

ENGINE SPECIFICATION TECH SHEET FOR KLONE CLASS ENGINES

Description: Single cylinder, 2 valve, OHV 4 cycle

Important Note: All parts must be Box Stock factory production parts unless otherwise specified in this rules manual. No machining or alteration of parts is allowed unless specifically noted. All parts will be subject to a comparison to a know Box Stock part (when performing a comparison check it is recommended to use a + /- .005" tolerance). Engine will be teched as raced.

Combustion Chamber Volume: 27.5 cubic centimeter minimum, with piston at TDC, using prescribed procedure.

Cylinder Head Requirements: Must be OEM casting only. Porting and / or grinding are not permitted. Valve seats are two angles 45 degrees valve face and 30 degrees top relief. Stock head bolts only, must have four. Head gasket maybe after market, must be of stock configuration. No copper or aluminum gaskets allowed. Multiple gaskets allowed to meet minimum CC rule.

Stock exhaust gasket. No other sealer is allowed.

Bore and Stroke: Stock cylinder bore is 2.685" max. Stroke is 2.123" + / - .005".

Carburetor requirements: Huayi or Ru-Ying model carb only.

Carb to intake sealer is gasket only. No other sealer allowed.

Choke must be as supplied from factory, but may be fixed to stay in open position.

Choke bore .810" NO-GO.

Venturi .615" NO-GO.

Rear carb bore .751" NO-GO.

Low air/fuel jet .028" NO-GO

Main fuel jet may be drilled to a no-go of .042 inch.

Stock emulsion tube must be used and unaltered.

Valve Train: Stock valve cover only with any stock configuration gasket, no sealer.

Factory stock rocker arms and push rods only.

Stock valves only. A 45 degree angle only for both valves, no modifications allowed.

Box Stock valve springs only.

Max wire diameter on spring wire is .698" with a maximum tension of 10.8 lbs. at a height of .850". Valve springs may be teched **at any time** during race event.

Ignition system: Stock Box Stock system only and must be unaltered.

Kill switch and low oil sensor may be disabled and removed.

Flywheel: Box Stock flywheel only with plastic fins. No alterations of any type allowed. Must also run stock flywheel key.

Piston and Rings: Must be unaltered Box Stock only. No machining of piston allowed. Piston cannot exceed the deck height. No pop-up is allowed.

For 2010 competition year a dished .25mm (.010") piston may be used. A .50mm dished piston will be allowed in 2011, and .75mm in 2012 to allow engines to be used for multiple seasons. The appropriate oversize rings of stock appearance are allowed.

Connecting Rod: Stock Box Stock rod only.
Rod may be honed for clearance of crankpin and wrist pin only.
No additional machining of any type allowed.
Stock rod bolts only.

Crankshaft Requirements: Stock OEM crankshaft required.
Machining, polishing, addition of material or other alteration of crankshaft is prohibited.
Stock factory timing gear mandatory and must be installed in original location.
Crankshaft journal diameter is 1.180"- 1.175" min.

Camshaft Requirements: Stock as cast camshaft only. Maximum running lift of .245" checked at valve as run. Dyno CL-1 Camshaft allowed as long as it meets spec.

Camshaft Requirements: - Duration check for Intake and Exhaust lobes.
Intake duration of 218.5 degrees at .050 lift/85.5 degrees at .200 lift.
Exhaust duration of 221.5 degrees at .050 lift/96.5 degrees at .200 lift.
(All checks will allow +2 degrees for wear and gauge variances.)

These are the specs on the CL-1 cam

Intake

0.050" 218.4°

0.200" 85.6°

0.22386" --- PEAK LIFT

Exhaust

0.050" 221.4°

0.200" 96.9°

0.23083" --- PEAK LIFT

The base circle also measures in spec.

Block Requirements: Block must remain stock as produced.
Stub for governor may be removed and hole plugged.
No machining of block allowed.
Welding to the block shall be for rod damage repair only and may not constitute a functional modification.

Carburetor/Fuel Tank Requirements: Floor Mounted fuel tank allowed (stock tank to be removed). Pulse type fuel pump allowed. Fuel pump must be pulsed from either the crank case or the valve cover. You may install a flat metal plate in the original tank location for the purpose of mounting the throttle linkage and fuel pump. Aftermarket air filter adapter allowed (max length of 1.375).

Header and Muffler Requirements: Any single stage, one piece header made from .750" O.D. steel tubing allowed with the BS tube style muffler part #89966 or it's aftermarket equivalent installed at the end of pipe. The tube style muffler must be thread fitted to the pipe end. The entire exhaust pipe including the muffler is 14" max length and 10" min length.

Optional Header and Muffler Requirements: Any single stage, one-piece header made from 1.0625" O.D. steel tubing. I.D. of tubing is .920"-.930". A maximum 2.5" long swedged flange is required at the end of the pipe for muffler mounting. Maximum outside longest length of the header, including flanged portion for muffler is 22". Header may be bent in any configuration to keep it away from the driver and so the muffler will not extend past the rear bumper. The RLV B-91 muffler/silencer part #4104 is mandatory and may not be modified in any way. It is recommended that the header be securely wrapped from 2.0" past head flange to swedge where muffler is mounted. Muffler cannot be wrapped. Muffler must be stock as produced by RLV. No paint or coatings.

Disclaimer: These rules may be modified as necessary by the Vice President of Competition to keep the engines within the original intended intent of the class, which is to provide fun, affordable, entry level racing to MEMBERS of the Mid-State Kart Club and other enthusiasts who wish to participate at Mid-State Kart Club sanctioned races.