Te Aroha Dirt Kart Club Engine Rules

Yamaha JR (restricted) Engine Rules

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Cover Note

These rules are in conjunction with all/any other rules laid down by the TADK Club and must be read/used in conjunction with those rules.

Rule Note

"Restricted" Yamaha engines are the same as a Yamaha engine used in Lights or Heavies with the two notable changes in exhaust and head gasket. All Junior Restricted engines s must run the restricted approved muffler and 1.422mm minimum head gasket. Competitors must comply immediately with official request to remove cylinder head for examination at any time during a race meeting.

Specifications

Single KT 100 Piston Port Engine only as manufactured by Yamaha with standard external appearance (no left hand conversions) from carburettor inlet to barrel exhaust outlet. Piston port engine must retain piston induction only (no reed or rotary induction allowed).

1. The use of thermal barrier coatings on or in the engine/engine components and on or in exhaust components is prohibited.

2. The use of anti-friction coatings on or in the engine/engine components is prohibited.

3. External modifications, which do not in any way affect a performance gain, are legal

Legal Additions

Legal additions (non-tech items) shall be limited to the following:

Air cleaner, chain guard, motor mount, direct drive gear, extension of carburettor jet needles, carburettor return springs, third bearing and adaptor, temperature gauge and tachometer, fin dampeners, fasteners, gaskets, joiners in spark plug leads, non-original spark leads, carburettor diaphragm cover breather pipes, air cleaner mount, non-original spark plug caps are allowable, exhaust header and muffler.

KT Ignition

The standard KT 100S (unmodified) ignition to be used.

Alternative ignition

The fitting of the following Modules as an alternative to the standard KT 100S ignition module is permissible:

1. Yamaha, Victa, Atom, Delta, Wei/Shieh, Sig, Nova, PRD, and TCI., permitted.

2. Ignition key is a non-tech item.

Crankshaft and Conrod

1. Crankshaft must be the original KT 100S manufactured dimensions with a maximum stroke of 46.20mm.

2. The connecting Rod must be original KT100S, KT100J.

Exhaust Muffler

This item is not restricted to the original Manufacturer but must not have extraneous attachments, fins or water cooling etc.

1. Modifications to fit exhaust temperature gauge is permissible.

2. Restricted class karts must be fitted with standard box muffler with 3 only 10.5mm diameter outlet holes.

3. The use of painted or surface applied thermal barrier coatings on or in the engine/engine components and on or in exhaust components is prohibited.

Cylinder

The cylinder must be of original Yamaha KT 100S manufactured materials only unless otherwise specified.

1. The cylinder is not to have any additional / removable inserts / passages / tubes or dividers of any type.

2. Porting is allowable but must be only to the existing ports in their original intended layout. No additional ports or plugging of any ports.

3. Threaded inserts are permissible to repair existing threads/studs may be replaced with bolts in existing location, or may have thread inserts to repair casting if thread has failed. Studs must be in original position.

Cylinder Head

Must be of original design with no additions (metallic or otherwise).

Minimum capacity of 11cc with piston at TDC.

Hemispherical combustion chamber, concentric with bore/spark plug.

Head Gasket

1. Must be of original cross section and material

2. Minimum thickness of 1.37mm (0.054").

Inlet Tract Length:

Minimum inlet track length shall be 63mm measured from the outer carburettor adaptor face to the piston wall. Phenolic spacer and alloy adaptor must be retained. Gaskets may be added to achieve the minimum dimensions.

Phenolic Spacer:

To remain as moulded by Yamaha factory and conform to the diagram below. Drilling of the phenolic spacer mounting holes is permitted. Sealing face may be re-faced.

Piston

Pistons approved are Strike, H Piston (this piston has a graphite coating), Yamaha, KSI, KSI Mk11, JDP/Vertex, ARC (forged and cast).

Maximum piston diameter is 53.00mm.

Piston top and dimensions to conform to OEM shape and dimensions.

Carburettor:

1. Must be standard Walbro WB Series.
2. No additional holes or machining is permitted
3. Butterfly and shaft must be as manufactured.
4. It is permissible to repair the inlet seat and throttle shaft bore in the Walbro carburettor.
5. It is permissible to enlarge only existing fuel/air holes, but they may not be deleted or relocated.
6. All air must pass through the carburetor venturi.
7. Measurement Code: As cast maximum Venturi diameter 24.13mm.
8. As cast (area will extend from the front of the carburetor to the progression discharge jet which must have all or portion of this jet in the cast area).

(iii) Maximum downstream diameter 25.7mm.

(iv) Butterfly shaft must be located at the bore centre.

(v) Minimum carburettor body length of 37.5mm.

Inlet Silencer

All Yamaha Restricted engines must run an air silencer box attached to the front of the carburetor.

Pressured Fuel Systems

1. Additional fuel pump or pressurised systems are forbidden.

2. Squeeze type pump between the fuel tank and carburetor is permitted.