DUCAR 212 RULE PACKAGE
"NOTICE TO PROMOTORS AND OWNERS"
Ducar has given permission to ALL 3 organizations to Adjust areas of the engine tech to better the tech process.

Promotors: Please do not permit karters to sway you into permitting any changes to the following engine rules. The engine is a budget engine for beginners to grow our sport!!

This class is designed to reach go Karter's who choose to race on a budget. We desire to keep this class as affordable as possible in order to bring New Karter's into our sport, as well as maintain the Karter who would otherwise have to get out of the sport due to budget constraints. This class is no way intended for the pro Karter's and should never be utilized as a big money class. The 212 should be used in adult entry level classes and entry-level restrict the classes by simply using the current red green purple and blue restrictor plate. Dyno cams offers a 5200 RPM coil to replace governor. Restrictor plates are an option for different classes

Engine must be factory rated Ducar 212 cc 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. NOTE: Kill switch must be present. Kill switch functionality not a tech item. Low oil sensor may be removed.

DCD 212: (1) : Fuel: 87 octane. Non-ethanol fuel not permitted.

DCD 212: (2): Block: Stock OEM 212 block. Gasket surfacing permitted. Maximum bore size 2.760. Zero piston pop up. Piston may be wiped off with dry rag. To be checked at (X and Y) positions with flat stock. The use of two sump gaskets permitted.

DCD 212: (3): Cylinder Head: absolutely no porting of any kind. Compared to known stock head. Depth from gasket surface to floor of combustion chamber between the valves .475 minimum. Surfacing permitted.

3:1: Head Gasket: Stock OEM graphite style head gasket only. Minimum .042 thickness. No sealer.

3: Valve Guide: Length 1.160 minimum. Valve guide heights under valve spring to be measured with a 7/16 washer. Hole in washer may need to be enlarged just a bit to fit over guide assembly. Washer is approximately .087. Guide may not extend above washer.

DCD212: (4): Seats: The seats must remain stock and may have three 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. Excessive cutting of the 30 or the 60 cut will be grounds for a disqualification!!!!

DCD212: (5): Valves: 45° face.

5–1 Length: Minimum length of valve 2.915. To be measured from top/head of the valve to top of stem wear retainer clip rests. (For reference only. Contact Ducar Representative if found different)

5-2 Valve Head Diameter Intake head diameter, 1.057 minimum. Exhaust head diameter .941 minimum.

5-3 Oil Seal: Permitted on intake side only. Rubber to remain on seal. Maximum thickness of the seal .025.

5-4 Shims: NO shims permitted

DCD212: (6): Pushrods: Stock OEM pushrods must be used with a maximum length of 5.825+ or -.010

DCD212: (7): Lifters: Stock unaltered .920 head. 1.360 length.

DCD 212: (8): Spring Retainers: No lightweight components. .055 lip minimum. As produced from factory.

DCD212: (9): Piston: Stock OEM dish piston with valve relief on the exhaust side only. Maximum size 2.7565 measured at the bottom of the skirt. Carbon may be wiped off with a dry rag for Tech purposes. No other alterations.

DCD212: (10): Rings: Stock OEM rings. No altering of the ring permitted especially the oil ring. End gap of the top and middle ring not to exceed .050.

DCD212: (11): Connecting Rod: Stock unaltered rod. Rod may be honed for oil clearance. No rounded or broken edges. No billet Rod. Oil hole max size .185. Crank pin, and wrist pin ends of rod may be resized

DCD212: (12): Crankshaft: Stock unaltered Max stroke 2.163+ or -.010. Journal size: 1.180/1.168 minimum. Minimum weight of crank 1.680. Governor gear may be removed.

DCD212: (13): Flywheel: PVL aluminum flywheel or ARC 240164. No cast-iron fly wheels. Must utilize stock unaltered timing key. Stock OEM unaltered ignition coil. Timing to be tested at 26 to 28°. 5 lbs. 4 oz. minimum weight on fly wheel.

13-1: Rev Limited coil 5200/5250 RPM. Max rpm not to exceed 5500. Rev coil part # TJ1165D

13-1-1: 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 that you will need to watch the tachometer if free revving the engine in post race tech. The use of the non resister type plug will cause some engines to increase rpm above the 5200 coil. Because of that there is a max rpm of 5500 when checking the RPMs at the foot pedal. The use of the non resister plugs could cause the engine to exceed 5500 RPM. (exceeding 5500 RPM at any time is a disqualification)

DCD212: (14): Governor: Governor gear, arm, and linkage must remain intact and functional if not using the limited coil. Track may require engine to be free revved on the stand to a certain rpm to determine if the governor is properly functioning. Some engine surge, and some will not.

DCD 212: (15): Camshaft: Stock OEM cam only.

15-1- Base Circle: .865 +.010/-.005

15-2- Max lift: intake .225 exhaust .232

15-3- Duration: intake @.050 equals 210* / @200=75* max. Exhaust @.050=212* / @.200=84*max.

15-3-1- All checks @pushrod

DCD212: (16): Rocker arm: Must remain as supplied from factory. No alterations or machining permitted.

DCD212: (17): Springs: wire diameter .079 maximum uninstalled heights 1.450 maximum

DCD212: (18): Carburetor: Stock OEM Ruxing carburetor only.

“NOTE”. To be checked with clone tooling:

18-1 Venturi: 615 maximum/.608 minimum

18-2: metering circuts across from butterfly (4 holes) .031 no go.

18- E Tube: stock E tube with maximum of 20 holes. Hole size .036max. .066 may not enter center hole.

18-3 Butterfly: .037 minimum

18-4 Throttle shaft: .115 min.

18-5 Screw: .305

18-6 Carb bore: .750

18-7 Phenolic spacer: must remain stock as produced

18-8 Jetting: (pilot) - .019 no go. both “0” rings present: (main) - .030 no go

18-8-1 Air Bleeds: left- .053 right- .040

18-9 Gaskets: Clone metal gasket with rubber attached may be used instead of paper gasket at the choke end.

DCD212 (19): Air Box Stock OEM air box must be used in stock on altered form. 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.

DCD212 (20): Fuel Tank: Stock tank should be removed, and an auxiliary tank mounted on the floor pan should be used. A top plate and fuel pump are permitted with the pump to be pulsed off the valve cover only. Any fuel filter used must be before fuel pump.

NOTES: Low oil shut off may be removed. No taping. No decals or advertising of any kind other than from factory. Recoil must be unaltered and open to the air as designed. No blocking off the recoil.

Chain guard, throttle linkage, top plate, fuel pump and exhaust are the only aftermarket parts permitted on the engine.

There is no claimer rule. . The engine in question must be protested by competitor or subject to Tech by the track if the promoter or Tech deems necessary. The protest and acceptance fees are to be determined by the track.

Should there be any doubt as to the legality of any part on the Ducar 212 engine the competitor has the right to file a protest with track officials. The part in question then may be ship to Dyno cams or AKRA for a review. Please include the contact information from the promoter so contact can be made to discuss the situation. When shipping parks, be sure to tape the box, securely and signatures of the owner and the tech inspector and the track promoter must be signed over the tape with a magic marker.

DCD212 (21): Muffler: RLV EXF 5066 andRLV 4125 Silencer. Pipe may be wrapped with heat wrap in its entirety or wrapped to the mounting brace only. Wrapping not mandatory. It is highly recommended for the use of the big Bertha type chain guard if not wrapping.

21-1: The use of the factory box style muffler may be used as a track option.

DCD212: (22) Header: EXF 5066

22-1. Length – maximum 7 inches minimum 6 1/4 inches. To be measured from inside short radius, using right side bolt hole with quarter inch tape when removed from the engine. By placing a quarter inch measuring tape under the corner of the

bottom fin of the head stretch the measuring tape across top of pipe to end of silencer. Measurement should be 15 ¾ min. 16 ¼ max.

22-2. Outside diameter 1 inch

22-3. Height: 10.5 inches. Measured with engine off mount on flat surface to tallest area of the header.

22-4. Flange: .250 maximum with consideration to Metrology.

22-5. Weld: not to exceed .250 in height total circumference from flange to pipe on both inside and outside.

22-6. Pipe must extend into silencer, to a depth that does not permit exhaust to leak through slots in the silencer.

22-7. Silencer: EXF 4125

22-7-1. Screens: 5 total

22 -7-2. Hole size:.1285 no go

22-7-3. Diameter: 2.224

22-7-4. Body: 6 3/16

22-7-5. Mounted Height: measured with engine off mount on flat surface to highest point at end of silencer. 6 inches.

22-7-6: Gasket: One gasket or silicone. One or the other. Not both.