

# ***Audiovox CCS-100 Electronic Cruise Control ST1300 Installation***

Here's my attempt at giving you enough information to install the Audiovox CCS-100. I believe a picture is worth a 1000 words so I'll try to keep it simple, yeah right. You will need to keep track of how to put your bike back together.

## **Preparation ahead of time**

Buy an Audiovox CCS-100 electronic cruise control kit.

Buy a check valve. Napa part number 2-1015 or similar. This particular check valve has 1/8" barbs which is perfect.

Buy a few feet of 1/8" ID vacuum hose.

Buy a little tube of blue thread locker.

Cut two of the brackets that come with the Audiovox kit.





Fabricate a bracket for the control switches. My bracket is constructed from .06 aluminum and it also holds a handheld 2-way radio to the right. The Audiovox directions include the dimensions for the slot in the bracket. The slot is for the wires coming off the back of the switch unit.





Construct a vacuum canister. I made mine from two 2" PVC couplers with a short piece of 2" PVC pipe between them. The ends are 2" slip to 1/2" FPT. I used brass fittings to reduce down to 1/8" barbs. I painted the unit black so it doesn't show when mounted.



My friend constructed his vacuum canister from a 5" length of 2" ABS and two 2" ABS end caps. He drilled the ends, threaded and cemented the brass barb fittings into place. This unit is lighter than the PVC and is already black.





Remove the access cover from the servo unit. Set the dip switches as follows...

- 1 On 4000ppm
- 2 Off 4000ppm
- 3 Off Tach only
- 4 On Light vehicle with high horsepower
- 5 Off Light vehicle with high horsepower
- 6 Off Control switch normally open
- 7 On Tach source, coil

Plug the harness onto the connector and replace the access cover making sure the wires don't overlap.

Either cut or wrap up the black cable that is for the magnetic pick-up as it won't be used.

I also chose to cut the gray wire short. It is for the bright green backlight LEDs that are located in the middle of each switch. I didn't like the appearance so I didn't use it. The center Cruise Control LED will still operate when the unit is turned on.

## **READY TO INSTALL**

Remove the fairing plastics from both sides of the bike.

Lift the tank. No need to remove it.

Remove the airbox. (unplug connector on the rear side, 9 screws on the cover, air filter, unbend metal tabs and remove 2 screws per funnel, remove the 8 screws under the funnels that hold the airbox in place, remove the two hoses from the underside of the airbox)

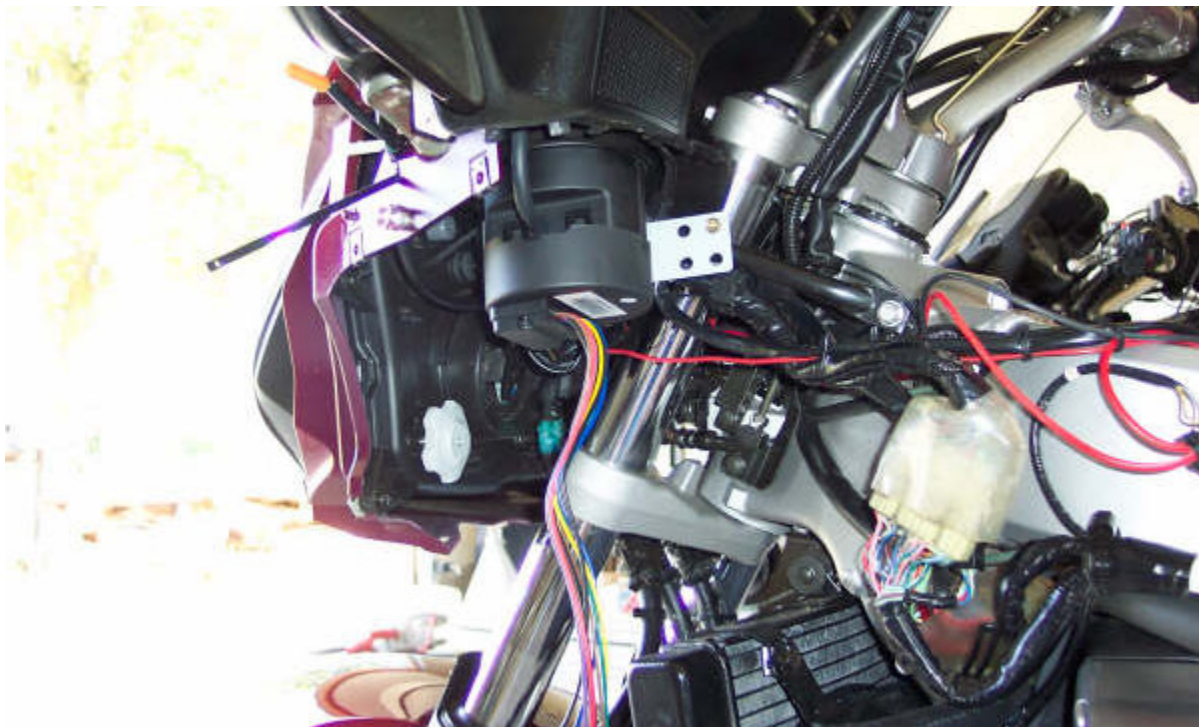
Connect a length of vacuum hose to the servo unit.

Feed the servo unit throttle cable, vacuum hose and purple wire from the left side of the instrumentation over to the right side.

Mount the servo unit on the left side of the instrumentation. I used a metal cable clamp and hardware that came in the kit and threadlocked the hardware.

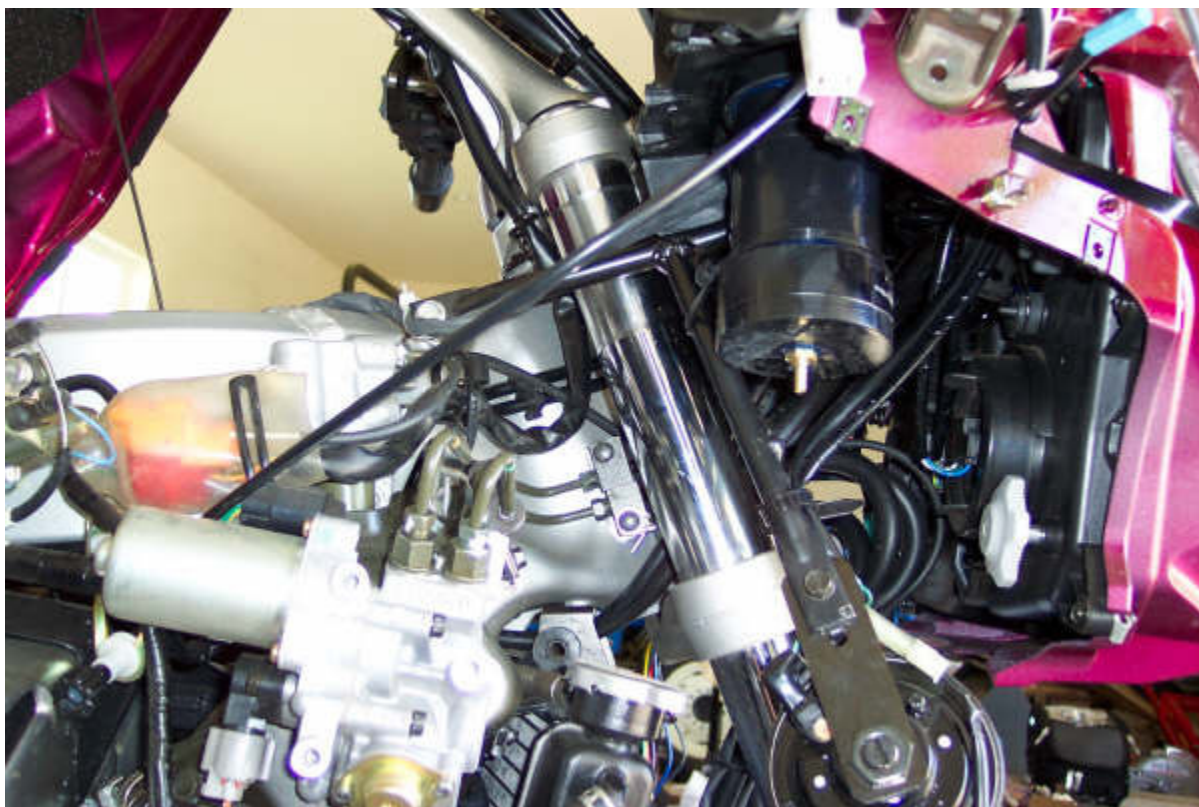






### **VACUUM CONNECTIONS**

Cut and connect the vacuum hose to the vacuum canister. I mounted the canister on the right side of the instrumentation with a few zip ties.



Cut a short piece of vacuum hose and connect the check valve to the vacuum canister. Make sure the check valve is in the right direction (the engine pulls a vacuum on the canister).

Connect a length of vacuum hose to the check valve and route it under the frame and use the small black tee in the kit to tie it into the MAP sensor's vacuum line. The map sensor can be lifted with the removal of one small screw so you can get to the vacuum hose.



### **THROTTLE CABLE**

Thread lock and tighten the hardware on the bracket shortened earlier.

Remove the bolt located on the front right of the throttlebody.

Mount the new throttle cable bracket as shown with the bolt just removed.







Cut a 7 ball section from the chain provided in the kit.

Attach the 7 ball chain to the throttle cable as shown using the bead chain coupling. Connect the other end of the chain to the small bead chain eyelet connector. I chose to heat shrink both couplings.

Connect the small bead chain eyelet connector to the other shortened bracket using the screw with the shoulder and it's lock washer and nut. Thread lock and tighten.

Feed this whole assembly under the right side frame and mount the cable using the two jam nuts.

Open the ST's throttle wide open and remove the nut on the left front of the throttle body. (the one retaining the ST's throttle cables pulley) It looks like things are going to go boing but they don't.

Attach the short bracket as shown, threadlock the nut back into place. You will need to adjust the servo's throttle cable position using the two jam nuts to achieve the proper placement of the short bracket. You can manually pull on the servo's throttle cable to see that you are getting full travel.



Try going wide open throttle back to closed several times using the ST's handlebar throttle watching the cable/ball assembly for free travel. It should never hang up on anything.

Put the airbox completely back into place and start up the bike. There should be no difference in the RPMs compared to before the installation. Try the handlebar throttle and make sure it behaves the same as before.

### **WIRING**

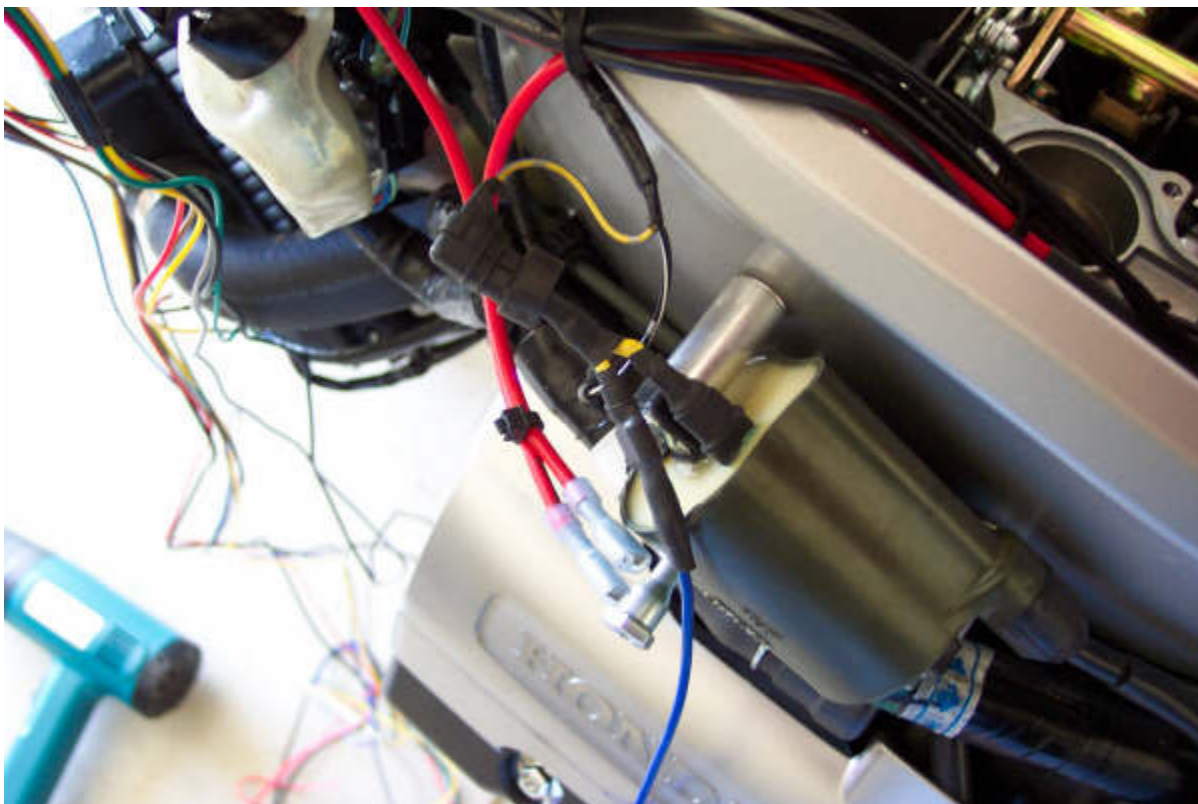
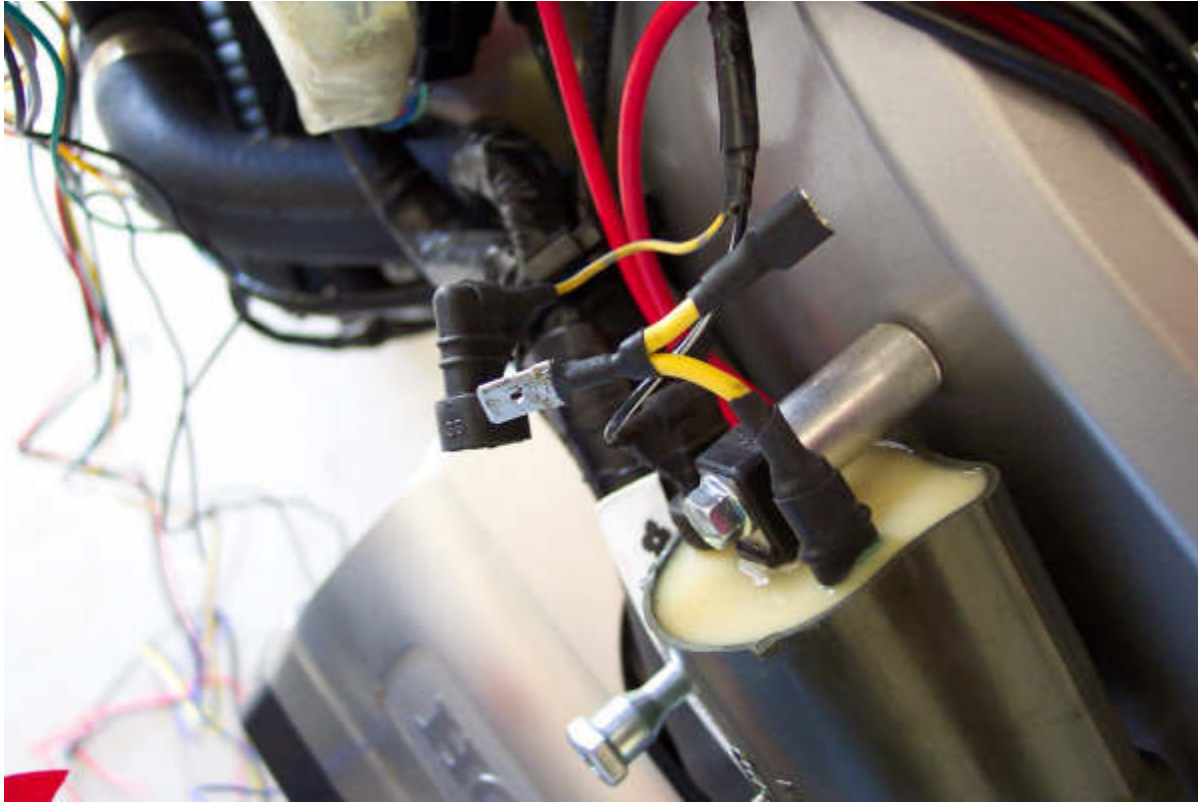
Cut and connect the purple wire to the green/yellow wire on the right side of the bike. You will find the green/yellow wire on the left side of the red connector. Rather than use a wire tap, I carefully stripped about 1/8" of insulation from the green/yellow wire, soldered the purple wire to it and heat shrunk over the connection.







Do not cut the blue wire as it has a noise suppressor in it. Connect the blue wire to the yellow/blue wire on the left side coil. I chose to make an adapter rather than use a wire tap.



I chose to seal the back side of the switch unit with silicone sealer. I then mounted the switch unit with the attached double sided tape to the bracket. I also chose to cover the wires with heat shrink tubing.

Route the switch wiring and plug the ends into the color coded plastic connector.

Plug the two plastic connector pieces together.

Connect the two black wires using ring terminals under the bolt holding the front frame bar to the frame.

I connected the red and orange wires to the quartet harness. Red wire is +12v. all the time. Orange wire is +12v. only when the ignition is on.

Secure the tank and plastic fairing pieces.

Go for a test ride. All should work well. Remember, you have a kill switch. The cruise control should disengage with the actuation of either brake or clutch. You can manually override the cruise control with the throttle.

Good luck and of course, all usual disclaimers apply. This installation is working well for me and we duplicated it on my friend's ST with great success.

Ray

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