Please note there are 4 variations of BMW’s twin turbo V8 motor and each version has some minor
differences with regard to the tuning & installation procedure. This single guide will cover all models
with notes for applications specific references where appropriate.

Model summary:

A) N63 found in 2009-2013 models including the 550i & 750i
B) N63tu found in 2014+ 550i and 2013+ 650i
C) S63 found in X5M and X6M
D) S63tu found in X5 & X6
The install for n63tu is completely different. Skip to the end of the guide for its special section.

1) Remove the strut brace retaining bolts indicated by the yellow arrows above. With the bolts removed the strut braces lift out of place and will allow easier access to TMAP sensors mounted to the intercooler cores.

2) The red arrows indicate the general locations of the TMAP sensors we will be intercepting.

Note s63/s63tu models (e.g. M5) have the TMAP sensors in a slightly more difficult to reach location which will require removal of the two air boxes. DO NOT attempt to install the Stage1 to the MAF connectors (which look the same and are easy to reach) on these models as this will damage the Stage1 circuit board.
s63tu TMAP sensor reference:
3) Locate the drivers side TMAP sensor shown above. We will be using a long flat screwdriver to gently pull the clip up from the side while tugging the plug out of the sensor. The right tool makes all the difference so ensure you have a sufficiently long and thin enough screwdriver for the job. Study your Stage1 harness ahead of time to visualize how the sensor plug is released when the clip is gently moved out of the way. Note that TypeA and TypeB harness use a different clip method. Photos below are for the more difficult TypeA.
4) Once unplugged push the Stage1 harness male connector in to the TMAP sensor and plug the original male plug in to the Stage1 harness female connector as shown. The rainbow patch will connect to the passenger side sensor while the longer brown patch will connect to the driver side sensor. This allows a passenger side control box placement. Note these photos reflect a driver side control box placement which is no longer suggested.
5) Repeat this process for the passenger side TMAP sensor. Note on the passenger side there is a little less room to work with so expect to get a bit frustrated the first time as you release the OEM plug from the sensor and then connect it to the Stage1 harness. Don't worry, it fits, and once you've done it once it will be much easier the second time.
6) Tuck the Stage1 harness out of the way under the rail as shown.
The control box will be placed under the passenger side cowl cover. Connect the Stage1 control box to the Stage1 harness. Lift up the rubber seal and pull back the rubber grommet to route the wire bundle in to the covered area as shown. After the box has been placed push the plastic cowl cover back down over the box. The box fits snuggly and will not rattle or move around. It's normal for the cover to bulge up slightly with the control box below it.

Installation is complete!

Allow a few full throttle runs for the tune to fully adapt and be sure to use the highest octane fuel available in your area.

For s63/s63tu models you should also connect your laptop to the Stage1 control box using the Stage1 software posted on n54tech along with the BMS USB cable and change "FutureUse" to 1. This tells the tune to compute boost based on a 3.5 BAR TMAP sensor rather than the normal 2.25 BAR TMAP sensor. The tune can be run without making this change without harming the vehicle but will not achieve the same power output and driver feel until it's been made.
n63tu Directions:

The tune consists of two separate tuner boxes, one for each side of the engine. To install simply remove the engine cover, unplug the MAF plug, plug the Stage1 tuner in to the MAF, plug the OEM plug in to the Stage1 tuner, and orient the tuner as shown in the photo below.