GdB SWAP WIRING VERSION ELECTRICAL DIAGRAM (99.5 Mk4 wire colors noted here, 01 and later may differ)





GdB SWAP WIRING VERSION ELECTRICAL NOTES I suggest doing this all before installing the clutch pedal, it is a tight spot to work in.

1. REMOVE Park Neutral Relay 175



2. Pull out the socket for the 175 to get access to the wires

CRUISE CONTROL HOOKUP portion

3. Cut the GREEN/BLACK wire (pin #5) close to the 175 socket and connect to the blue or black clutch pedal switch (closest to the driver seat)

4. Cut the GREY/RED (YELLOW/GREEN on post 99.5 Mk4's) wire (pin #9) close to the 175 socket and connect to the other wire on the same blue or black clutch pedal switch

5. Remove the TCU and disconnect the plugs from the ECU

Here is the plenum. Notice the air filter on the passenger side underneath the windshield. The ecu is next to that, the TCU is next to that.





Here is a shot of the TCU

I tried to get an angle showing both: the TCU has 1 connectors. the ECU has 2 connectors.



6. Find (continuity check...) and CUT the same GREY/RED (YELLOW/GREEN on post 99.5 Mk4's) wire at the TCU connector.

6a. Find a YELLOW/RED wire on the TCU connector that also has continuity with ECU pin #19 YELLOW/RED wire. Cut it at the TCU side and connect it to the YELLOW/GREEN wire.

(1st check for unwanted continuity with any ECU pins)

7. Remove ECU pin #19 and pin #66 and put the pin #19 with YELLOW/RED wire attached into empty hole
#66 (98 and 99 beetle it is pin #46 so please check before you throw 12v to the wrong pin)

Notes on adding pin #66 wire to ECU for Cruise control with Tranny swap



jimbote

just a few weeks ago I added the wire to my ecm so I could have cruise with the manual coding.....my car is a Y2K bug....I converted to manual about three months ago....but used the auto coding for cruise until I got the nerve to disect the ecm connector and add the all important wire....on my car it's pin number 66....supposed to be a white/red wire....on the 98 and 99 beetle it is pin 46 so please check before you throw 12v to the wrong pin....the connector while its looks formidable is not that complicated

first detach from the ecm

cut the zip tie

remove black plastic cover

remove the pink hold down under the cover (just pulls right off)

then take a knife or something very sharp and carefully slide the pink sub-connector lock from the main connector (its shaped like a long U)

then tug the wires on the sub connector you want to remove and the entire white sub connector with the orange silicone dust shield with come out of the main connector

now you need a donor wire/pin, you can remove one from the tcm harness as you won't be needing this anymore to de-pin the wire from the sub-connector use a sharp knife to push back the "lock" on the pin (there is a small window that allows access to the lock) carefully tug on the wire as you push back on the "lock" this will release the wire I was lucky enough to have an extra ECM connector so a robbed the correct color wire from that

you have your sub connector separated from the main connector

.carefully slide the orange silicone dust shield up the wires until you have enough room to slide the appropriate pin into the white connector

first insert the loose end of your "donor" wire through the appropriate hole in the orange silicone shield and pull it through until the pin can be inserted into the white sub connector

make sure the pin is in the correct orientation so the "lock" will engage

now carefully slide the pin into the correct slot in the sub connector, you will hear a tiny "click"

give the wire a slight tug to make sure it is seated

slide the silicone dust shield back down the wires and reinsert the sub-connector into the main

make sure it is all the way down

reinsert the pink "U" shaped sub-connector lock

reinstall the pink sub-connector hold down

and snap on the connector cover making sure not to pinch any wires

install a new zip tie and your through with the hard part

now this wire needs a 12V signal

this comes from the clutch vacuum vent valve switch (its blue on my car)

and is the lower of the two switches actuated by the clutch pedal

the circuit on my car is as follows

blue/yellow (spliced in from the brake light switch) to blue/yellow on the CVVV (clutch vacuum vent valve)

white red on the CVVV to the wire you just added to the ecm

when the clutch pedal is depressed this breaks the circuit, ECM detects no voltage on pin 66 and the cruise turns off

One note on the CVVV

this switch is adjustable when in the "unlocked" or uninstalled position by pulling out or pushing in on the "plunger" you will feel and hear a clicking sound while performing this adjustment

you'll have to play with it to get the correct adustment so that it "opens" when the clutch is depressed about an one inch

use a digital multi meter check for switch opening while you push on the clutch pedal

alphaseinor

If you look on the backside of the connector (where the wires are), they were labled in the plastic... Ok, just for clarification to the writeup for adding the clutch switch pin to the ECU connector:









Below, pin is 'released' to be used again via soldering a wire on it.



Connector ^^^^ is for a 2000 NB so dont assume it's the same pin for yours!



Wire is now soldered to the pin and the pin is 'seated' in the connector.

REVERSE LIGHTS

- 8. Cut the BLACK/BLUE wire (pin #4) AWAY FROM the 175 socket
- 9. Cut the YELLOW/BLUE (GREY/RED on post 99.5 Mk4's) wire (pin #3) AWAY FROM the 175 socket

10. Connect the harness side wires only from the last two steps

(1st check for unwanted continuity with any ECU pins)

11. Find (continuity check...), cut and connect the YELLOW/BLUE (GREY/RED on post 99.5 Mk4's) wire at the 8 pin (6 wire) TR plug and connect to the reverse switch on the tranny

12. Cut the GREEN/BLACK wire at the 8 pin (6 wire) TR plug and connect to the reverse switch on the tranny STARTER INTERLOCK aka Starter Inhibitor Switch

13. Cut the BROWN wire (pin #7) close to the 175 socket and connect to the white or grey clutch pedal switch (closest to the firewall)

14. Connect the other wire on the white or grey clutch pedal switch to the BLACK/BLUE wire (pin #4) at the 175 socket

FINISH

- **15**. Replace the 175 relay with a 53 relay 141-951-253-B
- \$9.16 at http://www.worldimpex.com/parts/german-relay-horn--ac_5728.html



16. Recode the ECU using Vag-com (it's not a PCM, it doesn't control the transmission) to **0002** (I think that's the right number of 0's, it should be set at 0001 for auto trans now). Go to **01-Engine** and change the soft coding from 0001 to 0002. Keyswitch to the off position immediately after. Clear all the fault codes, after running the engine, no faults should return. The 19-can gateway recode is not required.

A side note, While you are here, the KEYFOB antenna range extender mod is within easy reach here:

To summarize it, the easy was is to cut and splice into the clear antenna wire with a 6th wire that you run over your dash or doors. Heres the whole story:

Keyless Remote Antenna Upgrade

Previously, with the keyless remote, you had to be within 2' to 3' of the car for the remote to work, and I found that unsatisfactory in a number of situations. This mod essentially replaces the existing antenna by installing a new, longer antenna wire and re-routing it along the top of the car. After the mod, the remote works up to 100' away; it is especially useful if you also have an <u>Alientech</u> or <u>Auto Window</u> power window controller installed.

The harness is located above the driver's side footwell; you have to remove a few panels to gain access (see References, below). You can either unplug the factory antenna wire or just tap into it with a new wire. Unplugging is easier and neater - assuming you have a tool for removing the wire terminal from the connector plug. I manufactured my own tool from an old pair of tweezers. I ran the wire up the driver's side A-pillar, across the top of the doors, and into the corner of the rear deck - there is a piece of trim the whole way along the car that you can easily tuck the wire into.

Well our remotes only worked close the car and was driving us nuts. You'd have to be within 10 feet or so to arm or unarm the car. So i looked at the wiring diagram for the comfort control module and found which pin the antenna wire is at. Its pin 10 of the smaller connector (12 pin i think) and is a copper wound wire with a clear sheath around it. its the only one that doesnt have a colored insulation around it. I removed the terminal and wire from that slot and installed a new terminal with 6 feet of wire spliced on. I then routed the new antenna wire along the door sill and to the rear seat area. Its now a 6 foot antenna instead of the small 2 foot one. I then started walking away and arming and un-arming the car. i got to the end of my court (roughly 50 feet) and it was still arming and un-arming even if i held the remote low and not up in the air. Id have to say this was a HUGE imrovement and i am much happier not having to walk down stairs to arm the car.

So if any of you are tired of dealing with the weak range of the remote, perform this repair/upgrade and you will be much happier with the remotes range!

One thing i forgot to mention that may help you get the necc parts at the dealer. You will need one wire with a terminal the size of the AMF sensor terminals. unplug your MAF sensor and look at the female terminal in the connector. thats the same terminal size as the antenna wire at the module. Im sure you guys can find bulk wire at your local auto parts store so no need to buy that at the dealer, but its up to you if you want to buy the small yellow AirBag butt connector that has heat shrink built in. Its abit pricey but very professional and ensures a moisture tight seal.

Ahh, one more thing.. lol to remove the terminal from the connector you will need the terminal release tool. Its a VW specialty tool we have at the dealers, not sure if you'll find that at a local auto store. You can try searching the web for them, i know they are made aftermarket as univeral wire tools. Good Luck!

Great upgrade...but one question. Why replace the existing antenna wire and go through the hassle of getting the correct wire connector? Couldn't you just splice into the existing wire and add on wire? You'd end up with the stock 2footer going one way, and the add-on 6footer going the other way.

at school i lived 20 floors up and could still lock and unlock my car

Just what I was thinking. Hit the panic button and you'll find it really quickly. Nice mod!

Ok, well it seems you all really like this "mod" so ill take pictures for you of the steps.

And the reason i didnt splice into the exsisting antenna wire is because its wraped with the harness and goes up into the dash area and you cant follow it to find the end. and if you were to cut that wire and splice into it and use 6ft of new wire and use that terminal, you would have a great deal of difficulty getting any crimping tools or wire strippers up in there. the harness doesnt pull out and down where you can easily get to it.

When i more time i pull all that stuff back off and post pictures with a short summary for future people. Give me a few days, i work saturday and may not get to it right away.

Start off by removing the side cover over the fuse panel on the side of the dash. Then remove the 3 T20 torx screws under the dash for under-dash shelf. Now you can pull the left section of the dash panel that covers under the colume off. That will expose another T20 torx screw that holds the right side section to the knee bar, remove the screw and pull towards you to remove the panel. Now there are 2 T25 screws and 4 T20 screws that hold the black metal knee bar to the dash. remove all 6 screws and remove the knee bar. Now you can see the fuse panel and relay carrier clearly.

The BLACK connector that is circled above is the the connector that houses the antenna wire. unplug in and pull it down the best you can to get to the wire.



I knew this post would be raided by people who disagree with what I did, but let me explain abit why I did this. I work at a dealer and peform the BD recall on the T'regs daily. This recall has us remove the terminal at the comfort control module and add a new 6 ft section of wire and terminal and route it across and down the dash. They also state to measure the distance before and after the repair of the transmitter's range. Its usually an imporvement from 9ft stock to roughly 40-50ft after. They seem to think that thier product was engineer'd to accept this repair and not effect the "tuned" characteristics of the remote. Now they may be wrong and the hundreds of T'regs out there that now have further remote range are freak occurances, but i doubt it. It works for the recall, it works for my car, and it will shortly work for DubberNix car tomorrow. But hey, no body is tryin to force you guys to do this.

And to the rest of the guys who are interested in this, i will take some basic pictures while doing DubberNix and get a simple write up soon. Most likely around Sunday.

Now you have to push the purple terminal lock to the side in order to remove the old antenna wire terminal. you will need a special wire removal tool. *(as i said before it will be difficult for some of you to find one, so if you want to skip removing the entire wire and want to TRY and cut the antenna wire and splice new wire to the old terminal still in the connector then go for it!)*



Once the wire is out you can install your new wire with terminal into the same slot as the old wire. You can get the terminal from your local dealer. its the same female terminal that used for the MAF sensor harness. That should help them look up the part.

Run your new wire as you'd like along the door sill or under the dash to the passenger side, its your choice.



The final install.

I may have missed something, so ask away if your unsure. Ill do my best to reply in a timely manner.

here's a **TRICK**... won't cost you a dime! 😅

place the **remote key fob** against the **bottom of your chin** when activating (locking or unlocking)... you'll double or triple your range...

SERIOUSLY - give it a shot!... walk out of range of the remote fob as used normally (until you can't lock or unlock it)... then... try it by placing under your chin... BINGO... you'll see the tail lights flashing... will work every time! (don't believe me? try it and see)

disclaimer: whether it gives you brain tumours on the other hand... i'm NOT responsible!