



FZ65 Mini-Shifter Rules & Regulations (2023_1.1)

1. **Approved Engines:** 2018 or newer Yamaha YZ65
2. **Intake:** Drivers may use an optional air cleaner or air box (unless regulated by track). If an air box is utilized, it must be in stock form with NO MODIFICATIONS to the box or the inlet tubes.
3. **Parts Interchangeability:** Parts from years listed in the Approved Engines section above may be interchanged, except if specified below.
4. **Cylinder Head:** Head must remain OEM with no modifications or machining (including polishing) of any kind.
5. **Squish:** Minimum squish checked with 1.6mm solder is **0.050"**.
6. **Cylinder:** No modification of the cylinder is allowed, such as porting, adding or deleting of ports, decking, or re-Nikasil. Power valve mechanism **should** be removed, and the valves held open for better performance, but will not be considered a tech item. No machining of any portion of the exhaust port is allowed. The Technical Director reserves the right to approve or disapprove any cylinder supplied by Yamaha and not modified. In other words, some stock OEM cylinders may not be acceptable for SKUSA competition; if this is the case, Factory karts will trade out the cylinder for one that is within the port height limits.
7. **Cylinder Port Heights:** (Maximum port height limits will be determined once our sample size is large enough to identify the manufacturing tolerances – i.e. by the end of 2023). Cylinder port height measuring will be described here for accuracy across different organizations.
8. **Cylinder Damage:** Cylinders that have internal damage may not be acceptable for competition. Small nicks in one port from debris such as broken circlips, ring segments and the like are acceptable on any edge of the port. Larger damage on the top of the port is not acceptable. Damage from wrist pin damage resulting in grooving of the cylinder above the port is not acceptable. It is strongly recommended that any questionable cylinder be approved in advance, at the Tech Director's discretion, for a specific event.
9. **Cylinder Length:** No sanding or modifying of the cylinder is allowed.
10. **Piston assembly:** Piston components including piston, piston ring, wrist pin bearing, and wrist pin must be unmodified stock OEM parts. Wrist pin clips are non-tech. No other aftermarket parts are permitted. No modifications or treatments (such as coatings) of any kind are permitted. Minor deburring of rough edges (for example light sanding or Scotch Brite) to facilitate break-in is allowed, if the original piston dimensions are retained. Lapping the bottom (only) of the ring is permitted.
11. **Crank, Rod, and Assembly:** Must remain OEM with no modifications allowed. The two main bearings and seals are to be OEM. It is recommended to install main bearings with writing out to facilitate technical inspection. Flywheel key must also remain in place with no modifications to the keyway or key. Only OEM parts are allowed for rod, bearing, washer, and pin replacement. Polishing to allow for slip fitting of crank is permitted.
12. **Transmission:** All transmission components must remain OEM. No aftermarket parts are permitted. No polishing, grinding, or modifications of any kind are permitted. This also includes all bearings, seals, and shifting mechanisms. Mechanical gearbox control only. No ignition interrupt systems are allowed.
13. **Clutch:** All parts must remain OEM with no modifications of any kind. This also includes bearings. The OEM number of plates must be installed with no deletion of plates.



14. **Engine Cases:** Engine cases, internally, must remain OEM stock with no modifications, including lapping and bearing pocket alignment. External modifications to the cases are allowed only in respect to non-performance modifications, such as machining the kick starter boss and installing a plug in the kick start shaft hole. Factory Karts reserves the right to continue to analyze external case modifications as this class develops, and will adjust accordingly.
15. **Exhaust:** The Pro Circuit YZ65 **Works Pipe (#0731865)** and **Platinum Pipe (#0831865)** are the only legal exhaust pipes for now. No modifications to the exhaust pipe are allowed.
16. **Silencer:** The exhaust silencer will be the spec MRC 65cc silencer. 12" canister length. Perf core & reducer at end tip to be finalized:
17. **Ignition, CDI:** must be stock OEM with no modifications. Race officials or the Technical Director reserves the right to require that a competitor swap ignitions prior to entering the racing surface; if the competitor does not comply, they may be disqualified from the event.
18. **Ignition, Stator:** must be stock OEM with no modifications.
19. **Ignition, Timing Advance:** Ignition timing is open within the limits of the stock Yamaha YZ65 ignition plate. Flywheel key must remain in place with no modifications. No modification to the hold down bolts or to the plate is permitted. Any attempt to exceed this adjustment amount is not permitted.
20. **Coil:** Can be stock OEM YZ65 coil or the stock Honda ignition coil (for cheaper cost + removeable spark plug wire to allow longer wire for better mounting location. #30500-GY8-901
21. **Shifting:** Ignition interrupt/Aftermarket shifting systems: Speed shift/no-lift shift systems are not allowed. Connection between shift lever and J-arm must be solid (other than spherical rod ends). Paddle shifter systems that do not interfere with the ignition system are allowed (but note, they are a performance disadvantage when compared to a standard shift lever).
22. **Spark Plug:** BR10EG or BR10EIX is allowed. Maximum length 18.5mm including washer. Indexing washers allowed but not to exceed the 18.5mm maximum when measured.
23. **Carburetor:** Due to on track performance & drivability, the Spec Carburetor is the **Keihin PWK-28**, as supplied by MRC/Factory Karts. This is not the stock YZ65 carburetor that comes with the motorcycle.
24. **Reed Cage, Manifold and Reeds:** The reed cage & reeds are open to aftermarket parts like V-Force (thus far, no performance advantage has been quantified). No modifications to the intake case are permitted. Rubber intake manifold must remain stock with no modifications.
25. **Gaskets, Bearings, and Seals:** All bearings and seals must be OEM for the stated model years. No modifications, including treatments, are permitted. Stock or aftermarket gaskets are allowed to raise/lower the cylinder height.
26. **Water Pump:** Water pump and housing must remain OEM. No modifications to the impeller or housing of any kind are permitted.
27. **Fuel Pump System:** Single Dellorto Fuel pump, mounted to the fuel tank holder. Running a 'T' or 'Y' fitting with a return line to the fuel tank is recommended. Fuel Filter recommended but not mandatory. Pulse line fitting should be installed on Stator side of the engine, next to the reed cage intake.
28. **Brakes:** Front + Rear Brakes mandatory for racing, for safety & insurance purposes.
29. **Chassis:** Any chassis brand is allowed as long as it passes safety inspection from the technical director.
30. **Weight:** Class weight is currently set at **260lbs**. Subject to change based upon feedback.