

JB4_N54 G5 2-Step Relay/No-Lift Shifting Install Guide

Revised 1/15/2020

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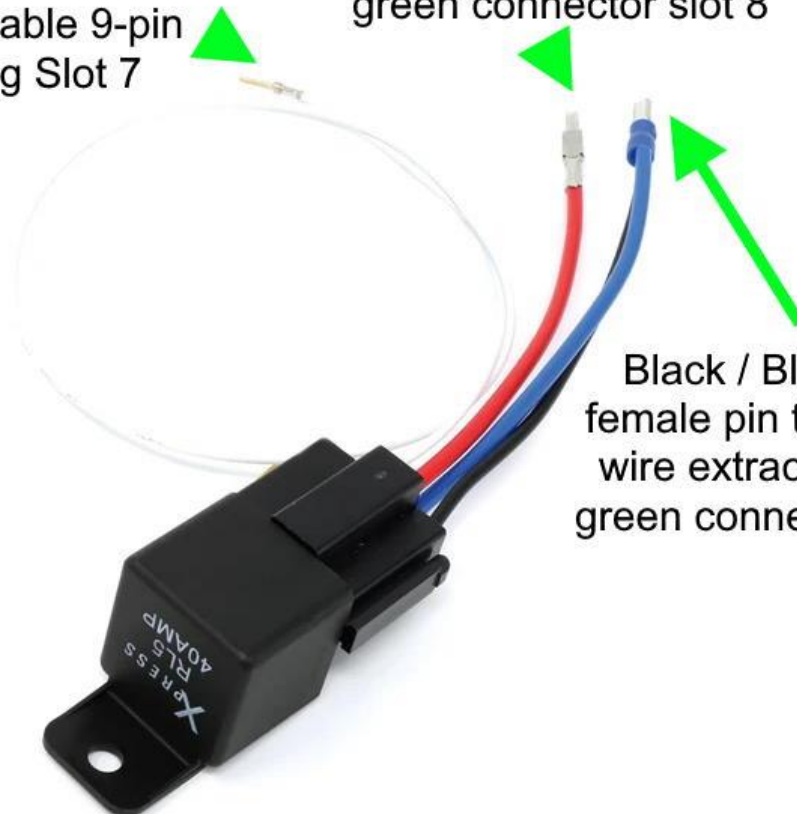
THIS PART IS LEGAL FOR USE ONLY IN COMPETITION RACING VEHICLES AS DEFINED UNDER CALIFORNIA LAW, AND IS NOT LEGAL FOR USE IN ANY OTHER MOTOR VEHICLE. California law defines a "racing vehicle" as "a competition vehicle not used on public highways." (Calif. Health & Safety Code 39048) This part may only be used on competition racing vehicles operated exclusively on a closed course in conjunction with a sanctioned racing event. Competition-only motor vehicles may not be driven to a racing event on a public highway and must be transported on a trailer or other carrier. USE OF THIS PART IN ANY OTHER VEHICLE MAY SUBJECT YOU TO FINES AND PENALTIES FOR VIOLATION OF FEDERAL AND/OR STATE LAW, WILL VOID YOUR WARRANTY

General install overview:

Gold pin on relay trigger wire to Bluetooth Connect Kit or USB Cable 9-pin housing Slot 7

Red wire male pin to green connector slot 8

Black / Blue wire female pin to orange wire extracted from green connector slot 8



The relay kit requires a JB4, back end flash map, and BMS data cable or JB4 mobile kit. Note that we've modified the JB4 firmware recently so that the clutch wire is no longer required simplifying the installation. Update your JB4 firmware before or after installation to v32_15 for twin turbo or v13_7 for single turbo to enable.

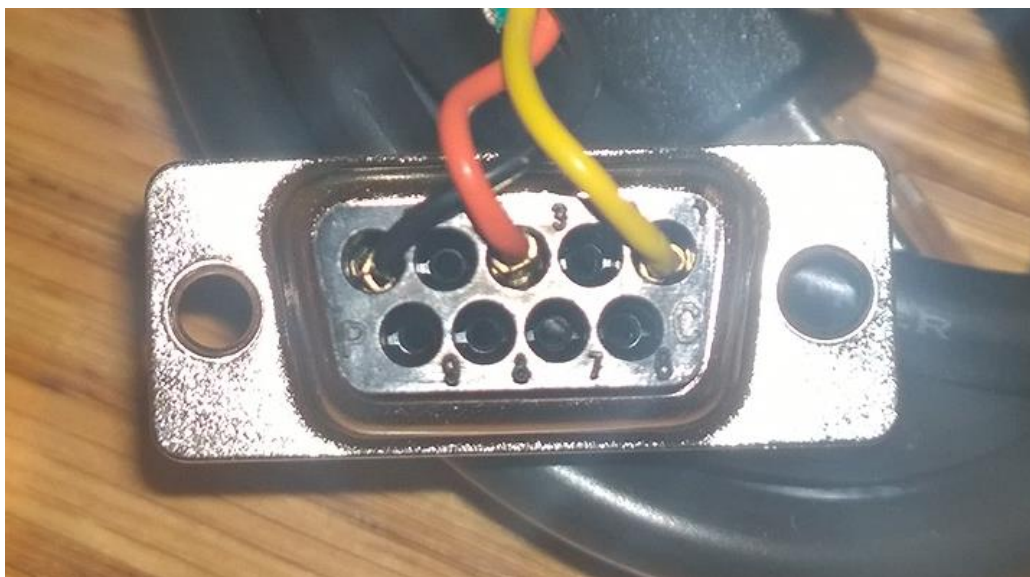
Please refer to the N54_JB4's install guide for more information on accessing the ECU area to install this part: <http://burgertuning.com/instructions/JB4PnP.pdf>

1. Remove the gray casing from the Bluetooth kit or BMS USB cable

There are several small screws, so take care not to lose them. Once the casing is removed, the DB9 housing will be exposed.



Note the positions marked on the exposed DB9 housing. These will be used to put the wire into the correct positions in the next step.



2. Insert the relay trigger wire into the 9-pin (DB9) housing of the Bluetooth Kit or USB Cable

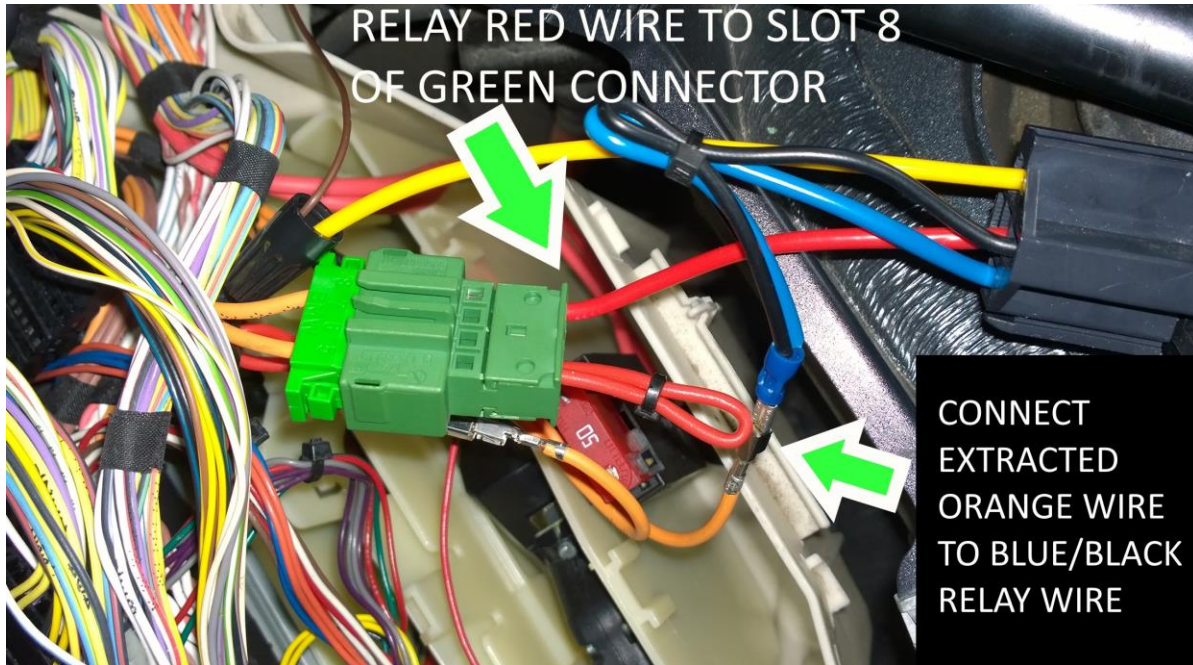
Attached to the relay via a screw nut is a short wire with a brass DSUB pin at the end. This wire is inserted into position 7 of the DB9 housing as shown. Please note that the color of this wire can vary, but it will be the only wire coming off of the relay with a small pin at the end.



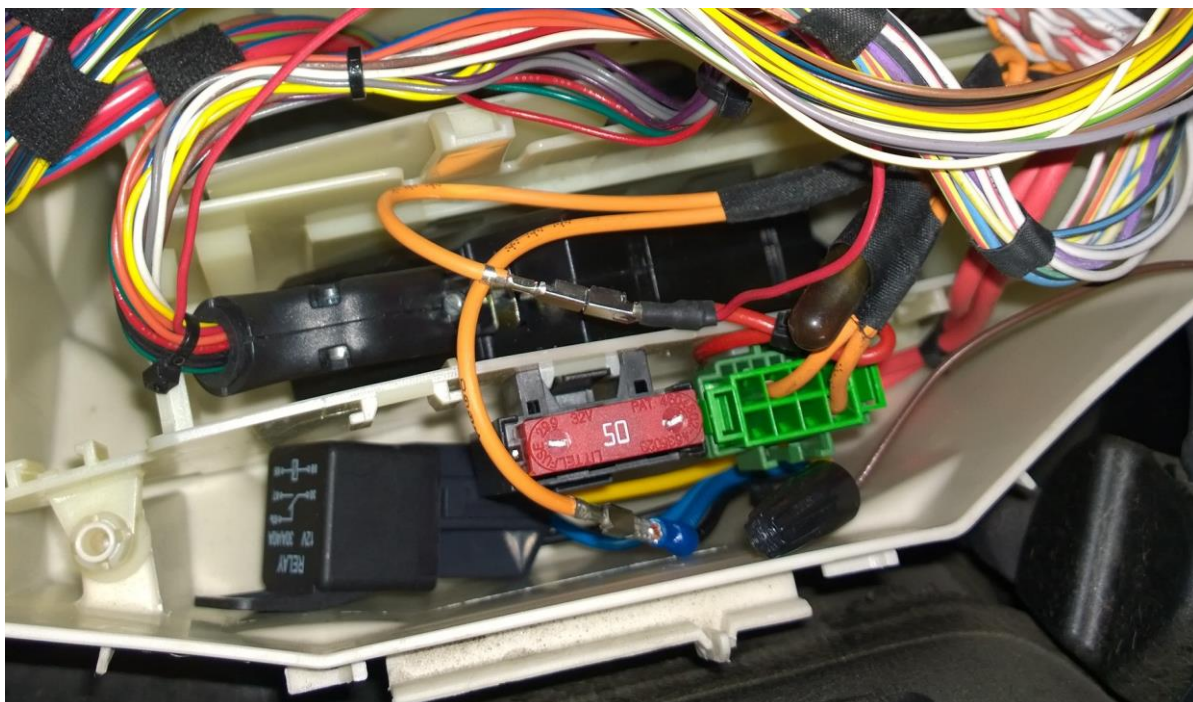
Replace the gray casing on the Bluetooth kit or USB cable. If you placed one of the wires into the wrong position, you can use a DSUB extractor tool to remove it.

3. Install the 2-step relay onto the vehicle

Access the green power connector in the ECU area. Refer to the N54 JB4 install guide for information on locating this connector. Open the flap and extract the wire from pin 8 and connect the relay's red wire with a flat-bladed pin in this location. Connect the extracted wire to the blue/black relay wire with a female end as shown.



Tuck the relay in the area under the green connector and then replace the green connector.



4. Finishing up

Update the JB4 to the newest firmware version posted to N54tech.com or in the firmware database in the JB4 mobile app.

Reconnect the Bluetooth kit or USB cable to the JB4 control box. To enable No-Lift Shifting, set menu 8 in dash to 4000 RPM or higher. Refer to the N54 JB4 information page at N54tech for more information:

<https://www.n54tech.com/forums/showthread.php?t=10605>

NLS will cut engine power above the 2-step RPM set point when pressing the clutch while the gas is fully pressed. The throttle pedal must be at 100% for the 2-step or NLS functions to work.

Practice doing full throttle runs at lower RPM to get the hang of it. When you press the clutch in while the gas is 100% down the RPM should drop like a rock, and bounce around the 2-step RPM set point for as long as you keep the clutch depressed.

5. Troubleshooting

Note if the car cranks without starting after installing the relay something is likely wired wrong. Please double-check each of the wiring connections.

If you are unable to get the relay to trigger with the throttle pedal fully pressed, take a short datalog of a full throttle run to verify that your pedal signal is going to 100%. If there are any obstructions, and the throttle is not reaching 100%, the relay will not work.

If you have verified that the pedal signal is going to 100% and the relay is still not working with the clutch depressed, please set Future Use A on the User Adjustment tab to 51 and save the setting. While connected, the low fuel pressure setting should switch between 0 and 1 as you press and let off the clutch.

If both the throttle pedal and clutch wire readings are fine, and the relay still does not work, double check the WMI section of the Settings section in the JB4 mobile app or WMI tab of the JB4 PC interface. Set all values to 0 under the External Trigger setting and save the settings.

If all else fails, please send detailed photos of your install to support@burgertuning.com.