

BT Moto Troubleshooting and Best Practices Guide

For all motorcycles: Please be sure to reference our instructions thoroughly located in the resources section of our website for best tips and practices during the flashing process. It is very important to have proper battery voltage when loading the file to the ECU as to avoid potential problems. That is for the first time flashing or any time flashing thereafter (stock or mod files). It is recommended to run the bike in its current configuration for 5-10 minutes to allow the battery to charge. After that run time is complete you can put the motorcycle on a battery tender or charger while flashing. Load the tuned map of your choice to the motorcycle following the prompts on your handheld unit. Not following this procedure could result in ECU bricking due to voltage issues and potentially needing an entirely new ECU pending the year/make/model. This is best practice. If you received multiple maps, once you load them to the handheld the map name will populate don't worry about the map names prior. Once you are loading the file into the bike the right/left arrows will change maps if applicable. Your stock file will not need to manually be loaded in, once you load the mod file to the bike, it'll show up under work - writing - original. This original file is what you will want to put on the bike before any dealer visit. Please refer to our instruction sheet on our website for fully detailed instructions.

CLUTCH ADJUSTMENT AND CHAIN SLACK IS VITAL FOR FLASHED QUICKSHIFTER. If improperly adjusted or too much incorrect chain slack, the bike may have issues shifting. Also low quality aftermarket levers and rear sets are known to cause shifting issues.

BMW

For All BMW's: Follow the steps above and as referenced in our instructions on our website.

BMW RR/R/XR 1000 - For racing advice and engine maximization: Akrapovic makes the best slip ons and full systems followed by Arrow and Spark. The CS/SC/AR/M4 systems work OK but make slightly less power than Akra and have a less stable AFR balance from cylinder to cylinder. Akra is recommended for maximum performance with off the shelf (OTS) mapping. Sprint P08/F185 filter is helpful and a must do for 3-4 additional cheap and easy horsepower. Gearing on the BMW is decent stock for a 175LB+ rider but small adjustments to the rear sprocket to improve top speed are popular (42-44T). Our lowering kit for drag racing or shorter riders is a must and can be found in our shop. Lowering the bike will not have a negative affect on your handling as long as you follow our DIY video and do not stretch the bike. The motors tend to be really reliable. For racing they like MR12. SHELL V Power fuel is best for pump fuel. Factory oil is perfect. Spark plug replacements are a good once a year item or more if racing. OEM spark plugs are great for pump, E85 and light race gas use. For heavy race gas use, use NGK Race plugs to eliminate fouling.

Troubleshooting: VDS error or no start, quick shifter not work, quick shifter works but clunky / difficult, cruise control not working. Spark plugs are a must once a year especially with race use.

2020+ S1000RR will be clunky shifting in some cases, this can be fixed with a GS911, motoscan app or dealer (ISTA) adaptation reset. If going to the dealer make sure they only do the adaptations and no updates.

On a 2020+ S1000RR/XR or 21+ S1000R, you can change the exhaust at any point and will not need a map update. 2010-2019 S1000R/RR/XR potentially will need a new map for each exhaust pending what is being changed.

If you have a servo buddy you can use, it but not required.

Stack install (K67/K66) where the user feels a bike flat spot is usually caused by not plugging in the funnel solenoid located on the top of the airbox. It's easy to miss when re-installing the wiring harness. Some airboxes are looser than others and may see oil seepage pending engine/usage. Our crank case breather helps in this case as a cheap fix. Reach out to sales@bt-moto.com for this item.

Be careful with shower head fuel injector rail when installing or removing. The plastic "T" junction has been known to break when handled too roughly.

When removing the harness on older S1000RR/R/XR, remember that the IAT connector is exactly the same as the injector connector. The only difference is the white stripe on the IAT harness where the injector harnesses do not have a white line.

If your K66/K67 has misfiring issues, it's highly likely that it's caused by a bad ignition coil (common issue). Go back to stock file and take to dealer for warranty work.

If your 15-16 K46 has overheating issues, it likely needs new head bolts or a new radiator cap. This issue is common in stock 15-16 and is not a result of the flash.

Ducati

For All Ducati's: Follow the steps above and as referenced in our instructions on our website. When going to flash the bike (not reading), unplug the BBS fuse in the fuse panel. You can then start to load the tuned file in. Once the tuned file is loaded in successfully you can plug the BBS fuse back in and start the motorcycle. If there are faults on the dash you can clear them with the handheld tool under work and tools and clear DTC/Codes. They are voltage sensitive so please use a tender during flashing or let bike run/ride to get up to voltage prior to flashing.

Ducati V4 for racing advice and engine maximization: Akrapovic makes the best slip ons and full systems. The CS/SC/AR/Arrow systems work well but do not fuel as well as Akra and have a less stable AFR balance from cylinder to cylinder, use Akra for maximum performance and

best rideability with OTS mapping. Guttled stock systems work well too. Sprint P08/F185 filter is helpful and a must do for 3-4 additional cheap and easy horsepower. It is also found in the race kits and Superleggera models stock. We sell them on the site. Gearing on the Ducati is decent stock but small adjustments to the rear sprocket and a lowering link for drag racing or shorter riders is a must and can be found in our store. The motors tend to be really reliable. For racing they like U4.4 or MR12. SHELL V Power fuel is best for pump fuel. Spark plug replacements are a good once a year item or more if racing.

Troubleshooting: Blinking TCS/Triangle on dash usually means BBS module and ECU numbers need to be aligned. This is a simple fix just let our staff know your stock Ducati start up dash message along with the mod file start up dash message. Either empty, racing, racing pro, racing evo. The bike is fine to ride if the flashing triangle is illuminated.

Misfires: V4/V4R with high mileage can have misfires, they need spark plugs more often than mileage says as does any race engine. Quickshifter are known to fail, as are the gear position sensor indicator usually from heat. Gear indicator will go - - instead of 1-6. If you cool the bike off it may work momentarily but is heat sensitive. Fix is new sensor and re-learn of the shifter adaptations. Clutch reservoir prone to getting air in it, vacuum pump and bleeding out air is needed as the clutches get air and feel spongy a lot.

Aprilia

For Aprilia: Follow the steps above and as referenced in our instructions on our website. Once the tuned file has loaded in, you will need to reset the throttle/TPS before starting the motorcycle (newer models have the throttle relearn as part of the flashing process). If your bike doesn't, you can do this in our handheld tool manually. Once the throttle has been reset, you can start the bike, if there are any faults present, you can clear them with our handheld tool under work and tools. If your 21+ Aprilia has a "SCU NOT CONFIGURED" Alarm after flashing, you will need to see the dealer and have them use "PADS" to re-activate your suspension control unit. This is completely normal on some of these bikes at random after flashing or with a dead battery and will not affect performance. At the dealer this will take 30 seconds once the bike is plugged in to PADS.

Aprilia V4 for racing advice and engine maximization: Akrapovic makes the best slip-ons and full systems. The CS/SC/AR/Arrow slip systems work well because the factory manifold on most newer RSV4 is really nice. Sprint P08 filter is helpful and a must do for 3-4 additional cheap and easy horsepower. It is also found in the race kits. Gearing on the RSV4 is massive and going down a tooth in the front makes a big difference. The motors tend to be really reliable. For racing they like U4.4 or MR12. SHELL V Power fuel is best for pump fuel. Spark plug replacements are a good once a year item or more if racing. Factory oil is fine.

Troubleshooting: Blinking TCS/Triangle on dash usually means TPS reset after the flash wasn't done correctly at the end of the flash or slow enough (key on and off). This is simple just manually go into WORK then TOOL and redo the throttle and TPS resets, it should come alive after. You can also reflash the file as it has it at the end of the procedure automatically pending the year/model.

Kawasaki

For Kawasaki: Follow the steps above and as referenced in our instructions on our website. Once you load the tuned file in, you can unplug the O2 sensor from the motorcycle, this will allow for best rideability. **IMPORTANT:** If you have a Brocks PC5 fuel map for a stock ECU, you will 100% need a new PC5 map for the new unrestricted ECU map. If you do not run the correct PC5 map, you can risk damaging your engine catastrophically.

ZX10 for racing advice and engine maximization: Akrapovic or Brocks makes the best slip-ons and full systems. The CS/SC/AR/Arrow slip systems work OK as well but will never have midrange powerband like a true tuned full system. The stock header is titanium but restrictive for sure. Don't follow the forum hype. Short, free flowing open exhausts on these bikes are notorious for surging and poor rideability issues, we find this due to lack of back pressure, a baffle will help this in general. Speaking of hype we find (and Brocks Performance) that short stacks are not worth the air flow turbulence and low end loss. We recommend the 19+ OEM velocity stacks. They make the most midrange and top end. We've tested 6 different combos. We've made the most power through OEM stacks with the electronic flap opened at low RPM, we also get spot on fueling through them too. Sprint P08 filter is helpful and a must do for 2-3 additional cheap and easy horsepower. It is also found in the race kits. We sell them. Gearing on the ZX is decent so making small changes to the rear sprocket for preference is the idea for speed. Large changes in the sprocket of the ZX can cause issues with the traction control. The motors tend to be good and reliable. Be diligent with oil changes and level as the only thing that tends to take these out is a spun bearing. MR12 is the fuel of choice. SHELL V Power fuel is best for pump fuel. Spark plug replacements are a good once a year item. Factory oil fill is fine.

ZH2 – in addendum to the above oil level is critical, overflow of oil can be sucked in to the supercharger at high RPM and create significant amount of smoke in the upper rev ranges.

Troubleshooting: These models when riding on one wheel (dyno, long burnout etc) can activate a limp mode on the dash but still deliver power. To get rid of this simple clear the fault codes with our tool. Sensitive shifter, you must adjust the clutch lever into good spec. When it's outside of the range it's semi activating the factory slipper clutch it can affect the feel of the throttle, decel, and blipper.

Misfires: Spark plugs are a must on these models to be in great shape.

Yamaha

For Yamaha: Follow the steps above and as referenced in our instructions on our website. Once the file is loaded into the motorcycle please click work and then tools and clear any fault codes present. If you have dash messages or the shifter does not work, please do the code clearing process again which is under work - tools. Go slow with the key on and key off, allow the delayed fuel pump prime / TFT fully up to be heard before pressing OK in this process.

Yamaha R1 for racing advice: Akrapovic makes the best slip-ons and full systems, followed by Graves. The CS/SC/AR/Arrow $\frac{3}{4}$ slip systems work well but will never have a powerband like a true tuned full system. Sprint P08 filter is helpful and a must do for 2-3 additional cheap and easy horsepower. It is also found in the race kits. We sell them. Gearing on the R1 is decent so making small changes to the rear sprocket for preference is the idea. The motors tend to be good but really finicky at high mileage and older plugs and injectors. Due to this we don't recommend high octane leaded race use or have an OTS file for that. Less is more on this bike. SHELL V Power fuel is best for pump fuel. Spark plug replacements are a good once a year item. Factory oil fill is fine.

Troubleshooting:

- Gauge cluster inoperable problem. Unplugging the SAS causes this on some 2021+ models. It must stay plugged in (zip tied away) there are work around for sure.
- Quick shifter stops working after flash. Clear fault codes. As P1600 code can cause this. Secondly, It happens sometimes randomly, you can go in and go into the menu and reactivate the QS in the mode and it will appear.
- Change of session inoperable. Means you went too quickly through the menus and need to allow some proper key on and key off allowing the fuel pump to prime before hitting OK.
- Misfires: Spark plugs are a must on these models to be in great shape.
- Be sure to wait at least 2 seconds before hitting the "next" button on the handheld during flashing between key on and key off prompts.

Triumph

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For Triumphs: Follow the steps above and as referenced in our instructions on our website. The Triumphs require being in NEUTRAL and key on last position to fully read and write. If you experience an reading or writing error it is most likely due to that.

Triumphs: As a whole they are really simple. A drop in filter and any slip or full exhaust system seems to work. They make 95% of their power from tuning as they are ignition, and electronic throttle valve restricted along with rev limited. So tuning on a bone stock bike is a major upgrade. Sprint P08 filter is helpful and a must do for 2-3 additional cheap and easy horsepower. It is also found in the race kits. We sell them. Gearing is decent so making small changes to the rear sprocket for preference is the idea for speed. The motors tend to be good and reliable. SHELL V Power fuel is best for pump fuel. Spark plug replacements are a good once a year item. Factory oil fill is fine.

Suzuki

For Suzuki: Follow the steps above and as referenced in our instructions on our website.

Hayabusa for racing advice and engine maximization: Akrapovic makes the best full systems with no low end loss. The other full exhaust systems will give you 2-3 more hp up top but lose a lot down low. Decide whether that's important to you. The full exhaust in general doesn't do much to be honest for power so slip ons and stock system are fine on stock engine. VELOCITY STACKS ARE EVERYTHING! You must swap them to the BT setup for massive top end gains. Sprint P08 filter is helpful. We sell them. Gearing on the Hayabusa is decently so making small changes to the rear sprocket for preference is the idea for speed. The motors tend to be good and reliable but don't expect them to compete with maximum effort 1000s. They really need headwork to be competitive there as the cylinder head on the Gen3 is tiny! MR12 is the fuel of choice. SHELL V Power fuel is best for pump fuel. Spark plug replacements are a good once a year item. Factory oil fill is fine.

If you have any questions regarding the process, please email us sales@bt-moto.com and a representative will help you as soon as they can.