

GSKA Box Stock Clone Rulebook

Rev 6 – 9/10/2009

Class Structure:

Participant ages are determined as of January 1st (or during racing calendar year with board approval)

Clone Junior I:

Age: 8-10 years

Weight: 235 lbs.

Clutch: Drum style clutch only – #35 chain only – No disc clutches

Tires: Open compound – 4.50/5” or 4.60/5” front & rear

Maximum wheel width: 6.5” front & rear

Restrictor plate: ARC .500 (purple) restrictor plate – one gasket on each side of plate - see 1.6 below

Air cleaner / Intake tract: Aftermarket air filter adapter **not** allowed. Stock airbox & filter assembly required, no modifications allowed. Foam pre-filter may not be removed. Filter cover must be intact in factory position. If aftermarket catch can / breather is utilized, bung for factory PCV hose must be plugged.

Exhaust: ARC DJ-1138 “Box Stock” Header & Muffler assembly or equivalent¹. Header must be fully wrapped (to within .75” or less of end of header) with heat/flame retardant material.

Bodywork: CIK style per WKA section 208 – 4 cycle style per WKA section 258 (Sportsman 1 apply)

Chassis: Standard sprint or cadet chassis – Specifications per WKA 201.1 – 201.12. Class weight may be increased on cadet chassis if significant performance advantage exists due to the shorter wheelbase.

Clone Junior II:

Age: 10-12 years

Weight: 280 lbs.

Clutch: Drum style clutch only – #35 chain only – No disc clutches

Tires: Open compound – 4.50/5” or 4.60/5” front & rear or optional 6.0/5” rear

Maximum wheel width: 6.5” front & rear or optional 7.75” rear maximum with 6.0/5”

Restrictor plate: ARC .550 (blue) restrictor plate – one gasket on each side of plate – see 1.6 below

Air cleaner / Intake tract: Aftermarket air filter adapter **not** allowed. Stock airbox & filter assembly required. Foam pre-filter may be removed. Filter cover may be removed. Excess plastic may be trimmed from airbox assembly for throttle clearance providing no bypass of stock air inlet tract is achieved. If aftermarket catch can / breather is utilized, bung for factory PCV hose must be plugged.

Exhaust: ARC DJ-1138 “Box Stock” Header & Muffler assembly or equivalent¹. Header must be fully wrapped (to within .75” or less of end of header) with heat/flame retardant material.

Bodywork: CIK style per WKA section 208 – 4 cycle style per WKA section 258 (Sportsman 2 apply)

Chassis: Standard sprint chassis – Specifications per WKA 201.1 – 201.12 – no cadet chassis

Clone Junior III:

Age: 12-15 years

Weight: 310 lbs.

Clutch: Drum style clutch only – #35 chain only – No disc clutches

Tires: Open compound – 4.50/5” or 4.60/5” front & rear or optional 6.0/5” rear

Maximum wheel width: 6.5” front & rear or optional 7.75” rear maximum with 6.0/5”

Restrictor plate: none

Air cleaner / Intake tract: Aftermarket air filter adapter **not** allowed. Stock airbox & filter assembly required. Foam pre-filter may be removed. Filter cover may be removed. Excess plastic may be trimmed from airbox assembly for throttle clearance providing no bypass of stock air inlet tract is achieved. If aftermarket catch can / breather is utilized, bung for factory PCV hose must be plugged.

Exhaust: Stock muffler or any commercially available header with muffler. Muffler may not be modified, all baffling must remain intact. Header must be fully wrapped with heat/flame retardant material

to within 1.5" of the muffler attachment point. Entire header/muffler assembly must be contained within the perimeter of the kart formed by the side panels and rear bumper assembly.

Bodywork: CIK style per WKA section 208 – 4 cycle style per WKA section 258

Chassis: Standard sprint chassis – Specifications per WKA 201.1 – 201.12 – no cadet chassis

Clone Senior:

Age: 15 years & up

Weight: 340 lbs. Medium or 385 lbs. Heavy

Clutch: Drum style clutch only – #35 chain only – No disc clutches

Tires: Open – Any size / compound - 5" or 6" diameter

Maximum wheel width: 6.5" front, 8.75" rear maximum

Restrictor plate: none

Air cleaner / Intake tract: Aftermarket air filter adapter **not** allowed. Stock airbox & filter assembly required. Foam pre-filter may be removed. Filter cover may be removed. Excess plastic may be trimmed from airbox assembly for throttle clearance providing no bypass of stock air inlet tract is achieved. If aftermarket catch can / breather is utilized, bung for factory PCV hose must be plugged.

Exhaust: Stock muffler or any commercially available header with muffler. Muffler may not be modified, all baffling must remain intact. Header must be fully wrapped with heat/flame retardant material to within 1.5" of the muffler attachment point. Entire header/muffler assembly must be contained within the perimeter of the kart formed by the side panels and rear bumper assembly.

Bodywork: CIK style per WKA section 208 – 4 cycle style per WKA section 258

Chassis: Standard sprint chassis – Specifications per WKA 201.1 – 201.12 – no cadet chassis

Section 1 - Engine Rules (apply to all classes):

1.1 Approved engine: Box Stock Project 6.5 (yellow) OHV only² (see note 2 below)

Important Note: All parts must be Box Stock Project factory production parts unless otherwise specified in this rulebook. 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 with a +/- .005" tolerance. Any and all parts are subject to visual tech at the discretion of the tech official. Engine will be teched as raced.

1.2 Fuel: 87 octane pump fuel **purchased on race day** from Ingles Fuel Express at 625 Hwy. 341 South in Barnesville. Race officials will obtain a race day control sample to be used as the reference sample for fuel testing. Fuel tech will consist of zeroing a Digitron meter with the control sample. Competitor's fuel must test within +/- 10 points of reference sample. No additives of any type allowed – water test may be used in addition to Digitron meter.

1.3 Oil: Any commercially available oil – **No additives allowed**

1.4 Fuel Tank Requirements: Floor Mounted fuel tank **required** (stock tank to be removed). Pulse type fuel pump allowed. Fuel pump must be pulsed from either crankcase or 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.

1.5 Carburetor: Stock model carburetor only. No Honda carburetors. 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. Stock emulsion tube must be used and unaltered.

Choke bore - .810" NO-GO

Venturi - .615" NO-GO

Rear carb bore - .751" NO-GO

Main fuel jet - .042" NO-GO

1.6 Restrictor Plate Installation: On classes requiring restrictor plates the plate shall be installed between the front carburetor flange and the plastic intake spacer with one gasket on each side of plate. The ARC plate

identification shall be facing away from the engine. Plate may be trimmed **slightly** to clear valve cover mounting boss if clearance issues exist. No further modification of plate is permitted, specifically no modification to any holes in the plate are allowed (to include the mounting flange holes). Gasket sealing surface of plate shall not be modified.

- 1.7 **Combustion chamber volume:** 27.5 cubic centimeter minimum, with piston at TDC
- 1.8 **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 may be aftermarket, must be of stock configuration. No copper or aluminum gaskets allowed.
- 1.9 **Bore and Stroke:** Stock cylinder bore is 2.685" max. Stroke is 2.123" + / - .005"
- 1.10 **Valve Cover:** Stock valve cover only – fittings may be added for fuel pump pulse tube and/or oil catch can
- 1.11 **Push Rods:** Factory stock push rods only – subject to visual tech
- 1.12 **Rocker Arms:** Factory stock rocker arms in stock position and configuration only – subject to visual tech
- 1.13 **Valve Springs:** Factory stock valve springs only. Max wire diameter on spring wire is .071" with a maximum pressure of 10.8 lbs. at a height of .850"
- 1.14 **Valve spring retainers:** Stock retainers required in stock position and configuration only. Minimum thickness: .088 intake & .060 exhaust
- 1.15 **Valves:** Factory stock valves only. 45 degree angle only, both valves, no modifications allowed
- 1.16 **Ignition system:** Stock Box Stock system only and must be unaltered. Low oil sensor may be disabled and removed. Senior class may remove the kill switch. Supplemental kill switches may be added at the driver's discretion. All junior class engines must have a functional kill switch. It is strongly recommended that junior class engines have a kill switch that is easily accessible to, and able to be operated by, the driver.
- 1.17 **Flywheel:** Box Stock flywheel only with plastic fins. No alterations of any type allowed. Must also run stock flywheel key in stock position, no offset or modified keys allowed. Plastic fan assembly is a tech item and will be compared to known stock assembly
- 1.18 **Flywheel Key:** Must be stock, unaltered key. Minimum thickness .156"
- 1.19 **Piston and Rings:** Must be unaltered Box Stock only. No oversize pistons or rings allowed. No machining of piston and rings allowed.
- 1.20 **Connecting Rod:** Box Stock rod only. No machining of any type allowed. Stock rod bolts only.
- 1.21 **Crankshaft Requirements:** 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"- 1.175" min.
- 1.22 **Camshaft Requirements:** Stock as cast camshaft only. Maximum running lift of .245" checked at valve as run. Maximum lift of .227 at lifter. Cam profile as measured at lifter:

	Lift	Minimum	Maximum		Lift	Minimum	Maximum
Exhaust:	0.050	23.3°	29.3°	Intake:	0.050	5.3°	11.3°
	0.100	6.8°	12.8°		0.100	23.7°	29.7°
	0.150	6.5°	12.5°		0.150	43.8°	49.8°

	0.200	34.7°	43.2°
Max Lift:	0.227		
	0.200	63.7°	69.7°
	0.150	35.5°	41.5°
	0.100	15.5°	21.5°
	0.050	0.0°	6.5°

	0.200	72.7°	78.7°
Max Lift:	0.227		
	0.200	30.7°	36.7°
	0.150	1.7°	7.7°
	0.100	12.7°	18.7°
	0.050	31.0°	37.0°

- 1.23 **Block Requirements:** Block must remain stock as produced. Stub for governor may be removed and hole plugged. Oil level sensor 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.
- 1.24 **Recoil Starter:** Stock recoil starter must be installed as supplied from factory and must be the only available method for starting
- 1.25 **Claimer Rule:** There will be a \$200 claiming rule in place for this engine. Refusing to accept the claim 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 further in that class. You must finish the race in the box stock clone class to purchase an engine for \$200 (minus the clutch, chain guard, throttle kit, header pipe, muffler, air filter, top plate, and fuel pump). Competitors finishing 4th or worse may claim the engine of anyone in class finishing higher than them. Competitors finishing in positions 1 through 3 may claim the engine of finishers in positions 1 through 3, regardless of finishing position. (For example a winner may claim the engine of the 2nd or 3rd place finisher if he/she chooses). Claimed engines will be subject to technical inspection prior to claim and subsequent transfer to claimant. If engine is found to be illegal during inspection claim will be void and claim fee will be returned to claimant. To initiate a claim the \$200 claim fee shall be presented in cash to the race director or a 4-cycle director before the kart subject to claim is released from post-race weigh in.
- 1.26 **Enforcement Actions:** A competitor found violating any of the above rules will be disqualified for that race day with no points being awarded. Refusal of tech, flagrant or repeated violations will result in severe disciplinary actions to be determined by the full board. Possible penalties may include one or more of the following: DQ for the race day, no award of points, forfeiture of all points accumulated that season, 1 or more race suspension, and competitor being banned from any further participation in any box stock clone class. Flagrant violations shall include (but not be limited to) aftermarket valvetrain components, machine work of any kind, discovery of any performance-enhancing fuel or oil additive, or any unapproved carburetor modifications. In the event of a DQ a competitor may not “drop” that race for class championship purposes.
- 1.27 **Appeal Process:** A disqualified competitor may appeal a DQ decision by submitting a written appeal to the race director or 4 cycle directors no later than 30 minutes after the disqualification is rendered. This written appeal along with track official testimony will be reviewed by the full board and a final decision will then be made. Every attempt will be made to have the decision at the event following the appeal. All decisions made by the full board shall be final.
- 1.28 **Rules Revisions:** Rules are subject to adjustment at any time to accommodate production tolerances or engine & parts availability.
- 1.29 **Protest Procedure:** All protests must be submitted in writing, on the Official Race Protest Form (available at the scoring tower), within fifteen (15) minutes of the completion of the applicable main event. Protest should be submitted to the class director or another present board member. Protests may only be filed by kart drivers (or guardians for drivers under 18). Individual filing protest must be participating in the class in which the protest is filed. Protests must be specific, and reference the applicable GSKA or WKA rule(s) that is/are being questioned. A fee of \$50 shall accompany any tech-related protest, \$25 of which shall be retained by GSKA. The remaining \$25 will be returned to the protesting party (if upheld) or to the competitor being protested (if rejected).

¹ **ARC DJ-1138 “Box Stock” Header & Muffler Specifications:** Single stage, one piece header made from .750” O.D. steel tubing with the Briggs & Stratton tube style muffler part #89966 or it’s aftermarket equivalent(ex: rotary power) installed at the end of pipe. The tube style muffler may either be welded or tread fitted to the pipe end. No modifications of any kind are permitted to the muffler. The entire exhaust pipe including the muffler is 14” max length and 10” min length. Equivalent model may be used as long as it meets the preceding specifications.

²For the 2009 GSKA season other models of 6.5 hp Clone engines already owned by competitors will be grandfathered for the life of the engine. Competitors wishing to have existing non Box Stock Project engines grandfathered must present their engine(s) (maximum of 3 per competitor) for grandfather tagging (for ID only, not sealing) at one of the first 4 events of the 2009 season. After the first 4 events of 2009 further tagging will require approval by both GSKA 4 cycle directors. After tagging, it is the competitor’s responsibility to ensure that their engine(s) meet **all** specifications outlined in this rulebook. For visual tech all parts will be compared to Box Stock Project 6.5 (yellow) OHV known stock parts.

All engines raced in 2009 must have either (a) Box Stock Project tag or (b) “Box Stock Project” stamp on front of block or (c) GSKA grandfather tag in place.

Revision History:

Rev. 3 3/27/2009: Corrected typo in valve spring wire diameter to .071"

Rev. 4 4/6/2009: Reduced Clone Jr.1 weight to 235. Added language regarding restrictor plate mounting.

Rev. 5 6/10/2009: Removed requirement to wrap muffler in Jr.1 and Jr.2 classes. Changed fuel test specification (1.2) to +/- 10 points. Added protest procedure (1.29). Updated Jr. kill switch language in 1.16.

Rev. 6 9/10/2009: Updated language in sub-note 2 allowing factory “Box Stock Project” marking in front of block in lieu of box stock project tag. Corrected spec fuel provider to Ingles Fuel Express in 1.2.