

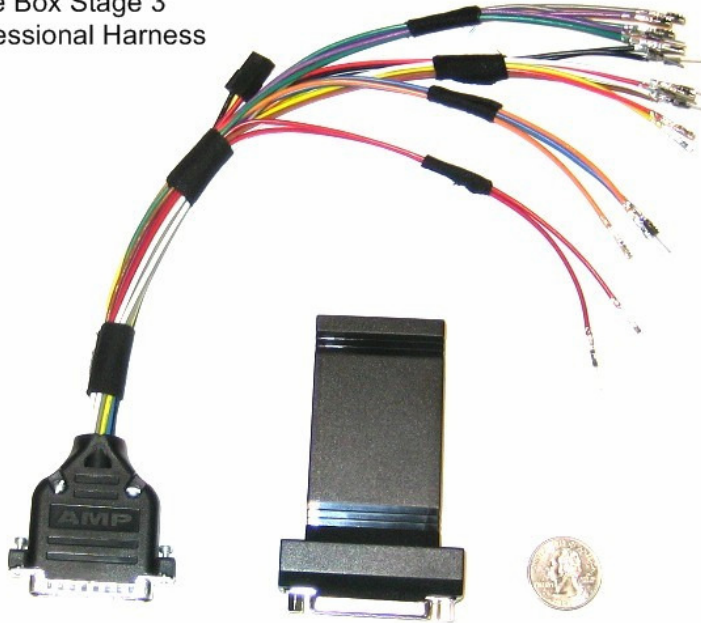


Juice Box Performance Tuner Stage 3 Professional (pin out) harness install guide

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12/24/2008

Juice Box Stage 3
Professional Harness



JB3 professional/pin-out is intended for experienced enthusiasts only. If this is your first install please have someone on hand who has performed an install before. You can also review the install video on our website ahead of time to prepare.

The directions in this guide supersede the install video. Use the video for reference but follow this guide.

***** If a previous tune was installed be sure to return the vacuum lines to the stock configuration *****

Always disconnect the negative battery terminal in the trunk before working in the ECU area. If you have an Xi model it is normal to get traction control lights after reconnecting the battery. They will turn off after driving the car. In addition you will see a triangle with a ! inside it reminding you to reset your clock. It is common to have to reset the clock 2 or 3 times before it saves your setting.

Access the ECU area using the Stage 1 / Stage 2 install guide and remove both the left and right ECU connectors. Slide each of the subconnectors out one by one as you install the JB3 harness wires as indicated below. The small ECU connector requires you to remove the slider per the Stage 1 / Stage 2 install guide to access the small black and grey subconnectors.

Removing the slider from the smaller driver side subconnector:



The harness is split in to four bundles, one for each subconnector. Take care to do one wire at a time as several ECU wires are the same color. Be careful to avoid mixing up the light red and dark red JB3 wires, the dark red wires will be in their own small bundle. When securing the male and female pins be sure to use a small (~1") piece of tape and fold it in half over the connection. Pinch the tape secure while verifying the male pin is fully inserted. Always check the count after inserting the pin as the ECU has many blanks and it is easy to insert a JB wire in the wrong slot. Finally always check the wire color to ensure you have extracted the correct wire.

Large black subconnector:

JB3 yellow: slot 10 (boost, yellow wire)

JB3 light red: slot 11 (power, 5v reference, blue/yellow wire)

JB3 brown: slot 17 (air intake temperature, red/yellow wire)

JB3 white: slot 29 (crank position, yellow wire)

JB3 black: slot 32 (ground, red/black wire)

White subconnector:

JB3 purple: slot 7 (boost solenoid 1, white/grey wire)

JB3 green: slot 14 (boost solenoid 2, white wire)

JB3 gray: slot 9 (fuel pressure, yellow/red wire)

Small black subconnector:

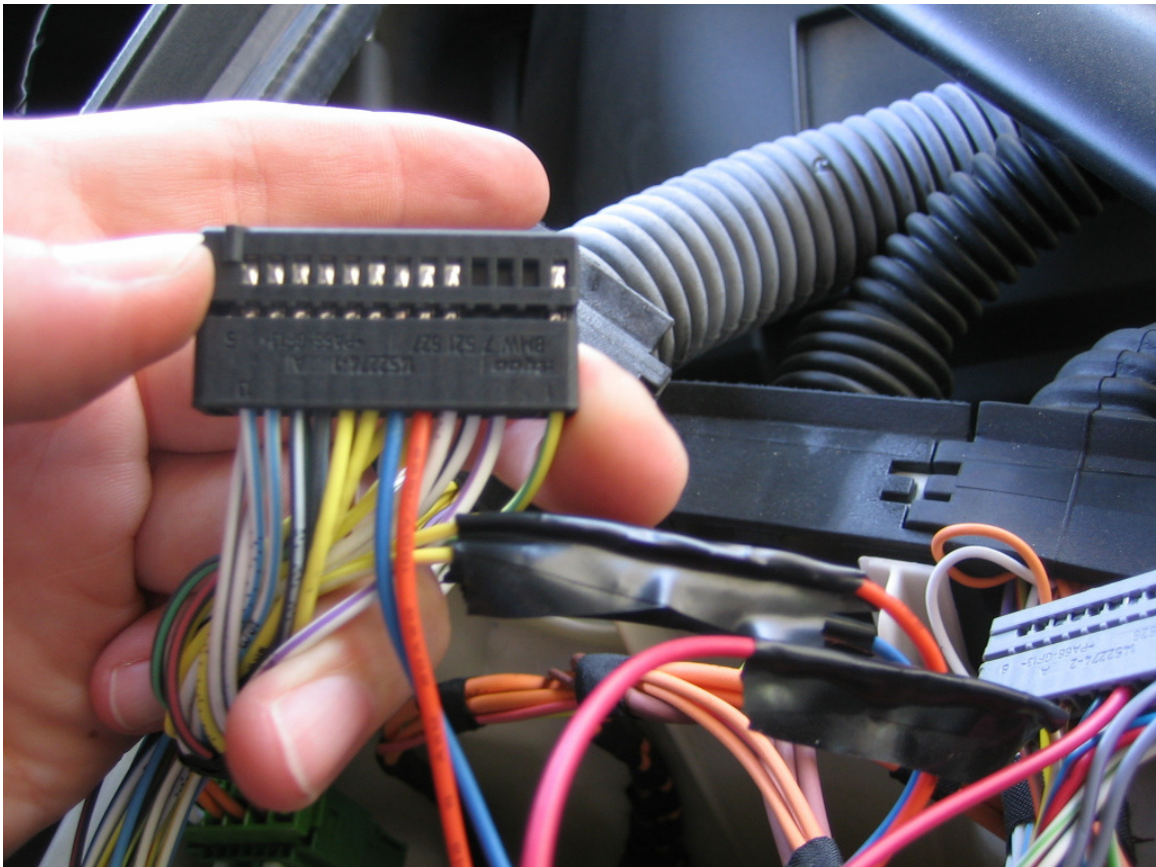
JB3 orange: slot 6 (oxygen sensor 1, yellow/white wire with 525 stamped on insulation)

JB3 blue: slot 7 (oxygen sensor 2, yellow/white wire)

Grey subconnector:

JB3 dark red: slot 7 (throttle position, yellow/white wire. May be blue/white on 535)

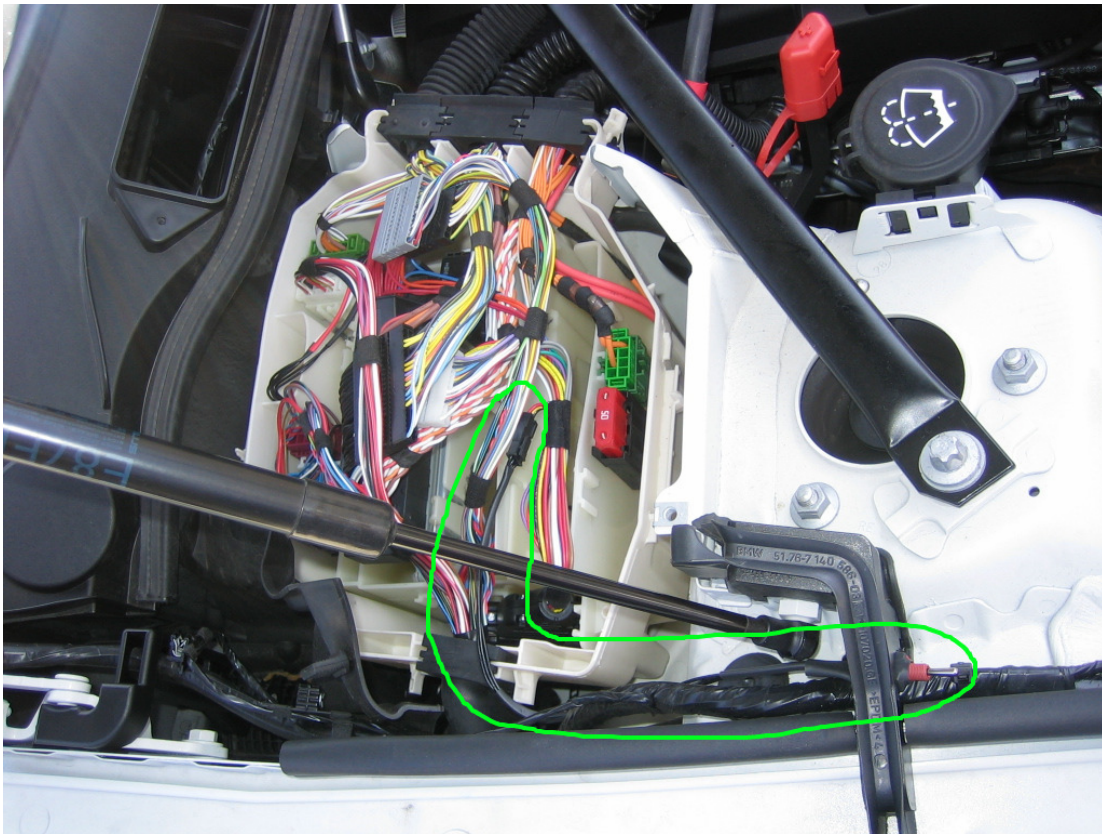
Photo of small black subconnector with JB3 loom installed:



Slide JB3 box in to ECU shelf as shown



If purchased, plug in optional map switch as shown. See full details on map switching below.



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Reconnect battery and start the car to verify there is no CEL (half yellow engine in middle of dash), and no SES (orange service engine soon light at top of dash). A CEL/SES will indicate a wire is in the wrong slot or not connected. Common mistakes include inserting the JB3 orange and blue wires in slots 7 & 8 instead of slots 6 & 7, inserting the JB3 yellow wire in to slot 12 instead of slot 10, and male pins pulling out from female pins under tape. Double check everything carefully.

Reinstall the ECU cover and start car again to ensure you didn't knock any wires loose installing the cover, and assuming everything checks out OK reinstall the remaining cowl and covers.

Congratulations, installation is complete! It will take a day or two for the ECU to adapt to the new tune, so drive as you normally would and the car will gradually pickup power as time passes.

Remember to always use 91 octane (USA RM/2 standard) or higher grade fuel. The higher the octane, the more power you will make. 93 octane will make more power than 91 octane, and 100 octane or a mix will make more power than straight 93 octane. Never use leaded or low lead fuel as it will damage your o2 sensors and/or catalytic converters. For non-USA customers 95 RON is similar to 91 RM/2, and 98 RON is similar to 93 RM/2.

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(continued)

Gas pedal map switching:

Starting with JB3 software version 1.2 (e.g. your JB3 control module has a 1.2 or larger number written on the bottom of it), maps can be selected via a hidden gas pedal menu OR via a hardwire switch. In addition to the stock map, there are six performance maps, and numerous diagnostic and special needs maps. Do not select a map higher than 7 unless directed by BMS.

To engage JB3 gas pedal map switch mode press and hold gas pedal with engine off / ignition on for 4 seconds, and then release gas pedal. This will put the JB3 in map listen mode and also enable map 0.

Once in listen mode to cycle through maps press and release the gas pedal the number of times needed for your desired map. For example for map 3, "high boost" press and release gas 3 times. You do not need to hold the pedal down, a quick press to floor and release will do. Start the motor and your map will be saved until changed.

If also equipped with the 3 position wire in switch, the middle position enables gas pedal map switching, the red dot forces map 7, and the black side forces map 3. If equipped with the RixEffects vent mount boost gauge, consult with RixEffects for mapping details.

All maps have been tested code free with 29.2+ ECU software, but if diagnostic invisibility is a concern avoid map 7 until more extensive testing can be done.

Maps:

- 0 Stock/Valet**
 - Stock tune with boost levels of 6-8psi
- 1 Low boost map**
 - Boost levels of 11-12psi
- 2 High altitude map**
 - Boost levels of 13-14psi but more aggressive high RPM boost taper
- 3 High boost map**
 - Default map, suggested for most users
 - Boost levels of 13-14psi
 - Auto detects and adapts to mods like race gas, intake, exhaust, DP, etc
- 4 High boost map with lagfix**
 - Same as map 3 but with improved throttle response below 3500rpm
- 5 Hot map**
 - Same as map 3 but with more aggressive low end boost and less high end taper
 - Suggested for those looking for a little more power than the high boost map
 - May trigger a soft code (CEL) from time to time if your car is not up to the task
- 6 Hot map with lagfix**
 - Same as map 5 but with improved throttle response below 3500rpm
- 7 Race map (customer version)**
 - 97+ RM/2 octane and supporting mods suggested
 - Peak boost of 14-16psi depending on mods and weather.

Troubleshooting Guide

Troubleshooting is broken in to two distinct groups. The first are issues that come up during installation, like failure to start, yellow engine light (CEL) upon first start, etc. The second are issues that arise after the tuner has been installed and working properly for some time.

This guide deals only with installation related issues. But should you ever experience a yellow engine light (CEL) or service engine soon code (SES), you should email BMS directly at [**terenceburger@gmail.com**](mailto:terenceburger@gmail.com) for technical advice. We have seen it all and can quickly help you determine whether or not the issue is related to the JB3 and what to do next. We encourage customers NOT to make pleas for help on internet forums as more often than not they receive incorrect or bad information. By purchasing a tuner from BMS you have paid for support, so feel free to use it!

Common installation problems:

Engine cranks and cranks but will not start:

Cause 1) One or both ECU connectors are not fully seated. They can be tricky to get in but when done properly the connector will seat itself as you are pushing the slider in. Remove connectors and try again until you are positive they are fully seated.

Cause 2) One of the wires is installed in the wrong slot or has become unplugged under the tape. Recheck each carefully verifying the wire color and connector position.

Engine starts but has a big yellow check engine light showing (CEL):

Cause 1) JB3 control box not plugged in.

Cause 2) One of the wires is installed in the wrong slot or has become unplugged under the tape. Recheck each carefully verifying the wire color and connector position.

Cause 3) Incompatibility issue with O2 simulator. This only effects customers with aftermarket O2 simulators/downpipes. Contact us for further instruction.

Engine starts with no lights, but upon first drive a big yellow engine light (CEL) appears:

Cause 1) Normal ECU adaptation. It takes the ECU a few cycles to fully adapt to the JB3, and in rare cases this can result in a CEL. Especially if pushing the car hard after the tuner is first installed. Restart the car (the code will disappear) and continue driving. If the code does not reappear then no further action is needed.

Cause 2) Map incompatibility. Although the JB3 is designed to work for all vehicles, some ECU versions, fuels, and ambient conditions require special mapping. Contact us for further instruction.

Engine starts but an orange "Service Engine Soon" (SES) light appears

Cause 1) During the installation process you had some issue that you have since corrected, but the SES light is still on. The code will turn itself off after a couple days of driving, but it is suggested you borrow or purchase a CAN BUS OBDII code reader from Autozone or a local auto parts store to read/delete the code. Always read/delete codes with the ignition on / engine off. If the code reappears contact us with the code number for further instruction.

Cause 2) One of the wires is installed in the wrong slot or has become unplugged under the tape. Recheck each carefully verifying the wire color and connector position.