



## DUCAR 212 RULE PACKAGE with FKS supplement rules

1. Engine must be factory rated Ducar 212cc and run in box stock configuration. All parts must be stock OEM factory production parts unless otherwise specified in these rules. No alteration, cutting, grinding or machining of any parts. No sandblasting, tumbling, or polishing of any kind. This is strictly prohibited. All parts are subject to be checked by a known stock part if in question. No reading between the lines. If it is not specifically mentioned in these rules, then it MUST remain stock.
2. Gas: 87 octane pump gas only (Track to supply test sample).
3. Block: Stock OEM Ducar 212 block with no machining allowed with the exception of cylinder clearance. Maximum bore size 2.758" 0 piston pop up allowed.
4. Cylinder Head: No machining permitted on gasket surface and absolutely no porting of any kind. Maximum intake valve head diameter 1.062" +- .005" Maximum exhaust valve size .946" +- .005" Minimum depth from gasket mating surface to combustion chamber between valves it .485" +- .010" (for reference only). The seats must be stock and can have the 3 angles of 30/45/60 as from the factory. However, you may not attempt to excessively sink the valves in an effort to increase airflow. Stock OEM graphite style head gasket only. Minimum .042" thickness. No sealer.
5. Piston & Rings: Stock OEM dished piston with valve relief on exhaust side only. Maximum size 2.7565" measured at the bottom of the skirt. Stock OEM rings. No altering of the rings allowed, especially the oil ring.
6. Rod: Stock OEM cast connecting rod only. Rod may be honed for oil clearance only. No rounded or broken edges. No billet rods allowed.
7. Crankshaft: Stock unaltered OEM crankshaft. Governor gear must be installed in stock location. Max stroke 2.163 +- .010"
8. Flywheel: Engine must run PVL aluminum die cast flywheel only. No cast iron OEM flywheels. Must utilize stock unaltered timing key. Stock OEM unaltered ignition coil.
9. Camshaft: Must run stock OEM camshaft. Base circle size .865" +.010 - .005" Maximum Intake lift .225 Maximum In duration at .050" = 210 Maximum In duration @ .200 = 75 Maximum Ex lift .232" Maximum Ex duration @ .050" = 212 Maximum Ex duration @ .200" = 84 All checks to be taken at the push rod.
10. Valve Train: Maximum valve spring wire diameter .079" Stock OEM springs must be used. (15lb @ .850" reference only) Valve seal allowed on intake side only. No shims

allowed. Stock OEM push rods must be used with a maximum length of 5.825" +.010"  
Stock unaltered lifters and spring retainers to be used. No lightweight components.

11. Carburetor: Stock OEM Ruixing carb only. Carb must be completely stock. No machining of any kind. Maximum venturi .615" and minimum venturi size .608" Carb bore maximum .750" Stock E-tube with a maximum of 20 holes. 1.092" minimum length and minimum outside diameter of .154" .066" maximum hole through the E-tube. Butterfly minimum .037" Minimum throttle shaft .115" Minimum screw length .305" Phenolic spacer must remain stock. Maximum pilot jet size .018" (.019" no-go) and must use both o-rings. Maximum main jet size .029" (.030" no-go)
12. Air Box: Stock OEM air box must be used and in stock unaltered form only. Air must enter through the air filter only. Any open unused holes must be plugged. Stock OEM air filter with foam sock must be used.
13. Muffler: Stock OEM muffler in unaltered form must be used. If any doubts about the integrity of the muffler should arise, simply cut the muffler in two, to determine legality by comparing to known stock muffler.
14. Governor: Governor gear, arm, and linkage must remain intact and functional. (As of MARCH 1<sup>st</sup>, 2024 competitors may utilize the DUCAR OEM rev limiting ignition coil (Part # 212-1260R) as an alternate to the stock OEM governor. You may remove the governor assembly completely and plug holes, leave governor in place and wire in the open position or leave the governor assembly in stock form. Regardless of method chosen, the engine still cannot free rev over 5500 rpm max). Track may require engine to be free revved on the stand to a certain RPM to determine if governor is properly functioning. (5500 rpm max for example) It has been our findings that some engines surge and some will not. We do not require the surge because in stock form the engine will perform best at 5000 rpm or less. However, this will be left entirely up to the race promoter/tech. We would like to make sure that all Tech Officials are aware that when using a rev limiting coil on any type of engine, the tachometer will show rpm spikes when the engine hits the limiter. As a result of this you will need to watch the tachometer if free revving the engine in post-race tech. The engine should rev to 5200-5300 rpm on average before showing spikes. You should NOT issue a DQ based on maximum recall due to the spikes shown by the rev limiting coil.
15. Gas Tank: Stock tank should be removed and an auxiliary tank mounted in the floor pan should be used. A top plate and fuel pump are allowed with the pump be pulsed off the valve cover only. ~~(Track Option) Utilize stock OEM tank with the vent tube unplugged and up to 4 1/8" holes in the fuel cap for venting.~~
16. Low oil shutoff can be disconnected. No taping or decals added to the recoil in an attempt to block off air.
17. Chain guard, throttle linkage, top plate and fuel pump are the only aftermarket parts allowed on the engine.
18. There is no longer a claimer rule. The engine in question must be protested by a competitor or subject to tech by the track if the promoter/tech deems necessary. The protest and acceptance fees are to be determined by the track.

19. If there is any doubt as to the legality of any part on a Ducar 212 engine, the competitor has the right to file a protest with the track/official. The part in question can then be shipped to DynoCams for review. Please include contact information for the promoter and we will contact the promoter with our findings on the legality of the part in question in a timely manner.

***FKS rules: as of September 2025, for the "Ducar 212/Hobby"***

***-See rule #2: All racers will use the posted Gas station for approved fuel.***

***-See rule #15: Only Top plates and Fuel pumps are allowed.***

***-Only conventional gears allowed: No skip tooth or mini gears and hubs allowed.***

***-Only Shoe Clutches allowed***

***-FKS will be reviewing the usage of a Spec gear ratio***

***February 3, 2026: Conventional gears/sprockets and hubs are defined having a 6-bolt sprocket hub with a step register holding the gear at the standard 4-9/16" diameter. See photo. This class is based for beginners having standardized parts and equipment.***



***OEM Box mufflers will be used currently and FKS does not feel the need to move to the option of a pipe with silencer as listed in a posted update.***

