved by welding, adhesives (Epoxy/Loctite), or the simple use of the set-screw that will be required to secure the outer cable anchor in place. Our handlebar insert should be a snug sliding fit in the bore of the stock 1" handlebars, but the fit inside custom bars may vary. If you choose to weld the handlebar insert in place, then drill a couple of 0.25" holes approximately 1" from the cut end of the handlebar. Drill a clearance hole (about 13/64") for the 10.32 set-screw for the outer cable anchor exactly 1.4" from the end of bars, ideally on the underside, where it will not be seen. Slide the non-slotted end of the handlebar insert into the bars until the shoulder is against the end of the bars, and line up the clearance hole in the bars with one of the threaded holes in the end of the insert. Now weld up the 0.25" holes in the bars effectively welding the handlebar insert to the bars. The set screw for the outer cable anchor should be able to be screwed freely into the handlebar insert, if you aligned the holes correctly before welding.

If you are going to use adhesives, or just the set-screw to anchor your bars, then slide the non-slotted end of the handlebar insert into the bars until the shoulder is against the end of the bars, after cleaning and applying your adhesive. Then using a #20 drill-bit, drill a hole exactly 1.4" from the cut edge of the bars all the way through the bars and insert. Position this hole at about 90 degrees from the slot in the handlebar insert to avoid overlapping the existing tapped holes in the insert (these holes will not be used). Use a 10.32 tap to tap all the way through the bars and the insert. Screw the set-screw for the handlebar insert into this hole until the end of the set-screw is nearly protruding into the bore of the handlebar insert. This will prevent the handlebar insert from moving its position in the end of the bars. Use a round file to remove any burrs from the inside of the handlebar insert, and ensure the outer cable anchor can slide freely all the way to the snap-ring that is pre-installed in the end of the handlebar insert. (This snap-ring prevents the outer cable anchor from falling into the bore of the bars. You may choose not to use it if you wish.)

3. If there is not already an exit in the underside of your bars between the risers, you will need to drill a hole, or create a slot for the throttle cable to exit the bars.

4. Thread the outer throttle cable down through the bars, entering at the handlebar insert and exiting between the risers at the bottom of the bars. Route the outer cable appropriately and cut it to the required length. The smoother the routing of the outer cable, the smoother the function of your throttle will be. You will now have one end of the outer cable protruding from the end of the bars and the other end near your carburetor.

5. The inner cable needs to have the correct fitting at the lower end to suit your carburetor, and it needs to be long enough. The upper end of the throttle cable is crimped in the slide barrel of the assembly, so it does not require fitting. There will be no cable adjuster at the handlebar end of the assembly, so we recommend using a cable adjuster either at the carburetor or in-line mid cable. Lube the inner cable and thread it up through the outer cable from the carburetor end. Set your adjuster at the middle of its range. Measure the amount of inner cable that will need to be exposed at the carburetor end when the cable is hooked up to the carb. Pull the inner cable as far as possible out of the outer cable at the handlebar end. Slide the outer cable anchor onto the inner cable and then slide on the inner cable crush sleeve. Cut off the excess inner cable so that the amount of exposed inner cable between the outer cable anchor and the crush sleeve is equivalent to the amount required at the carburetor end. Now position the slide barrel all the way over the crush sleeve and crimp down tightly on the crush sleeve with the two set-screws. The slide barrel should now be firmly attached to the upper end of the inner cable.

6. Put some light grease on the slide barrel. Slide the outer cable anchor and slide barrel into the bore of the handlebar insert until the outer cable anchor is against the snap-ring. The groove around the outer cable anchor will now line up with the 10.32 threaded hole in the underside of your bars. Put a little Blue Loctite on the set-screw and screw it all the way in to anchor the outer cable anchor. Rotate the slide barrel inside the handlebar insert until the bearing-and-pin assembly can be pushed into place.

7. Connect the lower end of the cable to the carb and set the adjuster so there is about 1/16" of free-play when the outer cable is pulled by hand.

8. Apply some light grease to the handlebar insert and slide the twist sleeve into position. Screw in the end cap and check for smooth throttle action. Install the grip and the installation is complete.

\*Please note that our 'standard' twist sleeve is the same diameter as the stock nylon throttle sleeve, but most billet grips are made incorporating a throttle sleeve. We do offer a reduced-diameter twist-sleeve that may be more appropriate for use with some billet grips.