Stateline Karts 2019 Clone Class Rules

We will follow AKRA "Box Stock Clone" Engine rules for all classes.
Pipe and clutch rules have been modified per tracks discression.
This class is "**NOT"** a Builders Prepared class. (BP engines will be deemed illegal)

- Approved Engines: OHV (Overhead Valve) engines commonly known as Clones. The engines are limited to a maximum displacement of 196cc. Currently the legal engines include, but are not limited to the following manufacturers: Lifan Greyhound (old blue harbor freight providing the cylinder head is replaced with the 4 bolt valve cover JT or TG-1 cylinder head), Yellow Clone, Red Clone (Ducar and Dupor). Blue MAX

  (NO PREDATORS).

- Classes:
  Red clone (age 5-8) 225# must run .375" Red restrictor (Full rear bumper mandatory)
  Green Clone (8-10) 245# must run .425" Green/Silver restrictor (Full rear bumper mandatory)
  Purple clone (age 10-12) 265# Must run .500" Purple restrictor (Full rear bumper mandatory)
  Blue clone (age 12-15) 300# Must run .550" Blue restrictor
  Sr. clone 300 (age 15 & up) 300# No restrictor.
  Sr. clone 350 (age 15 & up) 350# No restrictor.
  Sr. clone 400 (age 15 & up) 400# No restrictor. Minimum driver weight 190#.

  *Note that the track has the right to make exceptions to what class a junior driver may race in based on age and or experience for the safety of that driver as well as other competitors.

- Engine Components: Must be original OEM clone components unless otherwise specified. You may remove unnecessary OEM items such as stock exhaust, air cleaner, fuel tank, governor, low oil sensor etc. No foreign material inside the engine other than pieces of material (sealant) that may have broke away from sidecover.

- Headers and mufflers: All Jr clone classes are required to run small "weenie" pipe only with approved RLV Spec Mini Muffler. Sr. clone classes are permitted to run the choice of "weenie" pipe or big pipe with RLV BL-91 muffler. No loop pipes or custom pipes. All pipes must meet AKRA length and size requirements found in the AKRA tech manual. Exhaust pipe MAY NOT PROTRUDE inside of the exhaust port. All headers, including "Weenie" pipes", must be securely wrapped/sleeved from mounting flange to silencer ... no wrapping/sleeving allowed on silencer.

- Fuel: 87 octane gasoline only. No additives allowed. No methanol (alky).

- Carburetor: Huayi, Ruxing, or Tillotson PK-1 type carb only. Choke assembly must be in place and functional. Blueprinted carbs are permitted providing they are blueprinted for box stock clone class. Venturi .615" max diameter and round checked with a go/no-go gauge. .751" max rear bore. .750" max depth to ridge behind butterfly. No dimpling or swirl cutting venturi or

carb bore. Jetting is non tech. No grinding of emulsion tubes. The minimum protrusion of the e-tube into the Venturi must be checked with No-Go gauge (Huayi .488", Ruxing .479", Tillotson .488"). They must appear as stock and meet AKRA requirements (2 or 4 hole max). Aftermarket filter and filter adapter are permitted. Any pulse type fuel pump is permitted and may be pulsed from the crankcase, side cover, or valve cover. Carburetor dimensions to be checked with go/no go gauge. Plastic isolator must be installed in its original location and may be blueprinted to AKRA specs (.265" minimum thickness across gasket mating surfaces and no angle cutting of the surface). In other words no attempt can be made to redirect the flow. Mounting holes may not exceed .300".

- Head: TG-1 or JT castings only. (4 bolt valve cover heads) Large chamber (22'cc's). High compression 14cc heads are not permitted. The heads may have 3 angles on the valve seats. 45° face angle, 30° top relief, and 60° bottom relief. .899 max intake seat I.D. Stock valve sizes only. Intake valve .982" max. O.D. Exhaust valve .945" max. O.D. You may run the shorter valve of stock configuration to meet the .815" installed height rule. 10.8 lb. @ .850" height and max tension of 18lbs @ .650" height valve springs only, max wire dia.071" minimum installed height .815" checked with no go gauge. Shims may be used to meet this requirement providing they do not exceed .075" thickness total including valve seal lip. If valve seal is used as a shim the rubber may be removed and no other alterations allowed. The spring must sit on the lower lip of the seal/shim in its entirety and rotate without drag. Stock retainers only, the retainers may be ground to meet weight spec of 4 grams intake 5 grams exhaust. Verify that the spring ends are parallel to each other (procedure to check for parallel ends ... using dial calipers, check overall length of spring, then rotate spring 180 degrees and check overall length again, 180 degrees from original check ... the two checks cannot vary by more than .015). Each spring is to be checked using a .750" height by .800" width plate gauge and a .250" (square) NO-GO gauge to check the center spacing of the coil springs while inserted in the plate gauge). Prescribed check procedure as follows – insert the spring in the .750" x .800"plate gauge (spring must be centered in plate gauge and must fit inside of gauge with the ends of the spring wires perpendicular to the plate). Once inserted in the plate gauge take the .250" NO-GO gauge and check the center coil spacing on both sides. The .250" NO-GO gauge must be parallel to the spring wire and perpendicular to the center of the spring when checking. The .250" NO-GO must pass check on at least one side of the spring. If the .250" does not enter either side, the spring is deemed a legal spring. If the .250" pin does not enter on one side but does enter the other side, the spring is deemed a legal spring. If the .250" pin enters both sides the spring is deemed illegal. NOTE: the .250" pin is to be used on one side and then the other side. At no time is the .250" pin to be slid through the block to touch the coil on the opposite side. This check is to be performed after the 10.8/lb , 18/lb check, and .071 max wire diameter check have been performed. Ends of the valve springs may be sanded to help meet spring checks. Springs MUST PASS both checks (Dead Weight & Spring Box) if available.No sinking the valves below the deck of chamber. Head must remain stock geometry no valve angle changes or angle milling. Head may be resurfaced to meet the AKRA CC rule of 26.5cc. Head gasket is non tech item. Porting is permitted however both Intake and Exhaust ports must meet the following guidelines.
  NO-GO's for the intake opening vertical (flat to oval sides) .962" ... NO-GO horizontal (flat to flat sides) .950" and the exhaust exit vertical (flat to oval sides) .974" ... NO-GO horizontal (flat to flat sides) .967". Both ports must retain their original D shaped design. No visual tech on surface finish, no adding of material, cannot touch the seat or valve guide in the porting process, and no rifling or dimpling of the port area. Valve guide length: 1.055" (new gauge will check

proper length as well as guide location or depth into port area) also checks spring pocket flatness, stock guides only. ..."

- Camshafts: Stock or aftermarket camshafts are allowed providing they meet the following AKRA box stock clone requirements.
  Ez-spin assembly must remain as stock. Cam lobe base circle diameter .865" -.005"/+.010" Duration check for Intake and Exhaust lobes (taken off pushrod). 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/-5 degrees for wear and gauge variances. Max Intake lift on cam .225" – Min .215" lift taken at the pushrod. Max Intake lift at the valve .238" Taken on valve spring retainer as raced. Max Exhaust lift on cam .232" – Min .222" lift taken at the pushrod. Max Exhaust Lift at the valve .242" Taken on valve spring retainer as raced.

- Valve train: Box Stock lifters only, bottom of lifter may be ground to meet weight spec but bottom must remain flat. Over-all length of push rod 5.285" max, 5.230" min. Push Rod must be of 3 piece design (Hollow or solid tube with 2 solid ball ends). Lifter Head diameter .915" min with no visible modifications. Factory 1:1 rocker arms only. (No roller rockers). Rockers may be ground at tips to meet running lift requirements.

- Block: 2.691" Max. Bore (approx.010" over). Oil return hole not to exceed .251". Stock crank bearings only (no ceramic bearings permitted). Re-sleeving block is not permitted. No piston pop-up allowed. Governor hole may be plugged. Block to head mating surface may be machined to correct CC's or correct a gasket failure.

- Crankshaft: Stock Box Stock 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"max - 1.168" min. Crankshaft stroke is 2.123" +/-.010.
- Connecting rod: Stock connecting rod required. The pressure casted performance rod is also permitted. Oil hole size .179" max. 2.375 max. length 2.350 min. length.
  NO BILLET RODS ALLOWED.

- Piston: Must be unaltered box stock dished piston only. No machining of pistons or rings allowed. File fitting is permitted. No aftermarket or flat top pistons. Piston must be of a 3 ring design and all rings must be intact and functional. Maximum oversize .010" (see block section).

- Flywheel and Ignition: Must use stock clone ignition coil, plug wire, and resistor spark plug boot. Spark plug is non tech. Stock flywheels are prohibited. Must use billet flywheel for safety reasons. Flywheel must be from approved list, 3.3 lb. minimum weight. No flywheel modifications allowed. The following flywheels are allowed: ARC 6618, 6619, King billet steel, Raceseng REV WHEEL – finned-S-1, Billet aluminum Slipstream. And Dyno PVL aluminum flywheel.

- Starter: Electric starter with starter nut permitted. May also use recoil pull start. Pull starter may be rotated for better cranking angle and have better quality replacement rope installed.

- Clutch: All Jr. Plate class clones must run a drum clutch only. Sr. Clone classes may run disk or drum clutch of choice.

- Please note that these rules are general guidelines to our box stock class structure and all other AKRA box stock clone engine rules will apply. If you are chosen for tech please do so without confrontation. If any confrontation is given you will forfeit your finish and points for the day. All tech sessions will be held at end of the race day. 20 minute wait time after checkered flag before tech begins. No cooling of engine by any methods prior to tech. If chosen, please take kart directly to the designated tech area where there will be a track official to watch your equipment. No work may be performed on kart at this time. It is asked that you drain your engine oil at this location and remove engine from kart if it passes visual inspection of clutch/pipe firsthand. Proper tech will resume from this point. Driver/owner of kart being teched and tech official only permitted in the tech area during tech sessions. It is not the responsibility of tech inspector to reassemble engine post tech. If you are deemed illegal you will be given "one week" to correct any illegal findings. First offence you will forfeit your finish and points for the day. Second offense forfeits finish and points and will not be permitted to race next scheduled race day. Third offense to be determined by track owner. Any issues that are questionable will be discussed by the tech inspector and track owner and decision will be made in the best interest of both parties. If you have any questions or concerns about the above rules please contact Matt Field 814-490-4465 after 6:00pm or Mark Matthews 814-664-3760.