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Palmyra Speedway, LLC

C/o Allen E. Hetzel III

4628 Hannaford Dr.

Toledo, OH 43623

419-286-8826

ahetzeliii@palmyraspeedway.net

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## Box Stock Clone Series Structure and Tech

### GENERAL NOTES:

1. General Track Regulations will apply to this class.
2. Lite and Heavy classes may be run together.

### Approved Engines:

Engines must be 6.5 HP 196cc OHV Honda clones. Known manufacturers, as of now are: Central Machinery, Lifan, Jiang Dong, Duro, A.K.R.A.'s Box Stock Project, Greyhound. **No Honda engines!**

### Approved Clutches:

Noram, Premier, or other Stamped steel drum, 2 shoe, 2 spring type clutches only.

### Approved Fuel:

87 to 93 octane pump gas only. No racing fuel and no additives.

### Approved Tires: **(Temporally waved for the 2010 season)**

Jr Classes – Maximum Tire size of 11 x 5.0 x 5 or 6

Sr Classes - Maximum Tire size of 11 x 5.5 x 5 or 6

Any Tire compound or brand allowed.

## ENGINE SPECIFIC TECH SHEET FOR: APPROVED 6.5 OHV

**Description:** Single cylinder, 2 valve, OHV 4-cycle

### **Important Note:**

- 1) All parts must be factory production parts unless otherwise specified in these rules.
- 2) No machining or alteration of parts is allowed unless specifically noted.
- 3) All parts will be subject to a comparison to a known Box Stock part (when performing a comparison check, it is recommended to use +/- .005 tolerance).
- 4) Engine will be teched as raced.
- 5) There will also be a \$200.00 claiming rule in place for this engine. Refusing to accept the claimer will result in the immediate disqualification of the competitor along with forfeiture of points earned to date in the class. Competitor will also not be allowed to compete any longer in that class for remainder of the season. If an engine is claimed, the following parts remain with the owner: **engine mounts,**

clutch, chain guard, throttle kit, header pipe/muffler, air filter & filter adaptor, & fuel pump. Only engines of the top 3 karts may be claimed. A competitor must have competed in at least two races before being able to claim an engine.

- 6) All engine rules listed below are based on the **A.K.R.A. Box Stock 6.5 OVH** and are subject to change in accordance with their rules as they become available. Every effort will be made to post changes as soon as they are available with temporary allowances made for any major rule changes.

### Specifications:

- 1) **Combustion chamber volume:** 26.5 cubic centimeter minimum, with piston at TDC, using prescribed procedure.
- 2) **Cylinder head requirements:** Must be OEM casting only. Porting and/or grinding are not permitted.
  - 2a) Valve seats are two angles; 45 degrees valve face and 30 degrees top relief.
  - 2b) Stock head bolts only, must have four.
  - 2c) Head gasket may be after market, must be of stock configuration. **NO** copper or aluminum gaskets allowed.
  - 2d) **Stock exhaust system only with no modifications.** Any stock configuration gasket allowed no other sealer.
- 3) **Bore and stroke:** Stock cylinder bore is 2.685" max; stroke is 2.123" +/- .005"
- 4) **Carburetor/fuel tank requirements:** Huayi or Ruiing carb only. Carb to intake sealer is gasket only; no other sealer allowed. Either a stock (tank must not leak) or floor mounted fuel tank (stock tank must be removed) are allowed.
  - 4a) Choke must be as supplied from factory, but may be fixed to stay in open position.
    - 4a1) Choke bore .815" NO-GO.
  - 4b) Venturi opening is .615" NO-GO.
  - 4c) Rear carb bore opening is .751" NO-GO.
  - 4d) Main fuel jet .042" NO-GO.\*Pulse type fuel pump allowed.
  - 4e) Fuel pump must be pulsed from either the crank case or the valve cover.
    - 4e1) You may install a flat metal plate in the original tank location for the purpose of mounting the throttle linkage and fuel pump.
  - 4f) Aftermarket air filter adapter allowed (max length of 1.375).
  - 4g) Stock emulsion tube must be used and unaltered.
- 5) **Valve Train:** Stock valve cover only with any stock configuration gasket, no sealer. Cover may be drilled for fuel pump pulse fitting.
  - 5a) Factory stock rocker arms and push rods only allowed.
  - 5b) Stock valves only, 45 degree angle only, both valves, no modifications allowed.
  - 5c) Only Box Stock valve springs allowed. Max wire diameter on spring wire is .0705" with a maximum tension of 10.8 lbs. at a height of .850".
- 6) **Ignition system:** Stock Box Stock system only and must be unaltered. Kill switch and low oil sensor may be disabled and removed.
- 7) **Flywheel:** Box Stock flywheel only with plastic fins. No alterations of any type allowed. Must also run stock flywheel key.

- 8) **Piston and Rings:** Must be unaltered Box Stock only. No machining of piston and rings allowed.
- 9) **Connecting Rod:** Stock Box Stock rod only. No machining of any type allowed. Stock rod bolts only.
- 10) **Crankshaft Requirements:** Stock Box Stock crankshaft required. Machining, polishing, addition of material or other alteration of crankshaft is prohibited.  
**10a)** Stock factory timing gear mandatory and must be installed in original location.  
**10b)** Crankshaft journal diameter is 1.180" – 1.175" minimum.
- 11) **Camshaft Requirements:** Stock as cast camshaft only.  
**11a)** Maximum running lift of .238" intake and .242" exhaust checked at valve as run.  
**11b)** Base circle measurement .865" -.005"/+.010".  
**11c)** Camshaft duration check  
**11c1) Intake duration:** 218.5° @ .050" lift/85.5° @ .200" lift.  
**11c2) Exhaust duration:** 221.5° @ .050" lift/96.5° @ .200" lift  
**11d)** All checks will allow for a +2° for wear and gauge variances.
- 12) **Block Requirements:** Block must remain stock as produced. Stub for governor may be removed and the hole plugged. No machining of block allowed.  
**12a)** Welding to the block shall be for rod damage repair only and may not constitute a functional modification.
- 13) **Header and Muffler Requirements:** Any single stage, one piece header made from .750" O.D. with .635" max I.D. steel tubing allowed with the BS tube style muffler part #89966 or its aftermarket equivalent (ex., rotary power) installed at the end of pipe.  
**13a)** The tube style muffler may either be welded or thread fitted to the pipe end.  
**13b)** The entire exhaust pipe including the muffler is 14" max length and 10" min length.  
**13c)** If the stock exhaust system is used, it must be secured with a bracket or safety wired to the kart.

**Important Note:** Any attempt to increase the RPM's of the BOX STOCK PROJECT, Stock Classes, engine (example: stronger/non-stock valve springs or decreasing exhaust restriction from stock levels) is **strictly prohibited.**