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### BMW R1200 Throttle Body Sync:

If you are interested in a Video Version covering everything needed for the R1200 36K service, go to [Sales](#) button on this site.

**Caution: This pictorial is for informational purposes only. I accept no responsibility for accuracy, or any damage caused to your motorcycle if you choose to perform these maintenance items.**

The following is a quick tutorial on how to complete a Throttle Body Sync on an R1200 series motorcycle. This is similar to the R1100/1150 series, except for the idle sync on the 1100/1150 which is different. I will try to add that at a later date.

Here are the basic steps I used to do a TB sync at home. Notice I do not do an idle sync, because on the 1200 it is not possible. Nor is it possible to adjust the idle speed. This is all done via the stepper motors by the computer. (Edit: Now it is possible to calibrate the stepper motors using the GS-911 tool.)

NOTE: Read the whole procedure before beginning.

**CAUTION: I can do this in a few minutes, so I do not generally use a fan to keep the engine cool. But many take a little longer, and it is recommended that a large fan is used to ensure you do not over heat the motor.**



First make sure the bike is at full temperature. I like to take a minimum 10 minute ride. I also do the TB sync AFTER adjusting the valves to ensure the best results. See the [R1200\\_24K\\_service\\_link](#) on the left for details.



If you still have your carbon canister on you will have this hose, otherwise you will have a cap here like the other side. Put one hose from the Twinmax on here.



Here is the right side, and you put the other hose from the Twinmax here where the rubber cap is.



Here is a photo of the Twinmax hose installed.



On this TB Sync I disconnected the stepper motors. I had the power off when I did this, and made sure the connectors wouldn't make contact. Some say this is the right way to do it as it parks the stepper motors before starting, and ensures they do not affect the TB sync off idle. I have done it both ways and have not been able to definitively detect a difference.

Note: The GS-911 now has a calibration for idle, and is able to park the stepper motors for the off-idle sync.



With the engine off, I adjust the Twinmax at near maximum sensitivity to make sure the needle is centered.

I then start the bike and check it at idle. It looks the same as above, except you will notice the needle swinging back and forth less than 1-0-1 across the center. This is normal, and not adjustable at home. It shouldn't need it anyhow. If yours is off center by more than half of one number, in other words the needle is swinging back and forth with nearly a "1" as its center, you need to have a dealer check it out, or use the GS-911 to calibrate your stepper motors at idle.

Achieving the required slack is trickier on the R1200 because you can't feel the slack. The only way is to hook up a Twinmax type device and then loosen the cables. Tighten one side until you get a reaction from the Twinmax, then back it off about one full turn. Do the same on the other side and you have both at about 1mm slack.

From there the stepper motors will make the adjustments at idle.

Keeping in mind the slack you now have, adjust your throttle bodies off idle in the usual way.



I then take the rpm's up to 2K, 3K and 3.5K and check the Twinmax for center. If it is not, I have to adjust it.

Note: I use a throttle lock to hold it steady, otherwise it is hard to not vary the RPM a little.



Using a 10mm wrench I loosen the lock nut.



Now I adjust the cable using the knurled nut and my fingers. In this photo you can see me adjusting it, and that it is off center. I adjust it until it is centered.

**Note:** Before starting the adjustment process, make sure you have at least 1mm slack in the cables, and never adjust one side so that all the slack is gone. If you remove the slack, put it back and go adjust the other side to sync.



Here is another view of adjusting the cable using the adjuster. (left center)



I then take it up to 3.5K RPM and check it again. (Note: I found that it is better to set the cable sync at about 3000-3500.)





Now I use two wrenches to tighten the locking nut. I tighten it to just snug, and check my TB sync again. It is easy to tighten the nut and throw off the sync.



Here is a close-up of the wrenches.

**NOTE:** Sometimes it is hard to get the nut snug, and keep the sync exact. To do this I snug down the nuts, then use a pair of pliers and gently turn the knurled nut to get the sync exact. Then finish tightening the lock nut to 4nm (or mildly snug).



A final check shows the sync dead on, at 2500-3500 RPM, and you are done.

Remove the Twinmax hoses, reinstall the rubber caps and/or hose, and go for a ride!

You can purchase a Twinmax at most BMW stores, even online. Make sure you get the proper hose adapters with the unit.

You can also find several alternatives to the Twinmax such as Carbstyx and home made Manometers. [Link to manometer construction.](#)

Jim