

Toomey Racing USA

TR6

TR-6 Racing Pipe Kit

TR6K



Our Complete Standard Racing Pipe Kit

Installation Instructions

Inside this box you will find:

- One each R & L TR-6 Pipe bodies
- One each R & L TR-6 Stinger tubes with rubber mounts
- One each R & L Aluminum Silencers with rubber mounts

One Sealed bag containing;

- Our Perfect Jetting Kit with special needles and main jets
- Two silicone rubber pipe seals.
- 12 Snap-In Airbox Vents
- Two-Stage High Flow Foam Air-Filter
- These Installation Instructions
- One package of Toomey Racing Stickers

If any parts are missing, call your dealer at once!

We certify all these parts are included when the bag is sealed, and we do not leave anything out.

You will need the following tools to install your pipe kit;

1. 12mm socket wrench for the pipe mounts
2. 10mm socket wrench for the fender mounts
3. #2 Phillips screwdriver (fenders and carb)
4. #1 Phillips screwdriver for the carb slide needle holder screws
5. 6mm wrench (or socket wrench for the Main Jet)
6. Pipe Spring hook
7. 5mm Allen wrench for the silencer bolts
8. One-inch hole saw for the airbox holes
9. deburring tool for the airbox holes

Step #1: Stock Pipe Removal

Remove the entire rear fender for access. Remove the front fender support bolts on each side. Pull all four springs holding the pipes to the engine and the spring that ties the pipes together. Loosen the 2 hose clamps that hold the rubber joints to the middle curved stinger tubes, (above the carbs).

Remove the stock mufflers. Each of them is held with three bolts. Remove the short stinger tube on either side of the cylinders. (Save the black and the orange tubular rubber pipe seals because you can use them on the new pipes at the pipe to stinger joint just above the carburetors.) We supply green fabric re-enforced silicone pipe seals with your pipe, which are a much better fit, but the stock ones can be used as well, with no problem.

Now you can remove the lower bolt on top of the stock pipe that holds it to the stock rubber mount. Now is also a good time to loosen the upper bolt on this rubber mount and swing the mount forward 90 degrees and just lightly snug it down for now. Take off the stock pipes and clean off the cylinder spud on which the head pipe flange fits.

Step #2: Reverse the Radiator Hose

Obtain a clean drain pan to catch the coolant that will drain out of the system while performing this next part. Be SURE to pour the drained coolant BACK into the radiator when finished, and top off with clean coolant or water. No air shall be in the system when finished.

Now, look at your lower radiator return hose that runs between the stock pipes, from the bottom of the radiator to the water pump area on the right engine cover.

There is a spring (heat shield) wrapped around the hose from about midway, going up to the radiator. It is held in place by a rubber washer glued on the hose at the back of the spring.

A simple solution for the fit of this hose and our pipe, is to simply reverse the hose's installation, end for end, it seems to fit much better that way, and the heat shield spring will then be next to the TR6 pipe, where it will do some good. Rotate the hose to the best position, (not touching the pipe) and tighten gently.

It's pretty safe to say, that if it's covered by the spring, you won't have any problems. If necessary, you could ty-rop the hose to the frame tube to hold it in position more securely, away from the right exhaust pipe. Any small air gap is sufficient. Just make sure it doesn't touch the hot pipe!

Step #3: Install the Uni-Vents in the Stock Air Box

First, wash your bike really well, especially around the carbs. When you remove them, you don't want dirt getting in the engine or the carbs. Second, blow it off, or wait for it to dry, you don't want any water in the engine or carbs either!

DO NOT SMOKE OR HAVE ANY SOURCE OF SPARK OR FLAME ANYWHERE NEAR YOUR BIKE OR WORK AREA. YOU WILL BE HANDLING RAW FUEL, AND THE DANGER OF FIRE IS GREAT! ALSO, WORK ONLY IN A WELL VENTILATED AREA AS FUEL FUMES ARE TOXIC.

Turn off the fuel petcock and disconnect all the hoses and fuel lines. Loosen the clamp on the rubber intake manifold, at the front of the carb, and the clamp connecting the carb to the airbox.

Unscrew the carb top and pull out the slide and needle assembly. Now you can remove the carb body from the engine. Watch out for the short black rubber hose that connects the two carbs. This is the tube that communicates the choke from the left carb (the only carb with a choke) to the right carb so the engine will see a choked mixture in both cylinders.

Take them over to your nice clean workbench. We will work on them in just a minute. Be sure to cover the open intake manifolds with a rag so they won't get any dirt inside.

After removing the two bolts at the top and back of the airbox, push it forward off of the front mounting pins. It will come out if you twist it 90 degrees, and go out the right side of the bike.

Remove the radiator overflow bottle and re-route the hose down to the ground, loosely tying it to the steering stem, Cut it off about 2" below the frame tubes. It is ONLY a catch bottle, not a recalculating system.

Using a one-inch diameter hole saw, (available at most hardware stores) drill no less than 12 holes in the airbox.. We suggest 2 holes at the rear of the box cover right on top, side by side.

We like 6 holes in two rows of three each vertically down the back-center of the lower half of the airbox.

Two more, one over the other, on the left side, all the way at the back of the box but still on the side, and the same on the right side rear of the box on that nice flat area.

Be sure to de-bur (remove any flashing) the cut holes. Any left-over flash on the edge of the holes might prevent the Uni-Vents from seating properly. Then just push the filtered vents in the holes. They just snap in.



Please remove your Snorkel from the front of the airbox lid, as we won't be needing that anymore.

Step #4 Installation of the 2-stage foam Uni-Filter

This part is really simple because the 2-stage Uni-Filter is a replacement for the stock foam filter, and installation is the same as for the stock unit. Be sure to use foam filter oil on the new filter as it does not come pre-oiled.

Also, be sure to use a small amount of grease on the foam front seal of the filter frame to insure a good seal and fit.

Since you have your airbox off now, let's do the carbs.

Step #5: Installing the Jet Kit

We think it is best to do the carb re-jetting part now, while the pipes are off because it makes it easier to get to the carbs.

First a Tech-Note about our jet kits:

For those of you who may wonder, our jet kits are THE most accurate jetting combination possible for this pipe kit. That is why we include it. If we could have used any of the stock parts, we certainly would have. The truth is, the stock parts are simply WRONG no matter how you adjust them.

WE have the special technology by which we can precisely determine the exact fuel needs at all throttle positions, and loads, for exactly the following equipment combination;

- *The Toomey Racing TR-6 Pipes
- *Toomey Racing Silencers <and/or spark arrestors>,
- *Stock carburetors,
- *Standard or Boyesen Reeds on the stock reed block,
- *Boyesen RAD-Valves or V-Force Delta
- *Standard engine and cylinders.

If you have any other parts, or a highly modified engine, or you want to use, different silencers or carbs, these jets might not fit or be accurate and we couldn't possibly be responsible for the results. Not to mention your power could be down.

When you choose engine modifications, YOU become the technician, it will be YOU making all carburetion decisions. If you are not comfortable with this, don't modify the engine. At the very least, seek the help of a reputable professional engine builder who HAS tested the components together and KNOWS how it is to be setup.

Without professional help, you run the risk of having a mish-mash of confused engine parts working against each other instead of singing in harmony, as they should.

Unless you are a carb expert, it is my recommendation to re-jet only one carb at a time. This way you will positively avoid two of the most common mistakes.

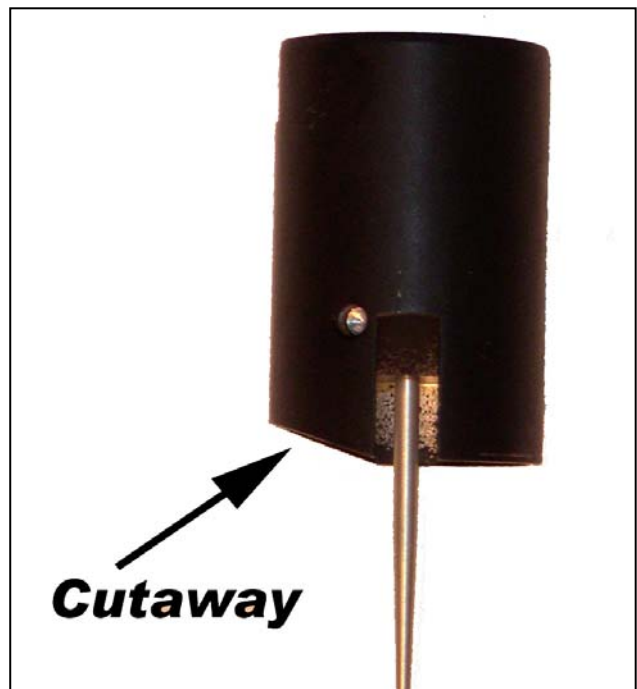
MISTAKE #1

Reversing the throttle slides, left for right,

Reversed throttle slides happen when the right slide is in the left carb and vice-versa. The long guide pin grooves will align, but the "CUTAWAY" (the beveled bottom edge of the slide, see photo) will face the wrong direction. The cutaway MUST face the rear of the carb.

In this reversed condition, the engine runs terribly from 1/4 throttle to about 3/4 throttle. It runs like the choke is stuck on, because it IS a rich condition, but not a tune-able one.

If your bike runs like this when you are done, look there first.



MISTAKE #2

Switching the float bowls, left for right.

The switching float bowl problem manifests itself in a machine that is very hard to start and has an ineffective choke, (as the choke is not seeing any fuel).

This happens when the right float bowl is installed on the left carb. Both float bowls are the same casting, but only ONE is cross-drilled to allow fuel to pass through to the choke pickup tube chamber.

ONLY the left carb has a choke. It is piped over to the right carb via the black rubber cross-over tube between the two carbs.

There is a small brass fuel pickup tube on the left carb only, that lines up with a cast-in passage in the left float bowl. If you closely inspect this cast passage in the bowl, you will see that only one of the bowls, (the left one), has a cross-drilled hole from the float chamber to the bottom of this choke pick-up tube chamber, to allow fuel.

Identify the float bowls before you put them back on. Maybe mark them for future reference.



Changing jets and setting floats:

Now go over to your nice clean workbench where you left the carb bodies, and remove the float bowl and the float bowl gasket. Some fuel will run out so be careful. With the float bowl off, turn the carb upside down and right in the middle will be the main jet. (the 1/4" long brass hex piece with the hole in the middle, and a number either on the end or the side, usually a #220)

Use a 6mm wrench to unscrew this jet, and replace it with the #280 jet found in your Toomey Racing Jet Kit.

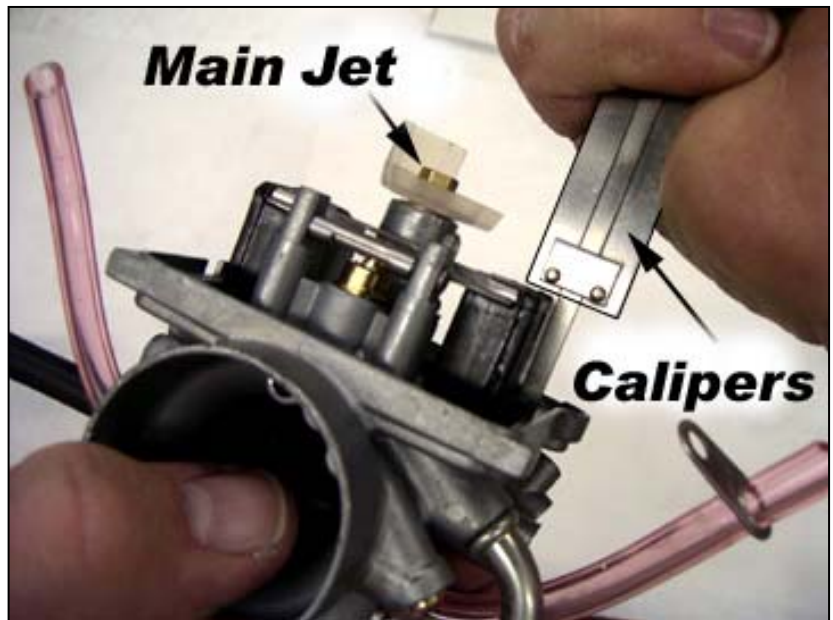
Now you must verify the float level setting, as they are frequently out of adjustment and any bouncing around that the bike does just makes them go off more. They should be checked at least every 3 months or sooner. If you are racing, set them before every race, when you do your normal pre-race maintenance.

Hold the carb with the throttle bore vertical and the float hinge at the top so the floats can swing freely. Swing the floats with your finger to verify they are free and operating

properly. Now, rotate the carb towards the upside-down position only until the floats sit down on the float needle valve.

Any more rotation will cause the weight of the floats to push down on the spring loaded float needle valve and you will get an erroneous reading. The proper angle is about a 45 degree angle from vertical. See Photo.

At this point with either a metric measuring scale or the tail end of a pair of calipers (or other such accurate measuring device) measure the distance from the float bowl gasket surface -- WITHOUT THE GASKET-- to the top of the float itself.



This measurement should be 21mm exactly on both floats. If you get some other reading, gently bend or tweak the float arms until you get this setting. Be sure not to bend them sideways so they may interfere with the float bowl itself. Check for clearance when you are finished.

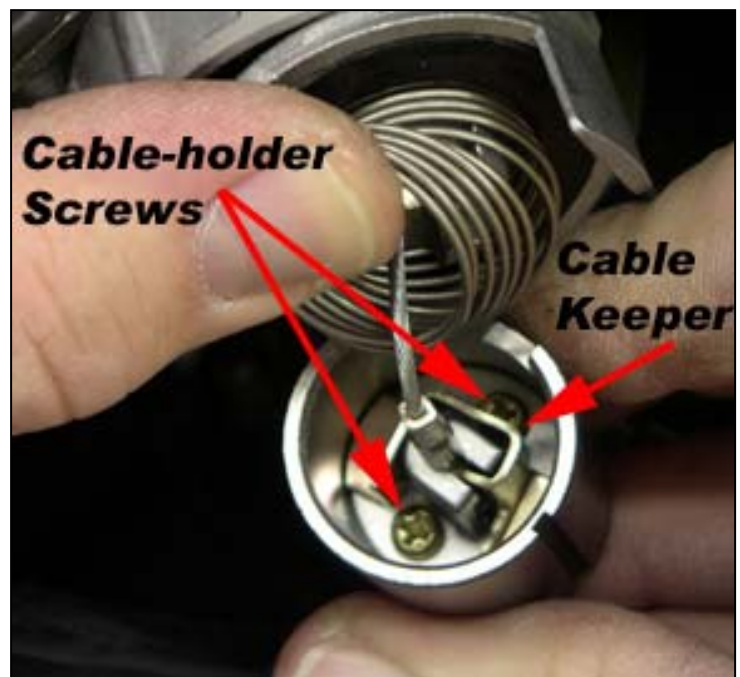
When you are satisfied they are perfect, replace the float bowl gasket and float bowl.

NOTE:

The #280 is the sea level jet and is good up through 2500 feet density altitude. On particularly cold days or at very low altitudes (winter in Glamis, CA) you may need a #290 or #300. The #270 Jet is for operation higher than 2500 feet density altitude. Conversely, at high altitudes, above 5000 feet you may need a 260, 250 or even less depending on elevation and temperature. We haven't tested at these altitudes, you would have to test it yourself when you are there.

Step #6: Needle Installation

Gather the throttle return spring with your fingers and hold it out of the way as you turn the slide upside down and shake loose the gold colored cable keeper out of the slide. You can now slide the throttle cable out of the cast aluminum holder in the slide. Using the #1 Phillips screwdriver, unscrew the cast aluminum holder inside the slide, as the needle is beneath this. Simply push out the needle from the bottom of the slide, upwards.



Push the supplied new "E"-Clip onto the new JET KIT needles, with your fingers, on the FOURTH GROOVE. We count down from the grooved end of the needle.

Place the new needle back in the slide and re-assemble in the reverse of disassembly.

NOTE:

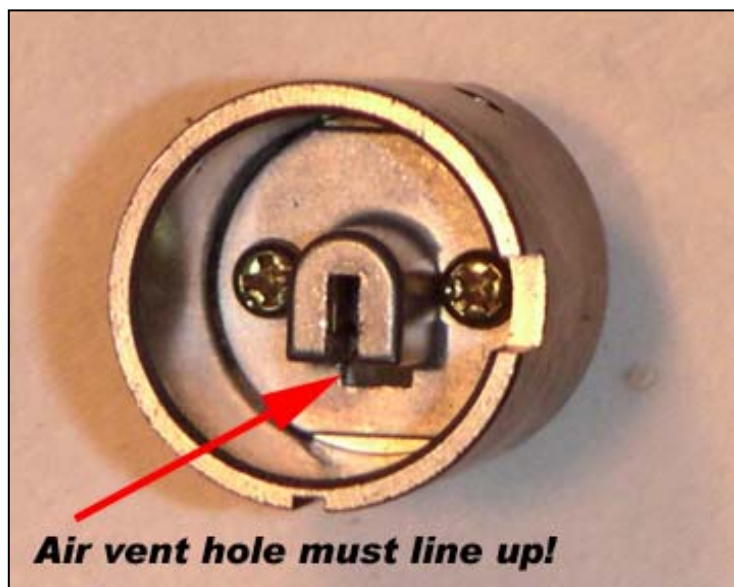
The small washers (shims) that come in your jet kit are "half-height washers". This means if, for some reason, there is a need to make a needle height adjustment, and you move the clip one groove and the machine runs better, but the move was perhaps too much, you can move the clip back to the original groove and use the washer under the clip to shim the clip up 1/2 a groove. The washer is "in use" only when under the clip. If it is not needed (as in the normal scenario) the washer may either be "stored" by placing it on TOP of the clip, or you can leave them out. After you place the needle back in the slide, replace the aluminum cable holder and tighten the screws (gently).

NOTE:

There is a hole in the bottom of the slide on the inside as you look down from the top. Also notice there is a passage way on the aluminum cable holder too. These must lineup! (See photo)

The purpose of this passage is so that the slide has an air vent to the top of the carb.

Otherwise, the slide would act like a piston in a cylinder and compress air above it. Once the compressed air blew out down the sides of the slide between the slide and the slide bore, the slide might stick on the way down because of the resulting vacuum created.



Please line these holes up!

While holding the throttle return spring, put the cable back in the slide, as well as the gold colored cable keeper and release the spring.

Reinstall the throttle slide in the carb body making sure the "CUTAWAY" (the slight angle cut on the bottom of the slide) (see the photo above) faces the rear of the bike. AND that the guide pin groove (the thin groove that goes from top to bottom on the side of the slide) lines up with the guide pin in the slide bore (in the carb). The grooves will be on the right side of the left slide and on the left side of the right slide. (i.e.. the grooves will face each other in the installed position, with the "cutaway" facing the rear of the bike)

The other "notch" on the opposite side of the slide (about a 1/4 inch wide by 3/8 high with a 45 degree angled ramp) is the Idle screw ramp. This is only used with normal idle screws, as in our twist grip kits. The stock idle control is the knob on the top of the T.O.R.S. boxes on the top of the carbs.

Reinstall the carbs in the manifolds and tighten the clamps. Remember to reconnect the fuel lines. When you're finished, be sure you have the black rubber crossover hose connected between the two carbs properly. If this hose is inadvertently knocked-off, the right cylinder will run extremely lean and won't idle properly, and will probably seize soon. Verify your throttle cable is working properly by cycling it a couple of times and making sure it lets the slides come all the way down. You may want to synchronize the two carbs too, after they have been off the machine. The best tool I can recommend for this is a tool called a "UNI-SYN" available at most good auto parts stores. It's fast and accurate. Yes, Synchronization is very important. EVERYTHING is important.

This is the final carb setting check list:

1. Needle on the 4th groove
2. #280 Main jet (sea level, #270 for hot days or high altitude <2500')
3. Float setting = 21mm
4. Aircscrew at approx. 1.5 turns out from full in. (Effective range .5 to 2.5)
5. Standard pilot jet (#25)

These ARE the right settings!

If it's not running right, IT'S NOT THE CARBURETORS!!

It's in the installation!(you did it)

Step #7: Installation of the New Pipes

To install your Toomey Racing Pipes, You must first turn the handlebars in the direction of the side you are working on. For example, If you are putting the left pipe on, turn the handlebars all the way to the left. This will get the tie-rod out of your way.

Holding the pipe by the center section, (the largest diameter part) up near the mount bracket, put it on the bike by pointing the head pipe (the small diameter part with the exhaust flange and orange "O"ring) in towards the bike, and at the same time making sure that the stinger (pipe outlet) is held above the choke lever (plunger) back at the carbs. Then just push the pipe up on the cylinder spud making sure that it is straight and parallel to the spud axis.



It may help to put a small amount of grease or oil on the "O" ring in the headpipe before installing, just to help. Hook the pipe springs to the pipe and wiggle the pipe to make certain it is all the way up on the cylinder spud. Fasten the pipe at the top to the stock pipe frame rubber mount on the inside of (behind) the rubber mount with the same 8mm Bolt that held the stock pipe, and tighten. Torque = 2.5 Kg-M (18 ft.lbs) The pipe installation on the other side is the same sequence.

Step #8: Installing the Silencers

First, bolt the mufflers to the stinger tubes. The stingers are marked left and right with an "L" and an "R", stamped on the muffler mounting flange surface (otherwise, you can tell the left one because it is longer than the right one.

The mufflers can be identified by noting that the Toomey Racing aluminum emblem is applied to the outside <left or right> of the silencer as they sit on the bike, with the small diameter tip pointing to the rear. Tighten the two 6x16mm Allen bolts to 1.0 Kg-M. (8 ft.lbs.) Place the green silicone rubber pipe seals over the expanded end of the stinger tube.

Tighten the seal clamp about 1/8th inch from the edge of the silicone tube.

Place the second seal clamp loosely over the green tube, and slide the stinger tube expanded end over the pipe body stinger outlet and bolt up the silencer rubber mount to the frame just above the silencer, where the rear chrome handle mounts to the frame.

Next, using the supplied 8mm bolt and Nyloc nut, attach the stinger tube rubber mount to the frame. The 6mm bolt in the rubber mount should already be tight.



Now you can tighten the forward clamp on the pipe seal tightly against the pipe stinger tip larger diameter part for a good seal.

Be sure to check over **EVERYTHING** you have done to insure you did it all right.Then check it again.

On your first ride, take your time getting used to the new power. It is a **BIG** change, and you must be careful when you first try it.



If you have any questions or comments relating to OUR products, please Email our Technical Support: tech@toomey.com

or call us @ (805) 239-8870

**Thank You from all of us at
Toomey Racing USA, ...and please ride safely!**

*** *Warranty Limitations* ***

Read and understand!

Toomey Racing USA, Inc. (Toomey) warrants only to the original purchaser the equipment purchased is free from defects in material and workmanship under normal use and service.

Components of the equipment are supplied to Toomey by others and Toomey warrants such components to the purchaser only to the extent that such components are warranted to Toomey by the supplier.

Toomey's obligation under this warranty shall be limited to the repair or exchange of any part or parts which may thus prove defective under normal use and service within one year from date of the invoice and which Toomey's examination shall disclose to Toomey's satisfaction to be thus defective.

This warranty is expressly in lieu of all other warranties express or implied and of all other obligations or liabilities on our part, and Toomey neither assumes, nor authorizes any other person to assume for Toomey any other liability in connection with the sale of this equipment or any part thereof which has been subject to accident, negligence, alteration, abuse, or misuse.

Toomey makes no warranty whatsoever in respect to accessories or parts not supplied by Toomey. The term "original purchaser", as used in this warranty, shall be deemed to mean that person for whom the equipment is originally invoiced. This warrant shall apply only within the boundaries of the continental United States.

The remedy defined in this statement shall be the Purchaser's exclusive remedy against Toomey Racing USA. In no case shall Toomey Racing USA be liable hereunder for any consequential damages.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY, WHICH EXTEND BEYOND THE FACE OF THIS STATEMENT.

Call to Order! (805) 239-8870 or Online at
www.toomey.com

Banshee Racing Clutch
Kits

\$99.99



Toomey Racing Special
Seat Cover

\$79.99

Toomey Racing T-Shirts!
(S, M, L, XL, XXL)

\$15.99



Toomey Racing USA Hats!
Blue, Green or Grey

\$14.99

