

AKRA Box Stock/6.5 Clone/2011

Class Structure

Participant ages are determined as of January 1st 2011.

BOX STOCK SR CHAMP* Age 15 years & up – 400 lbs. – 87 Octane Gas Only - Approved engine: Any 6.5 BS Clone Style Engine OHV only, with AKRA approved Exhaust System. Stamped steel drum shoe type clutches only. (Series or Local Club Tire Rule)

BOX STOCK JUNIOR 111* Age 7 to 15 years –290 lbs. – 87 Octane Gas Only - Approved engine: Any 6.5 BS Clone Style Engine OHV only, with AKRA approved Exhaust System. Stamped steel drum shoe type clutches only. (Series or Local Club Tire Rule)

ENGINE SPECIFIC TECH SHEET FOR: BOX STOCK 6.5 OHV

Description: Single cylinder, 2 valves, 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 known Box Stock part (when performing a "stock part" comparison check it is recommended to use a +/- .005" tolerance). Engine will be teched as raced. There will also be a \$200 claiming rule in place for this engine. Refusing to accept the claimer will result in immediate disqualification of competitor along with forfeiture of any points earned to date in class. Competitor will also not be allowed to compete any longer in that class.

Combustion chamber volume: 26.5 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. Intake seat maximum ID .897", Exhaust seat maximum ID .862". Stock head bolts only, must have four. Head gasket/s maybe after market, must be of stock configuration, 2 gaskets permitted with a total minimum thickness of .008" and maximum of .020". No copper or aluminum gaskets allowed. Any stock configuration exhaust gasket allowed no other sealer.

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. Stock cylinder bore is 2.685" max. Stroke is 2.123" + .010" or - .005". No piston pop-out allowed. Matting surface finish of block and cylinder head is a non tech item, surfacing of both to correct gasket failure and meet cc check allowed. May use 2 side cover gaskets of stock configuration.

Carburetor requirements: Huayi OR RUI*ING 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. Venturi .615" NO-GO. Rear carb bore .751" NO-GO. Main fuel jet .042" NO-GO. Low speed idle jet .019" NO-GO. Stock emulsion tube must be used and unaltered, .066" max ID (no pass through). Throttle shaft - .115" minimum. Butterfly - .037" minimum. Aftermarket air filter adapter allowed (max length of 1.375).

Valve Train: Stock valve cover only with any stock configuration gasket, no sealer. Factory stock rocker arms 1:1 ratio and push rods only. Stock valves only 45 degree angle only both valves, Intake valve Max OD .985" +/- .005" and Exhaust valve Max OD .948" +/- .005", no modifications allowed. Only Box Stock valve springs. Max wire diameter on spring wire is .071" with a maximum tension of 10.8 lbs. at a height of .850". Lash cap on exhaust valve only. Valve stem seal allowed only on Intake valve, maximum lip thickness of .027". Minimum thickness of Intake retainer .230", Exhaust retainer .250". BS lifters only, no modifications allowed.

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 (5lbs 4 oz minimum) including plastic fins. No alterations of any type allowed. Maximum ignition timing advance is 18° BTDC when a straight edge placed on the outside of the right-hand coil leg is just touching the right-hand edge of the metal magnet cover of the flywheel. Flywheel key is non-tech.

Piston and Rings: Must be unaltered Box Stock only. No machining of piston and rings allowed.

Connecting Rod: Stock Box Stock rod only. No machining of any type allowed. Stock rod bolts only.

Crankshaft Requirements: 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.

Camshaft Requirements: Stock camshaft cores only, ez-spin assy 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 219 degrees at .050 lift/86 degrees at .200 lift. Exhaust duration of 222 degrees at .050" lift/97 degrees at .200" lift(All duration checks on intake and exhaust allow +/- 2 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 with zero lash. 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 with zero lash.

Blower Housing Assembly: pull starter must be present and remain stock. Pull starter may be rotated for a better crank angle.

Header and Muffler Requirements: Any single stage, one piece header made from .750" OD max and .635" ID max. Steel tubing allowed, with the RLV Mini B-91 Silencer (Optional 12-1-2010 and mandatory 3-1-2011) installed at the end of pipe. The B-91 Silencer must be tread fitted to the pipe end. The entire exhaust pipe including the muffler is 15" max length and 10" min length. RLV Mini 91 Silencer Requirements: Part # 4117 Overall Length 5.465" minimum – 5.605" maximum. Threaded Nipple .690" maximum ID. Internal raised weld seam must be present. (ID as Mfg. NO Grinding, Reaming, or Polishing Allowed) . Rear baffle holes .1285" maximum, inner baffle holes .0965" maximum. Silencer must be utilized as produced, with no modifications or alterations permitted. Strap or brace required to silencer for support, and to insure silencer does not turn and unscrew.

Fuel Tank Requirements: Floor Mounted fuel tank mandatory (stock tank must be removed). Pulse type fuel pump allowed.

Fuel Pump Requirements: 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.

Clutches: Stamped steel drum shoe type clutches only, No machined Billet drums allowed. No disc clutches allowed.

Claimer Rule: You must finish the race in the box stock class to purchase the winners engine for \$300 (minus the clutch/chain guard/throttle kit, header pipe/muffler, air filter adaptor/air filter, top plate & fuel pump).

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. Should this be allowed or preformed will mandate the use of an aftermarket Billet style flywheel for high RPM use (Super Box).ARC currently has these parts in their product line(part #'s 6618/6619)and they are approved by AKRA for use, others may become available as demand increases. Note: Under no circumstances is this type of flywheel allowed in the Box Stock Project (Stock Classes), Stock Flywheel ONLY. No other alterations to or from stock components are allowed

GRAND BEND INTL. SPEEDWAY

CAGE CART DIVISIONS FOR DIRT

CLASSES

1. Junior ages 7-15 max horse power 8hp any engine
2. Expert 14 & over (14 yr olds must have experience)

Contact us if considering this class. Racers require prior approval before competing in Expert.

Kart Chassis rules.

Experts must have QRC chassis or 440 flat bottom will be allowed.

Teams may enhance safety items (i.e. extra bar or safety strap) but may not remove bars or lighten the chassis by using thinner metal/tubing

Karts not previously raced with club must be within the following dimensions. (These are smaller than 2010, they are QRC standard dimensions with some wheel adjustment room)

Max wheel base length is 44" - 42ish recommended, overall length 84", max width 45" Jr/Sr, & 48" Expert

Floor pan- Must extend to at least front of seat.

Fuel systems must be done professionally and resistant to collision damage.

Numbering must be **clearly** visible from the front, rear, left, right and top. Numbering outlines recommended.

Seat- High back Aluminum

Drivers grow - top of helmet must be below roll cage upper bar when properly seated.

Seat belts-5 point harness is mandatory to secure driver fully within the roll cage.

Steering system must be safety wired or lock nutted in critical areas

Weights- karts may not weigh less than a factory QRC chassis/motor combination

Treaded or slick tires must be used. Burris Recommended

5" or 6" diameter, aluminum rims only.

Wings are mandatory on QRC's and optional on others.

Nerf Bars may not extend past the rear rims. Flat edge must fully seat on the rim

It is the team's responsibility to bring a safe kart to the track. Unsafe poorly maintained karts will be refused participation as necessary by track officials however permission to compete is not confirmation of the suitability or safety of a kart for competition.

Engine rules

6" Tie strap on spark plug wire (for emergency shut down)

Unleaded Gasoline Only. Alcohol fuel not permitted.

No performance enhancing additives in the oil or fuel.

2011 Beginners- Max dyno hp is 8. Approved dyno sheet must be on file if not a Subaru with .500 restricted engine. Subaru is the recommended engine for new members

2011 JR Subaru Ex270 as supplied with .625 restrictor

2011 Sr Subaru Ex270 no restrictor with stock or upgraded carb/intake system

Permitted 2011 Honda exceptions---Club existing Honda Gx270 (9hp) engines may be used in JR(8hp). If tags are cut a new dyno sheet is required.

NOTHING may be changed on the Subaru other than maintenance items like oil, air filter cleaning and valve clearance adjustment. Seals on all engines will be watched. If in doubt, contact track.

In summary, there are two choices of engines in JR & SR in 2011. Preferred choice is a Subaru sealed by QRC/track; OR Keith Marshman sealed & certified Gx 270 Honda 9hp that was used in the club in 2010. Engines may still be checked for hp, fuel and mechanical compliance. Engine Serial numbers must be recorded by the first race, May 2011.

Season points forfeited for any competitor using over powered Hondas or unauthorized Modifications on a Subaru.

Track management may have any engine pulled for dyno testing after any race.

Driver rules.

Arm restraints to be worn below the elbow, hands not to be able to extend outside roll cage.

Gloves to be fire resistant.

Goggles or helmet shield to protect eyes

On or off road full face Helmet - DOT or Snell approved, snug fitting. Tear offs not permitted, roll off style allowed.

Neck collar- must be worn and be fire resistant. Race Suit -fire resistant Proban racing suit (or better rating) with long sleeves and pant legs.

Driver ages determined at the first or last race of the year and may be used to the driver's advantage.

Team rules.

Fire extinguishers to be in every team's pits.

Our objective is to provide entertaining racing in a family environment. Drivers and their pit crew will be expected to conduct themselves in a manner suitable to the club goals. This includes language absent of profanity. Arguing a call of a track official on race day will result in a TEAM penalty which may be assessed the same day or the following weeks.

(Weekly racing with the same drivers/crew members/teams indoors results in close contact of all members both on and off the track. It is important that crews treat one another with respect and compassion because you will be seeing them again the following race or week. Make an enemy and they will be standing beside you a lot over the season. What fun is that? The drivers are usually found hanging out together displaying good sportsmanship for all to see. Lets have the parents learn a lesson from the kids in this area and use 2011 to mend any bridges already damaged.)

Racing rules.

Red Light- All karts to stop as soon as safely possible.

Yellow Light- Karts to continue at a slower than race speed. Hazard may be present on track.

Green Light- Race speeds expected

Pre race staging starts in the pit area and when directed karts to be pushed onto the track in starting grid order. If karts are entering track and you are late for your spot, drivers should drop to the rear of the grid on their own.

Race starts are unique on dirt with the green light going on 1/2 lap before the starter stand. The race does not start until the karts cross the start stand/finish line and it is the lead karts responsibility to bring the field to the line in formation. Failure to do so will result in a restart with the offending lead karts being put to the rear. Drivers should ask if they do not understand the process.

NO on track repairs. Starting a stalled kart is fine but if you need to install a chain or other repair, the kart must be removed from the track and taken to the staging area. If the track goes green before team is ready, the kart must wait for a caution before re-entering the race at the rear of the field. Track marshal to start race as soon as on track drivers are ready.