DYNO CAMS DUCAR DCD212 TRACK OPTION CLASS

This class is designed to reach Karter's who choose to race on a budget. We desire to keep this class as affordable as possible in order to bring new Karters into our sport as well as maintain Karter's who would otherwise have to get out due to budget constraints. Be aware that we are not going to except changes to this engine that have been entered in other areas of the country to where the market has been flooded with the change. If we find out that there are changes to this engine without our approval we are not going to give in to the public just because there are a few hundred already in-the field. Should we find out someone has flooded the market with items we have not approved for this engine we are not going to give in to that pressure. We are going to attempt to keep this engine as budget friendly as possible. So don't make changes unless you know for sure they've been approved. This class is NO WAY intended for the PRO KARTERS and should never be utilized as a " BIG MONEY CLASS ". The 212 should be used in adult entry-level classes and entry-level restricted classes by simply using the current Red Green Purple and Blue restrictor plates. DynoCams also offers a 5200 rpm coil should tracks choose not to use restrictor plates – part # TJ1165Dj.

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 the rules. No alterations, cutting, grinding or machining of any parts. No sand blasting, tumbling or polishing of any kind. This is strictly prohibited. All parts are subject to be checked by a known stock part when in question. Absolutely no reading between the lines. If it is not specifically mentioned in these rules, then it must remain stock. Should there be any doubt as to the legality of a part on the engine the competitor has the right to file a protest with the track/official. The part in question can then be shipped to AKRA for a review. Please include contact information for the promoter so AKRA will be able to contact the promoter. When shipping a part or a complete engine it is imperative that the engine or parts be put in the proper box. The box then should be taped shut and signatures of the owner and the promoter or inspector be written in magic marker across the taped portion of the box. NOTE: Kill switch must be present. Low oil sensor may be removed. Engine to be teched as run" In the event anyone inspecting these engines and need clarification or would like to share findings please contact Craig Holiday (AKRA West Virginia Representative) or Donald Gordner (AKRA National Dirt Director/Instructor).

DCD212 1: FUEL: 87 octane only.

DDC212 2: BLOCK: Stock OEM 212 block. Gasket surfacing permitted. Maximum bore size 2.760. No piston pop-up. To be checked at "X"& "Y" position with flat stock. Piston may be wiped off with dry rag only. The use of two sump gaskets permitted.

DCD212: 3: CYLINDER HEAD: Absolutely no porting of any kind. Depth from gasket surface to floor of combustion chamber between the valves .475 minimum. Surfacing permitted.

DCD212: 3-1: HEAD GASKET: Stock OEM graphite style head gasket only. Minimum .042 thickness. No sealer.

DCD212: 3-3: VALVE GUIDE: Length 1.160 minimum. Valve guide height under valve spring to be measured with a 7/16 washer. Hole in washer may need to be opened just a bit to fit over guide assembly. Washer is approximately .087 thick. Guide may not extend out of washer. (multiple lines deleted from this paragraph)

DCD212 4-1: 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 "DISQUALIFIED"

DCD212 5: VALVES: 45 degree face on both valves.

5-1: Length: Minimum length of valves 2.915. To be measured from top/head of valve to top of stem where retainer clips rest. Please contact proper representatives should field inspectors find different sizes.

5-2: Valve head diameter: Intake head diameter 1.057 minimum.
Maximum exhaust head diameter .941 minimum.

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

5-4: SHIMS. No shims permitted.

DCD212 6: PUSH RODS: stock OEM push rods must be used with a maximum length of 5.825 +/- .010.

DCD212 7: LIFTERS: Stock unaltered. .920 Head. 1.360 length."For reference only"

DCD212 8: SPRING RETAINERS: No lightweight components. .055 lip minimum. As produced from factory.

DCD212 9: PISTON: Stock OEM dished 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 rings permitted especially the oil ring. End gap of top and middle ring not to exceed .030.

DCD212 11: CONNECTING ROD: Stock unaltered Rod. Rod may be honed for oil Clarence. No rounded or broken edges. No billet rods. Oil hole .185 max. Crankpin, and wrist pin ends of connecting rod may be resized.

DCD212 12: CRANKSHAFT: Stock unaltered. Governor gear may be removed. Max stroke 2.163+/- .010, journal size 1.180 max/1.168min. Crankshaft minimum weight, 1.680 grams.

DCD212 13: FLYWHEEL: PVL aluminum diecast flywheel or DynoCams part #240164. No cast iron flywheels. Must utilize stock unaltered timing key. Stock OEM unaltered ignition coil. Timing to be tested at 26 or 28 degrees.

13-1: Rev limited coil. 5200/5250 rpm, coil #TJ1165DJ. Max rpm not to exceed 5500 when taken at the throttle pedal.

13-1-1: **RPM POST RACE TECH**: RPM initial check is to be performed by viewing the competitors tachometer and observing max recall for that particular session on the track. If RPM noted is below 5500 the engine is considered within specification and no further investigation regarding RPM is needed. If the max recall exceeds 5500 RPM the competitor can request to have the engine freereved on the stand to be checked by the tech personnel's tachometer for verification of legality. If below 5500 engine is within spec. Anything above 5500 is considered out of spec. Any attempt to try to manipulate RPM is an immediate disqualification.

13-1-2: 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 5200-5500 rpm on average. We are committed to the continued growth of this program and appreciate your support. WARNING ON "X" PLUGS. The use of an "X" plug could cause the engine to exceed 5500 rpm.

DCD212 14: GOVERNOR: governor gear arm and linkage must remain intact and functional if not using rev limiting coil. Track may require engine to be free revved on the stand to a certain rpm to determine if the governor is properly functioning. It has been our findings that some engines surge and some will not. (last two lines deleted from this paragraph).

DCD212 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 = 210 max

@ .200 = .75 max

Exhaust: @ .050 = 212 max

@ .200 = 84

15-3-1: ALL CHECKS AT PUSH ROD

DCD212 16: ROCKER ARM: Must remain as supplied from factory. Absolutely no alterations or machining permitted.

DCD212 17: SPRINGS: Wire diameter .079 maximum. Uninstalled height 1.450 maximum.

DCD212. 18: CARBURETOR: Stock OEM Ruixing carburetor only.

"NOTE": May be checked with Clone tooling.

18-1: Venturi: .615 maximum and .608 minimum.

18-2: E-tube: Stock E-tube with with maximum of 20 holes. Maximum center hole .066. Minimum length 1.092. 2-hole E-tube.

18-3: Butterfly: .037 minimum

18-4: Throttle shaft: .115 minimum. Felt washer not required.

18-5: Throttle-shaft screw: .305

18-6: Carb bore: .750

18-7: Phenolic spacer: must remain stock as produced

18-8: Jetting: Pilot - .019 no go both o-rings present

Main - .030 no go

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

DCD212 19: AIR BOX: Stock OEM airbox 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.

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.

NOTES: Low oil shut off may be disconnected no taping or decals added to the recoil in any attempt to block off air.

No engine builder advertisement permitted on the engine.

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

There is no claimer rule. The engine in question must be protesting 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 the track officials. The part in question may then be shipped to AKRA for a review. Please include the contact information for the promoter so contact can be made to discuss the situation. When shipping Parts be sure to tape the box securely and signatures of the owner and the tech inspector and the promotor must be signed over the tape with a magic marker.

DCD212 MUFFLER. RLV EXF 5066 pipe and RLV 4125 Silencer. Track option to use stock muffler.

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.

Following are the specs for the exhaust:

DCD 212 Header: EXF 5066

20-1: Length- maximum 7 inches minimum 6 1/4". To be measured from inside short radius using right side bolt hole with 1/4 inch tape when removed from engine. By placing a 1/4 measuring tape under the corner of the bottom fin of the head stretch measuring tape across top of pipe to end of silencer. Measurement should be 15 3/4" minimum / 16 1/4" maximum.

20-2: Outside diameter: 1 inch

20-3: Height- 10.5 inches. Measured with engine off mount on flat surface to tallest area of header.

20-4: Flange: .250 Maximum with consideration to metrology

20-5: Weld: Not to exceed .250 in height, total circumference from flange to pipe on both inside and outside.

20-6: Pipe must extend into silencer to a depth that does not permit exhaust to leak through slots in the silencer.

20.6-1: Wrap: pipe may or may not be wrapped. If wrapping, pipe may be wrapped to brace or beyond brace to end of silencer. If not wrapping big Bertha type guard to be used!!

20-7: Silencer: EXF 4125

20-7-1: Screens: 5 screens.

20-7-2: Hole size of screens .1285 no go.

20-7-3: Diameter: 2.224

20-7-4: Body: 6 3/16

20-7-5: Mounted Height: Measured with engine off mount on flat surface to highest point at end of silencer. 6 inches.

20-7-6: Gasket: One gasket or Silicone. One or the other.

20-7-8: Maximum length of pipe and silencer not to exceed 16-1/4". To be measured by placing the end of a 1/4" measuring tape under the bottom corner of the bottom fin of the head. Stretch measuring tape across the top of the pipe to the end of the silencer.