# 2018 TAG™ Racing Int./ TAG™ USA Local Option Tech Manual

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DISCLAIMER

It is the purpose of TAG™ Racing International and TAG™ USA is to create FAIR, FUN and SAFE racing programs on a worldwide basis within the Karting industry.

Use of these Rules and Regulations require Tracks, Clubs, Promoters or Series be sanctioned by the TAG™ Racing International / TAG™ USA Any other use is strictly Prohibited without the express written consent of the TAG™ Racing International / TAG™ USA

ANYTHING, WHICH IS NOT EXPRESSLY ALLOWED, IS FORBIDDEN!

TAG™ Racing International/TAG™ USA and its organization(s) Reserve the Right to Refuse any and all entries, membership and or corporate participation at any or all sanctioned or series events.

The rules and / or regulations set forth herein are designed to provide for the orderly conduct of racing events and to establish minimum acceptable requirements for such events. These rules shall govern the condition of all events; all participants are deemed to have complied with these rules.

NO EXPRESSED OR IMPLIED WARRANTY OF SAFETY SHALL RESULT FROM PUBLICATIONS OR COMPLIANCE WITH THESE RULES AND REGULATIONS. They are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to a participant, spectator, or official.

Living Document

This is a “living document”, and as such is subject to revisions and changes as deemed necessary to continue the integrity of the TAG™ program.
TAG™ Racing International / TAG™ USA

Sprint Class Structure

YAMAHA JUNIOR SPORTSMAN Age 8 to 12 years. 250 lbs. - Gas and oil only - Approved engine: Yamaha KT100S only, with Walbro WA55B or KPV1 Carburetor, and WA55 Manifold, and RLV SSX exhaust and approved air box required.

YAMAHA JUNIOR Age 12 to 15 years - 285 lbs. - Gas and oil only - Approved engine: Yamaha KT100S only, with RLV YBX exhaust and approved air box required.

YAMAHA SPORTSMAN LITE Age 16 years & up - 330 lbs. - Gas and oil only - Approved engine: Yamaha KT100S only, with RLV SSX exhaust and approved air box required.

YAMAHA SPORTSMAN HEAVY Age 16 years & up - 360 lbs. - Approved engine: Yamaha KT100S only, with RLV SSX exhaust and approved air box required.

YAMAHA SENIOR LITE Age 16 years & up - 320 lbs. - Gas & oil only - Approved engine: Yamaha KT100S only, Any TAG RACING INT. approved fixed exhaust and approved air box required.

FORMULA Y JUNIOR Age 12 to 15 years - 285 lbs. - Gas and oil only - Approved engine: Yamaha KT100S only, with RLV 8817 header, and RLV 8789 pipe required, and approved air box required.

FORMULA Y SENIOR Age 15 years & up - 325lbs. - Gas and oil only - Approved engine: Yamaha KT100S only, with RLV 8816 header, and RLV 8787 pipe required, and approved air box required.

K.P.V. JUNIOR SPORTSMAN Age 8 to 12 years. 250 lbs. - Gas and oil only - Approved engine: KPV100 only, with KPV#1 Carburetor, and KPV#1 pipe – 12 to 12½” flex length –KPV EXPD-A clutch, 6,000 rpm maximum clutch stall speed, and approved air box required.

KPV JUNIOR Age 12 thru 15 – 310 lbs. #2 pipe – gas and oil – K&N filter allowed – open tire – 5” wheels only – 450 front only – 600 rear only – CIK sit-up sprint style seat only. 13” minimum height cannot pass rear axle. Floor pan between frame rails only, not past rear axle, Engine clutch only. Minimum overall rear tire width of 45”.

KPV Senior Age 15 & up – 340 lbs. with #3 pipe at 12”-12.5” – 360 lbs. with #2 or #4 pipe at 10”-10.5” – gas and oil – K&N filter allowed – open tire – 5” wheels only – 450 front only – 710 rear only – CIK sit-up sprint style seat only. 13” minimum height cannot pass rear axle. Floor pan between frame rails only, not past rear axle. Engine clutch only. Minimum overall rear tire width of 45”.

100cc SENIOR Age 16 years & up - Gas and oil only. Any TAG™ approved fixed exhaust required. a) 100cc Piston Port Stock – 310 lbs. Approved engines: Komet K71, Parilla PV92, Yamaha KT100S, Comer P50 and P51, PRD RK100, Comer/ARC and KPV100. b) 100cc Controlled Stock Reed Valve - 350 lbs. Approved engines: Atomik, Parilla TT75, PCR PC93, Comer MIK351L, PCR TSL98, PCR TSL95, Parilla ReedJet, CRG S10-T1, DAP T85, Italsistem ML21, and Jako 2LA. and approved air box required.

KID KARTS Age 5 to 7 years – Gas and oil only - Approved engine: Comer 50cc Box stock, unaltered, 1.8 HP, fixed jet carburetor, stock exhaust required, unaltered 89 tooth sprocket.

US820 SENIOR Age 15 years & up - 340lbs. - Gas and oil only - Approved engine: US820 with US820 pipe required and approved air box required.

4 CYCLE NOVICE Age 8 to 12 years - 260 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with .425 inch maximum intake restrictor and Exhaust Silencer Required

4 CYCLE JUNIOR Age 12 to 15 years - 290 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with .575 inch maximum intake restrictor and Exhaust Silencer Required

4 CYCLE SENIOR Age 15 years & up - 350 lbs. - Methanol only -Approved engine: Briggs & Stratton stock 5hp only, with Exhaust Silencer Required

4 CYCLE SUPERSTOCK Age 15years & up - 360 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with any Tillotson HL (except HL334A) series carburetor with .900 inch maximum venturi diameter, any single piece intake manifold and Exhaust Silencer Required Auxiliary vacuum fuel pump, pulsed from the intake, is permitted.

Formula-OHV Age 15 years & up - 360 lbs. – Gas only - Approved engines: Kohler C6 XKE, Briggs & Stratton Intek 5.5 and Animal, Honda GX-200 and Tecumseh OHH55 – Exhaust Silencer Required

SPRINT 4 CYCLE NOVICE (ANIMAL & FLAT HEAD) Age 8 thru 11 years – Animal 250 lbs – triple hole red restrictor. Flat Head 250 lbs – 5 hp Briggs & Stratton engines per 2018 TAG™ Tech Manual. Exhaust silencers required. 0.500 (turquoise) restrictor plate required. NO steering fairings, the CIK number panel is legal, overall nose height maximum of 16” measured from ground, chest protector is mandatory.

SPRINT JUNIOR 4-CYCLE (ANIMAL & FLAT HEAD) Age 12 thru 15 years – 305 lbs. Briggs & Stratton 5hp with .575 restrictor or Briggs & Stratton Stock Animal 6.5hp w/.360 throttle stop maximum exhaust pipe length 24” may be one or two
piece must be inside bumper. Alcohol only allowed. Exhaust silencers required. Aftermarket connecting rods are allowed, stock length only, chest protector is mandatory for JR participants

**Briggs Animal Junior** Age 11 thru 15 years – 300 lbs–Briggs & Stratton Stock Animal 6.5hp. Gas only or Alcohol only allowed. Exhaust silencers required. Aftermarket connecting rods are allowed, stock length only, chest protector is mandatory for JR participants

**BRIGGS SPRINT ANIMAL 370** Age 15 years & up - 370 lbs. - Alcohol only - Briggs & Stratton engines. Exhaust silencers required. Aftermarket connecting rods are allowed.

**BRIGGS SPRINT ANIMAL 385** Age 15 years & up - 335 lbs. - Alcohol only - Briggs & Stratton engines. Exhaust silencers required. Aftermarket connecting rods are allowed.

**BRIGGS 206 CADET / NOVICE** Age 7 thru 10 years – 200 lbs. – 206 Junior engines with Carb Lock per 2018 TAG™ Tech Manual.- BS (#555728) Slide required with 4,100 RPM Rev Limiter Exhaust silencer required. **Pull starter** must be present and remain stock. chest protector is mandatory.

**BRIGGS 206 SPORTSMAN** Age 8 thru 10 years – 225 lbs. – 206 Junior engines with Carb Lock per 2018 TAG™ Tech Manual.- BS (#555735) “Purple” Slide required Exhaust silencer required, **Pull starter** must be present and remain stock. chest protector is mandatory.

**BRIGGS 206 JR-1** Age 8 thru 12 years – 265 lbs. – 206 Junior engines with Carb Lock per 2018 TAG™ Tech Manual.- 490 restrictor - Green slide Required, Exhaust silencer required, **Pull starter** must be present and remain stock. chest protector is mandatory.

**BRIGGS 206 JR** Age 11 thru 15 years – 300 lbs. – 206 Junior engines with Carb Lock per 2018 TAG™ Tech Manual.- Exhaust silencer required, **Pull starter** must be present and remain stock. chest protector is mandatory.

**BRIGGS 206 SR** Age 15 years & up - 375 lbs. – 206 engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, **Pull starter** must be present and remain stock

**BRIGGS 206 MASTERS** Age 30 years & up - 405 lbs. – 206 engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, **Pull starter** must be present and remain stock

**4 CYCLE INTERNATIONAL NOVICE (CLONE)** Age 7 thru 11 years – 225 lbs. – 6.5 clone engines per 2018 TAG™ Tech Manual.. ARC/.550” Blue Restrictor With stock Muffler, **Pull starter** must be present and remain stock chest protector is mandatory.

**4 CYCLE INTERNATIONAL JR (CLONE)** Age 11 thru 15 years – 305 lbs. – 6.5 clone engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, **Pull starter** must be present and remain stock chest protector is mandatory.

**4 CYCLE INTERNATIONAL SR (CLONE)** Age 15 years & up – 360 lbs– 6.5 clone engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, **Pull starter** must be present and remain stock

**4 CYCLE INTERNATIONAL MASTERS (CLONE)** Age 30 years & up – 385 lbs– 6.5 clone engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, **Pull starter** must be present and remain stock

**4 CYCLE INTERNATIONAL BULLDERS SR (CLONE)** Age 15 years & up – 360 lbs– 6.5 clone engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, **Pull starter** must be present and remain stock

**4 CYCLE INTERNATIONAL STOCK APPEARING SR (CLONE)** Age 15 years & up – 385 lbs– 6.5 clone engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, Approved SFI certified billet aluminum flywheel only

**TAG™ CADET** Age 8 thru 11 years – Weight per TAG™ USA weight chart. – Gas & oil only – TAG™ engines, exhaust, and karts per 2018 TAG™ USA Tech Manual, chest protector is mandatory.

**TAG™ JR. SPRINT / TAG™ USA** Age 12 to 15 years – Weight per TAG™ USA weight chart. – Gas & oil only – TAG™ engines, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual. Chest protector is mandatory.

**TAG™ SENIOR / TAG™ USA** Age 15 & up – Weight per TAG™ USA weight chart. – Gas & oil only – TAG™ engines, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual.

**TAG™ Masters / TAG™ USA** Age 15 & up – Weight per TAG™ USA weight chart. – Gas & oil only – TAG™ engines, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual

**TAG™ HEAVY / TAG™ USA** Age 15 & up – Weight per TAG™ USA weight chart. – Minimum driver weight after race including driving equipment 200 lbs – Gas & oil only – TAG™ engines, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual.
**TAG™ 4-STROKE / TAG™ USA** Age 15 and up – Weight per TAG™ USA weight chart – Gas and oil only – TAG™ engines, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual.

**TAG™ IAME Challenge / TAG™ USA** Age 15 & up – 360 lbs. Weight per TAG™ USA weight chart. – Gas & oil only – TAG™ engine, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual

**TAG™ SHIFTER / TAG™ USA** Age 15 and up – Weight per TAG™ USA weight chart – Gas and oil only – TAG™ engines, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual.

**TAG™ International - Junior & Senior Combined Class Weights**

**NOTE:** At the discretion of the club, series, and/or Race director, a 200 lbs driver may run TAG™ Masters if he or she is 16 years of age and he or she weighs 200 lbs (minimum) Post race on race day. This is solely at the discretion of the club, series, and/or Race director.

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<th>Masters</th>
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<td>J. PRD Fireball</td>
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<td>K. Rotax Max FR125</td>
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<td>O. TM 125</td>
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**Seat Rules for CIK body work classes:**
Sit-up sprint style seat only, 13’ minimum height cannot pass rear axle
CIK style seats are defined as Sprint style bucket seats un-altered.
Home made, modified, non production and Stallion road race seats are NOT Legal
Any attempts to circumvent this rule will be covered by the “Spirit and Intent rule”

**TAG™ Rules available at** [www.getTagracing.net](http://www.getTagracing.net)

**CIK 125 SPRINT** (Class 14) Age 16 years & up - 385/405 lbs. - Gas & oil only - Approved engines: 125cc moto & 125cc ICC CIK/FIA engines (ICC engines stock 30mm Delorto carb only). **Motors Homologated 2013 at 385 lbs. -- Motors Homologated 2016 at 405 lbs.** CIK style Bodywork Only. Chassis & engine tech per CES / TAG rules. Tires open Sit-up sprint style seat only, 13” minimum height cannot pass rear axle (b) Stock Honda Age 16 years & up - 375 lbs 125cc moto. per CES / TAG rules. Tires open Pipe is restricted to the following RLV 6800 series, RCE T3, RLV-R4 and RLV-R4--Two Piece, - Pro Circuit Pipe #SK-1

**G-125 SPRINT** (Class 15) Age 35 years & up - 420 / 440 lbs. Gas & oil only- Approved engines: 125cc moto & 125cc ICC CIK/FIA engines (ICC engines stock 30mm Dellorto carb only). **Motors Homologated 2013 at 420 lbs. -- Motors Homologated 2016 at 440 lbs.** CIK style Bodywork Only. Chassis & engine tech per CES / TAG rules. Tires open. Sit-up sprint style seat only, 13’ minimum height cannot pass rear axle.

**125cc Stock Moto SPRINT** Age 16 years & up - 385 lbs. Gas & oil only - Approved engines: Honda 125cc moto. CIK style Bodywork Only. Chassis & engine tech per TAG rules. Tires open CIK Sit-up sprint style seat only, 13” minimum height cannot pass rear axle. Cylinder and cylinder head must be stock 1999 OEM. Pipe is restricted to the following RLV 6800 series, RCE T3, and RLV-R4, - Pro Circuit Pipe #SK-1

**ICC-125 Sportsman SPRINT** Age 16 years & up - 400 lbs. W / 34mm **Exhaust Restrictor** 360lbs W / 30mm **Exhaust Restrictor** Gas & oil only - Approved engines: 125cc ICC CIK/FIA engines (ICC engines stock 30mm Delorto carb only) CIK style Bodywork Only. Chassis & engine tech per CES / TAG rules. Tires open Sit-up sprint style seat only, 13” minimum height cannot pass rear axle
4 CYCLE JUNIOR I LITE  Age 8 to 10 years - 250 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with .425 inch maximum intake restrictor, no steering fairing allowed, maximum nose height 14 inches from ground level to top of nose, and Exhaust Silencer Required

4 CYCLE JUNIOR I HEAVY Age 8 to 10 years - 265 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with .425 inch maximum intake restrictor, no steering fairing allowed, maximum nose height 14 inches from ground level to top of nose, and Exhaust Silencer Required

4 CYCLE JUNIOR II LITE Age 10 to 12 years - 265 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with .500 inch maximum intake restrictor, no steering fairing allowed, maximum nose height 14 inches from ground level to top of nose, and Exhaust Silencer Required

4 CYCLE JUNIOR II HEAVY Age 10 to 12 years - 280 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with .500 inch maximum intake restrictor, no steering fairing allowed, maximum nose height 14 inches from ground level to top of nose, and Exhaust Silencer Required

4 CYCLE JUNIOR III LITE Age 12 to 15 years - 290 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with .575 inch maximum intake restrictor, and Exhaust Silencer Required

4 CYCLE JUNIOR III HEAVY Age 12 to 15 years - 310 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with .575 inch maximum intake restrictor, and Exhaust Silencer Required

4 CYCLE SENIOR LITE Age 15 years & up - 325 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with Exhaust Silencer Required

4 CYCLE SENIOR MEDIUM Age 15 years & up - 345 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with Exhaust Silencer Required

4 CYCLE SENIOR HEAVY Age 15 years & up - 365 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with Exhaust Silencer Required

4 CYCLE SPORTSMAN Age 35 years & up - 365 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with Exhaust Silencer Required

BRIGGS 206 NOVICE / Cadet Age 7 thru 10 years – 200 lbs. – 206 Junior engines with Carb Lock per 2018 TAG™ Tech Manual.- BS (#555728) Slide required with 4,100 RPM Rev Limiter Exhaust silencer required, Pull starter must be present and remain stock. chest protector is mandatory.

BRIGGS 206 SPORTSMAN Age 8 thru 10 years – 225 lbs. – 206 Junior engines with Carb Lock per 2018 TAG™ Tech Manual.- BS (#555735) “Purple” Slide required Exhaust silencer required, Pull starter must be present and remain stock. chest protector is mandatory.

BRIGGS 206 JR-1 Age 8 thru 12 years – 260 lbs. – 206 Junior engines with Carb Lock per 2018 TAG™ Tech Manual.- BS (#555733) “Red” Slide required Exhaust silencer required, Pull starter must be present and remain stock. chest protector is mandatory.

BRIGGS 206 JR Age 11 thru 15 years – 300 lbs. – 206 Junior engines with Carb Lock per 2018 TAG™ Tech Manual.- BS (#555734) “Blue” Slide required Exhaust silencer required, Pull starter must be present and remain stock. chest protector is mandatory.

BRIGGS 206 SR Age 15 years & up - 375 lbs. – 206 engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, Pull starter must be present and remain stock

BRIGGS 206 MASTERS Age 30 years & up - 405 lbs. – 206 engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, Pull starter must be present and remain stock

4 CYCLE JUNIOR ANIMAL Age 12 thru 15 years – 305 lbs. Briggs & Stratton Stock Animal 6.5hp w/.360 throttle stop maximum exhaust pipe length 24” may be one or two piece must be inside bumper. Alcohol only allowed. Exhaust silencers required. Aftermarket connecting rods are allowed, stock length only, chest protector is mandatory for JR participants

4 CYCLE SPRINT ANIMAL 370 Age 15 years & up - 370 lbs. - Alcohol only - Briggs & Stratton engines. Exhaust silencers required. Aftermarket connecting rods are allowed.
4 CYCLE SPRINT ANIMAL 385 Age 15 years & up - 335 lbs. - Alcohol only - Briggs & Stratton engines. Exhaust silencers required. Aftermarket connecting rods are allowed.

4 CYCLE SUPER STOCK Age 15 years & up - 370 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with any Tillotson HL (except HL334A) series carburetor with .900 inch maximum venturi diameter, any single piece intake manifold and Exhaust Silencer Required Auxiliary vacuum fuel pump, pulsed from the intake, is permitted.

BRIGGS LIMITED MODIFIED Age 15 years & up - 360 lbs. - Methanol only - Approved engine: Briggs & Stratton 5hp with any Tillotson HL-series carburetor with .850 inch minimum and .900 inch maximum venturi diameter, and Exhaust Silencer Required Auxiliary vacuum fuel pump, pulsed from the intake, is permitted.

4 CYCLE INTERNATIONAL NOVICE (CLONE) Age 7 thru 11 years – 225 lbs. – 6.5 clone engines per 2018 TAG™ Tech Manual. ARC/.550” Blue Restrictor With stock Muffler, Pull starter must be present and remain stock chest protector is mandatory.

4 CYCLE INTERNATIONAL JR (CLONE) Age 11 thru 15 years – 305 lbs. – 6.5 clone engines per 2018 TAG™ Tech Manual. Exhaust silencer required, Pull starter must be present and remain stock chest protector is mandatory.

4 CYCLE INTERNATIONAL SR (CLONE) Age 15 years & up – 360 lbs– 6.5 clone engines per 2018 TAG™ Tech Manual. Exhaust silencer required, Pull starter must be present and remain stock.

4 CYCLE INTERNATIONAL MASTERS (CLONE) Age 30 years & up – 385 lbs– 6.5 clone engines per 2018 TAG™ Tech Manual. Exhaust silencer required, Pull starter must be present and remain stock.

4 CYCLE INTERNATIONAL BULLDERS SR (CLONE) Age 15 years & up – 360 lbs– 6.5 clone engines per 2018 TAG™ Tech Manual. Exhaust silencer required, Approved SFI certified billet aluminum flywheel only

4 CYCLE INTERNATIONAL STOCK APPEARING SR (CLONE) Age 15 years & up – 385 lbs– 6.5 clone engines per 2018 TAG™ Tech Manual. Exhaust silencer required, Approved SFI certified billet aluminum flywheel only

TECUMSEH STAR Age 15 years & up 375 lbs. - Methanol only - Approved engine: Tecumseh 10hp with Exhaust Silencer Required

FORMULA-OHV Age 15 years & up - 360 lbs. – Gas only - Approved engines are overhead valve 4 cycle engines as follows: Kohler C6 XKE, Briggs & Stratton Intek 5.5 and Animal, Honda GX-200 and Tecumseh OHH55 – Exhaust Silencer Required

BRIGGS CHAMP KART Age 15 years & up - 410 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only. Exhaust Silencer Required

JUNIOR CHAMP KART Age 12 to 15 years - 345 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only. Exhaust Silencer Required

JUNIOR SPORTSMAN CHAMP KART Age 8 to 12 years - 315 lbs. - Methanol only - Approved engine: Briggs & Stratton stock 5hp only, with .425 inch maximum intake restrictor, Exhaust Silencer Required

KID KARTS+ Age 5 to 7 years – Gas and oil only - Approved engine: Comer 50cc Box stock, unaltered, 1.8 HP, fixed jet carburetor, stock exhaust required, unaltered 89 tooth sprocket, maximum nose height 14 inches from ground level to top of nose.

YAMAHA SPORTSMAN LITE Age 15 years & up - 340 lbs. - Gas and oil only - Approved engine: Yamaha KT100S only, with RLV SSX exhaust. approved air box required.

YAMAHA SPORTSMAN HEAVY Age 15 years & up - 365 lbs. - Gas and oil only - Approved engine: Yamaha KT100S only, with RLV SSX exhaust, approved air box required.

UNLIMITED 2-CYCLE Age 16 years & up – Fuel Open – a) 100cc - 315 lbs, b) 135cc - 345 lbs, c) up to 150cc - 360 lbs, Any reciprocating, normally aspirated, single-cylinder 2-cycle engine up to 150cc without gearbox. approved air box required.
Sprint ENDOURO Class Structure

**SPRINT 4 CYCLE NOVICE (ANIMAL & FLAT HEAD)** Age 8 thru 11 years – Animal 250 lbs – triple hole red restrictor. Flat Head 250 lbs – 5 hp Briggs & Stratton engines per 2018 TAG™ Tech Manual. Exhaust silencers required. 0.500 (turquoise) restrictor plate required. NO steering fairings, the CIK number panel is legal, overall nose height maximum of 16” measured from ground, chest protector is mandatory.

**SPRINT YAMAHA NOVICE** Age 8 thru 11 years – 275 lbs. – Yamaha KT100S engine per 2018 TAG™ Tech Manual. Walbro WA55B carburetor mandatory. RLV YBX Can muffler Old style Yamaha heads and cylinders allowed. NO steering fairings, the CIK number panel is legal, overall nose height maximum of 17” measured from ground, chest protector is mandatory.

**SPRINT JUNIOR 4-CYCLE (ANIMAL & FLAT HEAD)** Age 12 thru 15 years – 305 lbs. Briggs & Stratton 5hp with .575 restrictor or Briggs & Stratton Stock Animal 6.5hp w/.360 throttle stop maximum exhaust pipe length 24” may be one or two piece must be inside bumper. Alcohol only allowed. Exhaust silencers required. Aftermarket connecting rods are allowed, stock length only, chest protector is mandatory for JR participants

**SPRINT 2 Cycle Junior** (Class 3) Age 11 thru 15 years - 305 lbs. - Gas and oil only –
(a) Yamaha Jr. KT100S engines. RLV–SSX Can muffer. WB3A Carburetor, .
(b) KPP Junior 320 lbs KPP 100 engine Walbro WB3A carburetor, KPP 2 pipe and header mandatory CIK Body Work and Sit-up sprint style seat only. 12” minimum height cannot pass rear axle. Engine clutch only. Minimum overall rear tire width of 45”.
(c) Animal Jr. 300 lbs–Briggs & Stratton Stock Animal 6.5hp. Gas only or Alcohol only allowed. Exhaust silencers required. Aftermarket connecting rods are allowed, stock length only Chest protector is mandatory

**4 CYCLE INTERNATIONAL JR** (CLONE) Age 11 thru 15 years – 305 lbs. – 6.5 clone engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, Pull starter must be present and remain stock chest protector is mandatory.

**4 CYCLE INTERNATIONAL SR** (CLONE) Age 15 years & up – 360 lbs– 6.5 clone engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, Pull starter must be present and remain stock.

**BRIGGS 206 JR** Age 11 thru 15 years – 300 lbs. – 206 Junior engines with Carb Lock per 2018 TAG™ Tech Manual.- BS (#555734) “Blue” Slide required Exhaust silencer required, Pull starter must be present and remain stock. chest protector is mandatory.

**BRIGGS 206 SR** Age 15 years & up - 375 lbs. – 206 engines per 2018 TAG™ Tech Manual.. Exhaust silencer required, Pull starter must be present and remain stock

**BRIGGS SPRINT ANIMAL 370** Age 15 years & up - 370 lbs. - Alcohol only - Briggs & Stratton engines. Exhaust silencers required. Aftermarket connecting rods are allowed.

**BRIGGS SPRINT ANIMAL 335** Age 15 years & up - 335 lbs. - Alcohol only - Briggs & Stratton engines. Exhaust silencers required. Aftermarket connecting rods are allowed.

**SPRINT BRIGGS ANIMAL Junior** (Class 4) Age 11 thru 15 years – 300 lbs–Briggs & Stratton Stock Animal 6.5hp.Gas only or Alcohol only allowed. Exhaust silencers required. Aftermarket connecting rods are allowed, stock length only, Minimum Nose width 38.5”, 5” Wheels only, 450 min front Tires, 600 min Rear Tires, Chain Drive Only, Floor Pan inside frame rails only, sprint style seat only, 12” minimum height cannot pass rear axle. Brake Tether required chest protector is mandatory for JR participants.

**Sprint Briggs ANIMAL** Age 15 years & up - 350 lbs. - Alcohol only - Briggs & Stratton engines. Exhaust silencers required. Aftermarket connecting rods are allowed. Minimum Nose width 38.5”, 5” Wheels only, 450 min front Tires, 600 min Rear Tires, Chain Drive Only, Floor Pan inside frame rails only, sprint style seat only, 13” minimum height cannot pass rear axle.

**Briggs ANIMAL LTD Modified** Age 15 years & up - 385 lbs. - Alcohol only - Briggs & Stratton engines. Exhaust silencers required. Aftermarket connecting rods are allowed Dual valve springs allowed, Modified Cams allowed Tillotson carb allowed, aftermarket cam gear allowed.
Senior Super Heavy Age 15 years & up - 405 lbs. –
(a) Yamaha KT100S, ARC Comer and PRD RK 100 engines RLV-SSX Can muffler.
(b) Briggs Animal Alcohol only - Briggs & Stratton engines. Exhaust silencers required. Aftermarket connecting rods are allowed. Maximum Kart weight 235 lbs

SPRINT JR. YBX CAN Age 12 thru 15 years - 305 lbs. - Gas and oil only - Yamaha KT100S engines. RLV YBX #7500 muffler Chest protector is mandatory

SPRINT CIK YAMAHA SSX CAN Age 15 years & up - 340 lbs. Gas and oil only - Air box required. - 5” wheels only – 450 front only – 710 rear only Yamaha KT100S engines per 2018 TAG™ Tech Manual. RLV SSX Can muffler. Old style Yamaha heads and cylinders allowed. CIK Sit-up sprint style seat only, 13” minimum height cannot pass rear axle. CIK style Bodywork Only. Floor pan between frame rails only, not past rear axle. Engine clutch only. Minimum overall rear tire width of 45 inches.

PISTON PORT CAN SPRINT 360 Age 15 years & up - 360 lbs. - Gas and oil only - Yamaha KT100S, ARC Comer and PRD RK 100 engines, RLV SSX Can muffler. Old style Yamaha heads and cylinders allowed.

PISTON PORT CAN SPRINT 380 Age 15 years & up - 380 lbs. - Gas and oil only - Yamaha KT100S, ARC Comer and PRD RK 100 engines, RLV SSX Can muffler. Old style Yamaha heads and cylinders allowed.

OVER 35 SPRINT CAN Age 35 years & up - 380 lbs. - Gas and oil only - Yamaha KT100S, ARC Comer and PRD RK 100 engines. RLV SSX Can muffler. Old style Yamaha heads and cylinders allowed.

PISTON PORT SPRINT Age 16 years & up - Gas and oil only – a) Yamaha, ARC, & PRD – 360 lbs b) Piston Port – 380 lbs - Yamaha KT100S, ARC Comer, PRD RK 100, and Piston Port engines. No adjustable pipes allowed. Old style Yamaha heads and cylinders allowed.

KPV JUNIOR Age 12 thru 15 – 310 lbs. #2 pipe – gas and oil – K&N filter allowed – open tire – 5” wheels only – 450 front only – 600 rear only – CIK sit-up sprint style seat only. 13” minimum height cannot pass rear axle. Floor plan between frame rails only, not past rear axle, Engine clutch only. Minimum overall rear tire width of 45”.

KPV Senior Age 15 & up – 340 lbs. with #3 pipe at 12”-12.5” – 360 lbs. with #2 or #4 pipe at 10”-10.5” – gas and oil – K&N filter allowed – open tire – 5” wheels only – 450 front only – 710 rear only – CIK sit-up sprint style seat only. 13” minimum height cannot pass rear axle. Floor plan between frame rails only, not past rear axle. Engine clutch only. Minimum overall rear tire width of 45”.

SPRINT OPEN Age 15 years & up
(a) Yamaha – 340 lbs Gas & oil –
(b) Piston Port engines–350 lbs ARC Comer, PRD RK 100, Gas and oil –
(c) Controlled – 365 lbs. – Open fuel
(d) 4 cycle Open 385 lbs - Open Fuel
(e) Any single cylinder up to 150cc 2 cycle engines, air or water cooled. – 385 lbs – open fuel, No gearbox, TAG sprint road race bodywork allowed, Headrest and supplemental fuel tank allowed for 2 cycle open karts.
(f) 80cc GEARBOX – 375 lbs 80cc Moto only, Ignition timing non-tech but may not be adjustable in motion.
(g) Spec Shifter – 385 lbs – Gas & oil Exciter spec shifter must be factory spec.
No adjustable pipes allowed in any sprint open classes.

KOHLER SUPER STOCK Age 15 years & up - 360 lbs.- Gasoline only - Kohler XKE2 CH270 engines. Exhaust silencers required. Aftermarket Billet Rod allowed, ARC Billet flywheels are required.

Seat Rules for CIK body work classes:
Sit-up sprint style seat only, 13” minimum height cannot pass rear axle
CIK style seats are defined as Sprint style bucket seats un-altered.
Home made, modified, non production and Stallion road race seats are NOT Legal
Any attempts to circumvent this rule will be covered by the “Sprit and Intent rule”
TAG™ Racing International / TAG™ USA

TAG Class Structure

TAG™ CADET Age 8 thru 11 years – Weight per TAG™ USA weight chart. – Gas & oil only – TAG™ engines, exhaust, and karts per 2018 TAG™ USA Tech Manual, chest protector is mandatory.

TAG™ JR. SPRINT / TAG™ USA Age 12 to 15 years – 320lbs. – Gas & oil only – Will be a restricted 125cc. Restrictions will be done by the exhaust header per 2018 TAG™ USA Tech Manual. TAG™ engines, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual. Rules may change throughout the year, following technical updates. CIK Sit-up style seat only, 13” minimum height cannot pass rear axle. Engine clutch only. Minimum overall rear tire width of 45”. Chest protector is mandatory.

TAG™ SENIOR / TAG™ USA Age 15 & up – Weight per TAG™ USA weight chart. – Gas & oil only – TAG™ engines, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual. Rules may change throughout the year, following technical updates. CIK Sit-up sprint style seat only, 13” minimum height cannot pass rear axle. Engine clutch only. Minimum overall rear tire width of 45”.

TAG™ HEAVY / TAG™ USA Age 15 & up – Weight per TAG™ USA weight chart. – Minimum driver weight after race including driving equipment 200 lbs – Gas & oil only – TAG™ engines, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual. Rules may change throughout the year, following technical updates. CIK Sit-up sprint style seat only, 13” minimum height cannot pass rear axle. Engine clutch only. Minimum overall rear tire width of 45”. 200 lb weight rule waived for drivers 35 yrs and older.

TAG™ 4-STROKE / TAG™ USA Age 15 and up – Weight per TAG™ USA weight chart – Gas and oil only – TAG™ engines, exhaust, Tire compound and karts per 2018 TAG™ USA Tech Manual. Rules may change throughout the year following technical updates. CIK sit-up sprint style seat only. 13” minimum height cannot pass rear axle. Engine clutch only. Minimum overall rear tire width of 45”.

TAG™ International - Junior & Senior Combined Class Weights

NOTE: At the discretion of the club, series, and or Race director, a 200 lbs driver may run TAG™ Masters if he or she is 16 years of age and he or she weighs 200 lbs (minimum) Post race on race day. This is solely at the discretion of the club, series, and or Race director.

<table>
<thead>
<tr>
<th>Engine</th>
<th>Junior</th>
<th>Senior</th>
<th>Masters</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Parilla Leopard</td>
<td>320 lbs.</td>
<td>360 lbs.</td>
<td>390 lbs.</td>
</tr>
<tr>
<td>J. PRD Fireball</td>
<td>320 lbs.</td>
<td>350 lbs.</td>
<td>380 lbs.</td>
</tr>
<tr>
<td>K Rotax Max FR125 EVO Weight for Road</td>
<td>320 lbs.</td>
<td>380 lbs.</td>
<td>410 lbs.</td>
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<tr>
<td>M Vortex TT</td>
<td>375 lbs.</td>
<td>405 lbs.</td>
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<tr>
<td>H Motori Seven</td>
<td>380 lbs.</td>
<td>410 lbs.</td>
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<tr>
<td>R X 30</td>
<td>330 lbs</td>
<td>370 lbs</td>
<td>400 lbs</td>
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<td>S X 125-MX</td>
<td>320 lbs</td>
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<td>390 lbs</td>
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<tr>
<td>O Tm 125</td>
<td>320 lbs</td>
<td>360 lbs</td>
<td>390 lbs</td>
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TAG™ International Class Weights - Senior & Masters – Road Racing Weights

<table>
<thead>
<tr>
<th>Engine</th>
<th>Senior</th>
<th>Masters</th>
</tr>
</thead>
<tbody>
<tr>
<td>H Motori Seven</td>
<td>415 lbs.</td>
<td>435 lbs.</td>
</tr>
<tr>
<td>M Vortex TT</td>
<td>405 lbs.</td>
<td>425 lbs.</td>
</tr>
<tr>
<td>K Rotax Max FR125 EVO</td>
<td>400 lbs</td>
<td>430 lbs</td>
</tr>
</tbody>
</table>

9
TAG™ Racing International / TAG™ USA
Laydown Enduro Class Structure

**JR. ENDURO** Age 12 thru 15 years – Gas and oil only – a) SSX muffler – 340 lbs. b) SBX muffler – 360 lbs. Yamaha KT100S engines. Old style Yamaha heads and cylinders allowed. Chest protector is mandatory.

**YAMAHA Can** Age 15 years & up – 385 lbs. - Gas and oil only - Yamaha KT100S engines. 4 Hole Can RLV / SSX Can Any configuration.

**YAMAHA HEAVY** Age 16 years & up – 410 lbs. - Gas and oil only - Yamaha KT100S engines. No adjustable pipes allowed. Old style Yamaha heads and cylinders allowed.

**PISTON PORT CAN ENDURO** Age 15 years & up – SSX muffler – 410 lbs – Gas and oil only - Yamaha KT100S, ARC Comer and PRD RK 100 engines. Old style Yamaha heads and cylinders allowed.

**100cc CONTROLLED SPEC** Age 16 years & up – Engines: Yamaha & Piston Port – 360 lbs –, 100cc Controlled &ICA Reed engines 410 lbs. Exhaust 100cc Controlled Spec IR1 only, Yamaha & Piston Port any approved fixed pipe and 1.75” header. Gas & Oil only.

**CONTROLLED LIMITED** Age 16 years & up –
(a) Piston Port – 310 lbs
(b) Controlled (prior to 2000) – 340
(c) Controlled 2000 (ICA) –Stock Appearing - 390 lbs.
(e) Euro 5 &135cc Controlled – 370 lbs. – Piston Port is open fuel all others gas and oil only.

**UNLIMITED** Age 18 years & up –
(a) B-Limited – 380 lbs. – Open fuel –
(b) Open Engines – 410 lbs. – Open fuel
(c) 125 Gearbox - 420 lbs. – Gas & oil only –
(d) Twin 125 – 490 lbs. – Gas & oil only –
(e) 250cc Gearbox Single – 460 lbs. – Gas & oil only –
(f) IC/4 (4 cycle) Gearbox – 460 lbs. – Gas only / MUST HAVE ROAD RACING LICENSE OR PROOF OF EQUIVALENT EXPERIENCE. USSK 250 Gearbox engines and karts allowed. IC/4 Gearbox engine rules per 2010 USSK Manual. –
(g) Formula 125 – 125 Gearbox (Laydown) – 420 lbs. – Gas & oil only – Open – 375 lbs. – Open fuel – TAG (Laydown) – 385 lbs. – Gas & oil only

TAG™ Racing International / TAG™ USA
Sprint ENDURO Shifter Class Structure

**JR STOCK MOTO 125 SPRINT** Age 12 years thru 17 years - 340 lbs. Gas & oil only - Approved engines: (a) Honda 125cc moto. CIK style Bodywork Only. **Exhaust Restrictor**, Chassis & engine tech per TAG rules. Tires open Sit-up sprint style seat only, 13” minimum height cannot pass rear axle. Pipe is restricted to the following RLV 6800 series, RCE T3, and RLV-R4. - Pro Circuit Pipe #SK-1

**(b) 80cc GEARBOX** – 80cc Moto only, Ignition timing non-tech but may not be adjustable in motion

**CIK 125 SPRINT** (Class 14) Age 17 years & up - 385 / 405 lbs. - Gas & oil only - Approved engines: 125cc moto & 125cc ICC CIK/FIA engines (ICC engines stock 30mm Delorto carb only). **Motors Homologated 2013 at 385 lbs. -- Motors Homologated 2016 at 405 lbs.** CIK style Bodywork Only. Chassis & engine tech per CES / TAG rules. Tires open Sit-up sprint style seat only, 13” minimum height cannot pass rear axle (b) Stock Honda Age 16 years & up - 375 lbs 125cc moto. per CES / TAG rules. Tires open Pipe is restricted to the following RLV 6800 series, RCE T3, RLV-R4 and RLV-R4----Two Piece, - Pro Circuit Pipe #SK-1

**G-125 SPRINT** (Class 15) Age 35 years & up – 420 / 440 lbs. Gas & oil only - Approved engines: 125cc moto & 125cc ICC CIK/FIA engines (ICC engines stock 30mm Dellorto carb only). **Motors Homologated 2013 at 420 lbs. -- Motors Homologated 2016 at 440 lbs.** CIK style Bodywork Only. Chassis & engine tech per CES / TAG rules. Tires open. Sit-up sprint style seat only, 13” minimum height cannot pass rear axle.

**STOCK MOTO 125 SPRINT** Age 17 years & up - 385 lbs. Gas & oil only - Approved engines: Honda 125cc moto. CIK style Bodywork Only. Chassis & engine tech per TAG™ rules. Tires open CIK Sit-up sprint style seat only, 13” minimum height cannot pass rear axle. Cylinder and cylinder head must be stock 1999 OEM. Pipe is restricted to the following RLV 6800 series, RCE T3, RLV-R4 and RLV-R4 ----Two Piece, - Pro Circuit Pipe #SK-1

**TAG™ SHIFTER / TAG™ USA** Age 17 and up – Weight per TAG™ USA weight chart – Gas and oil only – TAG™ engines, exhaust Tire compound and karts per 2018 TAG™ USA Tech Manual. Rules may change throughout the year following technical updates. CIK sit-up sprint style seat only. 13” minimum height cannot pass rear axle. Engine clutch only. Minimum overall rear tire width of 45”.

**ICC-125 Sportsman SPRINT** Age 17 years & up - 400 lbs. W / 34mm **Exhaust Restrictor** 360lbs W / 30mm **Exhaust Restrictor** Gas & oil only - Approved engines: 125cc ICC CIK/FIA engines (ICC engines stock 30mm Delorto carb only) CIK style Bodywork Only. Chassis & engine tech per CES / TAG rules. Tires open Sit-up sprint style seat only, 13” minimum height cannot pass rear axle
TAG™ USA Team Race Class Structure

TAG™ USA Team Race  Age 15 & up – Weight per TAG™ USA weight chart.
Each driver will be weighed individually with the Kart post race. The weight will be recorded and added together. This
combined weight must meet the minimum doubled weight per TAG USA™ weight chart for the engine package used.– Gas
& oil only – TAG™ engines, exhaust, and karts per 2018 TAG™ USA Tech Manual. Rules may change throughout the
year, following technical updates. Sit-up sprint style seat only, 13” minimum height cannot pass rear axle. Engine clutch
only. Minimum overall rear tire width of 45”.

The team race rules are as follows;

Team: Each team will consist of two drivers

Race: The race will be 30 minutes in length

Pit Stops: The pit window will open at the 10 minute mark and the hot pits
Will remain open for 10 minutes to facilitate driver changes
At the 20 minute mark the Pits will be closed.

Fueling: If a team needs to add fuel the engine must be shut off and the
Driver must be out of the kart.

Driver Change: During a driver change only the driver and his team driver may be
over the wall and or involved in the change

Weights: Each driver will be weighed individually with the Kart post race.
The weight will be recorded and added together.
This combined weight must meet the minimum doubled weight
Per TAG USA™ weight chart for the engine package used.

Rules: Rules and Weights will be per TAG USA™

TAG™ Rules available at www.tagracing.net
The following rules are as stated “General”. There may be additional rules and regulations for each track and event. It is your responsibility to be familiar with the rules for each event that you participate in. These rules should be available in registration. If you do not understand a rule please ask a race official.

**Spirit and Intent**

Even if you are new to karting you have heard the term “spirit and intent”. It is the concise description of how karting is run, pure, simple and undeniable. It is not some politically correct catch phrase that has its day and then fades away. It is the law governing the sport of karting for the last 50 years. It means that you may be judged based on your perceived spirit and apparent intent for your conduct at any time at the track. Indeed, you should judge yourself using the same criteria. The law of spirit and intent comes into effect when race officials are encountered with facets of karting not specifically addressed in the rulebook. At this point, officials must make decisions based not only on fact, but also on whether the infraction was a clear case of attempting to controvert the spirit of the event. It is many times the hardest decision for an official to make. Nobody likes to invoke the spirit and intent rule.

We urge you avoid causing a spirit and intent ruling by being fully aware of all the regulations that apply to you and your kart. It is impossible to write a rule for every aspect of karting. Before attempting modifications to your kart that are not specifically addressed in the rulebook talk to the technical inspector and clarify the requirements. You should “intend” to compete successfully, but if your “intent” is winning by circumventing the rules, then you should reconsider your involvement in this sport.

**Series Sticker**

All karts entered in a series race will be required to display, in plain view, a legible series sponsor sticker.

**Driver Eligibility & Requirements**

A. You must be entered in a class in order to practice in all TAG™ sanctioned events or have paid a separate practice only fee.

B. You must be a TAG member, in good standing, in order to receive year-end awards.

C. The kart is the official entry in the race. Once a lap has been made in a race with the entered kart, the kart cannot be changed without the permission of the race director.

D. Relief Drivers must meet all class rule requirements and be approved by race officials.
   a. Enduro: Driver of record must complete at least one lap of race and be scored.
   b. Speedway: Driver of record must qualify kart. Relief driver may race in feature.
   c. Sprint: Driver of record must take the green flag and weigh in during the 1st qualifying heat. Relief driver can take over for 2nd qualifying heat and feature.

E. Minimum driver age is listed in all class structures. However, if during the racing season, the driver has a birthday that would make them old enough to move to an “older” class, they will have the option to move up at any time during the racing season, with the exception of the Novice class. If a driver chooses to move up to a senior class he may not move back to a junior class. All drivers must produce a current state photo I.D. card or certified birth certificate upon request. A minor’s release is required for all persons under the age of 18.
Protest Procedure

All protests must be submitted and acknowledged by an official in registration within 30 minutes of completion of the race that is being protested or, in the case of a scoring protest, within 30 minutes after official results have been posted. Protests will not be accepted after 30 minutes. A protest can only be submitted by an entrant from the same class that is being protested, and can only be signed by one entrant. Once the official has accepted a protest, additional protests for the same infraction will not be accepted. Official protest forms will be made available in registration and post tech. Any national race disqualification or suspension can be appealed in writing to the TAG Racing International advisory committee.

Points & Scoring

A. To receive year-end awards in each class the entrant must be a TAG member, and pass post-tech.
B. In the event of a tie in the year end point total, the tie will be broken by the highest finishing position of the last race either or both drivers competed in.
C. Entrants will be required to place a scoring transponder on their kart in a location that is recommended for proper signal strength. It is the driver’s responsibility to securely fasten the scoring transponder in a proper location prior to entering the track.
D. Disqualification: In the event that a driver is disqualified from an event for unsportsmanlike conduct on or off the racetrack he may NOT use that race as a drop race. If a driver is disqualified for mechanical failure on the track, improper driving, post-race engine, oil or fuel tech or at the scales in post tech he may use that as a drop race. However, if repeatedly disqualified for any reason the driver may be subject to penalty of not being able to use a race as a drop race.
E. To receive points you must leave the grid under power, take the green flag, sign at the scales when you are weighed in and pass post tech.
F. In the event of a rainout all entrants will receive 200 pts. plus the number of entries in the class.
G. The following point method will be used for calculating season points in all divisions:

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<tr>
<th>Finish</th>
<th>Points</th>
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<td>90 + # of entries</td>
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Miscellaneous Rules

A. The pit lane will be a yellow flag condition and a safe speed will be maintained. No passing will be allowed entering the pit lane. Passing and/or unsafe driving in the pit lane will result in disqualification.
B. Data acquisition is legal in all classes.
C. Radio communication is legal in all classes except novice.
D. Approved exhaust silencers or mufflers are mandatory in all classes.
E. The use of tire warmers is not legal in speedway and oval racing.
F. Drivers are responsible for their pit crewmembers. Unacceptable behavior may subject the driver to disqualification from an event. Verbal and/or physical abuse or threats directed at any individual at any event will subject the offender to immediate ejection from the event and/or a 1-year suspension.
G. All individuals entering the event site must sign and execute all insurance related documents as prescribed for that event.
H. Drivers meetings are mandatory. If you are unable to attend the drivers meeting you are required to check in with the race director.
I. Vendor fee of $100.00 per event will apply to anyone selling product or service at any and all series events with the exception of series or class sponsors.
J. TAG™ Racing International / TAG™ USA its series and organization(s) reserve the right to refuse any and all entries at any event(s).
Flags

Checkered Flag
The race is finished. Slow to a moderate pace for exiting the track. Proceed slowly to the post tech area.

White Flag
One lap to go in the race.

Black Flag
Racing is not a contact sport, although it is understood some inadvertent contact will occur, intentional and avoidable bumping, nerfing, pushing, etc., will be grounds for disqualification. You may be warned only once with a rolled black flag, second warnings will result in a waved black flag.

Rolled & pointed: A warning about driver conduct

Waved Black Flag: You must exit the track immediately you have been disqualified for a driving infraction. If a participant ignores the black flag along with his/her number being displayed by the flagman, that person will be disqualified for that day.

Meatball Flag (Black with a red ball): Will be thrown for technical or mechanical problems, requiring the driver to stop for consultation. The flag will also be used for a pushing stop & go.

Transponder Flag (Black with a yellow “X” or rectangle): Will be thrown for transponder problems if scoring personnel find a competitor’s transponder is not being picked up.

Red Flag
The race has been temporarily halted. Slow to a safe stop, drivers shall proceed safely to the starting grid under direction of the corner workers and flagman.
If the red flag occurs prior to the halfway point in a race it will be restarted. Restarts will be in the same order as the last completed and scored green flag lap prior to the red flag. If the red flag occurs at or after the halfway point it will be a completed race and the results will be the last completed and scored green flag lap.

Any kart or driver flipping over (turning over) causing a red flag will not be allowed to restart. Any driver leaving the racetrack, due to an accident, by ambulance will not be allowed to restart. Any driver causing a red flag may be subject to not restarting or disqualification, as determined by the race director. Any kart involved in an accident whose driver is transported to a health care facility is subject to post tech. If driver does not return from the health care facility prior to the end of post tech, scales will be waived.

Green Flag
The racetrack is clear for racing.

Blue w/ Orange Stripe Flag
Faster traffic is about to overtake you; this is not the time to try to protect your position. You are to allow those attempting to pass to do so safely and without difficulty. If you continue to block the proTAGs of the lapping karts, you may be black flagged and pulled off the course.

Yellow Flag
There is a need for caution. There is something in the track ahead and you should proceed with caution. If the flag is waving there is a problem in that corner. No passing will be allowed in the corner when a waving yellow flag is displayed. If the flag is a standing yellow flag there is a problem in the next corner or there is debris in the straightaway. When the yellow flag is displayed at the starters stand this is a full course yellow slow down no passing until the green flag is displayed again.

NOTE: Flags can vary from track to track. If there is a variation from the above it will be brought up at the drivers meeting.
Section 1 - Foreword and Introduction

The following document and those that support it are authored with one intent – the clarification and consolidation of the technical performance rules that govern kart racing. As such, the primary issues dealt with in this manual are those metrics from which a direct performance gain may be achieved by violation. Kart standards are also addressed in this manual though no implication of safety is made or warranted if the rules specified herein are adhered to. Personal conduct is not directly addressed in this manual as it is expected that the competitor, builder, inspector and administrator will conduct themselves in a manner conducive to orderly and proper results.

The sport of karting has always been governed by the rule of spirit and intent. No effort is made here to change that. No pretense is made that the documentation herein will cover every situation that can be encountered in technical inspection. The ultimate responsibility for chassis and engine legality lies with the competitor. Should the competitor encounter a situation that is not specifically addressed in this manual it is his responsibility to get clearance from the technical inspector prior to using the kart in a race. Should the technical inspector encounter a situation in post–race technical inspection that is not specifically addressed in this manual it is his responsibility to make a determination of legality based first on whether or not the modification represents a definable performance gain and ultimately on the spirit and intent of the competitor/builder. If, in the opinion of the technical inspector, the spirit or intent of the modification was clearly that of circumventing the rules to provide performance gain then he has the right to disqualify the competitor based solely on this criteria. When confronted with this scenario the inspector must weigh the decision carefully and use discretion, insight and integrity.

In all cases, where series specific rules contradict the rules specified herein the series specific rules shall have precedence. There is no expressed or implied warranty given here in regards to safety if the rules herein are adhered to and the authors and authorizers of this document are to be held harmless in any litigation or actions as a result of accident.

Section 2 - Metrology

Wherein this manual deals specifically with dimensional conformity to specifications some discussion regarding measurement and gaging is necessary. Field metrology is limited and handicapped by a number of factors including, but not limited to, available measuring instruments and environmental conditions. The inspector must give some consideration to measurement uncertainty especially when approaching a dimension’s limits of acceptability. Especially when a dimension as measured exceeds its tolerance limits the inspector must ensure that the best and most accurate available method of measurement is being employed prior to a disqualification decision being made. The inspector may take whatever steps he deems necessary to ensure proper results, including impound and inspection at another location. Method of measurement in all cases is at the sole discretion of the inspector. The preferred method will be designated later in this manual under generic technical procedures. Standard industrial metrology techniques shall be used as a guideline for methods used in the field. All dimensions given in this manual will either be tolerated or designated as maximum or minimum. Limits of size are absolute and are not to be rounded to the nearest whole integer to facilitate acceptability; i.e. a .500 diameter max hole that actually measures .5001 is to be found out of tolerance and not rounded to .500. The exception to the limits of size rule is when measuring “nominal” sized tubing or bar stock. This material comes from the manufacturer with rather generous tolerances and this must be considered when inspecting same. If “nominal” is noted on the element in question, a tolerance of +/-1/32 inch is generally acceptable with consideration to spirit and intent.

Many of the inside (width of slot, diameter, etc.) dimensions found in this manual are listed as maximum. Wherever possible, a gage of maximum size shall be employed to measure these dimensions. For example, a .500 max diameter should be measured with a .500 gage pin. If the gage enters the feature in question it shall be found out of tolerance. For designated inside minimum dimensions a gage of minimum size shall be employed. For example, a .625 minimum diameter should be measured with a .625 gage pin. The gage must pass through the entire area in question with light, torsional, finger pressure. Perceptible drag on engagement is not reason for disqualification as long as full feature engagement may be achieved. All gages and measuring instruments must be calibrated to standards with a direct line of traceability to the National Institute of Standards and Technology a minimum of once per year. Visual checks of gaging should be performed periodically to ensure that damage has not occurred. Whenever possible, all inspections should be performed with components and gages at ambient temperature.
Section 3 - Pre-tech Requirements

1  Personal Safety Equipment

A.  Head Gear
   1.  Full-face helmets designed for competitive motorsports use, that comply with Snell Foundation specifications M2005, SA2005, K98, K2005 or SFI 24.1, 31.1A, 31.2A, 31.1/2005, 41.1/2005, 41.2a or FIA 8860-2004 or Snell-FIA CMS/CMR2007 or newer are mandatory. SA rated helmets recommended for champ karts. Helmets must be available at pre-tech inspection. Helmets must be secured with a strap. Failure to do so will result in disqualification. A full visor, integral with the helmet, is mandatory.

B.  Neck Brace
   1.  Collar-type, unaltered neck brace designed for motorsports use are mandatory in all sit up classes. Loss of neck brace during an event will cause a black flag with an orange circle “meatball flag” to be given to the driver losing the neck brace. He must immediately proceed to the pits, and may replace the missing neck brace and then return to the race or practice session.

C.  Driver Apparel
   1.  Drivers are required to wear jackets made of leather, vinyl, abrasion resistant nylon, or equivalent, and full length pants. Gloves, socks, and shoes are mandatory. Nomex apparel is recommended for champ kart drivers.
   2.  If driver’s hair extends appreciably below the helmet it is mandatory that the driver wear a head sock or balaclava to prevent the driver’s hair from extending below the helmet.
   3.  Loose clothing, bandanas, scarves, hoods, loose belts, etc. are not allowed.
   4.  The use of Flak jackets or other chest protection devices is Mandatory in all Junior and Cadet classes and is strongly recommended in all classes.
   5.  All personal safety equipment is subject to, and shall be available for, pre-tech inspection.

2  Kart Requirements

A.  General
   6.  The kart must be neat in appearance, in good repair, and show quality workmanship.
   7.  The kart must meet the requirements set forth in the TAG Tech manual for its particular class.
   8.  Rear view mirrors are allowed as long as they are mounted to the kart. No hand mounted mirrors allowed.
   9.  European style clevis snap pins shall be safety wired.
   10. Single-Use fasteners/Nylocks must not be used on previously drilled bolts without secondary retention

B.  Ballast
   1.  All weights added to the kart will be painted white and must be securely fastened to the kart with a minimum 5/16-inch diameter bolt. Any single weight weighing in excess of seven pounds shall utilize a minimum of two 5/16-inch minimum diameter bolts.
   2.  All bolts used to fasten weights to the kart must be cotter keyed, safety wired, or double nutted.

C.  Steering Components
   1.  All steering component bolts, and nuts, must be cotter keyed, safety wired, e-clipped or utilize single use Nylock Nuts
   2.  All steering component bolts, must be a minimum Grade 5 rating.
   3.  All rod ends must have universal type swivel joints and jam nuts.
   4.  Fasteners used on any component that will enable adjustment of camber, caster, etc. must be cotter keyed and/or safety wired.
   5.  Steering Shafts
      A)  Solid steering shafts shall be a minimum .625-inch diameter, made of cold rolled steel, and one-piece design. Welding the steering wheel or hub to the shaft is not allowed. Shaft extensions, and cutting and welding the shaft to alter its length is not allowed. The steering wheel must be secured to the shaft with a nut or cap screw in the axial position.
      B)  Hollow steering shafts shall be a minimum .700-inch diameter, with a minimum wall thickness of .070 inch, made of steel tubing, and one-piece design. Welding the steering wheel or hub to the shaft is not allowed. Shaft extensions, and cutting and welding the shaft to alter its length is not allowed. The steering wheel hub must be secured using a 5/16 inch minimum diameter bolt through the axis of the shaft.
      C)  Tiller, vertical shaft steering systems are not allowed.

6.  Steering Wheels
   A)  Steering wheels may be circular, with a ten inch minimum diameter, and a minimum of three spokes.
   B)  Steering wheels may be of the butterfly type, with a ten-inch minimum diameter, and four spokes, and a minimum grip length of five inches on each side.
D. Wheels and Tires
   1. Pneumatic tires designed specifically for racing only.
      B) Maximum width, mounted on wheel 10.375 inches
   2. Tires must be available on the general market for a minimum of sixty days prior to use in an TAG sanctioned event.
   3. Wheel balancing weights shall not exceed ¼ ounce each.
      A) It is recommended that additional tape be placed over stick on type weights.
   4. “G-Rings” or lateral supported wheels are not permitted.

E. Wheel Hubs and Axles
   1. Wheel hubs and axles shall be constructed of metallic materials.
   2. Rear axles shall be one-piece design, driving both wheels.
      A) Either solid or hollow axles are allowed
      B) .984-inch minimum diameter. 2.00-inch maximum diameter.
      C) Axles over 1.375 inch diameter shall be constructed of ferrous material.
      D) Snap rings or similar fasteners are required at both ends of the rear axle, and must be safety wired.
      E) Axle stiffeners are allowed as long as they are secured by cotter key, circlip, or through bolted.
      F) Axle may not protrude beyond the outside of rim and tire.
      G) Any device that allows the rear wheels to rotate at different speeds is not allowed.
   3. Front axles
      A) Front axle nuts must be secured with safety wire, cotter keys, circlips or berry clips.
      B) Ground ball or roller type bearings only, and must be adjusted so there is not excessive play. Split race type bearings are not allowed.
      C) The spindle axle may not protrude beyond the outside of rim and tire.

F. Brakes
   1. Karts must, at minimum, have a braking system capable of braking both rear wheels equally and adequately.
   2. All Karts must have a tether attached from the master cylinder to the brake petal in addition to the brake rod
   3. Classes of 125cc displacement and over require the use of dual braking systems unless otherwise stated, one front, and one rear or Dual rear. This shall consist of two independent and separate systems, operated by separate master cylinders.
      A) One system must be fully functional if either system fails.
   4. All brake system fasteners, including pedals, clevis pins, and master cylinder roll pins, must be safety wired or cotter keyed e-clipped or utilize Single use nylock nuts. If safety wiring or cotter keying is infeasible, as in the case of some brake pad fasteners an appropriate thread locking compound shall be used to prevent loss of the fasteners.
      A) All-metal locking type nuts to secure the brake disk or drum to the hub are allowed in lieu of safety wire or cotter pinning.(NYLOCKS NOT ALLOWED)
      B) If the pedal is mounted to the front bumper, the bumper must be welded to the frame, or through bolted or pinned, and the through bolts or pins shall be safety wired or cotter keyed.
      C) Hydraulic brake fittings shall be tight and leak free. Hydraulic brake lines shall be routed in a fashion, so as to not wear through, or be pulled loose.
      D) Master cylinder actuating rod must be .250-inch diameter minimum, or equal quality cable with positive stops on both ends.
   5. No carbon fiber components allowed.

G. Driveline Components
   1. Clutches are mandatory in all classes except those designated as direct drive.
      A) Oil bath clutches are allowed as long as they are sealed to prevent leakage.
      B) If outboard clutch mounting is used, a third bearing support or guard to contain the clutch in the event the crankshaft breaks, is mandatory. Clutches mounted inboard are not required to have a support or guard.
      C) Transmissions or other devices that allow the change of gear ratios while the kart is in motion are not allowed, except in shifter classes. Torque converters are not allowed.
   2. Chain and Belt Guards
      A) All karts shall be equipped with a chain or belt guard. Outboard drive systems will be allowed only if the chain or belt, and sprocket are completely enclosed from the front, top, rear, and sides.
      B) Any sprocket not used for driving the kart must be fitted with a device to prevent exposure from any angle, or be completely encircled with a chain.
      C) Chain oilers up to 8-ounce capacity are allowed. Competitors using chain oilers shall use a drip pan while on the grid. If a chain oiler is the highest point on the kart it must be protected with a roll bar, not to exceed 26 inches high from the ground.
Section 4 - Kart types and construction

There are eight different types of racing karts described herein. A general description of a kart chassis is a welded, tubular steel spaceframe. Side nerf bars, front and rear bumpers are required, except as noted. Aerodynamic bodywork covering the chassis is permitted but not required in any type except as noted. While overall construction of each is similar there are significant dimensional differences and as such will be detailed separately below.

A. Sprint speedway chassis specifications

1. Main frame members shall be constructed of cold rolled, electric weld, round, steel tubing or other material of equal or greater strength, of one inch minimum nominal outside diameter and .078 inch minimum wall thickness and 1.400 inch maximum nominal diameter. Tubing of 1.125 inch nominal and greater may have a wall thickness of .060-inch minimum. Main frame rail members shall be no higher than a horizontal line extending from the centerline of the front wheel to the centerline of the rear wheel. No oval tubing allowed.

2. Wheelbase: 43.0 inches maximum, 40.0 inches minimum. Wheelbase is measured from true axle centerlines, each side.

3. Track width: 28.0 inches minimum. Track width may be measured from the outside edge of one tire to the inside edge of the opposite tire when both tires are of identical width.

4. Overall length: 50.0 inches maximum for all classes. Overall length is measured at any cross section of the kart, perpendicular to the longitudinal centerline axis.

5. Overall height: 74.0 inches maximum. Overall height is measured at any cross section of the kart, parallel to the longitudinal centerline axis.

6. Overall height: 26.0 inches maximum. Overall height is measured such that all elements of the kart must pass under a bar set parallel to ground level, 26.0 inches above ground level.

7. Dry kart weight: 85 pounds minimum in race ready trim without fuel.

8. Front bumper: If CIK-style nose cone is not used all components shall be constructed of round, steel tubing of .750 inch nominal diameter minimum. The upper hoop of the bumper must be supported by a minimum of two vertical uprights. These uprights must be within .50 inch of vertical when measured 3.0 inches down from the top of the top hoop. The uppermost tangent point of the top hoop must be 7.75 inches minimum from ground level. Otherwise, front bumper must conform to CIK specifications.

9. Rear bumper: All components shall be constructed of round, steel tubing of .750-inch nominal diameter minimum. The uppermost tangent point of the top hoop shall be 7.5 inches maximum from ground level and above the lowestmost tangent point of the rear axle minimum. Minimum width shall be no less than the lateral distance between the main chassis frame rails as measured at the rear of the kart. Maximum width shall be no wider than the rear overall width of tires. Continuous loop type bumpers with vertical or angled supports are allowed. The lower bar of this type must be below the rear axle, the upper bar no higher than the top of the rear tires.

10. Nerf bars: If CIK-style side pods are not utilized nerf bars must be double rail type. All components shall be constructed round, steel tubing of .750-inch nominal diameter minimum. Overall height from uppermost to lowestmost tubbing tangent points shall be 6.0 inches minimum. Vertical uprights are mandatory at the leading and trailing ends of the nerf bar, creating a closed, rectangular construction. The leading and trailing vertical uprights must be positioned such that the smallest gap created between the front and rear tires respectively measures 3.0 inches maximum. If CIK-style side pods are utilized nerf bars must conform to CIK specifications.

11. Seat: Must be of conventional, unaltered, bucket type, molded construction, designed to keep the driver’s posterior in place without undue movement. The seat shall be mounted between the main frame rails. The lowestmost point of the seat must be positioned no lower than the lowestmost point of the adjacent frame rails and no higher than the uppermost point of the adjacent frame rails. Height of the uppermost point of the seat backrest is 10.0 inches minimum from ground
level for junior sportsman classes, and 12.0 inches minimum from ground level for junior and senior classes. The rearmost point on the seat may not extend beyond the back of the rear axle. Headrests are not permitted. Steering uprights shall be positioned in such a manner as to prevent the driver’s posterior from being positioned forward of the bucket portion of the seat. Seat Rules for CIK body work classes: Sit-up sprint style seat only, 13” minimum height cannot pass rear axle CIK style seats are defined as Sprint style bucket seats un-altered. Home made, modified, non production and Stallion road race seats are NOT Legal Any attempts to circumvent this rule will be covered by the “Sprint and Intent rule”

12. The use of any type of suspension components is strictly prohibited.

B. Sprint chassis specifications

1. Main frame members shall be constructed of cold rolled, electric weld, round, steel tubing or other material of equal or greater strength, of one inch minimum nominal outside diameter and 0.08 inch minimum wall thickness and 1.400 inch maximum nominal diameter. Tubing of 1.125 inch nominal and greater may have a wall thickness of .060 inch minimum. Main frame rail members shall be no higher than a horizontal line extending from the centerline of the front wheel to the centerline of the rear wheel. No oval tubing allowed.

2. Wheelbase: 43.0 inches maximum, 40.0 inches minimum. Wheelbase is measured from true axle centerlines, each side.

3. Track width: 28.0 inches minimum. Track width may be measured from the outside edge of one tire to the inside edge of the opposite tire when both tires are of identical width.

4. Overall width: 55.125 inches maximum for all classes. Overall width is measured at any cross section of the kart, perpendicular to the longitudinal centerline axis.

5. Overall length: 74.0 inches maximum. Overall length is measured at any cross section of the kart, parallel to the longitudinal centerline axis.

6. Overall height: 26.0 inches maximum. Overall height is measured such that all elements of the kart must pass under a bar set parallel to ground level, 26.0 inches above ground level.

7. Dry kart weight: 85 pounds minimum in race ready trim without fuel.

8. Front bumper: If CIK-style nose cone is not used all components shall be constructed of round, steel tubing of .750 inch nominal diameter minimum. The upper hoop of the bumper must be supported by a minimum of two vertical uprights. These uprights must be within .50 inch of vertical when measured 3.0 inches down from the top of the top hoop. The uppermost tangent point of the top hoop must be 7.75 inches minimum from ground level. Otherwise, front bumper must conform to CIK specifications.

9. Rear bumper: If CIK style Bumper is not used all components shall be constructed of round, steel tubing of .750-inch nominal diameter minimum. The uppermost tangent point of the top hoop shall be 7.5 inches maximum from ground level and above the lowermost tangent point of the rear axle minimum. Minimum width shall be no less than the lateral distance between the main chassis frame rails as measured at the rear of the kart. Maximum width shall be no wider than the rear overall width of tires. Continuous loop type bumpers with vertical or angled supports are allowed. The lower bar of this type must be below the rear axle, the upper bar no higher than the top of the rear tires. Bar must be in place from frame rail to frame rail.

10. Nerf bars: If CIK-style side pods are not utilized nerf bars must be double rail type. All components shall be constructed round, steel tubing of .750-inch nominal diameter minimum. Overall height from uppermost to lowermost tubing tangent points shall be 6.0 inches minimum. Vertical uprights are mandatory at the leading and trailing ends of the nerf bar, creating a closed, rectangular construction. The leading and trailing vertical uprights must be positioned such that the smallest gap created between the front and rear tires respectively measures 3.0 inches maximum. If CIK-style side pods are utilized nerf bars must conform to CIK specifications.

11. Seat: Must be of conventional, unaltered, bucket type, molded construction, designed to keep the driver’s posterior in place without undue movement. The seat shall be mounted between the main frame rails. The lowermost point of the seat must be positioned no lower than the lowermost point of the adjacent frame rails and no higher than the uppermost point of the adjacent frame rails. Height of the uppermost point of the seat backrest is 12.0 inches minimum from ground level for junior and senior classes. The rearmost point on the seat may not extend beyond the back of the rear axle. Headrests are not permitted.

Seat Rules for CIK body work classes: Sit-up sprint style seat only, 13” minimum height cannot pass rear axle CIK style seats are defined as Sprint style bucket seats un-altered. Home made, modified, non production and Stallion road race seats are NOT Legal Any attempts to circumvent this rule will be covered by the “Sprint and Intent rule”

12. The use of any type of suspension components is strictly prohibited.

C. Sprint ENDURO chassis specifications

1. Main frame members shall be constructed of cold rolled, electric weld, round, steel tubing or other material of equal or greater strength, of one inch minimum nominal outside diameter and .083 inch minimum wall thickness. Main frame rail members shall be no higher than a horizontal line extending from the centerline of the front wheel to the centerline of the rear wheel. No oval tubing allowed.

2. Wheelbase: 43.0 inches maximum, 40.0 inches minimum. Wheelbase is measured from true axle centerlines, each side.

3. Track width: 28.0 inches minimum. Track width may be measured from the outside edge of one tire to the inside edge of the opposite tire when both tires are of identical width.

4. Overall width: 50.0 inches maximum for all classes except four cycle classes. 46.0 inches maximum for all four-cycle classes. Overall width is measured at any cross section of the kart, perpendicular to the longitudinal centerline axis.

5. Overall length: 74.0 inches maximum. Overall length is measured at any cross section of the kart, parallel to the longitudinal centerline axis.

6. Overall height: 26.0 inches maximum. Overall height is measured such that all elements of the kart must pass under a bar set parallel to ground level, 26.0 inches above ground level.

7. Dry kart weight: 85 pounds minimum in race ready trim without fuel.
8. Front bumper: If CIK-style nose cone is not used all components shall be constructed of round, steel tubing of .750 inch nominal diameter minimum. The upper hoop of the bumper must be supported by a minimum of two vertical uprights. These uprights must be within .50 inch of vertical when measured 3.0 inches down from the top of the hoop. The uppermost tangent point of the top hoop shall be 7.75 inches minimum from ground level. Otherwise, front bumper must conform to CIK specifications.

9. Rear bumper: If CIK style bumper is not used all components shall be constructed of round, steel tubing of .750-inch nominal diameter minimum. The uppermost tangent point of the top hoop shall be 7.5 inches maximum from ground level and above the lowermost tangent point of the rear axle minimum. Minimum width shall be no less than the lateral distance between the main chassis frame rails as measured at the rear of the kart. Maximum width shall be no wider than the rear overall width of tires. Continuous loop type bumpers with vertical or angled supports are allowed. The lower bar of this type must be below the rear axle, the upper bar no higher than the top of the rear tires. Bar must be in place from frame rail to frame rail.

10. Nerf bars: If CIK-style side pods are not utilized nerf bars must be double rail type. All components shall be constructed round, steel tubing of .750-inch nominal diameter minimum. Overall height from uppermost to lowermost tubing tangent points shall be 6.0 inches minimum. Vertical uprights are mandatory at the leading and trailing ends of the nerf bar, creating a closed, rectangular construction. The leading and trailing vertical uprights must be positioned such that the smallest gap created between the front and rear tires respectively measures 3.0 inches maximum. If CIK-style side pods are utilized nerf bars must conform to CIK specifications.

11. Seat: Must be of conventional, unaltered, bucket type, molded construction, designed to keep the driver’s posterior in place without undue movement. The seat shall be mounted between the main frame rails. The lowermost point of the seat must be positioned no lower than the lowermost point of the adjacent frame rails and no higher than the uppermost point of the adjacent frame rails. Height of the uppermost point of the seat backrest is 12.0 inches minimum from ground level. The rearmost point on the seat may not extend beyond the back of the rear axle. Headrests are not permitted. Steering uprights shall be positioned in such a manner as to prevent the driver’s posterior from being positioned forward of the bucket portion of the seat. Seat rules for CIK body work classes; Sit-up sprint style seat only, 13” minimum height cannot pass rear axle CIK style seats are defined as Sprint style bucket seats un-altered. Home made, modified, non production and Stallion road race seats are NOT Legal any attempts to circumvent this rule will be covered by the “Sprint and Intent rule”

12. The use of any type of suspension components is strictly prohibited.

D. Laydown enduro chassis specifications

1. Main frame members shall be constructed of cold rolled, electric weld, round, steel tubing or other material of equal or greater strength, of 1.0 inch nominal minimum and 1.40 inch nominal maximum outside diameter. For nominal outside diameter tubing of 1.0 to 1.125 inch the tubing wall thickness shall be .078 inch minimum. For nominal outside diameter tubing of greater than 1.125 inch the tubing wall thickness shall be .060 inch minimum. Oval tube frames must receive prior approval from tech director.

2. Wheelbase: 50.0 inches maximum, 40.0 inches minimum. Wheelbase is measured from true axle centerlines, each side.

3. Track width: 30.0 inches minimum. Track width may be measured from the outside edge of one tire to the inside edge of the opposite tire, when both tires are of identical width.

4. Overall width: 50.0 inches maximum for all classes. Overall width is measured at any cross section of the kart, perpendicular to the longitudinal centerline axis. Air filters may extend beyond the 50.0 inch maximum.

5. Overall length: 97.0 inches maximum for single engine karts; 110.0 inches for dual engine karts and shifter karts.


7. The use of any type of suspension components is strictly prohibited.

E. Champ kart chassis specifications

1. Main frame members shall be constructed of cold rolled, electric weld, round steel tubing or other material of equal or greater strength, of 1.125 inch nominal minimum diameter. .083 inch wall thickness. Conventional tubular space frame construction methods only are allowed. Non-conventional construction techniques must receive review and approval of the race director and/or tech inspector prior to competition.

2. Wheelbase: 42.0 inches minimum, 45.0 inches maximum. Wheelbase is measured on true axle centerline, each side.

3. Overall width: 40.0 inches minimum, 52.0 inches maximum. Overall width shall be measured from outside tire sidewall to opposite outside tire sidewall.

4. Overall length: 95.0 inches maximum. Overall length is measured at any cross section of the kart, parallel to the longitudinal centerline.

5. Roll cage specific specifications

   a. Full roll cage of four point conventional construction is mandatory. The four uprights and top horizontal connecting tubes must be constructed of 1.125 inch nominal minimum diameter mild steel tubing. All attachments by welding unless otherwise specified.

   b. Uprights and positioning: Each of the rear uprights must be welded to the main frame rails at a point aft of the rear axle centerline. Each of the front uprights must be welded to the frame rails at a point forward of the leading edge of the front tire. All uprights must create an angle of no less than 45 degrees with the main frame rails and have no bends within three inches of attachment point except for left rear.

   c. Top hoop rails: Corner construction shall be of rounded type with no sharp edges or corners allowed.
d. Shoulder harness mounting bar shall be welded laterally between rear uprights, double braced to the top lateral bar, at a height suitable for harness mounting. A minimum 6.0 inch square headrest shall be mounted to the braTAG level with the driver's head.

e. Side protection bars are mandatory and must run horizontally between front and rear uprights each side. One end connection may be slip jointed. Side protection bars must be positioned vertically between the driver’s shoulder and elbow.

f. Roll cage overall width: 16.0 inches minimum. Width to be measured outside to outside between any two uprights.

g. Roll cage overall height: 38.0 inches minimum. Height to be measured vertically from highest lateral cross bar centerline to main frame rail centerline.

h. All roll cages that deviate in any way from the above description must be brought into conformance or receive approval from the race director or tech inspector prior to be used in competition.

6. Front bumper: All components shall be constructed of round steel tubing of .750 inch nominal diameter minimum. Front bumper must encircle entire front nose area at a height of 7.75 inches minimum from ground level. Double bumpers are recommended.

7. Rear bumper: All components shall be constructed of round steel tubing of .750 inch nominal diameter minimum. Double bar construction is mandatory. Rear bumper must encircle the tail section of the kart. The top of at least one bar must be 7.50 inches maximum from ground level.

8. Nerf bars: All components shall be constructed of round steel tubing of .750 inch nominal diameter minimum. Double bar construction is mandatory. The top of the upper bar must be no higher than the top of the rear tire. The bottom of the lower bar must be no lower than the bottom of the main frame rails. Nerf bar must extend from an area inside a longitudinal line from the outer portion of the front tire to a point no further outboard than 1.0 inch from outer tire surface.

9. Seat positioning: No part of the seat may be positioned closer than six inches inside the left hand nerf bar.

10. Harness: Five point, SFI-rated racing harness is mandatory. Metal to metal harness fastener is mandatory. Mounting bolts must be cotter-keyed and attach to a 3/16 inch minimum thick, 2.0 inch minimum square steel mounting plate that is welded to the frame and/or roll cage. Arm restraints, attached to the harness, are mandatory.

F. Junior champ kart chassis specifications

1. Main frame members shall be constructed of cold rolled, electric weld, round steel tubing or other material of equal or greater strength, of 1.125 inch nominal minimum diameter, .083 inch wall thickness. Conventional tubular space frame construction methods only are allowed. Non-conventional construction techniques must receive review and approval of the race director and/or tech inspector prior to competition.

2. Wheelbase: 40.0 inches minimum, 43.0 inches maximum. Wheelbase is measured on true axle centerline, each side.

3. Overall width: 38.0 inches minimum, 50.0 inches maximum. Overall width shall be measured from outside tire sidewall to opposite outside tire sidewall.

4. Overall length: 80.0 inches maximum. Overall length is measured at any cross section of the kart, parallel to the longitudinal centerline.

5. Roll cage specific specifications

a. Full roll cage of four point conventional construction is mandatory. The four uprights and top horizontal connecting tubes must be constructed of 1.125 inch nominal minimum diameter mild steel tubing. All attachments by welding unless otherwise specified.

b. Uprights and positioning: Each of the rear uprights must be welded to the main frame rails at a point aft of the rear axle centerline. Each of the front uprights must be welded to the side frame rails at a point forward of the steering wheel mount point and aft of the leading edge of the front tire. All uprights must create an angle of no less than 45 degrees with the main frame rails and have no bends within three inches of attachment point except for left rear.

c. Top hoop rails: Corner construction shall be of rounded type with no sharp edges or corners allowed.

d. Shoulder harness mounting bar shall be welded laterally between rear uprights, double braced to the top lateral bar, at a height suitable for harness mounting. A minimum 6.0 inch square headrest shall be mounted to the braces level with the driver's head.

e. Side protection bars are mandatory and must run horizontally between front and rear uprights each side. One end connection may be slip jointed. Side protection bars must be positioned vertically between the driver’s shoulder and elbow.

f. Roll cage overall width: 16.0 inches minimum. Width to be measured outside to outside between any two uprights.

g. Roll cage overall height: 30.0 inches minimum. Height to be measured vertically from highest lateral cross bar centerline to main frame rail centerline.

h. All roll cages that deviate in any way from the above description must be brought into conformance or receive approval from the race director or tech inspector prior to be used in competition.

6. Front bumper: All components shall be constructed of round steel tubing of .750 inch nominal diameter minimum. Front bumper must encircle entire front nose area at a height of 7.75 inches minimum from ground level. Double bumpers are recommended.

7. Rear bumper: All components shall be constructed of round steel tubing of .750 inch nominal diameter minimum. Double bar construction is mandatory. Rear bumper must encircle the tail section of the kart. The top of at least one bar must be 7.50 inches maximum from ground level.

8. Nerf bars: All components shall be constructed of round steel tubing of .750 inch nominal diameter minimum. Double bar construction is mandatory. The top of the upper bar must be no higher than the top of the rear tire. The bottom of the lower bar must be no lower than the bottom of the main frame rails. Nerf bar must extend from an area inside a longitudinal line from the outer portion of the front tire to a point no further outboard than 1.0 inch from outer tire surface.

9. Seat positioning: No part of the seat may be positioned closer than six inches inside the left hand nerf bar.
10. Harness: Five point, SFI-rated racing harness is mandatory. Metal to metal harness fastener is mandatory. Mounting bolts must be cotter-keyed and attach to a 3/16 inch minimum thick, 2.0 inch minimum square steel mounting plate that is welded to the frame and/or roll cage. Arm restraints, attached to the harness, are mandatory.

G. Sprint Shifter chassis specifications
1. Main frame members shall be constructed of cold rolled, electric weld, round, steel tubing or other material of equal or greater strength, of one inch minimum nominal outside diameter and .078 inch minimum wall thickness and 1.400 inch maximum nominal diameter. Tubing of 1.125 inch nominal and greater may have a wall thickness of .060-inch minimum. Main frame rail members shall be no higher than a horizontal line extending from the centerline of the front wheel to the centerline of the rear wheel. No oval tubing allowed.
2. Wheelbase: 43.0 inches maximum, 40.0 inches minimum. Wheelbase is measured from true axle centerlines, each side.
3. Track width: 28.0 inches minimum. Track width may be measured from the outside edge of one tire to the inside edge of the opposite tire when both tires are of identical width.
4. Overall width: 55.125 inches maximum. Overall width is measured at any cross section of the kart, perpendicular to the longitudinal centerline axis.
5. Overall length: 84.0 inches maximum. Overall length is measured at any cross section of the kart, parallel to the longitudinal centerline axis.
6. Overall height: 26.0 inches maximum. Overall height is measured such that all elements of the kart must pass under a bar set parallel to ground level, 26.0 inches above ground level.
7. Dry kart weight: 85 pounds minimum in race ready trim without fuel.
8. Front bumper: If nose cone is not used all components shall be constructed of round, steel tubing of .750 inch nominal diameter minimum. The upper hoop of the bumper must be supported by a minimum of two vertical uprights. These uprights must be within .50 inch of vertical when measured 3.0 inches down from the top of the top hoop. The uppermost tangent point of the top hoop must be 7.75 inches minimum from ground level. Otherwise, front bumper must conform to CIK specifications.
9. Rear bumper: If CIK style bumper is not used all components shall be constructed of round, steel tubing of .750 inch nominal diameter minimum. The uppermost tangent point of the top hoop shall be 7.5 inches maximum from ground level and above the lowermost tangent point of the rear axle minimum. Minimum width shall be no less than the lateral distance between the main chassis frame rails as measured at the rear of the kart. Maximum width shall be no wider than the rear overall width of tires. Continuous loop type bumpers with vertical or angled supports are allowed. The lower bar of this type must be below the rear axle, the upper bar no higher than the top of the rear tires. Bar must be in place from frame rail to frame rail.
10. Nerf bars: If CIK-style side pods are not utilized nerf bars must be double rail type. All components shall be constructed round, steel tubing of .750-inch nominal diameter minimum. Overall height from uppermost to lowermost tubing tangent points shall be 6.0 inches minimum. Vertical uprights are mandatory at the leading and trailing ends of the nerf bar, creating a closed, rectangular construction. The leading and trailing vertical uprights must be positioned such that the smallest gap created between the front and rear tires respectively measures 3.0 inches maximum. If CIK-style side pods are utilized nerf bars must conform to CIK specifications.
11. Seat: Must be of conventional, bucket type, molded construction, designed to keep the driver’s posterior in place without undue movement. Sprint-type, sit-up seats only. Laydown-type, sprint-enduro or oval-track seats are prohibited. Minimum seat back height 14.0 inches, measured at the center of the seat back rest. The seat shall be mounted between the main frame rails. The lowermost point of the seat must be positioned no lower than the lowermost point of the adjacent frame rails and no higher than the uppermost point of the adjacent frame rails. The seat shall be positioned in such a manner that no part of the driver’s head may extend aft of the vertical plane determined by the trailing edge of the rear tires, when seated normally. Headrests are not permitted Seat Rules for CIK body work classes: Sit-up sprint style seat only, 13” minimum height cannot pass rear axle CIK style seats are defined as Sprint style bucket seats un-altered. Home made, modified, non production and Stallion road race seats are NOT Legal any attempts to circumvent this rule will be covered by the “Sprit and Intent rule”
12. The use of any type of suspension components is strictly prohibited.

H. Superkart chassis specifications
1. Main frame members shall be constructed of cold rolled, electric weld, round, steel tubing or other material of equal or greater strength, of 30mm minimum nominal outside diameter and 2mm inch minimum wall thickness.
2. Wheelbase: 47.0 inches maximum, 42.0 inches minimum. Wheelbase is measured from true axle centerlines, each side.
3. Overall width: 55.0 inches maximum, 46.0 inches minimum. Overall width is measured at any cross section of the kart, perpendicular to the longitudinal centerline axis.
4. Overall length: 86.0 inches maximum. Overall length is measured at any cross section of the kart, parallel to the longitudinal centerline axis.
5. Overall height: 26.0 inches maximum, excluding seat headrest. Overall height is measured such that all elements of the kart must pass under a bar set parallel to ground level, 26.0 inches above ground level.
6. Steering system: May be tie rod or rack and pinion system. Top of steering wheel must be at least 19.0 inches above ground level. Minimum steering shaft outside diameter is .625 inch and minimum wall thickness is .078 inch. Tie rod minimum diameter is .500 inch with minimum wall thickness of .118 inch for aluminum and .059 inch for steel. Quick disconnect steering hubs permitted.
7. Front bumper must conform to CIK specifications.
8. Rear bumper must conform to CIK specifications.
9. Nerf bars are not required in this class.
10. Seat may be a high-back (headrest) or low-back design. Seat must be attached in at least four places. It must be positioned such that the driver can see over the top of the steering wheel when seated in normal position.

11. The use of any type of suspension components is strictly prohibited.

12. Wheels: 6.0 inch maximum wheel rims. Three bead retention screws are required, inside and out, on rear wheels. Bead retention screws are recommended on front wheels.

I. Sprint Speedway racing bodywork requirements

1. All bodywork components must be constructed of high strength plastic, fiberglass, aluminum or advanced composites only, with the exception of no metallic materials to be used for side panels.

2. No component of the bodywork may be adjusted or controlled in any way while the kart is in motion.

3. Skirting devices must be constructed of a flexible, non-metallic material.

4. The sides of the tires may not be covered in any way by the nose cone or side panels. It must be possible to remove the wheel straight through the opening in the bodywork.

5. Nose cones: The nosecone may cover the driver’s foot area, but not to extend further than 3.0 inches rear of the pedals in relaxed position. This measurement shall be made directly over each of the two pedals. The bottom of nose cone may extend full width no farther than the rear of the front tires, in a straight ahead position, beyond that the bottom of the nose cone must be within the main frame rails. The nose cone may be no narrower than to expose one half of a tire width per side. Maximum nose cone height 14.0 inches for 4 cycle novice classes only.

6. A connecting strip from nose cone or floor to steering fairing is allowed up to 6.0 inches maximum chord width, so as not to cover the driver’s feet, or legs. Minimum six inch clearance from connecting strip or steering fairing to any other bodywork component begins three inches maximum aft of the pedals, extending rearward to the mounting point for the steering wheel.

7. Steering fairings: Chord length 14.0 inches maximum. Chord width 14.0 inches maximum. Clearance to steering wheel 3.0 inches minimum. Clearance to any other bodywork or fuel tank 6.0 inches minimum. Clearance from steering wheel to any other bodywork 6.0 inches minimum. No steering fairings allowed in 4 cycle novice classes only.

8. Tire recess: All or any of the four wheels may be inside the bodywork a maximum of one inch per side, regardless of bodywork configuration. This measurement shall be made square to the outer face of the tire nearest the bodywork component in question, wheels straight.

9. Belly pans: Full width belly pans within the main frame rails are allowed for all classes. Belly pans can be bent up to a point no higher than the centerline of the rear axle.

10. Height from ground level of all side panels and rear pods: 16.0 inches maximum.

11. Except as noted in section 4.h.5, no part of the driver’s body may be covered by any bodywork component, as viewed from above.

12. No bodywork component may extend aft of the rear bumper.

13. Distance from seat to any bodywork component: 1.0 inch minimum.

14. Lateral distance between bodywork components in area from the mounting point for steering wheel to the point where the seat rises above the side panels: 22.0 inches minimum. If the seat remains below the side panels 22 inch minimum distance applies from mounting point for steering wheel to rearmost part of seat.

15. CIK style nose cones and side pods are allowed. The use of CIK mounting hardware is not mandatory.

J. Sprint racing bodywork requirements

1. All bodywork components must be constructed of high strength plastic, fiberglass, aluminum or advanced composites only, with the exception of no metallic materials to be used for side panels.

2. No component of the bodywork may be adjusted or controlled in any way while the kart is in motion.

3. Skirting devices must be constructed of a flexible, non-metallic material.

4. The sides of the tires may not be covered in any way by the nose cone or side panels. It must be possible to remove the wheel straight through the opening in the bodywork.

5. Nose cones: The nosecone may cover the driver’s foot area, but not to extend further than 3.0 inches rear of the pedals in relaxed position. This measurement shall be made directly over each of the two pedals. The bottom of nose cone may extend full width no farther than the rear of the front tires, in a straight ahead position, beyond that the bottom of the nose cone must be within the main frame rails. The nose cone may be no narrower than to expose one half of a tire width per side. Maximum nose cone height 14.0 inches for 4 cycle novice classes only.

6. A connecting strip from nose cone or floor to steering fairing is allowed up to 6.0 inches maximum chord width, so as not to cover the driver’s feet, or legs. Minimum six inch clearance from connecting strip or steering fairing to any other bodywork component begins three inches maximum aft of the pedals, extending rearward to the mounting point for the steering wheel.

7. Steering fairings: Chord length 14.0 inches maximum. Chord width 14.0 inches maximum. Clearance to steering wheel 3.0 inches minimum. Clearance to any other bodywork or fuel tank 6.0 inches minimum. Clearance from steering wheel to any other bodywork 6.0 inches minimum. No steering fairings allowed in 4 cycle novice classes only.

8. Tire recess: All or any of the four wheels may be inside the bodywork a maximum of one inch per side, regardless of bodywork configuration. This measurement shall be made square to the outer face of the tire nearest the bodywork component in question, wheels straight.

9. Belly pans: Full width belly pans within the main frame rails are allowed for all classes. Belly pans can be bent up to a point no higher than the centerline of the rear axle.

10. Height from ground level of all side panels and rear pods: 16.0 inches maximum.

11. Except as noted in section 4.i.5, no part of the driver’s body may be covered by any bodywork component, as viewed from above.

12. No bodywork component may extend aft of the rear bumper.
13. Distance from seat to any bodywork component: 1.0 inch minimum.
14. Lateral distance between bodywork components in area from the mounting point for steering wheel to the point where the seat rises above the side panels: 22.0 inches minimum. If the seat remains below the side panels 22 inch minimum distance applies from mounting point for steering wheel to rearmost part of seat.
15. CIK style nose cones and side pods are allowed. The use of CIK mounting hardware is not mandatory.

K. Enduro roadracing bodywork general requirements (applies to sprint enduro and laydown enduro kart types)
1. All bodywork components must be constructed of high strength plastic, fiberglass, aluminum or advanced composites only, with the exception of no metallic materials to be used for side panels.
2. No component of the bodywork may be adjusted or controlled in any way while the kart is in motion.
3. Skirting devices must be constructed of a flexible, non-metallic material.
4. The sides of the tires may not be covered in any way by the nose cone or side panels. It must be possible to remove the wheel straight through the opening in the bodywork.
5. Nose cones: The nosecone may cover the driver’s foot area, but not to extend further than 3.0 inches rear of the pedals in relaxed position. This measurement shall be made directly over each of the two pedals.
6. Steering fairings: Chord length 14.0 inches maximum. Chord width 14.0 inches maximum. Clearance to steering wheel 3.0 inches minimum. Clearance to any other bodywork or fuel tank 6.0 inches minimum. Clearance from steering wheel to any other bodywork 6.0 inches minimum.
7. Belly pans: Full width belly pans with or without integral wheel wells allowed for all classes. Belly pans can be bent up to a point no higher than the centerline of the rear axle.

L. Laydown enduro specific bodywork requirements
1. Tail sections may extend no further aft than 25.0 inches from the back of the rear axle.
2. Helmet fairings may extend no further forward than the rear of the headrest assembly.
3. Except as noted in section 4.j.5, no part of the driver’s body may be covered by any bodywork component, as viewed from above.
4. Tire recess: Rear wheels may be inside the bodywork a maximum of 1.0 inch per side, regardless of bodywork configuration. No limit to front wheel recess. This measurement shall be made square to the outer face of the tire nearest the bodywork component in question, wheels straight.

M. Sprint ENDURO specific bodywork requirements
1. Height from ground level of all side panels and rear pods: 16.0 inches maximum.
2. Except as noted in section 4.j.5, no part of the driver’s body may be covered by any bodywork component, as viewed from above.
3. No bodywork component may extend aft of the rear bumper.
4. Distance from seat to any bodywork component: 1.0 inch minimum.
5. Lateral distance between bodywork components in area from the mounting point for steering wheel to the point where the seat rises above the side panels: 22.0 inches minimum. If the seat remains below the side panels 22 inch minimum distance applies from mounting point for steering wheel to rearmost part of seat.
6. The nose cone may be no narrower than to expose one half of a tire width per side.
7. A connecting strip from nose cone or floor to steering fairing is allowed up to 6.0 inches maximum chord width, so as not to cover the driver’s feet, or legs. Minimum six inch clearance from connecting strip or steering fairing to any other bodywork component begins three inches maximum aft of the pedals, extending rearward to the mounting point for the steering wheel.
8. CIK style nose cones and side pods are allowed. The use of CIK mounting hardware is not mandatory.
9. Tire recess: All or any of the four wheels may be inside the bodywork a maximum of one inch per side, regardless of bodywork configuration. This measurement shall be made square to the outer face of the tire nearest the bodywork component in question, wheels straight.

N. Champ kart bodywork requirements
1. All bodywork components must be constructed of high strength plastic, fiberglass or advanced composites only.
2. No component of the bodywork may be adjustable in any way while kart is in motion.
3. Bodywork must be confined to the area defined by the front and rear bumpers, inside the area defined by the inside sidewalls of the tires.
4. Cockpit must be entirely open when viewed from above.
5. Wings, spoilers or other aerodynamic effects are prohibited.
6. Full, midget/sprint type, open wheel, conventional construction methods only are approved. Flat panels are allowed only for side panels and all other body components must have rounded, compound curve configuration. Nose and tail bodywork is mandatory.
7. Tail section must be full, midget/sprint type, fully enclosing the tail section, 15.0 inches minimum length, 13.0 inches minimum width and 14.0 inches minimum height.

O. Sprint Shifter bodywork requirements
1. Bodywork components consisting of a nose cone, steering fairing and side pods, if employed, must be CIK-style or similar, and represent current industry standards in shape and construction. Maximum steering fairing chord width 15.0 inches.
2. Floor pans: Required for all classes. Floor pans must be within the main frame rails and not extend aft of the central lateral frame tube.
The outboard panels of the side pods must be nominally perpendicular to the ground and shaped in such a manner as to preclude a "ramping" effect in case of lateral contact.

4. The use of CIK mounting hardware is not mandatory.

5. The width of the nose cone may not exceed the overall width of the front tires, wheels straight.

P. Superkart bodywork specifications

1. Bodywork must consist at minimum of two side pods, a front nose cone and a steering fairing.

2. Must be in general conformance with current industry standards. Six inch clearance rule is specifically waived for this class. Clearance from steering wheel to any bodywork is 2.0 inches minimum.

3. Steering fairing chord width is 14.0 inches minimum, 21.0 inches maximum. Height from ground level is 19.0 inches minimum, 26.0 inches maximum.

4. Nose cone width is 38.0 inches minimum, 50.0 inches maximum. Height from ground level is 10.0 inches minimum.

5. Side pod height is 10.0 inches minimum; width is 8.0 inches minimum; length is 24.0 inches minimum.

6. Rear wing width is 42.0 inches minimum, 48.0 inches maximum. Thickness at the thickest point of the wing is 1.0 inches minimum. Minimum wing area is 250 square inches. Wing end plate must have all corners radiused.

7. Belly pans: Full width belly pans, open in construction are allowed. No aerodynamic sealing devices allowed aft of the front wheels.

Section 5 – Fuels and Lubricants

1. Fuels and fuel testing: It shall be the right of the technical inspector on his own volition or on instruction from the race director to conduct any type of fuel testing deemed necessary at any time the competitor is under race administration direction, i.e. during pre-tech inspection, on the grid or in post-tech inspection.

a. Two cycle fuels

   1. Unless otherwise specified in class structure description, the only acceptable fuel in two cycle classes is gasoline and lubricating oil.

   2. None of the following substances may be added to the fuel. This list is inclusive only in that these are known ingredients that have been used in the past. Additionally, all other substances recognized by bonafide race sanctioning bodies or deemed to exceed the Threshold Limit Value for human exposure as listed by the American Conference of Governmental Industrial Hygienists.

      Alcohol (all), Aldehydes, Aminodiphenyl, Benzene (in excess of EPA limits), Benzidine, Beryllium compounds, Bromine compounds, Butadienes, Chlorinated compounds, Chromates, Dioxanes, Ethyl acrylate, Ethylene oxide, Hydrazine compounds, Methylene dianilin, Naphthylamine, Nitrogen compounds (nitromethane, nitropropane, etc.), Styrenes, Toluidine, Zylidine.

b. Testing

   a. Field testing

      1. Digitron meter: The preferred method of field testing two cycle fuel is with a Digitron meter. The meter shall be set at –75 with the probe fully immersed in a plastic container of clean cyclohexane at ambient temperature. The probe is then fully immersed in the competitor’s fuel and allowed to settle. Care must be taken to not touch the probe on any part of the fuel tank while the meter is coming to settle. The final meter reading must be zero or below (negative). The competitor has the right, and the inspector may allow removal of the fuel from the kart’s fuel tank into a suitable plastic container for testing. This is done to eliminate the effects of aluminum tanks on the meter and to facilitate cooling to ambient temperature. Artificial cooling of the sample (ice baths, etc.) is not allowed. Final testing shall occur no later than ten minutes after time of sample removal.

      b. Laboratory testing may be performed on a competitor’s fuel either on the tech inspector’s own volition or on instruction from the race director. Upon request, the competitor shall draw a sample from his tank or container (inspector’s preference) into a suitable, clean container. The tech inspector shall then mark the container in an indelible fashion and provide tamper-proof sealing of the container. The sample shall be forwarded to an accredited testing laboratory for full chemical analysis. Presence of any listed prohibited substances shall be grounds for disqualification.

b. Four cycle fuels and lubricants

   1. All additives to methanol fuel are prohibited.

   2. Testing

      a. Field testing

         1. The preferred method for field testing methanol is the water test. The premise is that methanol is completely water-soluble. Equal parts methanol and pure, distilled water shall be combined in a clean, transparent container. The mixture shall be shaken and allowed to settle for approximately thirty seconds. After settling, the mixture shall be completely clear. Comparison to a sample of pure, distilled water is an acceptable clarity comparison. Contamination prevention is paramount when using this technique. All sample gathering equipment, test containers and hands that come into contact with the fuel must be absolutely clean. If a contaminated sample is found all tooling and hands must be cleaned prior to testing another sample.

         b. Laboratory testing may be performed on a competitor’s fuel either on the tech inspector’s own volition or on instruction from the race director. Upon request, the competitor shall draw a sample from his tank or container (inspector’s preference) into a suitable, clean container. The tech inspector shall then mark the container in an indelible fashion and provide tamper-proof sealing of the container. The sample shall be
Section 6 – Four cycle engines: General requirements and inspection procedures

1. Generic four cycle tech procedure

Note: The following is a description of a full, generic four cycle technical inspection procedure. The inspector may choose to inspect all or parts of the competitor’s engine and chassis. All paragraphs that follow in this section apply universally unless specifically excepted by engine tech sheet.

It is the competitor’s responsibility to provide the necessary tools and labor to disassemble the engine and/or chassis. The technical inspector’s request for verification. Refusal to disassemble for inspection is grounds for immediate disqualification. The competitor has the right to request a reasonable time period to allow for cooling to ambient temperature prior to inspection.

a. Visually inspect engine for class type acceptability and appearance of compliance. Unless otherwise specified, all components must be of the same make and model as originally supplied for that engine, i.e. no interchanging components from different makes or models is allowed.

b. Verify minimum combustion chamber volume (OHV only). Fill a calibrated, glass burette up above the zero line with clean automatic transmission fluid, diluted 20-30 percent with mineral spirits. Hold the burette as close to vertical as possible, open the stopcock and run the fluid out until the bottom of the curved line is lined up with the zero line. Wipe any drips from the tip of the burette. Install the cc plug in the spark plug hole and bottom by hand. Back the cc plug out two turns. Set the engine such that the centerline axis of the spark plug hole is plumb. Turn the crankshaft by hand until the piston is .100 inch (approximately) before top dead center with both valves closed. Re-check the zero and add the prescribed fluid amount from the burette to the combustion chamber such that the bottom of the curved line is lined up with the prescribed combustion chamber volume for that particular engine. Torque cc plug to 90 inch/pounds. Slowly turn the crankshaft such that the piston moves through top dead center. An acceptable result is if all fluid remains within the combustion chamber or bore of the special tool with no fluid spilling over the upper edge of the tool, with piston at top dead center. An unacceptable result is if any fluid spills out onto the top of the tool.

Note: Verification of combustion chamber volume may only be done reliably one time. It is therefore in the best interest of the inspector and competitor to reach consensus on the readings of the burette both before and after adding the fluid and before turning the piston through top dead center. The zero of the burette should be checked immediately prior to adding the fluid to the chamber. Due to the geometry of some four cycle combustion chambers, air entrapment during the verification process is possible. When in doubt, the engine may be disassembled and the volume of each element verified separately.

c. Verify intake. Air filter may not be configured as an air ram. Verify air filter adapter to specifications. Air filter adapter not permitted without air filter. Visually inspect carburetor for class type acceptability and stock appearance. Any additional holes, vents, ports, etc. in the carburetor or any other means to controvert manufacturer’s intended flow is strictly prohibited. Remove carburetor and verify mounting gasket and intake restrictor requirements. Intake restrictors must be unaltered stock with one only gasket on each side. Disassemble and verify carburetor to specifications. If required, verify fuel tank to specifications.

d. Verify exhaust. Entire exhaust system must be attached to the engine and intact for the entire race and when submitted for tech inspection. Silencer brace is mandatory and may not be welded. Visually inspect exhaust system for class acceptability and stock appearance. Coating or wrapping of the exhaust header and pipe is permitted. Coating or wrapping of the silencer is prohibited. Visually inspect exhaust system for any supplementary holes or ports venting to atmosphere. Unless specifically allowed, all holes other than those intended for exhaust exit must either be plugged or have a sensor fitted in them. An unplugged, supplementary hole in the exhaust system is grounds for disqualification. Inspect entire system for stock appearance and configuration. Header must be of fixed design with no adjustability permitted. Preferred method for silencer attachment is clamping although three .250 inch maximum diameter spot welds are permitted at junction of silencer and exhaust pipe for secure attachment. Silencer must be removable for tech. Remove exhaust system and verify that header pipe does not protrude into the exhaust port. Disassemble exhaust as required and verify all prescribed dimensions for that particular exhaust system. Excepting sensors, no protrusions or projections into the interior of the header, pipe or silencer are permitted.

e. Verify ignition system. Inspect spark plug for reach and stock configuration. Remove ignition cover and visually inspect ignition assembly for stock configuration and class type. Unless otherwise specified, all ignition components must be unaltered stock. Using an ohmmeter, check resistance from spark plug wire to ground, if applicable. Remove coil and, if applicable, verify that coil positioning is stock, i.e. no means to alter coil position has been attempted. Unless otherwise specified, any means to alter the position of the coil from stock is grounds for disqualification. Remove flywheel and inspect for stock appearance. No machining to alter position of the flywheel on the crankshaft is allowed. Verify flywheel conformance to specifications.

f. Verify valve train and running cam lift (OHV only). Remove valve cover. Inspect valve train for visual conformance to specification. Establish a dial indicator bearing on the top of the intake valve spring retainer and ensure free range of motion. Turn engine over by hand to find lowest point of valve travel and set indicator to zero. Turn engine over to find the highest point of valve travel. The indicator reading at the highest point of valve travel is total running cam lift. Repeat for exhaust valve. Verify running lift for each lobe is within specifications.

forwards to an accredited testing laboratory for full chemical analysis. Chemically significant presence of any substance other than methanol is grounds for disqualification.

3. Crankcase lubricants may contain no oxygen bearing or vapor producing substances. Tech inspector reserves the right to test for these substances by any means deemed necessary.
3. Four cycle fuel delivery systems
   a. Specific tech sheet for all Briggs & Stratton stock 5hp carburetor requirements.
      Except in the case of throttle shaft specific engine tech sheets. This does not apply to Briggs & Stratton stock 5hp carburetors.
      Please refer to engine specific tech sheet for all Briggs & Stratton stock 5hp carburetor requirements. Except in the case of throttle shaft

4. RLV B91 series silencers are the only approved four cycle silencers. Silencer must be stock, unaltered as delivered by RLV. All B91 series silencers, outside diameter 2.240 inch maximum. All B91 silencers must exit aft of the fuel tank and forward of the rear bumper.
   a. RLV B91 dimensional requirements
      a. Silencer shall be equipped with minimum of three internal baffles and one end baffle. All baffle holes diameter .1285 inch maximum. Exhaust pipe mating inside diameter 1.0 inch nominal.
   b. RLV B91L dimensional requirements
      a. Silencer shall be equipped with minimum of three internal baffles and one end baffle. All baffle holes diameter .1285 inch maximum. Exhaust pipe mating inside diameter 1.125 inch nominal.
   c. RLV B91XL dimensional requirements
      a. Silencer shall be equipped with minimum of three internal baffles and one end baffle. All baffle holes diameter .1285 inch maximum. Exhaust pipe mating inside diameter 1.3125 inch nominal.
   d. RLV B91MO dimensional requirements
      a. Silencer shall be equipped with minimum of three internal baffles and one end baffle. All internal baffle holes diameter .1285 inch maximum. End baffle may have round holes of .1935 inch maximum diameter or square screen of .2031 inch maximum width and height. Exhaust pipe mating inside diameter 1.3125 inch nominal.

3. Four cycle fuel delivery systems
   a. General requirements
      1. The following paragraph applies only to Tillotson carburetors as utilized per class structure description and/or specific engine tech sheets. This does not apply to Briggs & Stratton stock 5hp carburetors. Please refer to engine specific tech sheet for all Briggs & Stratton stock 5hp carburetor requirements. Except in the case of throttle shaft
sealing devices, throttle bores, mounting face and blueprinting of metering holes, carburetors and all components therein may not be machined or altered in any way. Machining of the carburetor body is allowed to accept a sealing device for the throttle shaft. All components must be of original manufacture and stock appearing. Fuel may pass only through the stock metering orifices. Any means to bypass or alter manufacturer's intended fuel flow is prohibited. Inlet spring is non-tech. Carburetors may be run in any position. Filtering devices to protect metering diaphragm are allowed. Funneling of inlet not allowed.

2. Homologated carburetors
   a. Tillotson models HL227A, HL250A, HL304A, HL307A, HL317A, HL317E, HL322 and HL334A
      1. High speed needle seat diameter .068 inch maximum.
      2. Low speed needle seat diameter .037 inch maximum.
      3. Idle speed pick-off diameter .042 inch maximum. (omit for HL250A)
      4. Idle jet diameter .031 inch maximum.
      5. Transition jet diameter .042 inch maximum.
      6. Air pre-mix orifice diameter .037 inch maximum.
      7. Fuel inlet valve seat diameter .097 inch maximum.
      8. High speed fuel pick-off diameter .090 inch maximum.
      9. High speed jet check valve must be intact and unmodified.
     10. Throttle bore diameter 1.195 inch maximum.

Notes: Venturi bore must be as cast with minor deburring and removal of casting flash only allowed.

Tillotson HL227A, HL250A, HL304A, HL307A, HL317A, HL317E, HL322, and HL334A

![Diagram of carburetor dimensions](image-url)
Section 7 - Four-cycle engine specific technical inspection data

Note: Generic requirements are listed in section 6.1 and are applicable in their entirety unless specifically excepted on the engine specific tech sheet. The following specifications take precedence over any contradicting requirements of section 6. Exhaust requirements per section 6.2 and class structure description. Carburetor requirements per section 6.3 and class structure description.

Engine Specific Tech Sheet for: Briggs & Stratton 5hp Stock

Description: Single cylinder, two valve, four cycle
Displacement: 13.017 cubic inches maximum
Cylinder head requirements: Machining permitted on the gasket mating surface and the top of the post bosses only. Welding on the cylinder head is prohibited. Helicoil repair of spark plug threads in original position permitted, no protrusion into combustion chamber allowed. Bolt hole diameters .348 inch maximum. Combustion chamber depths: piston area .011 inch minimum, spark plug area .408 inch minimum, valve area .300 inch minimum. Any head gasket, not made of aluminum or copper, in stock configuration and .043 inch thickness midway between bolt holes is permitted. Gasket sealer of any type is prohibited. Eight stock head bolts required.
Bore and stroke: 2.6025 inch maximum bore, 2.437+/-.010 inch stroke. Protrusion of the piston above the top of the cylinder deck .005 inch maximum parallel and inline with the wrist pin. Note: Acceptance criteria of .015 inch maximum is allowable if specifically stated in series-specific rules and/or class structure.
Carburetor requirements: Stock Briggs & Stratton 5hp carburetor only. Pressurized fuel delivery systems are prohibited. Any means of providing fuel or air flow not originally intended by the manufacturer is strictly prohibited. No welding to carburetor body or any component except outside end of mixture screw is permitted. Filter adapter top surface must be flat and .250 inch maximum thickness from mounting face. Inside diameter of adapter may be radiused .250 inch maximum. No more than one filter adapter gasket may be used, thickness .075 inch maximum. One or two carburetor mounting flange gaskets may be used with no sealer of any type. Swirl non-tech. Throttle shaft washer and rubber seal must be in place and stock configuration. Throttle shaft leading edge .040 inch minimum, trailing edge .086 inch maximum. Butterfly must be unaltered stock with .059 inch minimum thickness at throttle shaft mating location. Butterfly screw must be unaltered stock, .322 inch minimum length. Except for outside end, needle screw must be unaltered stock with o-ring and washer present. Jet must have stock recess on backside with no funneling of hole allowed. Main metering hole diameter .062 inch maximum. Idle hole diameter .028 inch maximum. Air horn diameter 1.011 inch maximum. Recess at flange end must be as cast, .726 inch maximum diameter. Carburetor bore, from flange end recess to intersection of air horn diameter, .695 inch maximum diameter - no attempts to modify fuel/air flow permitted (rifling, dimpling, protrusions, etc. not permitted). Diaphragm cover plate may be faced for proper sealing. Aftermarket diaphragm of stock configuration permitted. No sealing agents permitted on diaphragm side of cover plate gasket. Spring and cup must be unaltered stock. Long fuel pickup tube may not be brass. Short tube inside diameter .066 inch maximum. Breather tube must be removed. Any stock, single hole, domed Briggs & Stratton fuel tank cap is permitted including those with integral splash shields.
Valve train: Stock, unaltered breather valve only. Two gaskets permitted.
Grommet and internal foam must be in place. Stock, unaltered, single angle valves only. Length of flat from seating surface to end of valve .035 inch minimum. Intake valve angle 30°+/−1°, 1.115 inch minimum head diameter. Exhaust valve 45°+/−1°, 990 inch minimum head diameter. Stock valve springs and lower retainers required. Springs may be machined to meet length requirements. Exhaust spring must be used on exhaust valve and may be used on intake valve. One stock upper retainer may be used on either valve, .058 inch maximum lip thickness. Intake valve spring length 1.240 inch maximum; .087 inch maximum wire diameter. Exhaust valve spring length 1.300 inch minimum, 1.500 inch maximum; .088 inch minimum wire diameter; inside spring diameter .625 inch minimum, .640 inch maximum. Both upper valve chamber surfaces may be spot faced for valve spring stabilization. Depth and geometry of spot face non-tech. Stock, single angle valve seats required. Valve seat height to cam centerline 5.740 inch minimum, 5.775 inch maximum. Valve seat may not protrude above cylinder deck surface.
**Ignition system:** Stock, unaltered coil and coil air vane required. Stock, unaltered plug connector required. Resistance from spark plug wire to ground is 2,000 ohms minimum, 5,000 ohms maximum. Any means to alter position of coil is prohibited. Stock, unaltered 5hp flywheel required. Flywheel weight 6.0 pounds minimum. Flywheel coating of any type is prohibited. Revolving or adjustable flywheel screens are prohibited.

**Piston requirements:** Any commercially available aluminum piston and ferrous ring configuration is permitted. Subject to comparison to known stock item. Length from top of piston to top of wrist pin bore .937 inch minimum. Wrist pin outside diameter .490 inch maximum, inside diameter .290 inch maximum, length 1.727 inch minimum, 1.737 inch maximum. Wrist pin must be manufactured of ferrous material.

**Connecting rod requirements:** Any commercially available aluminum connecting rod and oil dipper is permitted. Length from bottom of wrist pin bore to top of crankshaft journal bore 3.1233 inch minimum, 3.1333 inch maximum. Connecting rod bolts are non-tech.

**Crankshaft requirements:** Stock crankshaft required. Machining, polishing, addition of material or otherwise altering of counterweights is prohibited. Stock timing gear in stock configuration required. Connecting rod journal diameter .990 inch minimum. Crankshaft journals may be clearanced to .775 inch minimum diameter to facilitate bearing removal. Thermal treatment of crankshaft is permitted.

**Camshaft requirements:** Camshaft journal diameter .770 inch maximum. Titanium lifters are prohibited. Lifter head diameter .982 inch minimum, 1.005 inch maximum; length 1.606 inch maximum.

### Camshaft profile limits

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**EZ Spin start 45° to 60° ABDC**

**EZ Spin lift base .013 inch minimum, .019 inch maximum, 30° minimum duration, .001 inch maximum drop during duration.**

**Block requirements:** Side cover must be stock. Stub for governor may be removed and hole plugged. Gasket mounting surface of side cover and block may be pin punched. A maximum of three stock configuration side cover gaskets are permitted. Block must be unaltered stock with the following exceptions: The lifter bores may be countersunk to provide lifter head fillet radius clearance. Any means to raise the bottom of the lifter bore boss is prohibited. Welding to the block shall be for damage repair or lifter bore reinforcement only and may not constitute a functional modification. The cylinder deck may be machined, not to extend into the rear fin. Carburetor and exhaust pipe mounting surfaces must be unaltered stock. Alterations to inside surfaces of intake and exhaust ports are allowed so long as the intake port will not accept an .880 inch diameter No-Go plug gage and the exhaust port will not accept a 1.005 inch diameter No-Go plug gage. No addition of material is allowed. No additional holes may exist in the intake and/or exhaust ports. No alterations on the underside of the valve seats are allowed. Cylinder sleeve, if present, shall be ferrous and uncoated.
Engine Specific Tech Sheet for: Briggs & Stratton Limited Modified

**Description:** Single cylinder, two valve, four cycle

**Displacement:** 13.017 cubic inches maximum

**Cylinder head requirements:** Machining permitted. Helicoil repair of spark plug threads is permitted, no protrusion into combustion chamber allowed. Bolt hole diameters .348 inch maximum. Combustion chamber depth in spark plug area .400 inch minimum. Any head gasket is permitted. Eight stock diameter head bolts or studs required.

**Bore and stroke:** 2.6025 inch maximum bore, 2.437+/- .010 inch stroke.

**Carburetor requirements:** Any Tillotson HL series, with butterfly throttle assembly, and with .850 inch minimum and .900 inch maximum venturi diameter. Auxiliary vacuum fuel pump, pulsed from the intake, is permitted.

**Valve train:** Crankcase breather permitted. Stock, unaltered, single angle valves only. Length of flat from seating surface to end of valve .035 inch minimum. Intake valve angle 30°+/-1°, 1.115 inch minimum head diameter. Exhaust valve 45°+/-1°, .990 inch minimum head diameter. Valve springs and lower retainers non-tech. Both upper valve chamber surfaces may be spot faced for valve spring stabilization. Depth and geometry of spot face non-tech. Stock, single angle valve seats required. Valve seat thickness .205 inch maximum, .199 inch minimum. Valve seat height to cam centerline 5.740 inch minimum, 5.775 inch maximum. Valve seat may not protrude above cylinder deck surface.

**Ignition system:** Stock, unaltered coil required. Stock, unaltered plug connector required. Resistance from spark plug wire to ground is 2,000 ohms minimum, 5,000 ohms maximum. Any means to alter position of coil is prohibited. Unaltered billet flywheels only, ARC #6608, Clements #BAFWL, # FWSLTD, J.R. Race car # 555-3284, or UMMF #1001 only. Flywheel weight 4 pounds 12 ounce minimum. Revolving or adjustable flywheel screens are prohibited.

**Piston requirements:** Any commercially available aluminum flat topped is permitted. Coating permitted.

**Connecting rod requirements:** Any commercially available aluminum connecting rod and oil dipper is permitted. Connecting rod bolts are non-tech.

**Crankshaft requirements:** Stock crankshaft required. Machining, polishing, addition of material or otherwise altering of counterweights is prohibited except for minor clearancing for camshaft may be tolerated. Connecting rod journal diameter .990 inch minimum. Crankshaft journals may be clearanced to .775 inch minimum diameter to facilitate bearing removal. Thermal treatment of crankshaft is permitted.

**Camshaft requirements:** Camshaft is non-tech.

**Block requirements:** Side cover may be clearanceed to allow for adjustable camshaft bolts. Stub for governor may be removed and hole plugged. Gasket mounting surface of side cover and block may be pin punched. A maximum of three stock configuration side cover gaskets are permitted. Block must be unaltered stock with the following exceptions: The lifter bores may be countersunk to provide lifter head fillet radius clearance. Any means to raise the bottom of the lifter bore boss is prohibited. Welding to the block shall be for damage repair or lifter bore reinforcement only and may not constitute a functional modification. The cylinder deck may be machined, not to extend into the rear fin. Carburetor and exhaust pipe mounting surfaces must be unaltered stock. Alterations to inside surfaces of intake and exhaust ports are allowed so long as the intake port will not accept an .880 inch diameter No-Go plug gage and the exhaust port will not accept a 1.005 inch diameter No-Go plug gage. No addition of material is allowed. No additional holes may exist in the intake and/or exhaust ports. No alterations on the underside of the valve seats are allowed. Cylinder sleeve, if present, shall be ferrous and uncoated.
Engine Specific Tech Sheet for: Tecumseh Star

**Description:** Single cylinder, two valve, four cycle

**Displacement:** 22.379 cubic inches maximum

**Cylinder head requirements:** Machining permitted on the gasket mating surface and fin may be modified to accept CHT lead only. Welding on the cylinder head is prohibited. Helicoil repair of spark plug threads in original position permitted, no protrusion into combustion chamber allowed. Combustion chamber depth in spark plug area .360 inch minimum. Stock head gasket is mandatory and .043 inch minimum thickness midway between bolt holes is permitted. Stock head bolts required. Compression release is permitted in cylinder head. Sealants permitted for header mounting.

**Bore and stroke:** 3.348 inch maximum bore, 2.532+/-0.010 inch stroke. Protrusion of the piston above the top of the cylinder deck .015 inch maximum parallel and inline with the wrist pin.

**Carburetor requirements:** Any Tillotson HL series carburetor only is required. Maximum venturi diameter .900 inch. Stock Tecumseh carburetor mounting flange is required. Any air filter is required. Filter may not be configured as an air ram. Auxiliary fuel pump, pulsed from the crankcase only, is permitted. Air filter adapter is non-tech.

**Valve train:** Any breather valve is permitted. Factory stock valves only, head diameter non-tech. Stock upper retainers required. Valve spring length 1.700 inch maximum; .106 inch maximum wire diameter. Stock, single angle valve seats required. Intake valve seat angle 30°±1°, inside diameter 1.200 inch maximum. Exhaust valve seat angle 45°±1°, inside diameter 1.025 inch maximum.

**Ignition system:** Stock, unaltered ignition system only. Stock, unaltered flywheel only. Flywheel weight 7 lbs. 5 oz. minimum. Flywheel coating of any type is prohibited. Offset keys are prohibited.

**Piston requirements:** Any commercially available aluminum piston allowed, no coating allowed. Subject to comparison to known stock item, including compression height. Rings may not be multi-piece; two compression and one oil ring only. Wristpin outside diameter .624+/-0.001 inch, inside diameter .448 inch maximum.

**Connecting rod requirements:** May not be manufactured of titanium.

**Crankshaft requirements:** Stock crankshaft required. Machining, polishing, addition of material or otherwise altering of counterweights is prohibited.

**Camshaft requirements:** No visual check on lifter surfaces of camshaft. Maximum duration of lift, either lobe, measured at .003 inch off seat, is 265°, springs installed. Maximum lift, either lobe, is .325 inch, springs installed. Pre-2000 year cam gears may be machined to conform to current factory-lightened cam gear.

**Block requirements:** Side cover must be stock with the exception of a 1/8-27NPT fitting for pulse line. Stub for governor may be removed and hole plugged. Crankshaft PTO main bearing retainer may be removed and holes plugged. Gasket mounting surface of side cover may be pin punched. Block must be unaltered stock except machining of the cylinder head mating surface is permitted. Welding to the block shall be for damage repair or lifter bore reinforcement only and may not constitute a functional modification. Intake and exhaust ports must be unaltered stock. Cylinder sleeve and valve guides may be replaced with stock items.
Engine Specific Tech Sheet for: Kohler C6 XKE (Formula OHV)

Description: Single cylinder, two valve, four cycle

Combustion chamber volume: 24 cubic centimeter minimum, with piston at TDC, using prescribed procedure.

Cylinder head requirements: Must be OEM casting. Porting and/or grinding permitted. No external addition of material to enhance performance. Must maintain stock spark plug location and orientation. Must maintain stock valve location and orientation. Valve spacing 1.380 inch nominal. Valve orientation is perpendicular to deck mounting face.

Bore and stroke: 2.783 inch maximum bore, 2.008+/-0.010 inch stroke.

Carburetor requirements: Any Tillotson HL series carburetor only is required. Carburetor to be stock appearing with venturi bore .790 inch maximum diameter. No further carburetor tech. Any air filter is required. Filter may not be configured as an air ram. Filter cup/adapter is non-tech. Auxiliary fuel pump, pulsed from the crankcase or intake manifold, is permitted. Intake manifold length 2.000 inch maximum, manufactured of aluminum only.

Valve train: Any breather valve is permitted with catch can. No titanium valve train components allowed. Factory stock rocker arms and rocker plate only. Rocker arms may be welded or reinforced for strength. Two valves maximum. Intake valve head diameter 1.080 inch maximum, exhaust valve head diameter .990 inch maximum. Stock appearing, flat tappets only. All other valve train components non-tech. Clearancing for increased lift is permitted.

Ignition system: Aftermarket or OEM flywheels permitted. If OEM flywheel is used, it must be unaltered stock and OEM ignition system must be used. Only approved aftermarket flywheels may be used. Spec diameter and weight as follows: 6.75 inch +/- .05 inch outside diameter. 5.00 lbs +/- .25 lbs weight. When using aftermarket flywheels, any stock OEM F200 coil may be used on any engine. Ignition timing, coil mounts, flywheel key, spark plug boots and plug wires are non-tech items.

Piston requirements: Any commercially available three-ring, flat-top aluminum piston allowed, no coating allowed. Subject to comparison to known stock item. Aftermarket ferrous rings allowed. Wrist pin is non-tech with the exception of outside diameter to be .551 +/- .0025 inch.

Connecting rod requirements: 3.425 +/- .005 inch length. Must be manufactured of aluminum.

Crankshaft requirements: Stock crankshaft required. Machining, polishing, addition of material or other alteration of crankshaft is prohibited. Thermal treatment and shot peening is allowed. Rod journal diameter 1.218+/-0.0025 inch.

Camshaft requirements: Maximum lift, either lobe, is .275 inch, measured at valve.

Block requirements: Stub for governor may be removed and hole plugged. Block must be unaltered stock except machining of the cylinder head mating surface is permitted. Overbore and installation of ferrous cylinder sleeve allowable. Sleeve must be installed in stock location and orientation. Welding to the block shall be for damage repair only and may not constitute a functional modification. Fasteners and gaskets are non-tech. Must retain splash-type oiling system.

Additional requirements: External surfaces of cylinder heads and blocks may be machined to remove excess material from mounting bosses, cast-in brackets, etc. that are no longer in use. No external machining allowed that produce a performance gain. If recoil starter assembly is removed, starter cup must also be removed and a non-rotating flywheel screen must be installed.
Engine Specific Tech Sheet for: Tecumseh OHH55 (Formula - OHV)

Description: Single cylinder, two valve, four cycle
Combustion chamber volume: 24 cubic centimeter minimum, with piston at TDC, using prescribed procedure.
Cylinder head requirements: Must be OEM casting. Porting and/or grinding permitted. No external addition of material to enhance performance. Must maintain stock spark plug location and orientation. Must maintain stock valve location and orientation. Valve spacing 1.250 inch nominal. Valve orientation is perpendicular to deck mounting face.
Bore and stroke: 2.833 inch maximum bore, 1.938+/-0.010 inch stroke.
Carburetor requirements: Any Tillotson HL series carburetor only is required. Carburetor to be stock appearing with venturi bore .790 inch maximum diameter. No further carburetor tech. Any air filter is required. Filter may not be configured as an air ram. Filter cup/adapter is non-tech. Auxiliary fuel pump, pulsed from the crankcase or intake manifold, is permitted. Intake manifold length 2.000 inch maximum, manufactured of aluminum only.
Valve train: Any breather valve is permitted with catch can. No titanium valve train components allowed. Factory stock rocker arms and rocker plate only. Rocker arms may be welded or reinforced for strength. Two valves maximum. Intake valve head diameter 1.080 inch maximum, exhaust valve head diameter .990 inch maximum. Stock appearing, flat tappets only. All other valve train components non-tech. Clearancing for increased lift is permitted.
Ignition system: Aftermarket or OEM flywheels permitted. If OEM flywheel is used, it must be unaltered stock and OEM ignition system must be used. Only approved aftermarket flywheels may be used. Spec diameter and weight as follows: 6.75 inch +/- .05 inch outside diameter. 5.00 lbs +/- .25 lbs weight. When using aftermarket flywheels, any stock OEM F200 coil may be used on any engine. Ignition timing, coil mounts, flywheel key, spark plug boots and plug wires are non-tech items.
Piston requirements: Any commercially available three-ring, flat-top aluminum piston allowed, no coating allowed. Subject to comparison to known stock item. Aftermarket ferrous rings allowed. Wrist pin is non-tech with the exception of outside diameter to be .563 +/- .0025 inch.
Connecting rod requirements: 3.484 +/- .005 inch length. Must be manufactured of aluminum.
Crankshaft requirements: Stock crankshaft required. Machining, polishing, addition of material or other alteration of crankshaft is prohibited. Thermal treatment and shot peening is allowed. Rod journal diameter .999+/- .0025 inch.
Camshaft requirements: Maximum lift, either lobe, is .275 inch, measured at valve.
Block requirements: Stub for governor may be removed and hole plugged. Block must be unaltered stock except machining of the cylinder head mating surface is permitted. Overbore and installation of ferrous cylinder sleeve allowable. Sleeve must be installed in stock location and orientation. Welding to the block shall be for damage repair only and may not constitute a functional modification. Fasteners and gaskets are non-tech. Must retain splash-type oiling system.
Additional requirements: External surfaces of cylinder heads and blocks may be machined to remove excess material from mounting bosses, cast-in brackets, etc. that are no longer in use. No external machining allowed that produce a performance gain. If recoil starter assembly is removed, starter cup must also be removed and a non-rotating flywheel screen must be installed.
Engine Specific Tech Sheet for: Honda GX-200 (Formula - OHV)

Description: Single cylinder, two valve, four cycle
Combustion chamber volume: 24 cubic centimeter minimum, with piston at TDC, using prescribed procedure.
Cylinder head requirements: Must be OEM casting. Porting and/or grinding permitted. No external addition of material to enhance performance. Must maintain stock spark plug location and orientation. Must maintain stock valve location and orientation. Valve spacing 1.219 inch nominal. Valve orientation is perpendicular to deck mounting face.
Bore and stroke: 2.709 inch maximum bore, 2.125+/-0.010 inch stroke.
Carburetor requirements: Any Tillotson HL series carburetor only is required. Carburetor to be stock appearing with venturi bore .790 inch maximum diameter. No further carburetor tech. Any air filter is required. Filter may not be configured as an air ram. Filter cup/adapter is non-tech. Auxiliary fuel pump, pulsed from the crankcase or intake manifold, is permitted. Intake manifold length 2.000 inch maximum, manufactured of aluminum only.
Valve train: Any breather valve is permitted with catch can. No titanium valve train components allowed. Factory stock rocker arms and rocker plate only. Rocker arms may be welded or reinforced for strength. Two valves maximum. Intake valve head diameter 1.080 inch maximum, exhaust valve head diameter .990 inch maximum. Stock appearing, flat tappets only. All other valve train components non-tech. Clearancing for increased lift is permitted.
Ignition system: Aftermarket or OEM flywheels permitted. If OEM flywheel is used, it must be unaltered stock and OEM ignition system must be used. Only approved aftermarket flywheels may be used. Spec diameter and weight as follows: 6.75 inch +/- .05 inch outside diameter. 5.00 lbs +/- .25 lbs weight. When using aftermarket flywheels, any stock OEM F200 coil may be used on any engine. Ignition timing, coil mounts, flywheel key, spark plug boots and plug wires are non-tech items.
Piston requirements: Any commercially available three-ring, flat-top aluminum piston allowed, no coating allowed. Subject to comparison to known stock item. Aftermarket ferrous rings allowed. Wrist pin is non-tech with the exception of outside diameter to be .708 +/- .0025 inch.
Connecting rod requirements: 3.303 +/- .005 inch length. Must be manufactured of aluminum.
Crankshaft requirements: Stock crankshaft required. Machining, polishing, addition of material or other alteration of crankshaft is prohibited. Thermal treatment and shot peening is allowed. Rod journal diameter 1.180+/-0.0025 inch.
Camshaft requirements: Maximum lift, either lobe, is .275 inch, measured at valve.
Block requirements: Stub for governor may be removed and hole plugged. Block must be unaltered stock except machining of the cylinder head mating surface is permitted. Overbore and installation of ferrous cylinder sleeve allowable. Sleeve must be installed in stock location and orientation. Welding to the block shall be for damage repair only and may not constitute a functional modification. Fasteners and gaskets are non-tech. Must retain splash-type oiling system.
Additional requirements: External surfaces of cylinder heads and blocks may be machined to remove excess material from mounting bosses, cast-in brackets, etc. that are no longer in use. No external machining allowed that produce a performance gain. If recoil starter assembly is removed, starter cup must also be removed and a non-rotating flywheel screen must be installed.
Engine Specific Tech Sheet for: Briggs and Stratton Intek 5.5 (Formula - OHV)

Description: Single cylinder, two valve, four cycle
Combustion chamber volume: 24 cubic centimeter minimum, with piston at TDC, using prescribed procedure.
Cylinder head requirements: Must be OEM casting. Intek 6.5 or “Animal” cylinder head is permissible. Porting and/or grinding permitted. No external addition of material to enhance performance. Must maintain stock spark plug location and orientation. Must maintain stock valve location and orientation. Valve spacing 1.382 inch nominal. Valve orientation is perpendicular to deck mounting face.
Bore and stroke: 2.760 inch maximum bore, 2.040+/- .010 inch stroke.
Carburetor requirements: Any Tillotson HL series carburetor only is required. Carburetor to be stock appearing with venturi bore .790 inch maximum diameter. No further carburetor tech. Any air filter is required. Filter may not be configured as an air ram. Filter cup/adapter is non-tech. Auxiliary fuel pump, pulsed from the crankcase or intake manifold, is permitted. Intake manifold length 2.000 inch maximum, manufactured of aluminum only.
Valve train: Any breather valve is permitted with catch can. No titanium valve train components allowed. Factory stock rocker arms and rocker plate only. Rocker arms may be welded or reinforced for strength. Two valves maximum. Intake valve head diameter 1.080 inch maximum, exhaust valve head diameter .990 inch maximum. Stock appearing, flat tappets only. All other valve train components non-tech. Clearancing for increased lift is permitted.
Ignition system: Aftermarket or OEM flywheels permitted. If OEM flywheel is used, it must be unaltered stock and OEM ignition system must be used. Only approved aftermarket flywheels may be used. Spec diameter and weight as follows: 6.75 inch +/- .05 inch outside diameter. 5.00 lbs +/- .25 lbs weight. When using aftermarket flywheels, any stock OEM F200 coil may be used on any engine. Ignition timing, coil mounts, flywheel key, spark plug boots and plug wires are non-tech items.
Piston requirements: Any commercially available three-ring, flat-top aluminum piston allowed, no coating allowed. Subject to comparison to known stock item. Aftermarket ferrous rings allowed. Wrist pin is non-tech with the exception of outside diameter to be .625 +/- .0025 inch.
Connecting rod requirements: 3.375 +/- .005 inch length. Must be manufactured of aluminum.
Crankshaft requirements: Stock crankshaft required. Machining, polishing, addition of material or other alteration of crankshaft is prohibited. Thermal treatment and shot peening is allowed Rod journal diameter 1.098+/- .0025 inch.
Camshaft requirements: Maximum lift, either lobe, is .275 inch, measured at valve.
Block requirements: Stub for governor may be removed and hole plugged. Block must be unaltered stock except machining of the cylinder head mating surface is permitted. Overbore and installation of ferrous cylinder sleeve allowable. Sleeve must be installed in stock location and orientation. Welding to the block shall be for damage repair only and may not constitute a functional modification. Fasteners and gaskets are non-tech. Must retain splash-type oiling system. Use of steel bore block originally intended for Intek 6.5 or “Animal” is permissible.
Additional requirements: External surfaces of cylinder heads and blocks may be machined to remove excess material from mounting bosses, cast-in brackets, etc. that are no longer in use. No external machining allowed that produce a performance gain. If recoil starter assembly is removed, starter cup must also be removed and a non-rotating flywheel screen must be installed.
Engine Specific Tech Sheet for: Kohler C6 XKE  Box Stock

**Description:** Single cylinder, two valve, four cycle

**Cylinder head requirements:** The stock factory cylinder head assembly must be used. The intake and exhaust ports are to remain as cast with no polishing, sand/bead blasting, acid washing or smoothing of ports allowed. Factory deburring is allowed. Maximum inside diameter of exhaust and intake ports is .846 inch. Minimum thickness of cylinder head assembly from valve cover gasket surface to cylinder head gasket surface is 3.259 inch.

**Bore and stroke:** 2.665 inch maximum bore, 2.008 +/- 0.010 inch stroke.

**Carburetor requirements:** The stock factory standard air cleaner assembly must be used in its stock configuration. No additional holes are allowed to be drilled or tapped into the air cleaner element or air cleaner base. Factory foam precleaner may be removed. Stock factory Keihin carburetor, Kohler Part Number 15 053 05, is to be used with no alterations. Original jets and emulsion tube must be used. Float height changes allowed. The slow jet hole size is 0.015 inch and the main jet hole size is .027 inch. Choke plate must be in place and functional. Boring and polishing of carburetor bore is not permitted. Maximum venturi diameter .555 inch.

**Valve train:** The stock factory breather system must be functional and used in its stock configuration. No catch tanks allowed. Stock factory intake and exhaust valves mandatory. No multiple cut angles or polishing to the valves permitted. Maximum intake valve diameter 1.053 inch. Maximum exhaust valve diameter .974 inch. Stock factory valve seats are mandatory but may be refaced. Maximum inside diameter of intake seat is .913 inch. Maximum inside diameter of exhaust seat is .835 inch. Any valve lash setting is permitted. Stock factory rocker arms and push rods are mandatory. Rocker arm minimum length is 2.146 inch. Stock factory, Kohler part number 220188, valve springs mandatory. Wire diameter is .094 inches. Stock, unaltered tappets only. Tappet diameter .830 inch maximum, .750 inch minimum.

**Ignition system:** Stock, unaltered ignition system only. Stock factory flywheel must be used with factory flywheel key in place. The flywheel keyway must not be altered in any way. Minimum width of flywheel key .125 inch. Painting and coatings other than minimum factor overspray is not permitted. Broken flywheel fins are not allowed. Minimum flywheel weight is 8.0 pounds.

**Piston requirements:** Stock Kohler factory pistons, rings and wrist pins mandatory. The maximum length of the piston skirt is 1.523 inch. The wrist pin maximum inside diameter is 0.378 inch, minimum outside diameter is .551 inch and minimum length is 1.586. Stock ring tensions cannot be changed by any means. Ring tensions to be compared to known stock component. Piston must be installed with arrow pointing towards flywheel.

**Connecting rod requirements:** Stock, unaltered factory connecting rod mandatory. Length 3.4268 inch minimum, 3.4284 inch maximum.

**Crankshaft requirements:** Stock, unaltered crankshaft required. Stock factory crank gear is to be used in its factory position. Rod journal diameter 1.218 +/- .0025 inch.

**Camshaft requirements:** The stock factory camshaft, Kohler part number 15 012 09, mandatory with no alterations allowed. Max lift either lobe is .232 inch, measured at the valve. Refer to Kohler factory specifications for cam profile.

**Block requirements:** Block assembly must be stock as produced from the factory with no alterations. Repairs are permitted from damage that does not constitute a functional modification of the original block assembly. Offset, angle boring and/or circular machined grooving of cylinder are not allowed. Minimum distance between cylinder deck to top of piston at TDC is .008 inch.

**Additional requirements:** Only stock factory components allowed in unaltered form. Blueprinting to change part to maximum or minimum tolerance specifications is not permitted. All engine components and assemblies must meet Kohler part print specifications and tolerances, including gaskets. The stock factory Mikuni fuel pump Kohler Part Number 15 393 01 is to be used with the pulse line connected to the crankcase only. Recoil assembly to remain on engine and is to be the only means of starting the engine. Only stock factory C6 XKE shrouds covers and baffles may be used in their original factory locations. Competitor is responsible to produce factory service manual for year and model of engine upon request from technical inspector.
Engine Specific Tech Sheet for: BRIGGS AND STRATTON ANIMAL

BRIGGS & STRATTON ANIMAL: NOTE: All parts must be original Briggs & Stratton production parts unless otherwise specified in this manual. No machining or alteration of parts is permitted unless specifically noted. All parts are subject to be compared to a known stock Briggs & Stratton part. No reading between the lines. If it is not in the rules, it must remain stock. Unless otherwise stated engine will be teched as raced.

SHROUD & COVERS: Engine shroud and covers and control bracket must be intact and not modified, except control cover which can be modified to attach fuel pump (fuel pump must be visible) and throttle bracket also cylinder cover maybe cut for thermal coupler, intake manifold and exhaust flange clearance. Flywheel guard mandatory. All flywheel guards must be bolted to blower housing. Taping of flywheel guard allowed. Tape on block disallowed. No part of Flywheel guard may protrude inside of the flat plane of the blower housing. NO revolving flywheel guards allowed. Any bolt utilized to secure sheet metal, shrouding, etc., with the exception of sheet metal secured by the head bolts, may be replaced with larger diameter bolt(s). Stock kill switch must remain in stock location but may or may not be used.

HEADER/SILENCER: Exhaust pipe/header must not extend past rear bumper (including silencer, where applicable) and have no exposed sharp edges. Header shall have a maximum length of 24” to be measured in the ID using a 0.250” wide tape measure. Measurement to be made with silencer off of the pipe and tape tight. If any part of the pipe is less than maximum the pipe is legal. Loop Header pipes NOT ALLOWED. Header/exhaust pipe MAY NOT PROTRUDE inside of exhaust port. Studs allowed for header pipe attachment to block. Header pipes MUST be wrapped to protect driver from burns. Gasket and/or Silicone allowed to seal the header. Header must be of fixed design. NO SLIPPY PIPES allowed. No extra tubes or extra holes allowed except hole for heat sensor probe if sensor is used. Extra heat shield above chain guard allowed. All header pipes must be of continuous length from flange to end of pipe with stages or butt welds permitted (no chamber, infusers, or covers of any type allowed on muffler etc.). A header support brace and safety wiring of header bolts or studs is MANDATORY to assure header bolts remain tight. It is required that the safety wire wrap around pipe to insure that bolts remain with pipe in case they are stripped out of block. Silencer must be tight, secure, and completely intact on the header through out the entire event. Silencer must be clamped to header tube and no welding of silencer in any area. Silencer must be visible when viewed from any angle. Header tube and silencer only legal parts.

SILENCER: In events where silencing device is MANDATORY (Divisional, National, etc., points event and where required for non-points, local events), use of RLV 8-91 SILENCER IS MANDATORY. Silencer must be utilized as produced, with no modifications or alterations permitted. Silencer Baffle holes 0.1 285” maximum all baffles.

The flange that bolts the header to the block cannot be thicker than 0.312” Max..

AIRFILTER: Any air cleaner permitted. Must be installed directly to carb. No filter adapter allowed. Filter may not be used as an air ram and must filter from all areas as raced. Any open areas in filter must be covered with a filter sock. (No open areas allowed)

CARBURETOR: PZ model Carburetors are the only legal Carb and are recognizable by the Walbro PZ stamping or the Briggs and Stratton Diamond Logo. Must be stock as from the factory except any parts that are inside the float bowl or that can be removed through the float bowl are non-tech items. Any 1/4” bolts may be used to attach Carb to intake. NO STUDS ALLOWED. Carb to intake seal is by 0-Ring only. No sealer allowed. Air must enter carb at air horn ONLY. Choke must be as stock as from the factory except choke arm may be secured in the open position. Adapter will be allowed on end of fuel inlet of carburetor for attachment of 1/4” fuel line. The Fuel nozzle must protrude into the Venturi between 0.040” and 0.060”.

Maximum throttle bore inside dimension is 0.874” NO-GO. Must be as cast.

CHOKE BORE: 1.149” No-Go. Must be as cast.

CHOKE LEVER: Pin punching is allowed to tighten choke cover. Silicone or Epoxy may be used to secure choke lever in place. NO ALTERATIONS ALLOWED. Single hole restrictor plate will be used. A 0.500” to be checked with 0.506” NO-GO gold restrictor will be used for the Briggs Sportsman 2 classes. A 0.575” to be checked with a 0.576” NO-GO Black restrictor plate will be used in the Briggs Jr. classes. A 3 hole Purple restrictor plate with 0.225” holes to be checked with a 0.226” no-go and will be used in the Jr. Sportsman 1 classes. A 2 hole restrictor plate with a top hole 0.275” and a bottom hole of 0.325” turquoise restrictor plate to be checked with a 0.276” and 0.326 no-go will be used in the Jr. Sportsman 2 classes. Restrictor plate must be flat and placed between carb and intake, and sealed within gasket area. There must be one gasket between the restrictor plate and the intake manifold. Addition of material or funneling of gasket(s) not allowed. Any attempt to bypass, modify restrictor is prohibited. Anodizing may not be removed from restrictor plate. Horstman lettering must be present, and tang on plate must be on right side when looked at from the carb side. Intake restrictors are to be unaltered, and must be as originally manufactured. Along with NO-GO gauges, officials may use a known factory plate, or any other tool necessary to determine legality of part. Restrictor plate violations subject competitor to disqualification and suspension.

Note: In all divisions, issued restrictor plates may be required to be used at selected events.

INTAKE: Stock Animal intake as supplied from the factory. The gasket surfaces may be machined to meet the length specification, but
the gasket surfaces must remain flat for proper gasket seal. The two intake to block mounting holes and one intake to carburetor mounting hole may be drilled out and will be checked with a 0.328" NO-GO and the width of the intake to carb slotted hole will be checked with the same NO-GO, also the intake may NOT be drilled and tapped for fitting to pulse fuel pump.

**LENGTH:** 1.740" NO-GO 1.760" MUST- GO. Inside ID: 0.885" NO-GO. 0.905" MUST- GO.

**INSIDE DIAMETER:** Inside ID: 0.885" MUST GO. 0.905" NO-GO. Minor paint runs or welding slag inside manifold are not grounds for disqualification

**INTAKE TO BLOCK GASKET:** After market gaskets are allowed. No sealants are allowed. Gasket thickness 0.070” max.

**FUEL PUMP:** Auxiliary pulse-type fuel pump allowed. Fuel pump must be externally mounted. Fuel pump must be pulsed from the crankcase upper oil fill cap or intake manifold only. Fuel pump must be mounted on engine. Pulse line from crankcase to fuel pump not to exceed 15”. Fuel pump pulse line must be standard 1/4” inch or smaller inside diameter fuel line. Single diaphragm type fuel pump only. No double or triple diaphragm pumps allowed. A fuel pump return line to fuel tank is not allowed.

**VALVE COVER:** Stock valve cover as from factory, that includes the breather hole for the tube that runs to the catch can (no threading of hole allowed). Valve cover gasket must meet stock configuration. No sealer allowed.

**ROCKER ARMS:** Must be stock as from the factory. Minimum length is 2.850”

**CAMSHAFT:** All cam profile readings must be taken with zero valve lash and degree wheel at top dead center (TDC) of compression stroke. Readings shall be measured from push rods. Set dial indicator at zero and do not reset during the profile process. Only stock factory camshaft cores from Briggs & Stratton are permitted, part numbers 55532 and 55584. Lobes may be ground, but not to exceed 0.870 base circle. Mechanical compression relief is non-tech. Camshaft lobes must remain flat and of original width. Maximum valve lift of 0.255” taken directly off the valve assembly at zero valve lash. Place dial indicator on valve keeper then tighten ball rocker till you see indicator move 0.001” to 0.002” this will assure that all the lash is taken out of the valve. When checking the lift off the valve keeper the only dial indicator holder that will be used is a three leg holder Sox holder #AT32OA or similar indicator holder.

### 704.10.2 CAMSHAFT PROFILE LIMITS:

#### INTAKE Lift Degrees
- 0.020” 18° TO 13° BTDC
- 0.050” 0 TDC TO 4° ATDC
- 0.100” 16° ATDC TO 20° ATDC
- 0.150” 33° ATDC TO 37° ATDC
- 0.175” 42° ATDC TO 46° ATDC
- 0.200” 53° ATDC TO 57° ATDC
- 0.225” 67° ATDC TO 71° ATDC

**MAX** Max. lift is 0.257”
- 0.225” 39° BBDC TO 35° BBDC
- 0.200” 25° BBDC TO 210 BBDC
- 0.175” 15° BBDC TO 11° BBDC
- 0.150” 5° BBDC TO 3° BBDC
- 0.100” 1° ABDC TO 1° ABDC
- 0.050” 44° ABDC TO 49° ABDC
- 0.020” 5 ATDC TO 10° ATDC

#### EXHAUST Lift Degrees
- 0.020” 610 BBDC TO 56° BBDC
- 0.050” 44° BBDC TO 40° BBDC
- 0.100” 27° BBDC TO 23° BBDC
- 0.150” 10° BBDC TO 7° BBDC
- 0.175” 5° BBDC TO 3° ABDC
- 0.200” 10° ABDC TO 14° ABDC
- 0.225” 24° ABDC TO 28° ABDC

**MAX** Max. lift is 0.257”
- 0.225” 78° BTDC TO 74° BTDC
- 0.200” 64° BTDC TO 60° BTDC
- 0.175” 53° BTDC TO 49° BTDC
- 0.150” 43° BTDC TO 39° BTDC
- 0.100” 27° BTDC TO 23° BTDC
- 0.050” 1° BTDC TO 6° BTDC
- 0.020” 5 ATDC TO 10° ATDC

**BALL ROCKER:** As Stock from factory.
- 0.590” NO-GO — 0.610” MUST-GO.

**PUSH ROD:** Stock as from factory. .185” - 0.190” diameter. Length 5.638” NO-GO – 5.658” MUST- GO.

**BOLTS:** Stock head bolt must be utilized and four are mandatory. All other external metric bolts may be replaced with American standard bolts of the appropriate size.

**HEAD GASKET:** B & S and after market head gaskets are allowed of stock design. Gasket sealer cannot be utilized on head gasket. No aluminum or copper head gaskets allowed 0.049” Min. thickness measured n four places between head bolts. Measurement to be made from inside of gasket. Measurement to be made with micrometers. Briggs and Stratton Fire Ring head Gaskets are allowed. Minimum thickness is 0.042” measured on the metal Fire Ring part of the gasket.
Cylinder head plate must be stock as from the factory.
Cylinder head plate gasket must be stock configuration. 0.060” Max thickness.

ROCKER ARM STUDS: Must be in stock as from the factory.

VALVES: Stock valves ONLY. Must be one angle. Valves may not be polished or lightened. If working area (that portion of the valve stem translating with the valve guide area) of valve stem is cleaned, no material may be removed, such as linear grooves, cross-hatching, etc. Minimum intake and exhaust valve length 3.372” + or - 0.010”.

INTAKE VALVE: 45 degrees. Intake valve diameter is 1 .055” NO-GO - 1 .065” MUST- GO. Depth of dish in valve 0.084” – 0.104’
Minimum height from angle of valve face to top of valve 0.057” using gauge (Check using a depth micrometer from top of valve to the gauge).

EXHAUST VALVE: 45 degrees. Exhaust valve diameter is 0.935” NO-GO - .945” MUST-GO. Depth if dish in valve 0.084” - 0.1 04”.
Minimum height from angle of valve face to top of valve 0.060”using gauge (Check using a depth micrometer from top of valve to top of gauge).

VALVE LIFTERS: Stock lifter as supplied oem factory.
Head of lifter 0.820” NO-GO - 0.860” MUST-GO. Length of lifter 1.515” NO-GO - 1.525” MUST-GO.

VALVE SPRINGS: Stock Briggs & Stratton valve springs and keepers are mandatory. Springs must remain unaltered as supplied by factory.

INTAKE AND EXHAUST SPRING Maximum valve spring length is 0.940” NO-GO.
0.103” -0.107” wire diameter, measured in three places on spring. Inside diameter of spring 0.615” minimum, 0.635” maximum.

VALVE SPRING RETAINERS: Stock as from the factory. 0.060” - 0.075” thickness.

CYLINDER HEAD: Stock Briggs & Stratton cylinder head part # 555635. Machining of head gasket surface only allowed. No machining of ports allowed. Bosses on head may be tapped to allow for the attaching of a header brace.

Depth of head at shallow part of head 0.011” MIN. The measurement on the shallow side of the combustion chamber will be taken with a depth gauge on the push rod side of an imaginary line drawn from dowel pin to dowel pin on the valve side of the dowel. It will also be taken over the spark plug area. The rest of the recess area in the head has no depth dimension, but the recess must remain visible.

Depth at floor of head 0.319” mm..

DEPTH TO TOP OF VALVE SEAT 0.360” max. 0.335” mm ( Old Style Head), RT-1 Head – Min 0.320”.

Head thickness measured from head gasket surface to head plate gasket surface is 2.420” ( RT-1 Head Min 2.405”). Head thickness to be checked in four places through the valve guides and the push rod holes with gauge. Not calipers.

Width of combustion chamber at the widest part across the valve seats area check with a 2.640” NO-GO at a depth of 0.200 in the combustion chamber.

VALVE SEATS: Must be one angle ONLY on valve seats. Stock Briggs & Stratton valve seats are mandatory.

Intake seat inside diameter 0.966” NO-GO - 0.972” MUST-GO.
Exhaust seat inside diameter 0.841” NO-GO- 0.850” MUST-GO.

Exhaust and Intake seat 45 ° angles.

PORTS: Must have stock configuration. No porting or modifications of any kind allowed.

INTAKE INLET: 0.918” NO-GO when checking 90 degrees to stud pattern no-go will be straight, when checking in line with stud pattern no-go will set on floor of port at bottom and stop at upper edge of port on top.

0.864” NO-GO cannot touch the valve guide of the intake port. 0.860” plug gage will be used as a visual check of the eyebrow area this is not a no-go but a visual assist tool.

EXHAUST OUTLET: 0.980” NO-GO.

VALVE GUIDES: Stock valve guides as supplied from factory. Stock replacement guide part # 555645 allowed. Maximum depth from cylinder gasket surface to top of intake valve guide is 1.255.

DECK/PISTON CLEARANCE: Machining of deck surface is permitted. No peak decking allowed. Piston pop-up CANNOT exceed 0.005” above block surface in the center of the piston. When measuring piston popup, it should be accomplished with bar stock on a parallel with the piston wrist pin and, using a dial indicator check the piston popup-in this area. Then without moving the dial indicator rotate the bar 90 degrees on the center line of the piston and check the popup it should not exceed 0.005”.

CYLINDER BORE: No circular or machined grooving of cylinder is allowed in any position of cylinder.

Stock cylinder bore is 2.690” and overbore is permitted providing it does not exceed 2.725” (approximately 0.035” overbore).

STROKE: Stroke is 2.204” Max. Check with stroke pin or dial indicator. Stroke is checked by pushing piston down to take up play of rod clearance. Stroke is checked from bottom dead center (BDC) to top dead center (TDC).

STARTER: Recoil starter may be retained as produced and intact, if recoil is removed, starter cup must also be removed. Any style nut and use of electric starter allowed.

FLYWHEEL. Any flywheel key or NO flywheel key is allowed. No machining, glass beading or sandblasting of flywheel is allowed. Flywheel washer must be stock.

WEIGHT OF THE PVL FLYWHEEL: 4lbs. 1oz. MINIMUM.

IGNITION: If stock flywheel part # 555625 is used the coil must be stock Briggs coil part # 557040 must be utilized in unaltered form.

NO slotting of mounting holes or machining of attaching bolts is permitted. There must be resistance from ground to the spark end of the plug Wire. SPARK PLUG CONNECTOR must be stock factory type. Rubber plug boot is allowed.

If PVL flywheel part # 555683 is used the stock PVL Magneto Briggs Part # 555681 must be utilized in unaltered form. NO slotting of mounting holes or machining of attaching bolts is permitted SPARK PLUG CONNECTOR must be Stock factory type. Rubber plug boot is allowed.

CRANKCASE SIDE-COVER: Side-Cover must remain stock

CRANKCASE SIDE-COVER GASKET after market gaskets approved, however, must be of same size and material as stock gasket(s). One or two crankcase gaskets are allowed.

VALVE LIFTERS: Stock lifter as supplied oem factory.

Head of lifter 0.820” NO-GO - 0.860” MUST-GO. Length of lifter 1.515” NO-GO - 1.525” MUST-GO.

CONNECTING ROD: Stock ANIMAL, World Formula or commercially available Billet Rods, with or without inserts are allowed. No polishing or grinding allowed. Minimum Rod length is 2.414”. Maximum length is 2.429 measured from bottom of wrist pin to top of crankshaft journal. Oil hole opening is 0.185”.

Stock rod length is 2.419” minimum, 2.429” maximum. Measured from bottom of wrist pin to top of crankshaft journal.
Oil hole opening, new and old style rod, is 0.185” NO-GO.

**Wrist Pin:** Wrist pin must not be altered.
Maximum inside dimension of wrist pin is 0.414’
Outside dimension is 0.624” - 0.626”
Minimum length, 1.901.

**Rings** Three rings are MANDATORY. Compression, or top ring, chamfer or 0 must face up, and must remain as manufactured.
Scraper Ring must be installed with inside chamfer down and 0 up. Stock oil ring must be installed as from factory. Ends of ring must remain flat. Excessive end gapping of rings not allowed. Rings must conform to all listed factory specifications and be of stock configuration. Known, standards for piston/ring configurations are Briggs & Stratton factory approved parts. No machining of rings allowed. Exception; lapping and end gapping allowed. Rings must be in one piece when removed from block.
Minimum width top two rings 0.095’
Thickness top two rings 0.059” - 0.064”.
Oil ring minimum width 0.065” ring groove must be present. Expander ring must be installed.
Oil ring Thickness 0.098” - 0.102”.

**Piston:** Stock, unaltered Briggs & Stratton Animal piston MANDATORY. Wrist Pin bore must not be altered or relocated except minimum honing of wrist pin bore allowed. New style Briggs & Stratton piston with circlip on both sides of wrist pin bore allowed.
Deck above top ring must not be altered. NO machining is allowed on piston. Arrow must point toward flywheel.
From top piston to wrist pin bore 0.658’ minimum measurement. Check on circlip side of piston.
Minimum piston length is 1..762’.

**Crankshaft:** Stock factory crankshaft mandatory. Stock factory timing gear mandatory, and must be installed properly.
Lightening, polishing of counter weights, addition of metal or other material is not permitted. Offset crankshafts are not permitted. Aftermarket bearing of non self-aligning type, with or without shield, is permitted. Shims if used must be installed as from factory. No ceramic bearings allowed.
Crankshaft journal diameter is 1.094” - 1.100”.
Must be as produced, with no alterations or reworking. Blocks repaired from broken rod damage, are permitted providing that repair does not constitute a functional modification of original block. No bushings of any kind allowed except for bushings approved in this Tech Manual. The repair of one coil post is allowed, as long as the remaining post is factory and unaltered. No Knurling of guides allowed.
No welding can be done to an engine from the cooling fins upwards. Cam boss repair or welding not allowed. External welding of block is only allowed to repair damage from broken rod.
Dry clutches are mandatory (same clutch used in all other Briggs & Stratton classes).

**Engine Seals:** The engine will be sealed with two wires one wire will run between a valve cover bolt and a intake to engine bolt to a the nut side of a carb to intake bolt the other wire seal will seal the front side cover bolt.
Section 8 – Two cycle engines: General requirements and inspection procedures

1. Generic two cycle tech procedure

   a. Note: The following is a description of a full, generic two cycle technical inspection procedure. The inspector may choose to inspect all or parts of the competitor’s engine and chassis. All paragraphs that follow in this section apply universally unless specifically excepted by engine tech sheet.

   b. It is the competitor’s responsibility to provide the necessary tools and labor to disassemble the engine and/or chassis upon the technical inspector’s request for verification. Refusal to disassemble for inspection is grounds for immediate disqualification. The competitor has the right to request a reasonable time period to allow for cooling to ambient temperature prior to inspection.

   c. Visually inspect engine for class type acceptability and appearance of compliance. Unless otherwise specified, all components must be of the same make and model as originally supplied for that engine, i.e. no interchanging components from different makes or models is allowed.

   d. Verify minimum combustion chamber volume. Fill a calibrated, glass burette up above the zero line with clean Marvel Mystery Oil. Hold the burette as close to vertical as possible, open the stopcock and run the fluid out until the bottom of the curved line is lined up with the zero line. Wipe any drips from the tip of the burette. Install the LAD cc plug in the spark plug hole and bottom by hand. Back the cc plug out two turns. Set the engine such that the centerline axis of the spark plug hole is plumbed. Turn the crankshaft by hand until the piston is .100 inch (approximately) before top dead center. Re-check the zero and add the prescribed fluid amount from the burette to the combustion chamber such that the bottom of the curved line is lined up with the prescribed combustion chamber volume for that particular engine. Torque cc plug to 90 inch/pounds. Slowly turn the crankshaft such that the piston moves through top dead center. An acceptable result is if all fluid remains within the combustion chamber or bore of the special tool with no fluid spilling over the upper edge of the tool, with piston at top dead center. An unacceptable result is if any fluid spills out onto the top of the tool.

   Note: Verification of combustion chamber volume may only be done reliably one time. It is therefore in the best interest of the inspector and competitor to reach consensus on the readings of the burette both before and after adding the fluid and before turning the piston through top dead center. The zero of the burette should be checked immediately prior to adding the fluid to the chamber.

   e. Verify intake. Remove carburetor. Using a nominal sized gage pin milled to a flat of approximately .250 inch wide flat (preferred) or a two point indicating bore gage (alternate), verify maximum venturi diameter to specification. Disassemble carburetor as required to verify all prescribed dimensions listed in the tech sheet for that particular carburetor. Visually inspect body and components for alterations in violation of allowances for that particular carburetor. Verify inlet tract length by rotating the crankshaft until the piston closes the intake port. Measure with a depth micrometer (preferred) or caliper (alternate) from the carburetor mounting flange to the forward most tangent point of the piston. Verify intake spacer and carburetor mounting plate for maximum bore dimension and geometry. Deliberate taper or ovality in the bore of the spacer or mounting plate is grounds for disqualification. Remove reed cage or other induction control device, if so equipped, and verify compliance to specifications. Verify intake port area for compliance to specifications.

   f. Verify exhaust. Visually inspect exhaust system for any supplementary holes or ports venting to atmosphere. Unless specifically allowed, all holes other than those intended for exhaust exit must either be plugged or have a sensor fitted in them. An unplugged, supplementary hole in the exhaust system is grounds for disqualification. Inspect for stock appearance and configuration. Inspect for maximum prescribed size, number and orientation of exhaust exit holes. Disassemble exhaust as required and verify all prescribed dimensions for that particular exhaust system. Verify exhaust port area for compliance to specifications.

   g. Verify ignition system. Inspect spark plug for .750 inch or 20 millimeter nominal reach and stock configuration. Remove ignition cover and visually inspect ignition assembly for stock appearing configuration and class type. Unless otherwise specified, all ignition components must be unaltered stock with the exception that silicone or epoxy repair of coil or ignition module damage is allowed. Inspect ignition timing if specified. Remove coil and, if applicable, verify that coil positioning is stock, i.e. no means to alter coil position has been attempted. Unless otherwise specified, any means to alter the position of the coil from stock (slotting of the mounting holes, machining of the mounting screws, etc.) is grounds for disqualification. Remove flywheel and inspect for stock appearance. No machining to alter position of the flywheel on the crankshaft is allowed. Verify flywheel dimensional conformance to specifications. Verify key and crankshaft keyway width as specified. Crankshaft keyway must be in stock position with no filling and machining to alter keyway position allowed.

   h. Verify port timing. Remove cylinder head. Verify any cylinder head requirements as specified. Install a long travel dial indicator on a bridge over the center of the piston. Turn the crankshaft such that the piston comes to top dead center. Zero the indicator at top dead center. Turn the crankshaft to a point slightly beyond the prescribed limit for exhaust port height for that particular engine. Insert the exhaust end of a standard port checking tool, tight against the cylinder wall and hooked under the upper ledge of the highest exhaust port. Both ports may be checked if determination of the highest port is impossible. Turn the crankshaft to contact the top of the piston under the bottom of the tool, locking the tool in place with moderate pressure. Read the indicator. The reading for the exhaust port(s) must be less than or equal to the specification for that particular engine. Similarly, turn the crankshaft to a point slightly beyond the prescribed limit for intake port height for that particular engine. Insert the intake end of a standard port checking tool, through the intake port and hooking the center of the lower ledge of the intake port. Turn the crankshaft to contact the piston skirt on top of the tool, locking the tool in place with moderate pressure. Read the indicator. The reading for the intake port must be greater than or equal to the specification for that particular engine.

j. Exhaust opening duration check (as applicable); Install the degree wheel on the crankshaft of the engine. Insert a piece of .008 inch shim stock into the exhaust port, perpendicular to the chord of the port, and rotate the crankshaft in such a manner as to “lock” the shim in place with the top of the piston. Set a “zero” with the degree wheel pointer or note the degree setting at current location. Remove the shim stock from the port, rotate the crankshaft such that the exhaust port remains open during the rotation. As the piston rises to a closing position for the exhaust port, re-insert the shim stock into the port, again “locking” the shim in place with the top of the piston. The difference between the starting, or “zero” point, on the degree wheel and the ending point is the exhaust opening duration.

k. Verify bore, stroke and displacement. Install a long travel dial indicator on a bridge over the center of the piston. Turn the crankshaft such that the piston comes to top dead center. Zero the indicator at top dead center. Turn the crankshaft until bottom dead center is seen on the indicator. Total indicator reading from top to bottom dead center is the stroke. Using an indicating, two point bore gage (preferred) or caliper (alternate) measure the diameter of the cylinder. This is the bore. For total cubic inch engine displacement (bore and stroke dimensions taken in decimal inch units) the formula is:

\[ \text{bore} \times \text{bore} \times \text{stroke} \times 0.7854 = \text{total cubic inch displacement} \]

For total cubic centimeter engine displacement (bore and stroke dimensions taken in millimeters) the formula is:

\[ \frac{\text{bore} \times \text{bore} \times \text{stroke} \times 785.4}{1000} = \text{total cubic centimeter displacement} \]

l. Verify cylinder. Remove cylinder from the crankcase. Using a light if necessary, visually inspect the port surfaces of the cylinder wall. Unless otherwise specified, all intake and exhaust port surfaces in the cast iron area of the cylinder liner must remain as cast with no alterations allowed. Minor grinding nicks may be present as a result of blending the aluminum portions of the port area but no deliberate machining, chamfering, blending, smoothing, shot peening, glass beading, or other alteration is allowed on the cast iron portion of the port. Likewise, the transfer ports and passages must remain as cast with no alterations as described above. Using a caliper, divider or dedicated chord checking gage with a .060 inch minimum thickness, verify port dimensions for that particular engine.

m. Verify crankcase and associated components. (Note: Complete disassembly of the crankcase and associated components is only necessary to verify certain elements of this paragraph.) Disassemble crankcase. Remove crankshaft/piston assembly. Inspect crankshaft counterweights for visual and dimensional conformance to specification. Unless otherwise specified, no machining other than polishing and shot peening is allowed to crankshaft counterweights. Verify connecting rod location configuration and conformance to specification. Disassemble crankshaft. Remove connecting rod from crankshaft and piston from connecting rod. Inspect connecting rod for visual and dimensional conformance to specification. Verify crankpins and wrist pin for conformance to specification. Verify piston for visual and dimensional conformance to specification. Verify crankcase pulse hole diameter and location.

2. Two cycle exhaust systems

a. Tuned pipe exhaust

1. Unless otherwise specified in the engine's tech sheet or class structure, a tuned pipe exhaust system must consist of either a conventional designed header (mounting flange, tubular head pipe and flex cup), a flex pipe and a silencing can or a conventional designed header (mounting flange and tubular head pipe) and a silencing can. The header and/or flex pipe may be no larger than 1.750 inch nominal diameter and the flex cup in the header and/or silencing can must be designed to accept a head and/or flex pipe no larger than 1.750 inch nominal diameter. All head pipes and flex pipes must be nominally circular in any cross section. Nominal sized tubing diameter allowances apply. Please see section 2. The outside diameter of the silencing can must be 3.5 inches minimum. The exhaust gas outlet hole must be .7854 square inches maximum. The expansion chamber must discharge into the rear half of the silencing can. Multiple pipes are not allowed and there may be no means of adjusting header or flex pipe length. The second or convergent cone may be adjustable. No cooling fins, water jackets, cooling adapters allowed.

b. Restricted exhaust systems

1. All restricted exhaust systems detailed below must be of original manufacture and configuration and securely attached to the engine throughout the event. A loose attachment or assembly fastener is grounds for disqualification. Exhaust temperature probe fittings are allowed. Any unused probe fitting holes must be plugged. Any attempt to circumvent the manufacturer’s intended exhaust gas flow is grounds for disqualification. One and one only exhaust gasket must be used. All exhaust deflectors must be a minimum of two inches from the nearest outlet hole(s), measured along axis of hole.

a. RLV SSX dimensional requirements (all dimensions decimal inch):

1. Overall length including flange and end cap 5.500+-/-.125
2. Body length including end cap 4.140+-/-.125
3. Inlet tube length including flange (on centerline) 2.000+-/-.125
4. Inlet tube inside diameter 1.515 +/- .030
5. End of inlet tube to center baffle 1.000+-/-.125
6. End of body (less end cap) to center baffle 2.200+-/-.0625
7. Center baffle shall have (14).380 maximum diameter through holes equally spaced on a 2.937+-/-.0625 bolt circle diameter
8. Body shall have (4).500 maximum diameter through holes in any configuration or placement originally available from RLV

b. RLV YBX dimensional requirements (all dimensions decimal inch):
1. Overall length including flange and end cap 6.000+/-.125
2. Body length including end cap 4.000+/-.125
3. End of inlet tube to center baffle 1.250 maximum (end of inlet tube must be parallel to center baffle within .125)
4. Inlet tube inside diameter 1.375 +/- .062
5. End of body (less end cap) to center baffle 1.375+/-.125
6. Body outside diameter 3.500+/-.125
7. Center baffle and end cap shall each have (3) .380 maximum diameter through holes spaced 1.250/1.312 from the adjacent hole. The distance from the centerline of any hole to the opposite side of the baffle or end cap shall be 3.030 minimum.
8. In assembled state, the end cap holes shall be rotated 180° from the center baffle holes.

**c. RLV SBX dimensional requirements (all dimensions decimal inch):**
1. Overall length 8.500+/-.125
2. Overall body length including end cap 7.500+/-.125
3. Inlet tube inside diameter 1.375+/-.031
4. Inlet tube outside diameter (within body) 1.500 nominal maximum.
5. Inlet tube length 3.250+/-.0625
6. Inside front end of body to rear face of center baffle 5.000+/-.125
7. Center baffle shall have (7).380 maximum diameter through holes equally spaced on a 2.9375+/-.0625 bolt circle diameter. Center baffle must be 100% edge welded to the inside of the body.
8. Body outside diameter 3.875+/-.0625
9. End cap shall have one, centralized .9375+/-.0625 through hole
10. SBX muffler must be used with RLV 26S header. Flex pipe shall be 1.750 nominal max outside diameter, .100 maximum wall thickness, rigid pipe, circular in any cross section. Distance from rear cylinder wall to end of flex pipe shall be 11.0 minimum, RLV Jr. Enduro restrictor is not to be included as part of overall flex length dimension.

d. KPV3 exhaust pipe (all dimensions decimal inch):
1. Header must be stock RLV KPV100.
2. Header shall have an overall length inside header pipe of 3.9375+/-.250.
3. Flex pipe 1.750 nominal maximum diameter.
4. Distance from rear cylinder wall to end of flex pipe shall be 12.0 minimum, 12.5 maximum.
5. Exhaust pipe flex cup inside diameter 1.750 nominal maximum.
6. Length from mating diameter to start of straight can 6.575+/-.250 measured on true centerline.
7. Length from start of straight can to centerline of outlet holes 10.550+/-.250.
8. Length of straight can 16.875+/-.250.
9. Outside diameter of straight can 3.570+/-.188.
10. Distance from end of can to end baffle 4.375+/-.250.
11. End baffle shall have (3) maximum holes, .380 maximum diameter.
12. Distance between end and center baffle 3.000+/-.250.
13. Center baffle transfer pipe outside diameter 1.500 nominal; length 6.500+/-.250.
14. Maximum of (3) external outlet holes, .500 maximum diameter.

e. KPV2 exhaust pipe (all dimensions decimal inch):
1. Header must be stock RLV KPV100.
2. Header shall have an overall length inside header pipe of 3.9375+/-.250.
3. Flex pipe 1.750 nominal maximum diameter.
4. Distance from rear cylinder wall to end of flex pipe shall be 12.0 minimum, 12.5 maximum.
5. Exhaust pipe flex cup inside diameter 1.750 nominal maximum.
6. Length from mating diameter to start of straight can 8.935+/-.250 measured on true centerline.
7. Length from start of straight can to centerline of outlet holes 10.550+/-.250.
8. Length of straight can 14.875+/-.250.
9. Outside diameter of straight can 3.570+/-.188.
10. Distance from end of can to end baffle 3.375+/-.250.
11. End baffle shall have (3) maximum holes, .380 maximum diameter.
12. Distance between end and center baffle 3.000+/-.250.
13. Center baffle transfer pipe outside diameter 1.500 nominal; length 5.500+/-.250.
14. Maximum of (3) external outlet holes, .500 maximum diameter.

f. KPV1 exhaust pipe (all dimensions decimal inch):
1. Header must be stock RLV KPV100.
2. Header shall have an overall length inside header pipe of 3.9375+/-.250.
3. Flex pipe 1.750 nominal maximum diameter.
4. Distance from rear cylinder wall to end of flex pipe shall be 12.0 minimum, 12.5 maximum.
5. Exhaust pipe flex cup inside diameter 1.750 nominal maximum.
6. Length from mating diameter to start of straight can 6.835+/-.250 measured on true centerline.
7. Length from start of straight can to centerline of outlet holes 10.550+/-.250.
8. Length of straight can 14.875+/-.250.
9. Outside diameter of straight can 3.570+/-.188.
10. Distance from end of can to end baffle 2.375+/-.250.
11. End baffle shall have (3) maximum holes, .380 maximum diameter.
12. Distance between end and center baffle 3.000+/-.250.
13. Center baffle transfer pipe outside diameter 1.500 nominal; length 4.500+/-.250.
14. Maximum of (3) external outlet holes, .500 maximum diameter.

**g. RLV IR1 exhaust header, flex and pipe (all dimensions decimal inch):**
1. Any Exhaust Header with 1.750 nominal outside diameter flex or pipe
2. Headers may be angled or straight. Straight headers shall have overall length of inside header pipe 4.875+/-.250. Angled headers shall be measured on both sides, the short side length shall be 4.750+/-.250; the long side length shall be 5.000+/-.250.
3. Header flange may be matched to block.
4. Flex pipe outside diameter 1.750 nominal maximum. Wall thickness .080.
5. Length from rearmost tangent of piston skirt to end of flex pipe 9.0 minimum.
6. Exhaust pipe flex mating diameter 1.750 nominal maximum.
7. Length from mating diameter to largest diameter of pipe 13.250+/-.250, measured on true centerline.
8. Largest cone diameter of pipe 4.500+/-.186.
9. Length from largest cone diameter to closest tangent of outlet hole 7.375+/-.250.
10. Length of outlet hole 1.500+/-.020.
12. Length of straight section of can 15.750+/-.250.
13. Outside diameter of straight section of can 3.500 nominal.

**h. US820 specific exhaust system (all dimensions decimal inch):**
1. Header part number 100820 and muffler part number 300820 only. Must be unaltered stock except for minor grinding of header to match exhaust gasket and removal of excess weld at header flange.
2. Connector pipe bend 20 degrees maximum.
3. Pipe length 5.250 minimum, 5.500 maximum.
4. Pipe outside diameter 1.750 nominal.
5. One exhaust gasket permitted. Thickness .032 minimum, .042 maximum.
6. Header flange thickness .242 minimum, .252 maximum.
8. Outlet hole diameter .500 maximum.

3. Two cycle fuel delivery systems
   a. General requirements
   1. External fuel pumps are not allowed.
   2. Except in the case of throttle shaft sealing devices, some models' venturi and throttle bores, mounting face and blueprinting of metering holes, carburetors and all components therein may not be machined or altered in any way. Machining of the carburetor body is allowed to accept a sealing device for the throttle shaft. All components must be of original manufacture and stock appearing. Fuel may pass only through the stock metering orifices. Any means to bypass or alter manufacturer's intended fuel flow is prohibited. Inlet spring is non-tech. Carburetors may be run in any position. Filtering devices to protect metering diaphragm are allowed. Funneling of inlet not allowed. Inlet tract length applies from top to bottom of inlet tract to forward most tangent of piston. Angle cutting of carburetor mounting face to circumvent inlet tract length requirements is prohibited.
   3. Air filter adapters if used, must have either a proper fitting air filter or air box in place. Adapter may not be configured as an air ram or velocity stack. Maximum corner break on inside diameter of adapter .030 inch, all other inside or outside corner radii .125 inch radius maximum. Flange thickness maximum .150 inch.
   4. Induction silencers are mandatory in all two cycle classes, except enduro and sprint enduro classes, in which the use of induction silencers is optional. Any induction silencer used must conform to the following specifications. Length less rubber mounting flange: 10.236 inch minimum, 11.022 inch maximum. Circumference of main body: 16.535 inch minimum, 18.109 inch maximum. Baffle tube length: 3.732 inch minimum. Baffle tube inside diameter: .905 inch maximum. Engines up to 110cc displacement must have two baffle tubes. Engines over 110cc displacement must have three baffle tubes. US820 engines may use either two baffle tube or three baffle tube induction silencer. External filter adapters maybe utilized provided air enters the engine only via the baffle tubes specified above. Baffle tubes must extend above the floor of the filter adapter. Height of filter adapter: 1.25 inch maximum. All corners of filter adapter may have a corner break of .125 inch maximum.

   b. Homologated carburetors
   1. Walbro
      a. Model WB3A
         1. High speed needle seat diameter .081 inch maximum.
         2. Low speed needle seat diameter .0595 inch maximum.
3. Idle jet diameter .042 inch maximum.
4. Transition jet diameter .052 inch maximum.
5. Air pre-mix orifice diameter .032 inch minimum, .042 inch maximum.
6. Fuel inlet valve seat diameter .064 inch maximum.
7. Venturi diameter .950 inch maximum.
8. Throttle bore diameter 1.010 inch maximum.
9. High speed jet diameter .074 inch maximum.
10. Throttle bore length .500 inch maximum.
11. Overall length 1.480 inch minimum.
12. Air filter adapter inside diameter 1.150 inch minimum.

Walbro WB3A

Note: Diaphragms may be captive or non-captive type, rubber or Teflon. Pumper diaphragm to be fully intact, unaltered stock. Both circuit plate and inlet needle screens must be intact. If machined, the venturi diameter may not be taper bored. The air entry area (from top face of carburetor to beginning of venturi diameter) and the transition area from venturi diameter to throttle bore must be as cast. Spacer must be manufactured of phenolic material, inside diameter must be straight bored, 1.000 inch minimum, 1.050 inch maximum. Carburetor mounting plate must be manufactured of aluminum, inside diameter must be straight bored, 1.000 inch minimum, 1.050 inch maximum.

b. Model WA55B
1. High speed needle seat diameter .037 inch maximum.
2. Low speed needle seat diameter .037 inch maximum.
3. Venturi diameter .440 inch maximum.
4. Throttle bore diameter .630 inch maximum.
5. Throttle bore length .480 inch maximum.
6. Overall length 1.100 inch minimum.
7. Air filter adapter inside diameter .750 inch minimum.
8. Butterfly thickness .025 inch minimum.
9. Inlet tract length 2.600 inch minimum, 2.800 inch maximum.
10. Intake manifold length .750 inch minimum, .800 inch maximum.
11. Intake manifold inside diameter .625 inch minimum, .655 inch maximum.
12. Intake manifold flange thickness .450 inch minimum, .484 inch maximum.

2. Mikuni
   a. Model BMC-34G
   1. High speed needle seat diameter .0935 inch maximum.
   2. Low speed needle seat diameter .093 inch maximum.
   3. Idle speed pick-off diameter .187 inch maximum.
   4. Idle jet diameter .040 inch maximum.
   5. Not applicable.
6. Transition jet diameter .055 inch maximum.
7. Air pre-mix orifice diameter .064 inch maximum.
8. Fuel inlet valve seat diameter .089 inch maximum.
10. High speed jet check valve .104 inch maximum.
11. Throttle bore diameter 1.360 inch maximum.
12. Air filter adapter inside diameter 1.450 inch minimum.

Note: Venturi bore must be as cast with minor deburring and removal of casting flash only allowed.

3. Tillotson
   a. HR191
      1. High speed needle seat diameter .116 inch maximum.
      2. Low speed needle seat diameter .063 inch maximum.
      3. Idle speed pick-off diameter .187 inch maximum.
      4. Idle jet diameter .040 inch maximum.
      5. Transition jet diameter .040 inch maximum.
      6. Transition jet diameter .063 inch maximum.
      7. Air pre-mix orifice diameter .040 inch maximum.
      8. Fuel inlet valve seat diameter .098 inch maximum.
     10. Throttle bore diameter 1.360 inch maximum.
     11. Air filter adapter inside diameter 1.450 inch minimum.

Note: Venturi bore must be as cast with minor deburring and removal of casting flash only allowed.

b. HL360A
   1. Venturi diameter .950 inch maximum.
   2. Throttle bore diameter 1.065 inch maximum.
   3. Overall length 2.590 inches minimum.
   4. Air filter adapter inside diameter 1.300 inch minimum

Notes: Metering hole sizes non-tech. Butterfly may not be altered from stock in any way. Modifications to venturi and throttle bore limited to polishing only.

c. HR181, HR181A, HR184 and HR184A*
1. High speed needle seat diameter .104 inch maximum.
2. Low speed needle seat diameter .093 inch maximum.
3. Idle speed pick-off diameter .128 inch maximum.
4. Idle jet diameter .031 inch maximum.
5. Transition jet diameter .033 inch maximum.
6. Transition jet diameter .055 inch maximum.
7. Air pre-mix orifice diameter .059 inch maximum.
8. Fuel inlet valve seat diameter .097 inch maximum.
10. High speed jet check valve (HR184A only) .085 inch maximum.
11. Throttle bore diameter 1.325 inch maximum.
12. Air filter adapter inside diameter 1.450 inch minimum.

Note: Venturi bore must be as cast with minor deburring and removal of casting flash only allowed.

d. HR184A (alternate configuration)
   1. High speed needle seat diameter .104 inch maximum.
   2. Low speed needle seat diameter .093 inch maximum.
   3. Idle speed pick-off diameter .128 inch maximum.
   4. Idle jet diameter .031 inch maximum.
   5. Transition jet diameter .033 inch maximum.
   6. Transition jet diameter .055 inch maximum.
   7. Air pre-mix orifice diameter .059 inch maximum.
   8. Fuel inlet valve seat diameter .097 inch maximum.
  10. High speed jet check valve .104 inch maximum.
  11. Throttle bore diameter 1.325 inch maximum.
  12. Air filter adapter inside diameter 1.450 inch minimum.

Note: Venturi bore must be as cast with minor deburring and removal of casting flash only allowed.

c. HL227A, HL250A, HL304A, HL307A, HL317A, HL317E, HL322 and HL334A
   1. High speed needle seat diameter .068 inch maximum.
   2. Low speed needle seat diameter .037 inch maximum.
   3. Idle speed pick-off diameter .042 inch maximum. (omit for HL250A)
4. Idle jet diameter .031 inch maximum.
5. Transition jet diameter .042 inch maximum.
6. Air pre-mix orifice diameter .037 inch maximum.
7. Fuel inlet valve seat diameter .097 inch maximum.
8. High speed fuel pick-off diameter .090 inch maximum.
9. High speed jet check valve must be intact and unmodified.
10. Throttle bore diameter 1.195 inch maximum.
11. Air filter adapter inside diameter 1.150 inch minimum

Notes: Venturi bore must be as cast with minor deburring and removal of casting flash only allowed.

Tillotson HL227A, HL250A, HL304A, HL307A, HL317A, HL317E, HL322, and HL334A
4.  KPV
   a.  Model KPV1
      1.  High speed needle seat diameter .037 inch maximum.
      2.  Low speed needle seat diameter .037 inch maximum.
      3.  Venturi diameter .440 inch maximum.
      4.  Throttle bore diameter .630 inch maximum.
      5.  Throttle bore length .480 inch maximum.
      6.  Overall length 1.100 inch minimum.
      8.  Inlet tract length 2.900 inch minimum, 3.100 inch maximum.
      9.  Fuel line reducer must be used.
     10. Crankcase pulse hole diameter .085 inch maximum.
     11. Part no. 99-2321 mounting plate with .630 inch maximum inside diameter must be used.

   b.  Model KPV2
      1.  High speed needle seat diameter .037 inch maximum.
      2.  Low speed needle seat diameter .037 inch maximum.
      3.  Venturi diameter .594 inch maximum.
      4.  Throttle bore diameter .760 inch maximum.
      5.  Throttle bore length .460 inch minimum, .500 inch maximum.
      6.  Air horn diameter .760 inch maximum.
      7.  Overall length 1.310 inch minimum.
      8.  Inlet tract length 2.900 inch minimum, 3.100 inch maximum.
      9.  Fuel line reducer must be used.
     10. Crankcase pulse hole diameter .085 inch maximum.
     11. Part no. 99-2304 mounting plate with .760 inch maximum inside diameter must be used.
Section 9 - Two-cycle engine specific technical inspection data

Note: Generic requirements are listed in section 8.1 and are applicable in their entirety unless specifically excepted on the engine specific tech sheet. The following specifications take precedence over any contradicting requirements of section 8. Exhaust requirements per section 8.2 and class structure description. Carburetor requirements per section 8.3 and class structure description.

Engine Specific Tech Sheet for: Yamaha KT100S

Description: Two cycle, single cylinder, piston port
Displacement: 6.201 cubic inch / 101.61 cubic centimeter maximum
Combustion chamber volume: 11.00 cubic centimeter minimum
Cylinder head requirements: Matching or machining of the cylinder head or cylinder liner to accept a sealing device is prohibited. The cylinder face groove must be flat bottomed with the outside diameter of the face groove being the only method allowed for locating the cylinder head gasket. The gasket mating face of the cylinder head must be flat with no means employed to locate the cylinder head gasket. The combustion chamber must be nominally spherical in shape. Welding in the combustion chamber or spark plug area is prohibited. Cylinder head gasket shall be manufactured of aluminum or copper only, having a 2.580 inch maximum outside diameter.
Bore and stroke: 2.090 inch maximum bore, 1.816 inch maximum stroke
Intake system: Piston port
Carburetor type: Walbro WB3A only
Inlet tract length: 2.600 inch minimum, 2.800 inch maximum
Intake port height dimension: .775 inch maximum
Exhaust port height dimension: 1.155 inch minimum
Port dimension diagram:
Ignition system: Only stock spark plugs with a .750 inch or 20 millimeter nominal reach are allowed. Approved flywheels are Yamaha part numbers 7F6-85551-00, 7F6-85551-50 (Old style), 7F6-85551-01, 7F6-85551-51 and 7F6-85510-03-00 (New style). Flywheel outside diameter 2.350 inch minimum. New style flywheel thickness over (3) lugs .950 inch minimum, all other areas .817 inch minimum. New style lug length, (3) places .750 inch minimum. Old style flywheel thickness .827 minimum. Flywheel and crankshaft keyway width .1173 inch minimum, .1201 inch maximum. Key width .115 inch minimum. Ignition module must be original Yamaha, PRD or Atom, stock unaltered, silicone or epoxy damage repair is allowed. Coil may be repaired with silicone or epoxy. Alterations of any type to facilitate adjustment of flywheel or coil position to alter timing are strictly prohibited. The leading edge of the flywheel pickup magnet must line up visually with the trailing edge of the coil leg between .015 inch before top dead center to top dead center.

Piston requirements: Piston coating below the ring land only is approved. Piston skirt length must be the same within .015 inch. Maximum .030 piston skirt corner break, measured axially. Circlip circumferential height .250 inch maximum, axial width .200 inch maximum. Piston transfer areas must be as cast. Approved pistons are Yamaha, Burris (single or double ring), Wiseco, Vinart and KSI RKE-787. All approved pistons have manufacturer’s name cast inside and this must be present. Piston must be domed. All pistons (except Burris double ring) must have one ring only. Rings must be manufactured of ferrous material. Wrist pin length 1.565 inch minimum. Wrist pin outside diameter .550 inch minimum, .552 inch maximum. Wrist pin inside diameter .400 inch maximum. Wrist pins must be manufactured of ferrous material.

Connecting rod requirements: Approved connecting rods are Yamaha part numbers 7F6-11651-01, 7F6-11651-02 and 50W-11651-00 only. The connecting rod must be of original manufacture and stock appearing with no machining, grinding, blending or polishing allowed. Shot peening the connecting rod is allowed. Center of crankshaft journal diameter to center of wrist pin diameter 3.932 inch minimum, 3.942 inch maximum. Top or bottom connecting location is approved. If top location method is employed, the top of the rod shall have two or more spacers manufactured of steel, brass or aluminum and loose or caged bearings. The bottom of the rod shall have no spacers and a caged bearing. If bottom location method is employed, the bottom of the rod shall have a caged bearing and one spacer per side. The top of the rod shall have caged or loose bearings. If loose bearings are used at top of rod, thrust washers are allowed.

Crankshaft requirements: Original manufacture only. Crankshaft counterweights outside diameter 3.410 inch minimum, 3.435 inch maximum. Width over bearing lands 1.790 inch minimum. Inside width between counterweights .343 inch minimum. Concentric bushings may be added to repair damaged crankshaft journals. Removal of material in bearing recess area is allowed for bearing clearancing only, not for lightening or balancing purposes. Either stepped/plugged or non-stepped/non-plugged crankpins are allowed. If stepped/plugged crankpins are employed, the plugs must be in place with crankpin inside diameter of .400 inch minimum. If non-stepped/non-plugged crankpins are employed there may not be any plugs installed with crankpin inside diameter of .400 inch minimum. When altered in this fashion, an "X" must be placed above the altered port for identification.

Additional requirements: Surface finish of aluminum portion of intake and exhaust ports are non-tech. Crankcase pulse hole inside diameter .128 inch maximum. Pulse hole may be relocated to front of engine for use with reversed cylinder. Old style cylinders (those without cast markings) are allowed for use. The aluminum portions of the transfer passages must be as cast with the exception of minor blending at the junction of the cast iron only. The top cast iron surface of one exhaust port may be ground to bring its dimension closer to specification. Port must be ground basically perpendicular to the bore, no freeporting. Port height dimensions apply to altered port. When altered in this fashion, an "X" must be placed above the altered port for identification.
Engine Specific Tech Sheet for: Komet K-71 (piston port)

Description: Two cycle, single cylinder, piston port
Displacement: 6.201 cubic inches, 101.61 cubic centimeters maximum
Combustion chamber volume: 11 cubic centimeters minimum
Cylinder head requirements: One single O-ring, groove cut into cylinder only, may be used as a sealing device. Cylinder head gasket shall aluminum or copper. Gasket is not required.
Bore and stroke: 2.085 inch maximum bore, 1.816 inch maximum stroke.
Intake system: Piston port
Carburetor type: Walbro WB3A only
Inlet tract length: 2.600 inches minimum, 2.800 inches maximum
Intake port height dimension: .775 inch maximum
Exhaust port height dimension: 1.155 inch minimum
Port dimension diagram:

K71 Port Diagram

Ignition system: Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 44321322090 only. Approved PVL ignition systems have potted or taped stators. Legal potted stators are numbered 1050, 1051, 1053, 1056, 1057, 1060, 1062, and 1063. Legal taped stators are numbered 01, 02, 04, 05, 06, 09, 10, 11, 12, 16 and 18. Approved PVL coil 105,458 only.
Piston requirements: The only approved piston is IAME or Burris. Piston coating allowed below the ringland only. Circlip notch .250 inch maximum circumferential height, .1875 inch maximum axial width. Maximum .030 inch axial skirt corner break. Piston skirts must be the same length within .015 inch. Stock wrist pin only; 1.565 inch minimum length; outside diameter .550 inch maximum; inside diameter .400 inch maximum.
Connecting rod requirements: Length 3.774 inch minimum, 3.786 inch maximum. The connecting rod must be of original manufacture and stock appearing with no machining, grinding, blending or polishing allowed. Shot peening the connecting rod is allowed. Rod may be located either top or bottom and interchange of stock length connecting rods from other homologated piston port engines is allowed.
Crankshaft requirements: Counterweights outside diameter 3.255 inch minimum, 3.275 inch maximum. Width across bearing lands 1.710 inch minimum. Distance between counterweights .250 inch minimum.
Additional requirements: Crankcase pulse hole diameter .128 inch maximum. Any or all ports, including the cast iron liner, may be changed in size and/or finish. Port sizes and height must conform to specifications. Aluminum area of transfer passages to remain unaltered, except to blend at junction of cast iron
Engine Specific Tech Sheet for: Parilla PV-92 (piston port)

Description: Two cycle, single cylinder, piston port
Displacement: 6.143 cubic inches, 100.66 cubic centimeters maximum
Combustion chamber volume: 11 cubic centimeters minimum
Cylinder head requirements: One single O-ring, groove cut into cylinder only, may be used as a sealing device. Cylinder head gasket shall aluminum or copper. Gasket is not required.
Bore and stroke: 1.990 inch maximum bore, 1.975 inch maximum stroke.
Intake system: Piston port
Carburetor type: Walbro WB3A only
Inlet tract length: 2.600 inches minimum, 2.800 inches maximum
Intake port height dimension: .820 inch maximum
Exhaust port height dimension: 1.280 inch minimum
Port dimension diagram:

Ignition system: Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 44321320090 only. Approved PVL ignition systems have potted or taped stators. Legal potted stators are numbered 1050, 1051, 1053, 1056, 1057, 1060, 1062, and 1063. Legal taped stators are numbered 01, 02, 04, 05, 06, 09, 10, 11, 12, 16 and 18. Approved PVL coil 105.458 only.
Piston requirements: The only approved piston is IAME. Piston coating allowed below the ringland only. Circlip notch .250 inch maximum circumferential height, .1875 inch maximum axial width. Maximum .030 inch axial skirt corner break. Piston skirts must be the same length within .015 inch. Stock wrist pin only; 1.520 inch minimum length; outside diameter .550 inch minimum, .552 inch maximum; inside diameter .405 inch maximum.
Connecting rod requirements: Length 3.932 inch minimum, 3.942 inch maximum. The connecting rod must be of original manufacture and stock appearing with no machining, grinding, blending or polishing allowed. Shot peening the connecting rod is allowed. Rod may be located either top or bottom and interchange of stock length connecting rods from other homologated piston port engines is allowed
Crankshaft requirements: Counterweights outside diameter 3.295 inch minimum, 3.315 inch maximum. Width across bearing lands 1.790 inch minimum. Distance between counterweights .250 inch minimum.
Additional requirements: Crankcase pulse hole diameter .128 inch maximum. Any or all ports, including the cast iron liner, may be changed in size and/or finish. Port sizes and height must conform to specifications. Aluminum area of transfer passages to remain unaltered, except to blend at junction of cast iron.

Engine Specific Tech Sheet for: KPV100

Description: Two cycle, single cylinder, piston port
Displacement: 6.201 cubic inches, 101.61 cubic centimeters maximum
Combustion chamber volume: 11 cubic centimeters minimum
Cylinder head requirements: One single O-ring, groove cut into cylinder only, may be used as a sealing device. Cylinder head gasket shall aluminum or copper. Gasket is not required.
Bore and stroke: 2.085 inch maximum bore, 1.816 inch maximum stroke.
Intake system: Piston port
Carburetor type: Walbro WB3A only
Inlet tract length: 2.600 inches minimum, 2.800 inches maximum
Intake port height dimension: .775 inch maximum
Exhaust port height dimension: 1.155 inch minimum
Port dimension diagram:

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<th>HPV100 Port Diagram</th>
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Ignition system: Selletra P3356 only.
Piston requirements: The only approved piston is IAME. Piston coating allowed below the ringland only. Circlip notch .250 inch maximum circumferential height, .1875 inch maximum axial width. Maximum .030 inch axial skirt corner break. Piston skirts must be the same length within .015 inch. Stock wrist pin only; 1.565 inch minimum length; outside diameter .550 inch minimum, .552 inch maximum; inside diameter .400 inch maximum.
Connecting rod requirements: Length 3.774 inch minimum, 3.786 inch maximum. The connecting rod must be of original manufacture and stock appearing with no machining, grinding, blending or polishing allowed. Shot peening the connecting rod is allowed.
Crankshaft requirements: Counterweights outside diameter 3.255 inch minimum, 3.275 inch maximum. Width across bearing lands 1.710 inch minimum. Distance between counterweights .250 inch minimum.
Additional requirements: Crankcase pulse hole diameter .128 inch maximum. Any or all ports, including the cast iron liner, may be changed in size and/or finish. Port sizes and height must conform to specifications. Aluminum area of transfer passages to remain unaltered, except to blend at junction of cast iron.
Clutch: For KPV100 only classes, must be unaltered, stock, dry KPV EXPD-A only, with 6000 rpm maximum stall speed.

Engine Specific Tech Sheet for: PRD RK100 (piston port)

Description: Two cycle, single cylinder, piston port
Displacement: 6.143 cubic inch / 100.662 cubic centimeter maximum
Combustion chamber volume: 11.00 cubic centimeter minimum
Cylinder head requirements: One single O-ring, groove cut into cylinder only, may be used as a sealing device. Cylinder head gasket shall aluminum or copper. Gasket is not required.
Bore and stroke: 1.990 inch maximum bore, 1.975 inch maximum stroke
Intake system: Piston port
Carburetor type: Walbro WB3A only
Inlet tract length: 2.600 inch minimum, 2.800 inch maximum
Intake port height dimension: .835 inch maximum
Exhaust port height dimension: 1.255 inch minimum
Port dimension diagram:

Ignition system: Approved ignition system must be of PRD original manufacture and stock appearing. PRD name shall be embossed on coil and TCI. Lidadenki or PRD flywheel only.

Piston requirements: The only approved piston is PRD. Piston coating allowed below the ringland only. Circlip notch .250 inch maximum circumferential height, .1875 inch maximum axial width. Maximum .030 inch axial skirt corner break. Piston skirts must be the same length within .015 inch. Stock wrist pin only; 1.520 inch minimum length; outside diameter .550 inch minimum, .552 inch maximum; inside diameter .405 inch maximum.

Connecting rod requirements: Approved connecting rod is forged PRD only. Center of crankshaft journal diameter to center of wrist pin diameter 3.932 inch minimum, 3.942 inch maximum. Bottom connecting rod location only is approved.
Additional requirements: Surface finish of aluminum portion of intake and exhaust ports are non-tech. Crankcase pulse hole inside diameter .128 inch maximum. The aluminum portions of the transfer passages must be as cast with the exception of minor blending at the junction of the cast iron only.
Engine Specific Tech Sheet for: Comer P50 and P51 (piston port)

**Description:** Two cycle, single cylinder, piston port
**Displacement:** 6.205 cubic inches, 101.68 cubic centimeters maximum
**Combustion chamber volume:** P50-11 cubic centimeters minimum P51-12cc w/ .048 min Squish
**Cylinder head requirements:** One single O-ring, groove cut into cylinder only, may be used as a sealing device. Cylinder head gasket shall aluminum or copper. Gasket is not required.
**Bore and stroke:** 1.990 inch maximum bore, 1.995 inch maximum stroke.
**Intake system:** Piston port
**Carburetor type:** Walbro WB3A only
**Inlet tract length:** 2.600 inches minimum, 2.800 inches maximum
**Port dimension diagram:**

![Comer P50/P51 Port Diagram](ComerP50P51PortDiagram.png)

**Ignition system:** Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 443213220090 only. Approved PVL ignition systems have potted or taped stators. Legal potted stators are numbered 1050, 1051, 1053, 1056, 1057, 1060, 1062, and 1063. Legal taped stators are numbered 01, 02, 04, 05, 06, 09, 10, 11, 12, 16 and 18. Approved PVL coil 105.458 only. P51 min timing .090

**Piston requirements:** Approved pistons are IAME or ASSO. Piston coating allowed below the ringland only. Circlip notch .250 inch maximum circumferential height, .1875 inch maximum axial width. Maximum .030 inch axial skirt corner break. Piston skirts must be the same length within .015 inch. Stock wrist pin only; 1.520 inch minimum length; outside diameter .550 inch minimum, .552 inch maximum; inside diameter .405 inch maximum.

**Connecting rod requirements:** Length 3.932 inch minimum, 3.942 inch maximum. The connecting rod must be of original manufacture and stock appearing with no machining, grinding, blending or polishing allowed. Shot peening the connecting rod is allowed. Rod may be located either top or bottom and interchange of stock length connecting rods from other homologated piston port engines is allowed

**Crankshaft requirements:** Counterweights outside diameter 3.335 inch minimum, 3.355 inch maximum. Width across bearing lands 1.760 inch minimum. Distance between counterweights .260 inch minimum.

**Additional requirements:** Crankcase pulse hole diameter .128 inch maximum. Any or all ports, including the cast iron liner, may be changed in size and/or finish. Port sizes and height must conform to specifications. Aluminum area of transfer passages to remain unaltered, except to blend at junction of cast iron.

Engine Specific Tech Sheet for: Comer-ARC (piston port)
Description: Two cycle, single cylinder, piston port
Displacement: 6.201 cubic inch / 101.61 cubic centimeter maximum
Combustion chamber volume: 11.00 cubic centimeter minimum

Cylinder head requirements: Matching or machining of the cylinder head or cylinder liner to accept a sealing device is prohibited. The cylinder face groove must be flat bottomed with the outside diameter of the face groove being the only method allowed for locating the cylinder head gasket. The gasket mating face of the cylinder head must be flat with no means employed to locate the cylinder head gasket. Cylinder head gasket shall be manufactured of aluminum or copper only, having a 2.580 inch maximum outside diameter.

Bore and stroke: 2.085 inch maximum bore, 1.816 inch maximum stroke
Intake system: Piston port
Carburetor type: Walbro WB3A only
Inlet tract length: 2.600 inch minimum, 2.800 inch maximum
Intake port height dimension: .775 inch maximum
Exhaust port height dimension: 1.155 inch minimum

Port dimension diagram:

Ignition system: Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 443213220090 only. Approved PVL ignition systems have potted or taped stators. Legal potted stators are numbered 1050, 1051, 1053, 1056, 1057, 1060, 1062, and 1063. Legal taped stators are numbered 01, 02, 04, 05, 06, 09, 10, 11, 12, 16 and 18. Approved PVC coil 105.458 only.

Piston requirements: Piston coating below the ring land only is approved. Piston skirt length must be the same within .015 inch. Maximum .030 piston skirt corner break, measured axially. Circlip circumferential height .250 inch maximum, axial width .200 inch maximum. Piston transfer areas must be as cast. Approved pistons are forged ARC, Yamaha, Burris (single or double ring), Wiseco, Vinart and KSI RKE-787. All approved pistons have manufacturer’s name cast inside and this must be present. Piston must be domed. All pistons (except Burris) must have one ring only. Rings must be manufactured of ferrous material. Wrist pin length 1.565 inch minimum. Wrist pin outside diameter .550 inch minimum, .552 inch maximum. Wrist pin inside diameter .400 inch maximum. Wrist pins must be manufactured of ferrous material.

Connecting rod requirements: Approved connecting rod is forged ARC only. Center of crankshaft journal diameter to center of wrist pin diameter 3.932 inch minimum, 3.942 inch maximum. Bottom connecting rod location is required.

Crankshaft requirements: Original manufacture only. Crankshaft counterweights outside diameter 3.410 inch minimum, 3.435 inch maximum. Width over bearing lands 1.790 inch minimum. Inside width between counterweights .335 inch minimum. Concentric bushings may be added to repair damaged crankshaft journals. Removal of material in bearing reTAGs area is allowed for bearing clearancing only, not for lightening or balancing purposes. Crankpin must be hollow, inside diameter .390 inch minimum, .425 inch maximum.

Additional requirements: Surface finish of aluminum portion of intake and exhaust ports are non-tech. Crankcase pulse hole inside diameter .128 inch maximum. Any or all ports, including the cast iron liner, may be changed in size and/or finish. Port sizes and height must conform to specifications. Aluminum area of transfer passages to remain unaltered, except to blend at junction of cast iron.
Engine Specific Tech Sheet for: Parilla Reed Jet (controlled stock)

**Description:** Two cycle, single cylinder reed intake

**Displacement:** 6.208 cubic inch, 101.73 cubic centimeter maximum

**Combustion chamber volume:** 9 cubic centimeters minimum

**Cylinder head requirements:** Sealing device groove cut into cylinder only. Cylinder head gasket is optional.

**Bore and stroke:** 1.988 inch maximum bore, 1.996 +/- .004 inch stroke

**Intake system:** Reed type. Original manufacture coated reed cage alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Any reed stops must be of solid construction and immovable. Rubber coated reed assemblies approved are PCR, TKM RS80, IAME, and Hartman with no machine work allowed.

**Carburetor type:** Tillotson HL360A Only

**Exhaust port height dimension:** 1.275 inch minimum

**Ignition system:** Approved ignition system PVL #NR1051 only

**Piston requirements:** Approved pistons are: Asso, BM, Burris, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.

**Connecting rod requirements:** 3.932 inch minimum, 3.942 inch maximum, ferrous material only.

**Crankshaft requirements:** No modifications of any type are allowed. Counterweight outside diameter 3.310 inch maximum. Any roller cage is allowed. May interchange crankshaft with engines of the same brand name only. Aluminum stuffer may be notched above pin area. Stuffer material shall be aluminum or plastic.

**Additional requirements:** Maximum of three intake and three exhaust ports only. All cylinder ports may be altered in size and/or finish. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
Engine Specific Tech Sheet for:  PCR TSL98 (controlled stock)

Description:  Two cycle, single cylinder reed intake
Combustion chamber volume:  9 cubic centimeters minimum
Cylinder head requirements:  non-tech
Bore and stroke:  2.002 inch maximum bore, 1.969+/-0.004 inch stroke
Intake system:  Reed type. Original manufacture coated reed cage alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Any reed stops must be of solid construction and immovable. Rubber coated reed assemblies approved are PCR, TKM RS80, IAME, and Hartman with no machine work allowed.
Carburetor type:  Tillotson HL360A Only
Exhaust port height dimension:  1.255 inch maximum
Ignition system:  Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 443213220090 only. Approved PVL 105458 ignition systems have potted or taped stators. All potted stators are approved. Approved taped stators are numbered from 01 to 18. Point type ( DANSI or CEV) ignitions legally interchangeable between all engines.
Piston requirements:  Approved pistons are: Asso, BM, Burris, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.
Connecting rod requirements:  3.932 inch minimum, 3.942 inch maximum, ferrous material only.
Crankshaft requirements:  No modifications of any type are allowed. Counterweight outside diameter 3.300 inch minimum. Any roller cage is allowed. May interchange crankshaft with engines of the same brand name only. Aluminum stuffer may be notched above pin area. Stuffer material shall be aluminum or plastic.
Additional requirements: Maximum of three intake and three exhaust ports only. All cylinder ports may be altered in size and/or finish. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
Engine Specific Tech Sheet for: Comer MIK351L (controlled stock)

Description: Two cycle, single cylinder reed intake
Displacement: 6.208 cubic inch, 101.73 cubic centimeter maximum
Combustion chamber volume: 9 cubic centimeters minimum
Cylinder head requirements: Sealing device groove cut into cylinder only. Cylinder head gasket is optional.
Bore and stroke: 1.992 inch maximum bore, 1.988 +/- .004 inch stroke
Intake system: Reed type. Original manufacture coated reed cage alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Any reed stops must be of solid construction and immovable. Rubber coated reed assemblies approved are PCR, TKM RS80, IAME, and Hartman with no machine work allowed.
Carburetor type: Tillotson HL360A Only
Exhaust port height dimension: 1.270 inch minimum
Ignition system: Approved ignition system Selletra P3356 only
Piston requirements: Approved pistons are: Asso, BM, Burris, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.
Connecting rod requirements: 3.932 inch minimum, 3.942 inch maximum, ferrous material only.
Crankshaft requirements: No modifications of any type are allowed. Counterweight outside diameter 3.310 inch maximum. Any roller cage is allowed. May interchange crankshaft with engines of the same brand name only. Aluminum stuffer may be notched above pin area. Stuffer material shall be aluminum or plastic.

Additional requirements: Maximum of three intake and three exhaust ports only. All cylinder ports may be altered in size and/or finish. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
Engine Specific Tech Sheet for: Parilla TT75 (controlled stock)

Description: Two cycle, single cylinder reed intake
Displacement: 6.143 cubic inch, 100.66 cubic centimeter maximum
Combustion chamber volume: 9 cubic centimeters minimum
Cylinder head requirements: Sealing device groove cut into cylinder only. Cylinder head gasket is optional.
Bore and stroke: 1.990 inch maximum bore, 1.975 +.000/- .015 inch stroke
Intake system: Reed type. Original manufacture coated reed cage alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Any reed stops must be of solid construction and immovable. Rubber coated reed assemblies approved are PCR, TKM RS80, IAME, and Hartman with no machine work allowed.
Carburetor type: Any Tillotson HR series or Mikuni BMC-34G
Exhaust port height dimension: 1.255 inch minimum

Port Widths only apply for Controlled '99

Ignition system: Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 443213220090 only. Approved PVL 105458 ignition systems have potted or taped stators. All potted stators are approved. Approved taped stators are numbered from 01 to 18. Point type (DANSI or CEV) ignitions legally interchangeable between all engines.

Piston requirements: Approved pistons are: Asso, BM, Burris, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.

Connecting rod requirements: 3.932 inch minimum, 3.942 inch maximum, ferrous material only.
Crankshaft requirements: No modifications of any type are allowed. Counterweight outside diameter 3.315 inch maximum. Any roller cage is allowed. May interchange crankshaft with engines of the same brand name only. Aluminum stuffer may be notched above pin area. Stuffer material shall be aluminum or plastic.

Additional requirements: Maximum of three intake and two exhaust ports only. All cylinder ports may be altered in size and/or finish. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
Engine Specific Tech Sheet for: PCR PC93 (controlled stock)

**Description:** Two cycle, single cylinder reed intake

**Displacement:** 6.143 cubic inch, 100.66 cubic centimeter maximum

**Combustion chamber volume:** 9 cubic centimeters minimum

**Cylinder head requirements:** Sealing device groove cut into cylinder only. Cylinder head gasket is optional.

**Bore and stroke:** 1.990inch maximum bore, 1.975 +.000/-015 inch stroke

**Intake system:** Reed type. Original manufacture coated reed cage alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Any reed stops must be of solid construction and immovable. Rubber coated reed assemblies approved are PCR, TKM RS80, IAME, and Hartman with no machine work allowed.

**Carburetor type:** Any Tillotson HR series or Mikuni BMC-34G

**Exhaust port height dimension:** 1.255 inch minimum

**Port Widths only apply for Controlled ’99**

**Ignition system:** Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Seleta P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 44321320090 only. Approved PVL 105458 ignition systems have potted or taped stators. All potted stators are approved. Approved taped stators are numbered from 01 to 18. Point type (DANSI or CEV) ignitions legally interchangeable between all engines.

**Piston requirements:** Approved pistons are: Asso, BM, Burris, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.

**Connecting rod requirements:** 3.932 inch minimum, 3.942 inch maximum, ferrous material only.

**Crankshaft requirements:** No modifications of any type are allowed. Counterweight outside diameter 3.315 inch maximum. Any roller cage is allowed. May interchange crankshaft with engines of the same brand name only. Aluminum stuffer may be notched above pin area. Stuffer material shall be aluminum or plastic.

**Additional requirements:** Maximum of three intake and two exhaust ports only. All cylinder ports may be altered in size and/or finish. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
**Engine Specific Tech Sheet for:** Atomik (controlled stock)

**Description:** Two cycle, single cylinder reed intake

**Displacement:** 6.174 cubic inches, 101.17 cubic centimeters maximum

**Combustion chamber volume:** 9 cubic centimeters minimum

**Cylinder head requirements:** Sealing device groove cut into cylinder only. Cylinder head gasket is optional.

**Bore and stroke:** 1.985 inch maximum bore, 1.995 +.000/-0.015 inch stroke

**Intake system:** Reed type. Original manufacture coated reed cage alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Any reed stops must be of solid construction and immovable. Rubber coated reed assemblies approved are PCR, TKM RS80, IAME, and Hartman with no machine work allowed.

**Carburetor type:** Any Tillotson HR series or Mikuni BMC-34G

**Exhaust port height dimension:** 1.145 inch minimum

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**Port Widths only apply for Controlled '99**

![Port Dimensions Diagram]

**Ignition system:** Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 443213200960 only. Approved PVL 105458 ignition systems have potted or taped stators. All potted stators are approved. Approved taped stators are numbered from 01 to 18. Point type (DANSI or CEV) ignitions legally interchangeable between all engines.

**Piston requirements:** Approved pistons are: Asso, BM, Burris, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.

**Connecting rod requirements:** 3.932 inch minimum, 3.942 inch maximum, ferrous material only.

**Crankshaft requirements:** No modifications of any type are allowed. Counterweight outside diameter 3.315 inch maximum. Any roller cage is allowed. May interchange crankshaft with engines of the same brand name only. Aluminum stuffer may be notched above pin area. Stuffer material shall be aluminum or plastic.

**Additional requirements:** Maximum of three intake and two exhaust ports only. All cylinder ports may be altered in size and/or finish. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
Engine Specific Tech Sheet for: PCR TSL95 (controlled stock)

Description: Two cycle, single cylinder reed intake
Combustion chamber volume: 9 cubic centimeters minimum
Cylinder head requirements: non-tech
Bore and stroke: 2.002 inch maximum bore, 1.969+/- .004 inch stroke
Intake system: Reed type. Original manufacture coated reed cage only. Alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Manifold must be stuffer style.
Carburetor type: Tillotson HL360A only
Exhaust port height dimension: 1.255 inch minimum
Ignition system: Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 443213220090 only. Approved PVL 105458 ignition systems have potted or taped stators. All potted stators are approved. Approved taped stators are numbered from 01 to 18. Point type (DANSI or CEV) ignitions legally interchangeable between all engines.
Piston requirements: Approved pistons are: Asso, BM, Burris, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.
Connecting rod requirements: 3.932 inch minimum, 3.942 inch maximum, ferrous material only.
Crankshaft requirements: No modifications of any type are allowed. Counterweight outside diameter 3.300 inch minimum. Any roller cage is allowed, crankpin may have a .170 inch maximum diameter hole.
Additional requirements: All cylinder ports may be altered in size and/or finish. Maximum of three intake and three exhaust ports only. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
Engine Specific Tech Sheet for: DAP T85 (controlled stock)

**Description:** Two cycle, single cylinder reed intake

**Displacement:** 6.208 cubic inches, 101.73 cubic centimeters maximum.

**Combustion chamber volume:** 9 cubic centimeters minimum

**Cylinder head requirements:** non-tech

**Bore and stroke:** 1.992 inch maximum bore, 1.988+/-0.004 inch stroke

**Intake system:** Reed type. Original manufacture coated reed cage only. Alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Manifold must be stuffer style.

**Carburetor type:** Tillotson HL360A only

**Exhaust port height dimension:** 1.270 inch minimum

**Ignition system:** Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Sellera P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 44321322090 only. Approved PVL 105458 ignition systems have potted or taped stators. All potted stators are approved. Approved taped stators are numbered from 01 to 18. Point type (DANSI or CEV) ignitions legally interchangeable between all engines

**Piston requirements:** Approved pistons are: Asso, BM, Burris, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.

**Connecting rod requirements:** 3.932 inch minimum, 3.942 inch maximum, ferrous material only.

**Crankshaft requirements:** No modifications of any type are allowed. Counterweight outside diameter 3.300 inch minimum. Any roller cage is allowed, solid crankpins only. May interchange crankshaft complete with JAKO 2LA, CRG S10-T1 or Ital M21 only.

**Additional requirements:** All cylinder ports may be altered in size and/or finish. Maximum of three intake and three exhaust ports only. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
Engine Specific Tech Sheet for: CRG S10-T1 (controlled stock)

**Description:** Two cycle, single cylinder reed intake

**Displacement:** 6.208 cubic inches, 101.73 cubic centimeters maximum.

**Combustion chamber volume:** 9 cubic centimeters minimum

**Cylinder head requirements:** non-tech

**Bore and stroke:** 1.992 inch maximum bore, 1.988+/-0.004 inch stroke

**Intake system:** Reed type. Original manufacture coated reed cage only. Alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Manifold must be stuffer style.

**Carburetor type:** Tillotson HL360A only

**Exhaust port height dimension:** 1.270 inch minimum

**Ignition system:** Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 443213220090 only. Approved PVL 105458 ignition systems have potted or taped stators. All potted stators are approved. Approved taped stators are numbered from 01 to 18. Point type (DANSI or CEV) ignitions legally interchangeable between all engines

**Piston requirements:** Approved pistons are: Asso, BM, Burris, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.

**Connecting rod requirements:** 3.932 inch minimum, 3.942 inch maximum, ferrous material only.

**Crankshaft requirements:** No modifications of any type are allowed. Counterweight outside diameter 3.300 inch minimum. Any roller cage is allowed, solid crankpins only. May interchange crankshaft complete with JAKO 2LA, DAP T85 or Ital M21 only.

**Additional requirements:** All cylinder ports may be altered in size and/or finish. Maximum of three intake and three exhaust ports only. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
Engine Specific Tech Sheet for: Italsistem M21 (controlled stock)

**Description:** Two cycle, single cylinder reed intake

**Displacement:** 6.208 cubic inches, 101.73 cubic centimeters maximum.

**Combustion chamber volume:** 9 cubic centimeters minimum

**Cylinder head requirements:** non-tech

**Bore and stroke:** 1.992 inch maximum bore, 1.988+/- .004 inch stroke

**Intake system:** Reed type. Original manufacture coated reed cage only. Alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Manifold must be stuffer style.

**Carburetor type:** Tillotson HL360A only

**Exhaust port height dimension:** 1.270 inch minimum

**Ignition system:** Approved ignition systems are as follows: CIK951, MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 443213220090 only. Approved PVL 105458 ignition systems have potted or taped stators. All potted stators are approved. Approved taped stators are numbered from 01 to 18. Point type (DANSI or CEV) ignitions legally interchangeable between all engines.

**Piston requirements:** Approved pistons are: Asso, BM, Burrus, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.

**Connecting rod requirements:** 3.932 inch minimum, 3.942 inch maximum, ferrous material only.

**Crankshaft requirements:** No modifications of any type are allowed. Counterweight outside diameter 3.300 inch minimum. Any roller cage is allowed, solid crankpins only. May interchange crankshaft complete with JAKO 2LA, DAP T85 or CRG S10-T1 only.

**Additional requirements:** All cylinder ports may be altered in size and/or finish. Maximum of three intake and three exhaust ports only. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
Engine Specific Tech Sheet for: JAKO 2LA (controlled stock)

Description: Two cycle, single cylinder reed intake

Displacement: 6.208 cubic inches, 101.73 cubic centimeters maximum.

Combustion chamber volume: 9 cubic centimeters minimum

Cylinder head requirements: non-tech

Bore and stroke: 1.992 inch maximum bore, 1.988+/-.004 inch stroke

Intake system: Reed type. Original manufacture coated reed cage only. Alterations to reed openings allowed. Reeds must be non-metallic, single thickness. Manifold must be stuffer style.

Carburetor type: Tillotson HL360A only

Exhaust port height dimension: 1.270 inch minimum

Ignition system: Approved ignition systems are as follows: MotoPlat 9600-903-1 and 9600-916-1, Ducatti 436161191 and 436161190, PVL, and Selletra P3356. Serial numbers of rotor and stator for MotoPlat and Ducatti must match. Approved Ducatti coil 443213220090 only. Approved PVL 105458 ignition systems have potted or taped stators. All potted stators are approved. Approved taped stators are numbered from 01 to 18. Point type (DANSI or CEV) ignitions legally interchangeable between all engines

Piston requirements: Approved pistons are: Asso, BM, Burris, DAP, Dino, Elko, IAME, Minarelli, PCR, RKE, Sirio, TKM, Wiseco, and PRD. Interchange of piston with any other approved engine is allowed. Piston coating below the ringland is allowed. Maximum skirt corner break is .030 inch axial maximum. Skirt length same both sides within .015 inch. No metal removal allowed except boost port window or TT notch. For window type pistons, window size is .900 inch maximum width, and .400 inch maximum axial distance from skirt end. Circlip notch .250 inch maximum circumferential, .1875 inch maximum axial. A maximum of two .093 inch maximum diameter holes may be drilled to facilitate lubrication of the exhaust rib. Wrist pins and piston rings must be magnetic.

Connecting rod requirements: 3.932 inch minimum, 3.942 inch maximum, ferrous material only.

Crankshaft requirements: No modifications of any type are allowed. Counterweight outside diameter 3.300 inch minimum. Any roller cage is allowed, solid crankpins only. May interchange crankshaft complete with CRG S10-T1, DAP T85 or Ital M21 only.

Additional requirements: All cylinder ports may be altered in size and/or finish. Maximum of three intake and three exhaust ports only. All exhaust ports must meet port height requirements. No addition of material in any port is allowed. Port flow must be the same as original manufacture.
Engine Specific Tech Sheet for: US820 (models 82040 and 82050 only)

**Description:** Two cycle, single cylinder reed intake
**Displacement:** 8.185 cubic inches, 134.22 cubic centimeters maximum
**Combustion chamber volume:** 11.5 cubic centimeter minimum (senior), 14.5 cc minimum (junior), 18.0 cc minimum (junior sportsman)

**Cylinder head requirements:** Center combustion chamber style is required. Head depth from gasket mounting surface to spark plug base .865 inch minimum. No machining to the head except for gasket mounting surface. Head gasket of aluminum, copper or brass is required. Coatings and sealants allowed.

**Bore and stroke:** 2.5325 inch maximum bore, 1.626 inch maximum stroke

**Intake system:** Reed type. Any non-metallic, single thickness reed petals of .012 inch minimum thickness allowed. Reed guards must be in place. Reed cage must be stock with flash removal only on the inside of the cage allowed. Any other alteration to the reed cage is prohibited.

**Carburetor type:** Tillotson HL334A only. Manifold, back cover and stuffer plate to be unaltered stock.

**Intake port height dimension:** Dimension from top of cylinder to top of intake ports, 1.285 inch minimum

**Exhaust port height dimension:** Dimension from top of cylinder to top of exhaust ports 1.047 inch minimum, 1.070 inch maximum. (Visible light test dimension .970 inch minimum)

**Exhaust system:** Stock header part number 100820 and stock muffler part number 300820 only required.

**Port dimension diagram:**

**US 820 PORT DIAGRAM**

**Ignition system:** Ignition module part number A180074 (purple) is required. Alterations of any type to facilitate adjustment of flywheel or coil position to alter timing is strictly prohibited. PVL coil part number A180560 and Atom coil part number SA180095 are allowed. The leading edge of the flywheel pickup magnet must line up visually with the trailing edge of the coil leg between .085 inch before top dead center to top dead center. Factory stock flywheel required with no alterations of any type including coating allowed. Flywheel key of .122 inch minimum thickness required. Crankshaft keyway width .126 inch minimum, .128 inch maximum.

**Piston requirements:** Unaltered, factory stock piston required. Wrist pin bore diameter .505 inch maximum. Dimension from center of wrist pin bore to top of piston .875 inch minimum. Overall piston height 1.910 inch minimum. Diameter above ring land 2.523 inch minimum. Maximum .030 piston skirt corner break, measured axially. Wrist pin length 2.130 inch minimum. Wrist pin outside diameter .500 inch minimum, inside diameter .338 inch maximum. Piston rings must be unaltered stock part number A175260-1 only. Ring outside diameter 2.531 inch maximum.

**Connecting rod requirements:** Unaltered factory stock connecting rod required. Center to center length 3.129 inch maximum.

**Crankshaft requirements:** Unaltered factory stock crankshaft and crankshaft bearings required.

**Additional requirements:** Unaltered stock Horstman HMC-841 Rev-Grip clutch required. All components are subject to comparison to known stock item. All stock air shrouds and covers must be in place.
Engine Specific Tech Sheet for: 80cc Moto (inclusive)

Description: Two cycle, single cylinder, reed intake. Approved makes and models are: Honda CR80, Yamaha YZ80, Suzuki RM80 and Kawasaki KX80. Engines must be mass-produced and commercially available. No special prototypes or "works" type engines allowed.

Displacement: Per manufacturer's specification.

Cylinder head requirements: Original equipment casting, open to modifications.

Combustion chamber volume: 7.4 cubic centimeter minimum.

Bore and stroke: Per manufacturer's specification.

Intake system: Open.

Carburetor type: One only, single barrel, bowl or pump-type carburetor, 28.6mm maximum venturi diameter.

Inlet tract length: As supplied from manufacturer with no alterations.

Ignition system: Open, but may not control any vehicle function other than ignition.

Piston requirements: Open.

Cylinder requirements: Original equipment casting with no alterations except in port areas. Port areas are open to modification. No addition or deletion of ports.

Connecting rod requirements: Original equipment with no alterations.

Crankshaft requirements: Original equipment with no alterations.

Clutch: Electronic controls prohibited. Clutch basket and hub assembly must be original equipment. Alterations to clutch basket are allowed.

Transmission: Original equipment (parts and ratios). Grinding is allowable.

Exhaust: Must have a pipe/expansion chamber, stinger and silencer although requirements are open. No means of adjustment while in motion is allowed.

Additional requirements: Interchange of original equipment parts between engines of same make and model is allowed, regardless of model year. One and only one, pulse-type external fuel feed pump allowed. Secondary fuel pump, if used, must be for fuel evacuation to fuel tank only. Ignition kill speed shifters are prohibited. No glycol components allowed in cooling system. Competitor is responsible to produce factory service manual for year and model of engine upon request from technical inspector.
**Engine Specific Tech Sheet for: 125cc Moto (inclusive)**

**Description:** Two cycle, single cylinder, reed intake. Approved makes and models are: Honda CR125, Yamaha YZ125, Suzuki RM125, Kawasaki KX125 and TM125. Engines must be mass-produced and commercially available. No special prototypes or “works” type engines allowed.

**Displacement:** Per manufacturer's specification.

**Cylinder head requirements:** Original equipment casting, open to modifications.

**Bore and stroke:** Per manufacturer's specification.

**Intake system:** Open.

**Carburetor type:** One only, single barrel, bowl or pump-type carburetor.

**Inlet tract length:** As supplied from manufacturer with no alterations.

**Ignition system:** Open, but may not control any vehicle function other than ignition.

**Piston requirements:** Open.

**Cylinder requirements:** Original equipment casting with no alterations except in port areas. Port areas are open to modification. No addition or deletion of ports.

**Connecting rod requirements:** Original equipment with no alterations.

**Crankshaft requirements:** Original equipment with no alterations.

**Clutch:** Electronic controls prohibited. Clutch basket and hub assembly must be original equipment. Alterations to clutch basket are allowed.

**Transmission:** Original equipment (parts and ratios). Grinding is allowable.

**Exhaust:** Must have a pipe/expansion chamber, stinger and silencer although requirements are open. No means of adjustment while in motion is allowed.

**Additional requirements:** Interchange of original equipment parts between engines of same make and model is allowed, regardless of model year. One and only one, pulse-type external fuel feed pump allowed. Secondary fuel pump, if used, must be for fuel evacuation to fuel tank only. Ignition kill speed shifters are prohibited. No glycol components allowed in cooling system. Competitor is responsible to produce factory service manual for year and model of engine upon request from technical inspector.
**Description:** Two cycle, single cylinder, reed intake. Approved makes and models are: CBM L 125/98, CMS Cassani E. 125cc, CRS 125 MF 2, HRT 125 L, Ital sistem Seven, KZH 125 ICC 98, Moto TM K8, Pavesi & C Lamellare 98, SGM L 198, and Vortex VL/125.

**Combustion chamber volume:** 13 cubic centimeters minimum.

**Cylinder head requirements:** Spark plug, when installed and tightened in the cylinder head, must not protrude into the combustion chamber beyond the upper part of the dome. Spark plug thread may be repaired with a thread insert.

**Bore and stroke:** Per CIK Homologation Form. Bore diameter may not exceed maximum listed diameter on the Homologation Form. Stroke length must conform to the homologated dimension within +/-0.2mm.

**Intake system:** Dell’Orto model VHSH 30 only, stock and unmodified. All parts must be original-supplied Dell’Orto VHSH 30 parts. The incorporated fuel filter may be removed, but, if retained, must be original. Venturi bore must be round and 30mm maximum diameter.

**Exhaust opening duration:** 199 degrees maximum, measured per exhaust opening duration procedure.

**Exhaust requirements:** Make and dimensions are open. All systems of “power valve” are prohibited.

**Port dimension diagram:** Per CIK Homologation Form. No addition or deletion of ports.

**Ignition system:** Must be homologated by CIK. Ignition timing tolerance shall be +/- 2 degrees of the homologated specification. Spark plug - Make and model is open, subject to the following restrictions: Thread type – M14 x 1.25. Length from sealing shoulder to end of thread – 18.5mm nominal.

**Piston requirements:** Open.

**Connecting rod requirements:** Per CIK Homologation Form in material and +/-0.2mm in length, centerline to centerline.

**Transmission:** Must be as homologated by CIK, with a minimum of three ratios and maximum of six ratios. Mechanical, unassisted shift only. Ignition kill shifters are prohibited.

**Additional requirements:** The original parts of the engine must always comply with and be similar to the photographs, drawings and physical dimensions described on the CIK Homologation Form, as supplied with the engine. The competitor is responsible to produce the CIK Homologation Form upon request by the technical inspector. Internal modifications – subject to the restrictions previously defined on this sheet, modifications are allowed to any internal element of the engine.
Engine Specific Tech Sheet for: ICE-250 (Intercontinental E inclusive)

Description: Two cycle, single cylinder, reed intake. Approved makes and models are: Honda CR250 and 4TRX250R, Yamaha YZ250, Suzuki RM250, Kawasaki KX250, TM250 and ROTAX 257. Engines must be production-based, water or air-cooled. All components must be commercially available. No special prototypes or "works" type engines and/or components allowed.

Displacement: 250 cubic centimeters maximum.

Cylinder head requirements: Open with respect to manufacturer and modifications.

Intake system: Open.

Carburetor type: Carburetor only, open with respect to manufacturer and modifications.

Ignition system: Open.

Piston requirements: Open.

Connecting rod requirements: Open with respect to manufacturer and modifications.

Crankshaft requirements: Original equipment with no alterations.

Clutch: Must be intact and fully operational wet clutch only. Open to modifications.

Transmission: Must be integral with engine case. Original equipment components or aftermarket equivalent. Drive to the rear wheels only.

Exhaust: Open with respect to manufacturer and modifications.

Additional requirements: Interchange of original equipment parts between engines of same make and model is allowed, regardless of model year. No glycol components allowed in cooling system. Competitor is responsible to produce factory service manual for year and model of engine upon request from technical inspector.
2018 TAG™ Stock Moto 125 Standards

1. Spirit and intent

The following rules are applied in order to provide fair and equal competition within the class. The specifications and limitations are supplied in order to allow each competitor to insure that his or her engine meets these rules. Compliance is the competitor’s responsibility. Any attempt to circumvent these rules violates the basic premise of the class and will be dealt with as any direct violation of the rules. Violation of spirit and intent is defined as any attempt to elaborate on the existing rule in order to gain a competitive advantage. Anything not specifically outlined in the rules should be considered illegal.

1.0 Engine

The 1999 Honda CR125 “kit motor” is generally accepted as the motor that the class is designed around.

1.1 Cylinder


No Modifications allowed to the cylinder height, port inlets, passages, or port windows of the OEM part as supplied from Honda. The cylinder must be as cast, no modifications, and no replating for any reason.

**Cylinder Height**

1997-1999 Minimum is 3.311” min to 3.316” max, measured from the cylinder base to the head surface. 2000-2002 Minimum is 3.307” min to 3.312” max, measured from the cylinder base to the head surface. Exhaust Valves (power valves) may be removed and plugged. Plug is a non-tech item and may be blended to match the exhaust port. All modifications to plug must be done prior to installation in cylinder and no grinding, polishing, or machining of any type may be done to the exhaust port.

**Allowable Base Gasket OEM Thickness:.020”.

Exhaust Port - Cylinder top Minimum Distance: 1.145" (29.08 mm)

Stroke: 2.149" (54.59 mm) maximum

Bore: 2.129" (54.10 mm) Maximum

1.2 Cylinder Head


No modification to the OEM combustion chamber volume, shape, or dimensions.

1997-1999 cylinder head Combustion Chamber Profile must match the approved Shockwave 99 CR125 Cylinder Head Gage.

2000-2002 cylinder heads will be checked by squish dimension.

Cylinder Head Gasket will be OEM only. Thickness =.010” + or -.001”.

Cooling spigots may be replaced with a substitute in the original location.

One spigot may be plugged for single water outlet.

**Combustion Chamber Profile**

Using approved Shockwave 99 CR125 Cylinder Head Gage, inspect Parabola of Chamber Dome and Squish recess for apparent gaps greater the .005” deep.

Spark Plug sealing surface must be above spark plug stem of gage. The overall height is measured also. "The "go" portion of the stem of the profile gage should protrude above the spark plug sealing surface. The "No Go" portion of the stem should not."


1.3 Crankcase
Crankcase halves must be OEM.
Internal Crankcase modifications are not allowed with the following exception. Minor grinding of casting flash is allowed but only to eliminate the possibility of flash breaking off and damaging the motor.
Kick Starter may be removed and plugged.

### 1.4 Crankshaft
Crankshaft must be OEM Honda CR125 any year. The crankshaft main bearing journals may be polished for slip fit of bearings.
Precision alignment of crank is allowed.
No material may be added or removed from Crank Wheels or Rod.
No “heavy metal” balancing allowed.

### 1.5 Connecting rod
Connecting rod must be OEM with no lightening or polishing.
Bearings, piston pin and cir-clips are direct replacement OEM only.

### 1.6 Piston
1999 OEM Flat Top design direct replacement OEM only.
This piston has a window and cannot be replaced with non-window piston.
Piston Ring Minimum Thickness: .038" (.96 mm) as measured with calipers.
Coatings are NOT allowed on the Piston or Ring

### 1.7 Bearings
All crankshaft and rod bearings must be stock OEM without modifications.

### 1.8 Gaskets and seals
Gaskets are OEM.
Seals must be stock OEM without modifications and installed as manufactured.

### 1.9 Clutch
Stock OEM 1999 CR125 Clutch Basket and Pressure Plate must be used.
No modifications allowed to any component.
All 7 Clutch disks and 6 Clutch Plates must be installed.
Aftermarket replacement clutch discs, plates, springs and hardware parts are NOT allowed.

### 1.10 Transmission
Transmission Bearings are to be stock OEM.
**Five or six gears are allowed.**
Gears are per the 1994-96 ratios as follows;
First - 14/33
Second - 15/28
Third - 19/29
Fourth - 21/27
Fifth - 23/26
Sixth - 24/24

### 1.11 Water pump
Water pump must be used as originally intended. No external or axle driven pumps allowed.

### 2.0 Induction System

#### b. 2.1 Carburetor
Approved carburetors are,
Keihin PWM, Keihin PWK,
The Air Striker and the Quad vent are Not allowed
No modifications allowed. No polishing, grinding or machining allowed. Venturi Diameter may not exceed 38.6 mm in diameter measured from the first .450” of the Venturi diameter downstream from the slide. Round bore only. Pump-around Carburetor Fuel Feed Systems are allowed.

c. 2.2 Fuel Pump
Fuel Pump(s) must be driven by pulse pressure in the motor. No Electronic Fuel Pumps. Dual Fuel Pumps for Pump around Carburetors allowed. Fuel Pump must be a separate component from the Carburetor.

2.3 Carburetor Boot
The stock 1999 CR125 30° Boot is recommended. The RS125 Straight Boot or the RS125 5° boots are allowed For Seat Clearance Purposes. However, the Stuffer Lobes of the Straight Boot and the 5° boot must be cut off flush with mounting surface and may not extend into Reed cage. SwedeTech RS Replacement Boot part number SRE – RS125 is allowed. Use SwedeTech tech tool SRE – T – RS125 for inspection.

2.4 Reed cage and Reeds
Reeds are open but must be single petal design. No dual stage reed petals Reed cage must be 1999 CR125 6-Petal Design. No material may be added or removed. Reed Stops (Stiffeners) must be 1999 CR125. Bending stops to fit into unaltered reed throat of crankcase is allowed. No removal of material from Reed Stops allowed.

2.5 Air Filters and Air Boxes
Motor may be equipped with either Air Filter or Air box. Air Box Requirements may be imposed by Local Track regulations.

3.0 Exhaust System

3.1 Pipe/Expansion chamber
The Pipe/Expansion chamber is restricted to the following, RLV 6800 series also marked as (RLV-R2) RLV-R4 and RLV-R4 ---Two piece Pro Circuit Pipe #SK-1 The Pipe/Expansion chamber Maximum Circumference is 17-1/8” (440mm) measured at the drum/dwell section. Addition of exhaust gas temperature lead is legal, but hole must be plugged if exhaust temp lead is not used. External mounting brackets may be added.

3.2 Silencer
Silencer are mandatory. The dimensions are open as long as they meet safety and noise requirements. Tracks that have noise emission requirements shall provide any necessary supplemental rules for where noise abatement is required.

3.3 Exhaust Flange
The exhaust flange is open but aftermarket headers may not alter the effective length of the exhaust system by more than plus or minus .050”.
4.0 Ignition

4.1 Coil
Coil must be Stock 1999 Honda CR125 Coil.

4.2 CDI
Capacitive Discharge Ignition (CDI) must be Stock 1999 Honda CR125.
Denso Part Number 071000-1410 should be legible on Tag.

4.2 Flywheel and stator
Flywheel and stator must be Stock 1999 Honda CR125 parts.
No material may be removed from Flywheel.
Flywheel Key may not be machined to offset timing.
Stator may be mechanically advanced or retarded but must remain in a fixed position while running.
Stator Plate may NOT be slotted for adjustment and must remain OEM or utilize the Red-MSE or Blue - replacement.

4.3 Spark Plug and Ignition Wires
The spark plug manufacturer is open, but the plug must be commercially available and measure 18.5mm long by pitch M14 x 1.25. Exception: The spark plug washer may be removed to facilitate the use of a cylinder head temperature sensor and the gap of the electrode may be adjusted.
Ignition Wires are non-tech.
No additional components may be electrically connected to the CDI or Coil. Only an inductive RPM sensor may be used.

5.0 Ancillaries
Studs, Bolts and washers are non-tech.

6.0 Junior Restrictions
Junior class must use RLV air box with (2) 23mm inlet tubes.
RLV part number #0300 Red or #0301 Black.

Junior Class must use a Flange type Exhaust restrictor.0120” thick + or -.005”.
With a max opening of 1.0990” No go dimension 1.100”

Keihin PWK 35 Is allowed
Stock Moto 125 - Technical inspection procedure and specifications

1.0 Engine

Cylinder Height Minimum: 3.311” min to 3.316” max., as cast, no modifications, and NO replating for any reason. Measure Base Surface to Head Surface with calipers.

Port Inspection

If Ports appear substantially different, the Tech Inspector should follow up with a close inspection for any evidence of grinding to modify the port sizes. Small differences in sizes make very little difference in performance gains. Any DQ actions should be based on obvious modification evidence.

Exhaust Port - Cylinder top Minimum Distance: 1.145” (29.08 mm)

Note 1: This measurement is taken from the top of the cylinder to the exhaust port opening. It is not intended to measure opening in relation to piston travel alone.

Note 2: Exhaust Valves may be plugged. Plug is a non-tech item. Plugs may have blades removed or angled to blend flow into passage. This does not allow for blending of plug to port all modifications to plug must be done prior to installation in cylinder. In some cases the blades may appear to provide a false reading of depth - this is OK as long as inspection does not indicate any grinding. CR125 Exhaust ports have a height that is controlled by the machining operation of the Exhaust valve and is very accurate in controlling port location.

Insert Approved Port Height Check Gage (1.140" Step) tool into Cylinder in line with Exhaust Port Center. Inspect through Port - Gage end should not extend past Port Opening at edge. Check both ports at highest points.

Combustion Chamber Profile

1997-1999 cylinder heads Using approved Shockwave 99 CR125 Cylinder Head Gage, inspect Parabola of Chamber Dome and Squish recess for apparent gaps greater the .005" deep. Competitor may clean off carbon build up with abrasive pad. Spark Plug sealing surface must be above spark plug stem of gage. The overall height is measured also. "The "go" portion of the stem of the profile gage should protrude above the spark plug sealing surface. The "No Go" portion of the stem should not."2000-2002 cylinder heads will be checked by squish.

Cylinder Head Gasket thickness is .010” ±or -.001”. OEM only.

Measure thickness of Head Gasket with calipers

Piston Deck Height

Rotate flywheel to bring piston close, but not at, Top Dead Center. Insert .060 solder thru spark plug opening making sure that the solder reaches the cylinder wall and roll piston over top dead center. Measure with calipers


Piston inspection and dimensions

Flat Top design OEM Piston has window and cannot be replaced with non-window piston. Only direct 1999 OEM replacement allowed.

Distance from Top of Piston Pin to top of Piston: .807” (20.5mm) plus or minus .0025”

Slide piston pin out of piston with no more than 1/4” protruding.

Measure depth from top of piston to top of piston pin with caliper slide.

Piston Ring Minimum Thickness: .038" (.96 mm) as measured with calipers.

Stroke: 2.149” (54.59 mm) maximum

Piston may rock on pin. Measure depths directly above pin. Measure Piston depth at TDC. Measure Piston depth at BDC. Subtract TDC from BDC to get the stroke.

Bore: 2.129" (54.10 mm) Maximum

Measure with Inside Micrometer.
d. Allowable Base Gasket Thickness: .020”.
e. Measure Base Gaskets with a caliper

2.0 Induction System
f. Carburetor
Max diameter 38.6 mm round bore only. Approved carburetors are Keihin PWM, Keihin PWK, The Air Striker and the Quad vent are Not allowed.
No modifications to Carburetor. No polishing or machining of air intake allowed.
Control point for measuring purposes is the first .450” of the Venturi diameter downstream from the slide. This .450” wide zone cannot exceed 38.6mm in diameter.

Carburetor Boot
The stock 1999 CR125 30° Boot is recommended. As this part is optimal from the factory and measurements very subjective, there are no other restrictions on it.
For Seat Clearance Purposes, the RS125 Straight Boot or the RS125 5° boots are allowed. As a handicap the Stuffer Lobes of the Straight Boot and the 5° boot must be cut off flush with mounting surface and may not extend into Reed cage. SwedeTech RS Replacement Boot part number SRE – RS125 is allowed. Use SwedeTech tech tool SRE – T – RS125 for inspection.

g. 3.0 Exhaust System
h. Pipe/Expansion chamber
Measure largest diameter of the drum/ dwell section (between convergence and divergence cones) with a flexible tape measure. Pipes may have obstructions such as mounting flanges, metal tags, seams, or weldments in the way. It is the competitor’s obligation to assure there is an area where the circumference can be measured by tech.

4.0 Ignition
Stock 1999 Honda CR125 Coil
Stock 1999 Honda CR125 Capacitive Discharge Ignition (CDI) System.
Denso Part Number 071000-1410 should be legible on ID tag. CDI cannot be DQ'd over ID tag legibility. Sanctioning Org may take possession of CDI unit to test for illegal altering of the component. CDI Unit must be returned to owner or replaced with a new part within 30 days.

CDI Swap
The Tech Steward shall have the option to collect CDI Units between heats and redistribute them at Tech / Impound. This is at the Tech Steward/Promoters discretion.

Flywheel and stator.
Stock 1999 Honda CR125 No material may be removed from Flywheel. Flywheel Key may not be machined to offset timing. Stator may be mechanically advanced or retarded but must remain in a fixed position while running. Stator Plate may NOT be slotted for adjustment and must remain OEM or utilize the Red-MSE or Blue - replacement.

Spark Plug and Ignition Wires.
The spark plug manufacturer is open, but the plug must be commercially available and measure 18.5mm long by pitch M14 x 1.25. Exception: The spark plug washer may be removed to facilitate the use of a cylinder head temperature sensor and the gap of the electrode may be adjusted. Non-tech. No additional components may be electrically connected to the CDI or Coil. Only an inductive RPM sensor may be used.
4 Cycle International Rules
AKA “Stock Clone”

**Stock Engine Rules:** *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. **Tumbling of engine parts is strictly prohibited.** Anything Which Is Not Expressed Allowed Is Forbidden*

All parts presented in tech may be compared to a known stock part.

**Fuel:** gasoline only

**Tires:** Front 450 x 5 Minimum / Rear 600 x 5 minimum
Sprint will utilize CIK Homologated Hard compounds
Road race will allow for Open compound.

**Approved Engines:** Lifan, Greyhound, Harbor Freight Blue & Yellow, Jaing Dong, Yamakoyo, Blue Max, Ducar, Dupor, BSP.

**Clutches:** Any stamped drum clutch allowed. No machined drums allowed. Must be shoe type clutch. No disc clutches will be allowed.

**Fuel tank:** must be floor mounted.

**Carburetor:** 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. (Choke area must remain as cast). Venturi .615” NO-GO. Venturi may be machined to spec, Minimum Venturi size is .608”, no polishing permitted and all transitions must remain stock in and out of venturi. Rear carb bore .751” NO-GO.
Carb bore at rear of carb .750” maximum depth(This measurement is taken from the flat surface on the rear of the carb down to the circular ridge at venturi edge). Main fuel jet .042” NO-GO. No use of locktite or other materials on high speed jets or damaged threads permitted in an attempt to lock jet in a non stock location. Main jet must seat firmly on bottom of E-Tube. Low speed idle jet is a Non Tech item. Stock emulsion tube
must be used and unaltered, .066’ max ID (NO-GO). Side holes in E-Tube 4 holes in bottom section max and must have 20 holes in middle section. Minimum E-Tube length 1.092”. The minimum protrusion of the e-tube into the Venturi must be check by the newly approved NO GO gauge. Minimum outside diameter of the E-Tube at any point is .154”. Side holes in e-tube diameter .036” no go. Throttle shaft - .115” minimum. Stop arm of throttle shaft maybe filed to adjust for butterfly position. Butterfly - .037” minimum thickness. Butterfly screw minimum length .305”, screw must remain stock as produced with no alteration allowed to achieve min length. Aftermarket air filter adapter allowed (max length of 1.375).
Phenolic spacer must be flat across entire gasket mating surface, with a minimum thickness on gasket surface of .265” (not including gasket). Gasket surfaces must remain parallel ... no angle cutting allowed. Center inlet hole is NON-TECH (size, configuration, finish), but no rifling, grooving, dimpling, etc. allowed. Maximum mounting hole(s) size .300” NO-GO (checked with .300”+ pin gauge)”. Phenolic spacer/gasket(s) subject to spray test to check for leakage or introduction of air into intake track.
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.

Engine Block must remain stock. No machining allowed
Maximum bore is 2.685. Stroke is 2.123 --plus .010” or minus .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 however, no piston pop out is allowed. May use 2 side cover gaskets of stock configuration. (Oil drain hole between lifters .250” max, .251” no go. Any type side cover fastener and lock washer permitted, must be original size, sealer permitted.) Solid dowel pin replacement for the side cover to block .317 maximum diameter allowed (Factory stock dowel pin is 8mm or .315). Dowel pin must remain in the factory position. 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.

Cylinder Head: OEM head only No porting, grinding or modification.
Valve seats have two angles: single 45* bottom and single 30* top angle.
OEM valves with 45* seat angle only no lighting or polishing Intake seat maximum ID .897”, Exhaust seat maximum ID .862”. Outside face of valve may not be below floor of combustion chamber (i.e. don’t sink the valves). Allen head bolts permitted on Header to head. The use of Aftermarket FLANGED bolts of similar OEM design (head size, diameter, length and thread length/pitch) allowed as replacement for stock head bolts. No studs allowed ... No additional washers allowed.” Breather hole on valve cover may be tapped with ¼” pipe tap to accommodate breather fittings, no over size drilling allowed. Head gasket/s maybe after market, must be of stock configuration, gasket thickness is a non tech item. Depth check between the valves, front to back and side to side may not vary by more than .005” max. No copper or aluminum gaskets allowed. Any stock configuration exhaust gasket allowed, sealer permitted, Header may also be run without gasket, sealer only. Allen head bolts permitted on Header to head. Head gasket must be stock configuration.010 Minimum Thickness

Combustion Chamber minimum: 26.5cc.
, with piston at TDC, using prescribed procedure. The Liquid CC check is the official check (IF THE ENGINE FAILS THE CC CHECK AT ANY TIME DURING THE TECH PROCEDURE IT MUST BE CALLED ILLEGAL)

Valve train: Stock four bolt valve cover only with any stock configuration gasket, sealer allowed. Factory stock rocker arms 1:1 ratio and push rods only. Minimum over-all length of rocker arm 2.145”. minimum thickness of the upper valve stem end of rocker arm .030”. Surface finish of contact area of rocker arm to valve stem ONLY, non tech, to adjust for proper running lift. Square tipped rockers allowed. Stock steel/stainless nitrate coated valves only 45 degree angle only both valves with a minimum weight of 21 grams each valve, Stock valves only 45 degree angle only both valves, Intake valve Max OD .982” +/- .005” and Exhaust valve Max OD .945” +/- .005”, no modifications allowed. Single valve springs only. (Installed Height for valve springs .815”, must be checked by using the .815” spring must go gauge with retainer seal and shims in place on intake an exhaust valve if used.) Shims may be used to achieve .815” Installed height, maximum thickness of shims used .075”, any combination of valve seal and spring shims allowed. The ruling on the .075 shim thickness includes the oil seal if used. The valve stem seal has no tech other than it's thickness combined into the max of .075 to obtain a min of .815 installed spring height. In other words, the valve stem seal can be used or not used and is no longer a tech item unless used as a shim. Also the rubber inside it is a non tech item. Prescribed check procedure as follows – Remove valve spring, reinstall spring retainer and shims, insert .815” must go gauge in spring location. Gauge must go in both locations Intake and Exhaust with any allowed retainers and shims in place, as raced, during check procedure. Max wire diameter on spring wire is .071” with a maximum tension of 10.8 lbs. at a height of .850”, and a maximum tension of 18 lbs at .650”. Prescribed procedure for using weight checker is as follows. Spring must slide over post on it’s own to the bottom. When weight is placed gently on the spring, push weight down onto spacer so that it bottoms out. Release weight and shine a
flashlight between weight and spacer. Light must be visible in its entirety of 360 degrees to disqualify spring. Add (Additional check for valve springs – 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 spring coils 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 gage 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. 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. Lash cap on exhaust valve only. Valve stem seal allowed on Intake and Exhaust valve. BS lifters only, no modifications allowed. 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. Weight check lifters 18 grams min and push rods 9 grams min.

**Spark Plug:** 14mm X .75 reach only

**Stock rod only:** no modifications. OEM cast rods no modifications. No machining of any type allowed. Stock rod bolts only.

**Stock crankshaft only:** OEM no modifications. Stock Stroke Length 54mm or 2.126 (plus or minus .005) 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

**Stock piston & rings only.** Piston must be unaltered Box Stock only. Overall piston length 1.935” max, 1.920” min and from top of wrist pin to top of piston .580” max. Arrow on top of piston must be pointed toward valves/lifters. Overall length wrist pin 2.100” min, inside diameter .550” max. Top ring and middle ring .115” max width, .060” max thickness.) Filing of ring end gaps permitted including oil expander, max end gap .040”(top 2 rings only). Lapping of rings permitted for proper seal. Piston ring must be in one piece (unbroken) when presented for tech. Piston rings must be self supporting in cylinder bore and concentric to cylinder bore. Oil ring assembly must be self supporting in cylinder bore when checked installed on piston with connecting rod attached (rod cap and bolts installed are not required for this check). Minimum weight of piston 145 grams (must conform to this spec by 4/15,2015). Honing of wrist pin journals permitted … bore surface must remain flat and retain stock configuration edges. Skirt of piston must remain as produced … no chamfering, radiusing or breaking of edges permitted. Up to .010” over pistons allowed

**Camshaft:** must be stock. 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.* (±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 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. (To achieve zero valve lash for checking running lift, preload dial indicator by .001”.

**Flywheel and Ignition system:** Stock Box Stock system only and must be unaltered. Spark Plug boot must be the stock black hard plastic boot ONLY! Kill switch and low oil sensor may be disabled and removed. Flywheel: BSWF-1 and DJ-168F-16200-A steel billet flywheels allowed, same weight check as stock flywheel.(5lbs 4oz minimum) including plastic fins.Also allowed the ARC 6619, ARC 6618, Raceseng Flywheels RSP-13-075 Rewheel NF- S1 & RSP-13-077 Rewheel F-S1,
PVL 211-900 in the BS classes. Non-fin flywheels must utilize stock plastic fins. No alterations of any type allowed. As of 1/1/2013 stock cast flywheel are no longer allowed. Timing and flywheel key is non-tech.

**Header Pipe and Muffler:** Any single stage, one-piece header made from .750” OD steel tubing, with the RLV Mini B-91 Silencer 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. Exhaust Pipe must be double nutted or safety wired and silencer must be supported by clamped on brace to secure it in place. Pro Box Stock header length 16 ½” min and 20 ½” max (measured on inside of pipe with ¼” steel tape). Sealer may be used to assist gasket seal. Header may also be run without gasket, sealer only. “Wennie” pipe silencer end cannot be higher than 14 ½” from the bottom edge of the block mounting surface. Tech the pipe by placing engine on flat surface and measuring from the flat surface to the bottom edge of silencer, cannot exceed 14 ½”. Flange for header maximum thickness of .500” / ½”. Allen bolts of original diameter Allowed. Pro Box Stock header must be of traditional “candy cane” design, silencer must be directed down and towards the rear bumper. Maximum height from top of header flange to top of pipe curve is 10”. Bottom edge of silencer end cannot be higher than 9” from the bottom edge of the block mounting surface. Tech the pipe by placing engine on flat surface and measuring from the flat surface to the bottom flat edge of silencer, cannot exceed 9”

**RLV Mini 91 Silencer Requirements:** Part #4117 Overall Length 5.470” minimum +/- .005” - 5.600” maximum +/- .005”. Threaded Nipple .685” maximum ID (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. New RLV B91 silencers with safety cable attachment device allowed, Note: all B91 silencers must be so equipped with safety device by January 1, 2018. Add-on safety devices will also be allowed.

**Blower Housing and Pull starter** must be present and remain stock.
You may rotate pull starter for a better angle to crank from.

**Engine oil** recovery system mandatory (oil catch can).

**Oil sensor** may be removed.

**Governor** and governor component is non-tech and may be removed.

**Bearings:** Crankshaft Bearings shall be metallic (Magnetic Steel) construction (Excluding retainers) and be of conventional ball design OEM only

**Coatings:** Internal performance coating of any type is not allowed.

This will be a **Claiming Class**.
The Claiming rules are as follows.
Only a competitor participating in the same class as the person whose engine they are claiming may place a claim on another competitor's engine.
The Claim must be made prior to the start of the race event by posting a $225.00 deposit or $300.00 deposit if the billet STEEL flywheel is included .
The engine being claimed must finish in the top 5 and pass post tech.
A $25.00 processing fee will be kept by the host club whether or not the claim is executed.
The person placing the Claim must finish the event and pass post tech prior to their engine claim becoming valid.
$200.00 will be paid to the person whose engine has been claimed only if that person passes post tech.
At that time the engine only will made available to the person posting the deposit. The engine does not include motor mount, chain guard, muffler, header, air filter assembly, and aftermarket throttle linkage, top plate, fuel pump or Clutch.
Additional rules may be added as the 2018 season progresses rule changes and additions will be posted to the website [www.tagracing.net](http://www.tagracing.net)
Any rule changes approved and posted to the website will be effective from the date of posting

**Class structure:**

**4-Cycle International Novice:** 225 lbs 7 to 11 years
ARC/.550” Blue Restrictor With stock Muffler

**4-Cycle International Junior:** 305 lbs 11 to 15 years

**4-Cycle International Senior:** 360 lbs 15 years and up

**4-Cycle International Masters:** 385 lbs 35 years and up

Important Note: Any attempt to increase the RPM’s of the “Stock Clone” 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 TAG Racing Int. / TAG USA for use, others may become available as demand increases. Note: Under no circumstances is this type of flywheel allowed in the Box Stock (Stock Classes), Stock Flywheel ONLY. No other alterations to or from stock components are allowed

**ENGINE SPEC SHEET FOR Builder’s 6.5 OHV CLASS**

**Builder’s 6.5 OHV** – Fuel Methanol ONLY – Approved Engine: 6.5 OHV 196cc clone engine modified only according to BP OHV Engine Spec.

**Description:** Single cylinder, 2-valve overhead 4-cycle engine. No aftermarket coatings of any type are permitted on any part of the engine (exception Blower Housing and Shrouds).

**Cylinder Head Requirements:** Stock cylinder head only. Machining of gasket surface is allowed. No addition of material in ports or to cylinder head allowed. Porting and / or grinding are not permitted. Valve seats may have two angles, 45° valve face and 30° top relief. Inside diameter of valve seats must be stock(Into .897” max ID and Ex .862” max ID). Valve seats must appear stock and must be in stock position and depth. Stock head bolts are required and all four are required. Head gasket/s maybe after market, must be of stock configuration, and gasket thickness non-tech. Depth check between the valves, front to back and side to side may not vary by more than .005” max. Cylinder head guide plate for pushrods must remain stock. No other alterations to the stock head are permitted.

**Bore and Stroke:** Stock bore is 2.685” and may be over bored to 2.718” Stroke is 2.123” +.010”-.005”.
Connecting Rod: Stock or Billet aluminum rods, with or without bearing inserts allowed. No titanium rods allowed. Rod length is a non tech item.

**Combustion Chamber Volume:** 25 cubic centimeter minimum, with piston at TDC, using prescribed procedure. The Liquid CC check is the official check (IF THE ENGINE FAILS THE CC LIQUID CHECK AT ANY TIME DURING THE TECH PROCEDURE IT MUST BE CALLED ILLEGAL).

**Carburetor/Intake Requirements:** Stock Huayi or RUI*ING carb. Venturi .625” NO-GO. Rear carb bore .751” NO-GO. Carb bore finish, non tech. Throttle shaft - .115” minimum. Butterfly - .037” minimum. Air Filter adapter of 1.375” max length allowed. No air rams. Pulse-type fuel pump is mandatory. Fuel pump must be pulsed from either the crankcase or the valve cover. Black phenolic carb insulator must be used. Choke assembly may be removed. Jets, air bleeds jets, and emulsion tubes are non-tech. Throttle shaft, washer, and butterfly must be stock and must be present, butterfly screw non tech. Stock intake runner gasket configuration only. One extra gasket may be used with restrictor plates. No other alterations are permitted.

**Ignition system:** Ignition timing is non tech. Stock ignition module only. No modifications of any type allowed. Sparkplug connector must be stock as from factory.
**Piston Requirements:** Must be stock dished piston with no modifications. Oversize Clone or Honda ZOT dished piston is allowed up to .035" oversize. Rings must appear stock and all rings must be installed. Piston may not pop out above cylinder deck.

**Valve Train:** Stock valve-train only in stock configuration except any single valve springs and valve spring shims are allowed. No additional support for rocker studs permitted. Valves must be one angle only, 45°. No polishing, lightening or knife edging of valves (1mm min. margin). Valve length is non-tech. Outside face of valve head may not be below the combustion chamber floor. (i.e. don't sink the valves) Valve cover may be drilled for fuel pump pulse fitting, otherwise, it must remain unaltered. Valve cover gasket is non-tech.

**Camshaft Requirements:** Stock camshaft cores only, ez-spin assy must remain as stock. Duration check for Intake and Exhaust lobes (taken off pushrod) . Intake duration of 248 degrees at .050 lift/107 degrees at .200 lift. Exhaust duration of 247 degrees at .050 lift/116 degrees at .200 lift. Max lift at the valve retainers, Intake .238” and exhaust .242” taken on valve spring retainer with zero lash. (To achieve zero valve lash for checking running lift, preload dial indicator by .001”).

**Crankshaft Requirements:** Stock, factory crankshaft only with stock, factory timing gear in factory location. No modifications to crankshaft allowed. Aftermarket steel main bearings of non self-aligning type, with or without seal are allowed. No ceramic bearings. Crankshaft Journal diameter is 1.180”, 1.168” minimum.

**Block Requirements:** Stock Block, as cast and produced with no alterations or modifications other than those specifically permitted. Block head matting surface may be machined, however, no piston pop out is allowed. Blocks may NOT be welded for repairs. No addition of material to block (i.e. welding, jb weld, etc). All bolt bosses in block may be drilled and tapped for repairs or other uses. Additional side cover gaskets as required for crankshaft thrust are permitted. All parts associated with the governor and the low oil sensor may be removed, plugging any associated holes.

**Flywheel:** Approved SFI certified billet aluminum flywheel only. No machining or alteration of any kind allowed. Minimum weight for flywheel is 3.3 lbs. Any timing key or no key at all may be used. A flat washer or spacer may be used, and is recommended, between the flywheel and the nut. Handheld electric starter may be used, but compression release mechanism must remain on camshaft.

Current Approved flywheels: ARC 6619, ARC 6618, Raceseng Flywheels RSP-13-075 Rewheel NF-S1 & RSP-13-077 Rewheel F-S1.

**Header and Muffler Requirements:** Header Pipe Length: Minimum 18”- Maximum 22”. Silencer must be a RLV 91_L type with .1285 no-go hole. Header must be securely wrapped from flange to muffler prior to the race. Exhaust Pipe must be double nutted or safety wired and silencer must be supported by clamped on brace to secure it in place.

**ENGINE SPECIFIC TECH SHEET FOR: STOCK APPEARING 6.5 OVH**

**Description:** Single cylinder, 2-valve overhead 4-cycle engine. Fuel – Methanol Only – The engine, unless otherwise noted, must appear like a BSP, or Harbor Freight 6.5 HP engine. Parts may be interchanged between engines. Internally, you can change whatever you want as long as it meets the restrictions below. The restrictions are only for cost control by restricting some expensive machining options, expensive billet parts, and containing performance to levels with reasonable durability expectations.

**Cylinder Head Requirements:** Stock cylinder head only. Machining of gasket surface allowed. Porting allowed, and no addition of material in ports or to cylinder head allowed. Stock Head
Bolts are required and all four are required. Must use stock configuration head gasket, thickness non tech. Cylinder head guide plate for pushrods must appear stock.

**Bore and Stroke:** Stock bore is 2.685” and may be over bored to 2.745” (approximately .060” overbore). Stroke is 2.133” max taken from top piston

**Combustion Chamber Volume:** Non Tech.

**Carburetor Requirements:** Stock Appearing Huayi or RUI*ING carb. Air Filter adapter of 1.375” max length allowed, Air filter may be up to 8” long. Floor pan mounted fuel tank required (stock tank to be removed) and pulse-type fuel pump allowed. Fuel pump must be pulsed from either the crankcase or the valve cover. Black phenolic carb insulator must be used. No epoxy on carb exterior. Choke assembly may be removed, if removed, choke shaft hole must be plugged. Jets, tubes and orifices are non-tech. Any throttle mechanism allowed that works with the stock throttle shaft’s bell crank. Remaining stock throttle mechanism parts may be removed. A plate may be bolted to the top of the engine to mount fuel pumps and/or throttle mechanisms.

**Valve Train:** Rockers, ball adjusters, rocker arm studs, lock nuts, pushrods, and lifters must appear stock. No additional support for rocker studs permitted. Any single valve springs allowed. Valves and retainers may be used in any combination on either side. (Example: Exhaust valve, retainer and lash cap may be used on intake side). Valve head diameters must be between .940” and .990”.

**Camshaft Requirements:** Max lift of .285” taken with zero valve lash directly off valve retainer.

**Ignition system:** Box Stock ignition module only. No modifications of any type allowed. Sparkplug connector must be stock as from factory.

**Piston Requirements:** Oversized Piston must be flat top or dished. Honda OEM dished (ZOT) pistons or Box Stock Project pistons may be used. Piston CAN NOT ALLOW FOR ANY POP OUT!

**Connecting Rod:** Billet aluminum rods, with or without bearing inserts allowed. No Titanium rods allowed. Rod length is a non tech item.

**Crankshaft Requirements:** Stock, factory crankshaft only with stock, factory timing gear in factory location. Timing gear may be tack-welded to crankshaft in 2 places to avoid slippage. No modifications to crankshaft allowed. Aftermarket main bearings of non self-aligning type, with or without seal, allowed. (No ceramic bearings). Crankshaft Journal diameter is 1.180”, 1.175” minimum.

**Block Requirements:** Stock Block, as cast and produced with no alterations or modifications other than those specifically permitted. Block head matting surface may be machined, however, no piston pop out is allowed. Blocks may be welded for repairs as long as the repair does not constitute a functional modification to the block. No welding to block from cooling fins upward to deck surface. Governor stub hole may be tapped and plugged. All bolt bosses in block may be drilled and tapped for repairs or other uses. Additional side cover gaskets as required for crankshaft thrust are permitted. No welding or addition of material (such as epoxy) of any kind to the head, side cover, or block.

**Flywheel:** SFI certified flywheel with cooling fins only (mandatory) with no machining or alteration of any kind allowed. Minimum weight for flywheel is 3.3 lbs. Any timing key or no key at all may be used. A flat washer may be used, and is recommended, between the flywheel and the nut. Pull starter may be replaced with a flywheel cover and any electric starter nut may be employed.

**Header and Muffler Requirements:** Any header is allowed. No muffler unless required by track. If required use RLV-4106. 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. Header must be securely
wrapped from flange to swedge prior to the race. Exhaust Pipe must be double nutted or safety wired and silencer must be supported by clamped on brace to secure it in place.

Formula-OHV Quick Reference Guide

- Approved, commercially available, single cylinder air-cooled overhead valve engines. 210 cc's maximum displacement.
- Block, cylinder head, crankshaft and side cover to be approved OEM items.
- Intake manifold: Aluminum only. Maximum inlet tract length of 2”. (See note 2)
- Connecting Rods: Aluminum only. (Fasteners and inserts/bushings excluded) Stock length (plus or minus .005") to be maintained. See chart for specific details.
- Pistons: Any aluminum three ring, flat top piston. Rings and wrist pin non-tech except OEM wrist pin diameter to be maintained. See chart for maximum bore size and wrist diameter for a specific engine.
- Crankshaft: Standard OEM item with stock stroke length (plus or minus .010”). Thermal treating and shot peening permitted. No other alterations allowed. See list for specific stroke details.
- Flywheel and ignition coil: Aftermarket or OEM flywheels permitted. If OEM flywheel is used it must be unaltered and meet minimum listed weight and stock OEM coil (ignition system) must be used. Approved aftermarket flywheels only may be used. Spec diameter and weight as follows; 6 .75” +/- .05” dia. X 5.00 lbs +/- .25 lbs. When using aftermarket flywheels, any approved OEM F200 coil may be used on any engine. (i.e. Briggs coil on a Honda, Tecumseh coil on a Kohler, etc) Coil mounts, flywheel key, spark plug boots and plug wires are non tech items.
- Cylinder head: Original factory casting only. Two valves maximum and must maintain original location, (listed spacing and angles). Porting and grinding permitted. No external addition of metal to enhance performance allowed. Stock spark plug size and location to be maintained. Minimum combustion chamber volume when mounted on engine @ TDC is 24 cc's using prescribed procedure (See note 1). This is to be done after the event and when the engine has cooled down to a reasonable temperature.
- Valve Train: Steel valves only. No titanium components allowed. Intake 1.080” maximum, exhaust is .990” maximum. Stock OEM rocker arms and rocker plates only. Rocker arms may be welded or reinforced for strength. No other alterations to original configuration permitted. Flat tappets only, must be stock appearing. Push rods, retainers, springs, keepers, rocker adjusters, etc, non-tech.
- Camshaft: Maximum (actual) lift .275” measured at valve. Cam and crank gear non-tech. This is to be done after the event and when the engine has cooled down to a reasonable temperature.
- Cylinder head and block external surface may be machined to remove extra material from mounting bosses, cast in brackets, etc that are no longer in use. No external machining allowed to enhance performance.
- Fuel: Commercially available non-ethanol pump gas. Test method to be Digitron set at -75 in cyclohexane. Fuel must read zero or below on meter. For major events it is recommended to use a spec fuel. Use the supplied fuel as a standard to “zero” the meter. Tolerance to be +/- 5 points.
- Fasteners: Non-tech, but must remain in original location. Heli-coils, studs, etc allowed.
- Gaskets. Non-tech.
- Lubrication system. Must retain splash type oiling system.
- Exhaust system. Non-tech except must run an TAG approved silencer/muffler. (See note 3)
### Notes

1. It is recommended to use ATF (automatic Transmission fluid) diluted 20%/30% with mineral spirits to help eliminate air entrapment during the procedure on OHV engines.

   Length determined by adding the longest and shortest tract distance (flange to flange) together and dividing by 2.

<table>
<thead>
<tr>
<th>Make</th>
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<th>Kohler</th>
<th>Tecumseh</th>
<th>Notes</th>
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<tr>
<td>Model</td>
<td>Intek 5.5 (*)</td>
<td>GX200</td>
<td>C6 XKE</td>
<td>OHH 5.5</td>
<td>(*) Note– Animal (Intek 6.5) block, head and side cover OK.</td>
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<td>2.709 (+.030)</td>
<td>2.783 (+.145)</td>
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<td>1.218</td>
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<td>Tolerance is +/- .0025</td>
</tr>
<tr>
<td>Flywheel</td>
<td>5.50 lbs</td>
<td>5.50 lbs</td>
<td>7.75 lbs</td>
<td>6.75 lbs</td>
<td>Minimum Weight for OEM Unit</td>
</tr>
<tr>
<td>Valve spacing</td>
<td>1.382</td>
<td>1.219</td>
<td>1.380</td>
<td>1.250</td>
<td>Valve angles are 90 deg from deck</td>
</tr>
</tbody>
</table>
The 206 engine platform was designed and engineered exclusively for racing. Each engine is hand-built in Milwaukee, Wisconsin using dedicated tooling and dies to provide a level of consistency unmatched in the industry today.

The 206 is intended to simplify racing, from hitting the track to the tech process needed to ensure a level playing field at the end of the day. In combination with Briggs & Stratton Racing’s slide restriction system a complete racing ladder can be developed by simply changing a carburetor slide and/or by a slide and ignition change. With the base engine the basis for today’s ‘box stock’ classifications, the 206 engine gives racer’s and tracks the ability to have one engine, from start to finish.

All Briggs & Stratton (B&S) racing engines are manufactured solely for sanctioned racing only. B&S does not recommend the products referenced herein to be used for an application outside of sanctioned racing as serious injury or death could result.

This rule package has been prepared by Briggs & Stratton Racing and is intended to establish the basis for the technical control of the classes in which the 206 and 206 contact your sanctioning body.

Unless these rules state that you can do it, you cannot do it.

Each racer is solely responsible to check and maintain engine legality per this published rule set.
This rule package covers all engine related technical specifications. For all other regulations beyond the engine please refer or contact your sanctioning body.

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1. Briggs & Stratton Racing Class Structure

The following class structure chart is intended as a reference only. Sanctioning bodies and organizations can alter the class structures to suit their driver licensing protocols.

<table>
<thead>
<tr>
<th>Class</th>
<th>Age</th>
<th>Weight (Pounds)</th>
<th>Engine Package</th>
<th>Technical Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novice / Cadet .350 Restrictor</td>
<td>7 thru 10 years</td>
<td>200lbs</td>
<td>LO206 Junior</td>
<td>RLV pipe – (#5507 or #5506) Slide (#555728) 4,100 RPM Rev Limiter</td>
</tr>
<tr>
<td>Novice .450 Restrictor</td>
<td>8 thru 10 years</td>
<td>225lbs</td>
<td>LO206 with carb lock</td>
<td>RLV pipe – (#5507 or #5506) ‘Purple’ slide (#555735)</td>
</tr>
<tr>
<td>Junior 1 206 Sportsman .490 Restrictor</td>
<td>8 thru 12 years</td>
<td>265 lbs</td>
<td>LO206 with carb lock</td>
<td>RLV pipe (#5507 or #5506) ‘GREEN’ Slide (#555740)</td>
</tr>
<tr>
<td>Briggs &amp; Stratton 206 Junior .570 Restrictor</td>
<td>11 thru 15 years</td>
<td>300 lbs</td>
<td>LO206 with carb lock</td>
<td>RLV pipe – (#5507 or #5506) Yellow slide (#555741)</td>
</tr>
<tr>
<td>Briggs &amp; Stratton 206 Senior</td>
<td>15 years and up</td>
<td>375 lbs</td>
<td>LO206</td>
<td>RLV pipe – (#5507 or #5506) Stock slide (#555590)</td>
</tr>
<tr>
<td>Masters</td>
<td>30 years and up</td>
<td>405 lbs</td>
<td>LO206</td>
<td>RLV pipe – (#5507 or #5506) Stock Slide (#555590)</td>
</tr>
</tbody>
</table>

Cadet, Novice, Junior 1, Junior 2 and National Junior classifications require the installation of the locking cap Part #555726 on the carburetor slide cover. It is not permitted to run the classes without the specified slide and locking cap. The locking cap must be tightened. A seal can be utilized at the discretion of the organizer, or alternatively painted by the technical officials.
Optimization of the slide opening in Briggs & Stratton Cadet, Novice, Junior 1, Junior 2 and National Junior classes is permitted. The only allowable method of slide optimization is by removing material from the throttle cap area highlighted in RED. The use of multiple gaskets and/or machining of the slide is prohibited.

Slide opening must not exceed the appropriate ‘no go’ specification as per class regulations. For information on slide optimization see video section at www.BriggsRacing.com

CAUTION – The risk of pushing the limit on the slide opening is an unnecessary DQ. For every .010” of slide opening, due to the efficiency limitations of this engine, is less than .1 hp. Give yourself a buffer because it makes no measurable performance differences.

2. These Regulations Are the Only Regulations
   a. Only the B&S Racing Department in Milwaukee can make changes to the technical specifications herein.
   b. B&S dealers and their agents are not authorized to alter, verbally or otherwise, any technical specifications or competition rule herein.
   c. Should any B&S literature, catalogues, manuals, videos, etc. be different than these regulations, these regulations take precedence.
   d. Changes, corrections, addendums, etc. will be submitted to sanctioning bodies and posted at www.karting.com for republication and will become effective on a date specified.

3. Briggs & Stratton 206 Product Availability
   The 206 engine products and service parts are available only through the authorized Briggs & Stratton Racing dealers.
   A list of authorized dealers can be found at www.karting.com

4. General Rules
   a. The terms stock, original equipment, OEM, unaltered, etc., refer to Original Equipment supplied by Briggs & Stratton.
   b. Only the original equipment Briggs & Stratton 206 #124332-8201 or Junior 206 #124332-8202 engines are allowed in the classes recommended herein.
   c. All parts must be unaltered Briggs & Stratton 206 parts specifically made for this engine by Briggs & Stratton. No aftermarket parts to be used unless specified in these regulations.
   d. All parts are subject to comparison with a known stock part. This includes specified and mandated aftermarket parts. Example: RLV exhaust and Silencer.

   e. For ALL other regulations, general safety, etc., contact your sanctioning body. Example: Chain guards.

   f. The tech official, at their sole discretion, may at any time replace a competitor’s sealed engine, carburetor, or head assembly with another sealed engine or known stock part. Failure to comply is grounds for disqualification.
g. Briggs & Stratton 206 classes must have a serialized block. Exception: For early built engines without a block serial number the engine identification sticker must be in place and legible. If the sticker is illegible or missing the engine must be tagged with a suitable sticker or seal approved by the technical inspector.

h. Standard organizational protest procedures can allow for short block inspection (seal removal) if a new, replacement short block, p/n 555715 is offered in replacement. Competitor short block to be forfeited to the series or club as terms of this procedure.

5. Things That Are NOT Permitted

   a. Tampering of the factory installed engine seals (2).
   b. Addition or subtraction of material in any form or matter.
      a. Exception – Valve maintenance (valve job). Valve seats must remain with the factory specification of 30 and 45 degree angles only. Valve seats of additional angles and/or angles not comparable to the factory stock of 30 and 45 degrees are not permitted. Grinding of valve stem or excessive material removal prohibited.
      b. Exception – Optimization of the slide opening in Briggs & Stratton Cadet, Novice, Junior 1, Junior 2 and ASN National Junior classes classes are permitted per section 1 guidelines.
   c. “Blueprinting” unless stated herein.
   d. Modification to or the machining of any parts in order to bring them to stated minimum/maximum specification, (or for any reason).
   e. Machining or alteration of any kind to the engine or replacement parts unless specifically stated herein.
   f. Deburring, machining, honing, grinding, polishing, sanding, media blasting, etc.
   g. Sandblasting or glass-beading any interior engine surfaces.
   h. No device may be used that will impede, or appear to impede, airflow to the engine cooling system.

6. Engine Sealing

There are two custom, Homeland Security Tier III rated seals installed at the factory. Tampering of the seals is not permitted. Should the seals be tampered with, the engine is no longer eligible for competition. Should an engine require dismantling for any reason that requires breaking of the seals, contact Briggs & Stratton at: Briggs & Stratton Racing – Email: Briggsracing@basco.com

Seals can have either a black anodized or bare aluminum finish on both main body ends as shown.

PLEASE NOTE THAT, STARTING IN 2015, A PROPRIETARY CABLE CONTAINING A BLACK STRAND WILL BE IMPLIMENTED.

7. Technical Inspection Tools

Briggs & Stratton have made available a number of tools for the convenience of
technical checking of components when necessary. They are indicated throughout the rule thusly: **Tech Tool #.** See Section 38 for tool description. The tools are available from:

Sox Racing • 2223 Platt Springs Rd. • West Columbia, SC 29169 • (803) 791-7050

8. **Engine Ignition Switch**

The B&S ignition switch and wires must remain in stock location. It is not permitted to alter the OEM wiring.

9. **Engine Air Filter**

The only air filter permitted is the Briggs & Stratton Green Air Filter Part #555729. No modification to the filter element is permitted.

A protective shield may be attached for wet-weather competition. It is not permitted for the protective shield to create any ram-air effect.

10. **Engine Fuel**

Premium Gasoline no greater than 94 octane sold at normal roadside fuel stations open to the public. The addition of fuel additives in any manner is not permitted. Fuel dispensing location may be specified in Event Supplementary Regulations.

11. **Engine Oil**

High-quality synthetic oil within a 10W-20 range recommended. No oil additives are permitted.

Factory Recommendation- Briggs & Stratton 4T Synthetic Racing Oil is engineered exclusively for the rigors of high revving, air-cooled racing engines (available through both Briggs Racing and Amsoil dealers). The use of ‘karting’ or ‘automotive’ oils is **not** recommended as many are hydroscopic in nature, offer limited protection over time, and/or were engineered for pressure, not splash lube systems. The use of these oils can induce engine failure and/or accelerate wear.

12. **Oil Breather**

Oil breather must vent to a catch container.

13. **Oil Catch Container**

An oil overflow catch system is mandatory. Overflow tube must run from the crankcase breather to a catch container. The catch-container must be vented to atmosphere.

14. **Carburetor Overflow**

Carburetor overflow must be vented to a catch container.

15. **Fuel Pump**

Only fuel pump, B&S part number 808656, is legal for competition. This fuel pump can be identified by the Briggs & Stratton diamond logo on the
pump face. All other pumps are prohibited.

It is prohibited to pulse from the intake manifold.

Relocation of the fuel pump is legal as long as it is spaced to less than 3/4 inch off of the control plate, B&S #555699, in a similar location that is both safe and secure. Measurement is from the base of the control plate to the bottom of the fuel pump. Vertical mounting or mounting the fuel pump upside down is NOT allowed. The fuel pump must be pulsed from a pulse fitting mounted on the oil fill fitting located on the engine side cover. Aftermarket one-piece filler/pulse fittings such as shown on the right are permitted. The use of silicone sealant on the brass vent is permitted. A fuel pump return line to the fuel tank is prohibited.

A fuel filter is to insure that dirt and contamination within your fuel system does not impact your carburetors performance. This is not a tech item.

16. Cooling Shrouds, Covers and Blower Housings

All pieces of the engine cooling shroud/blower housing and control panel must be stock B&S and properly installed.

Engine Shroud may be painted any color. Any bolt, with the exception of the head bolt, that is used to secure sheet metal shrouds and covers may be replaced with larger diameter bolts.

No taping or covering of the rewind shroud is permitted.

17. Use of Helicoils

It is permitted to use Helicoil thread inserts for shrouds, valve cover, oil drain, oil fill holes, blower housing, and exhaust pipe attachment studs on the head and lower brackets.

18. Carburetor & Intake Manifold

The B&S stock carburetor part #555658 is the only carburetor permitted. ‘Walbro’, ‘Briggs’ diamond logo and/or #590890 etched in the body are additional visual indicators. No alterations allowed unless stated below. All parts will be compared to a stock known B&S part for eligibility. This includes the nozzle, emulsion tube, jets, float, float needle and all other carb parts. It will be allowed however to adjust the float height by means of bending the small tab on the float arm.

Slide must remain B&S stock unaltered. Slide cutaway to be measured on flat surface. .075 no go **Tech Tool A10**.

B&S stock unaltered aluminum needle is required part number 555602 marked #BGB. Needle to be inspected using **Tech Tool A4**. Needle, when placed in tool A4, should not protrude through the other side. If needle protrudes through the block it is out of specification.
NOTE: Slide openings should be measured only with the Briggs & Stratton slide tool listed on the tool reference chart.

<table>
<thead>
<tr>
<th>Class</th>
<th>Max. Slide Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>.350 Kid Kart</td>
<td>.310 Opening (Long BLACK)</td>
</tr>
<tr>
<td>.450 Novice</td>
<td>.342 Opening (PURPLE)</td>
</tr>
<tr>
<td>.440 Cadet</td>
<td>.440 Opening (RED)</td>
</tr>
<tr>
<td>Junior 1Club</td>
<td>.490 Opening (GREEN)</td>
</tr>
<tr>
<td>Junior 2 LEGACY</td>
<td>.520 Opening (BLUE)</td>
</tr>
<tr>
<td>ASN Nat. Junior</td>
<td>.570 Opening (YELLOW)</td>
</tr>
<tr>
<td></td>
<td>Tool</td>
</tr>
<tr>
<td>---</td>
<td>------</td>
</tr>
<tr>
<td>a. Needle Jet C-clip</td>
<td>Needle Jet C-clip must be properly installed but may be installed at any of the 5 factory settings on the needle jet.</td>
</tr>
<tr>
<td>b. Throttle cable cap</td>
<td>Throttle cable cap on the top of the carburetor must be used and properly installed in tight position.</td>
</tr>
<tr>
<td>c. Choke</td>
<td>Choke: OEM unaltered, but lever may be fastened open with a spring, rubber band, wire, etc.</td>
</tr>
<tr>
<td>d. Idle pilot jet</td>
<td>Idle pilot jet – #32, hole size is .0130” no go.</td>
</tr>
<tr>
<td>e. Main jet</td>
<td>Main jet – #95, hole size is .0380” 0.036 go, 0.039 no go</td>
</tr>
<tr>
<td>f. Main nozzle and Emulsion tube</td>
<td>Main nozzle – OEM stock unaltered – hole size = .101 min and .104 max inches. No drilling, reaming, slotting or oblonging of hole. Emulsion tube – OEM stock unaltered 4 small holes = .018 min inches to .021 max inches 4 big holes = .026 min inches to .029 max inches.</td>
</tr>
<tr>
<td>g. Venturi Measurement</td>
<td>Venturi Measurement: Vertical: .792 max inches. A8</td>
</tr>
<tr>
<td>h. Air pick off hole</td>
<td>Air pick off hole - .057 go .061 no go A9</td>
</tr>
<tr>
<td>i. Throttle bore</td>
<td>Throttle bore – Must be as cast and bore max diameter = .874 inches. A7</td>
</tr>
<tr>
<td>j. Venturi idle fuel hole</td>
<td>Venturi idle fuel hole = .038 inches max</td>
</tr>
<tr>
<td>k. Air filter</td>
<td>Air filter: Only GREEN air filter, part # 555729 is allowed. Filter adapters are not allowed, filter must attach directly to carburetor air horn</td>
</tr>
<tr>
<td>l. Carburetor overflow</td>
<td>Carburetor overflow: Must be vented to a catch container.</td>
</tr>
<tr>
<td>m. O-Ring</td>
<td>O-Ring part number B&amp;S part # 555601 is required and must be unaltered.</td>
</tr>
<tr>
<td>n. Intake manifold</td>
<td>Intake manifold – max length = 1.740 inches min to 1.760 inches max A12</td>
</tr>
<tr>
<td>o. Choke Bore</td>
<td>1.149 A7</td>
</tr>
<tr>
<td>p. Carb Slide Cutaway</td>
<td>.075 no go A10</td>
</tr>
<tr>
<td>q. Widest part of Combustion Chamber</td>
<td>2.640 A30</td>
</tr>
</tbody>
</table>

19. Cylinder Head
a. The ONLY head casting for the B&S 206 herein is the ‘**RT-1**’, cast into the head just off the head gasket surface (towards the rear of the engine, PTO side). The overall head minimum thickness is 2.430”.

b. Cylinder head must be “as cast”. Factory machining marks left on the head gasket surface are a tech item.

c. Hard Carbon may be scraped from head before measuring.

d. Depth of shallow area of combustion chamber must be .030 inch minimum. This measurement to be taken with a depth gage on both the combustion side and spark plug side of cylinder head.

e. Depth at floor of combustion chamber is .340 inch minimum.

f. Inspect retainers for alterations that would increase valve spring pressure -.055 to .075 maximum flange thickness. Both intake and exhaust must have OE stock B&S valve keepers.

g. Unaltered B&S part #555552 (exhaust) and #555551 (intake) can be checked for appearance, weight, and dimensions. No machining, polishing, easing, or alterations of any kind allowed. Valve surface must remain as factory, with one single 45 degree face. No other additional angles allowed on any part of the valve. *Tech Tool A22.*

h. Valve Guides: Replacement of valve guides with B&S part #555645 only is allowed. Maximum depth from the head gasket surface to the intake valve guide is 1.255”.

---

**20. Head Gasket**

a. Unaltered B&S part #555723 is the only head gasket allowed.

b. Minimum thickness allowed is .049”. Measurement must be performed using a micrometer. Readings are taken from inside the cylinder hole of the gasket closest to the combustion chamber (see diagram). Four measurements must be taken with 3 meeting the minimum thickness of .049”.

---

**21. Ports**

a. No de-burring, machining, honing, grinding, polishing, sanding, media blasting, etc.

b. The transition from intake bowl to port must have factory defined machining burr at this junction.

   No addition or subtraction of material in any form or matter.
   No alterations of any kind may be made to the intake or exhaust ports.

c. Intake Port: Maximum diameter measurement = .918 inches max. *Tech Tool A6.*

d. Exhaust Port AS CAST. Exhaust Outlet -.980 – *Tech Tool A6.*

e. Valve Seats. Intake and exhaust: Must remain factory specification with one 30 and one 45 degree angle only. Valve seats of additional angles and/or angles not comparable to the factory stock are not permitted.

f. Valve maintenance permitted (valve job). Valve seats must remain with the factory specification of 30 and 45 degree angles only. Valve seats of additional angles and/or excessive material removed when compared to the factory stock is prohibited.

g. Intake valve seat diameter inside = maximum .972 inches. *Tech Tool A2.*

h. Intake port pocket bowl (area just below valve seat) = .952 no go *Tech Tool A2*


---

**22. Valves**
### a. Intake valve

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Weight of Valve</td>
<td>27.8 grams</td>
</tr>
<tr>
<td>Diameter of valve stem</td>
<td>.246 to .247 inches</td>
</tr>
<tr>
<td>Diameter of valve head</td>
<td>1.055 to 1.065 inches</td>
</tr>
<tr>
<td>Diameter of valve seat</td>
<td>.972 inches ID maximum</td>
</tr>
<tr>
<td>Valve length</td>
<td>Minimum 3.3655 inches</td>
</tr>
<tr>
<td>Height from angle of valve face to top of the valve</td>
<td>.057 inches minimum</td>
</tr>
</tbody>
</table>

### b. Exhaust valve

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Weight of Valve</td>
<td>27.2 grams</td>
</tr>
<tr>
<td>Diameter of valve stem</td>
<td>.246 to .247 inches</td>
</tr>
<tr>
<td>Diameter of valve head</td>
<td>.935 to .945 inches</td>
</tr>
<tr>
<td>Diameter of valve seat</td>
<td>.850 inches ID maximum</td>
</tr>
<tr>
<td>Valve length</td>
<td>Minimum 3.3655 inches</td>
</tr>
<tr>
<td>Height from angle of valve face to top of the valve</td>
<td>.060 inches minimum</td>
</tr>
</tbody>
</table>

### 23. Valve Springs (updated 2/2/16)

- a. Valve Springs are single coil stock, unaltered B&S part #26826. Must be identical in appearance to factory part and have 4.00 to 4.75 coils in stack.
- b. Spring Wire Diameter: .103 to .107 inches
- c. Valve spring length: .940 max inches
- d. Inside diameter: .615 to .635 inches

### 24. Rocker Arms, Rocker Ball and Rocker Arm Studs

- a. Rocker arms must be unaltered stock B&S part #691230 (US) or #797443 (metric) and will not be altered in any way.
- b. Rocker studs must be stock, unaltered stock B&S part #694544 (US) or #797441 (metric) and in stock location
- c. Rocker Ball must B&S stock. Diameter .590 inch min. to .610 inch maximum.
- d. Rocker arm mounting positions may not be altered in any manner. No heli-coiling of mounting holes. No bending of studs.
- e. Rocker arm stud plate must be bolted to the head with one, OEM stock B&S gasket only - no alterations. Maximum thickness of gasket is .060 inches.

### 25. Push Rods
a. Push rods must be unaltered stock B&S part #555531.
b. Push rod length 5.638 minimum inches to 5.658 maximum inches. Tech Tool A5.
c. Push rod diameter .185 minimum inches to .190 maximum inches.

26. Engine Block

a. Engine block must be unaltered “as cast” B&S factory machined condition. There must be no addition or subtractions of metal or any substance to the inside or outside of the cylinder block.
b. Both (2) B&S engine seals must be present with both the fastener and seal in “as shipped” from the factory location and condition. Any defined tampering with the fasteners or damage to the wire/seal itself (example: delaminated hologram) are grounds for disqualification.

Take proper care of your seals to ensure their integrity. It is recommended that you wrap your seals (using a plastic bag, etc.) to prevent exposure to harsh solvents such as carb cleaner, etc...
c. Deck gasket surface finish is not a tech item. Piston pop up can be .005 inches maximum. Piston pop-up to be checked with flat bar in center of piston parallel to piston pin and then again checked 90 degrees to piston pin. Tech Tool A25.

Angle milling or peak decking is not allowed.
d. Carbon build-up can be removed before pop-up is measured as long as material is not removed from the piston. Exception – Competitors can deburr the manufacturing part number/marks IF needed as long as:
   - Removal does not extend beyond the defined script area.
   - De-burring does not extend below the original piston surface area.
   - The original part numbers and script are still clearly visible.
   e. Cylinder bore will not be bored oversize
   f. Cylinder bore will not be re-sleeved.
   g. Cylinder bore position is not be moved or angled in any manner.
   h. Cylinder bore dimension: - Briggs & Stratton stock bore is 2.690”. Allowance for wear is permitted up to 2.693” maximum for entire length, top to bottom.
   i. Maximum stroke is 2.204”. Push piston down to take up rod play. Check stroke on BDC to TDC. Tech Tool A21.

d. Carbon build-up can be removed before pop-up is measured as long as material is not removed from the piston. Exception – Competitors can deburr the manufacturing part number/marks IF needed as long as:
   - Removal does not extend beyond the defined script area.
   - De-burring does not extend below the original piston surface area.
   - The original part numbers and script are still clearly visible.
   e. Cylinder bore will not be bored oversize
   f. Cylinder bore will not be re-sleeved.
   g. Cylinder bore position is not be moved or angled in any manner.
   h. Cylinder bore dimension: - Briggs & Stratton stock bore is 2.690”. Allowance for wear is permitted up to 2.693” maximum for entire length, top to bottom.
   i. Maximum stroke is 2.204”. Push piston down to take up rod play. Check stroke on BDC to TDC. Tech Tool A21.

27. Valve Lift

a. Maximum valve lift is checked from the top of the valve spring retainer. Valves must be adjusted to zero clearance.
b. Valve Lift: Camshaft check is taken at the valve spring retainers. With the lash set at zero, the movement of the valve spring retainers may not exceed the following:
   Intake and exhaust: .255 inches maximum.

28. Camshaft Profile Limits (measured at the push rod)

Push gently down on dial indicator stem to ensure that there is no lash when push
rods are going down.

**NOTE:** Due to the extended life of the engine, a single point on each lobe can be off by a maximum of 2 degrees without issue, the exception being on the .006” check, both intake and exhaust.

<table>
<thead>
<tr>
<th>Intake lift</th>
<th>Exhaust lift</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.006</td>
<td>0.006</td>
</tr>
<tr>
<td>0.020</td>
<td>0.020</td>
</tr>
<tr>
<td>0.050</td>
<td>0.050</td>
</tr>
<tr>
<td>0.100</td>
<td>0.100</td>
</tr>
<tr>
<td>0.150</td>
<td>0.150</td>
</tr>
<tr>
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<th>Intake lift</th>
<th>Exhaust lift</th>
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</table>

29. Flywheel
   a. No modifications are allowed to the flywheel.
   b. The minimum weight of the flywheel, fins and attachment bolts is 4 pounds 1 ounce.
   c. Stock B&S part #555683 only. No machining, glass beading, sand blasting, painting or coating of flywheel is allowed.
   d. A flywheel fan, B&S part #692592, with broken fins must be replaced.
   e. Stock, unaltered B&S flywheel key with the B&S logo is required. Width of the key allowed is .1825”-.1875”. No offset keyways allowed.

30. Ignition System
   a. **Unaltered B&S stock ignition** part #555718 is mandatory. Only “GREEN” ignition module allowed. Maximum RPM: 6,150.
      **Exception** – Cadet Junior 206 class requires the use of unaltered B&S stock ignition part #555725 (BLACK in color). Maximum RPM: 4,150.
   b. **Coil or its position**, other than air gap may not be altered in any way. Coil mounting bolts must be stock and cannot be altered in any way to advance or retard timing. Attachment bolts and/or bolt holes may not be altered.
   c. **Spark plug**: Only the B&S unaltered factory spark plug part number #555737 - Champion RC12YC is permitted. Spark plug must have the “Champion” and Briggs & Stratton logo as well as the RC12YC identification on the insulator. Sealing washer must be in place as from factory.
   d. **Magneto air gap** is non-tech (recommended clearance of .016”)
   e. **Ignition timing**: Maximum of 30 degrees BTDC
   f. **Spark plug connector**: Only the OEM B&S part #555714 is permitted.

31. Crankcase
Novice class must run the supplied Max-Torque clutch, Part #555727. No alteration to the clutch is allowed, except springs and clutch key are non-tech.

32. Clutch
a. Novice class must run the supplied Max-Torque clutch, Part #555727. No alteration to the clutch is allowed, except springs and clutch key are non-tech.
b. Junior 1, Junior 2, Senior, and Masters Classes can run any rim centrifugal clutch with a maximum of 9 springs and 6 shoes. No alteration to clutch allowed, except springs. Clutch coolers are not allowed.
c. Refer to your sanctioning body general rules for mandatory chain guard guidelines.

33. Starter
Recoil starter, B&S part # 695287, must be retained, as produced and intact. Starter may be rotated.

34. Exhaust Header
a. Header must be RLV Model 5507 or 5506 for all classes.
b. Header length:
   a. 5507 will measure 18.75” +/- .25” along the short side using a 0.250” wide tape measure.
   b. 5506 will measure 17.50” +/- .25” along the short side using a 0.250” wide tape measure.
c. Gasket and/or silicone are allowed to seal header to head. (One gasket maximum)
d. Studs or bolts are permitted to fasten header to head. Bolts or nuts must be safety wired.
e. Helicoiling of the exhaust is allowed.
f. Supplied header support brace is mandatory. The addition of a mechanical support bracket (no welding involved) is allowed provided that there are no alterations to the shape or dimensions of the exhaust configuration.
g. Any modification for or use of an O2, EGT, CO2 sensor is prohibited.

35. Exhaust Silencer
Silencer must be RLV B91XL (part number 4104) with round baffle holes only. Safety wiring of the silencer to header is mandatory. All three baffles must remain unaltered and hole size can be verified using a no-go pin gage of .1285.

36. Exhaust Protection
The header must be completely wrapped (360 degrees) with a non-asbestos, approved insulation material or sleeve starting approx. 3 inches from the exhaust flange but MUST extend to where the stock supplied RVL support (welded or clamped) meets the header.

37. Torque Specification Guideline

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>WRENCH / SOCKET SIZE</th>
<th>TORQUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>h-104</td>
<td></td>
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<tr>
<td>Component</td>
<td>Diameter</td>
<td>Torque Range</td>
</tr>
<tr>
<td>-----------------------------------</td>
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<td>---------------------</td>
</tr>
<tr>
<td>Air Guard</td>
<td>7mm</td>
<td>40-50 lb-in. (4.5-5.6 Nm)</td>
</tr>
<tr>
<td>Blower Housing</td>
<td>10mm &amp; 3/8&quot;</td>
<td>60-110 lb-in. (7-12.5 Nm)</td>
</tr>
<tr>
<td>Carburetor (to manifold)</td>
<td>10mm</td>
<td>80-110 lb-in. (9-12.4 Nm)</td>
</tr>
<tr>
<td>Cylinder Head Bolts</td>
<td>10mm</td>
<td>200-220 lb-in. (20-27 Nm)</td>
</tr>
<tr>
<td>Exhaust Brace Screws</td>
<td>10mm</td>
<td>95-125 lb-in. (11-14 Nm)</td>
</tr>
<tr>
<td>Exhaust Stud</td>
<td>10mm</td>
<td>95-125 lb-in. (11-14 Nm)</td>
</tr>
<tr>
<td>Flywheel Nut</td>
<td>15/16&quot;</td>
<td>55-75 ft-lbs. (74.5-101 Nm)</td>
</tr>
<tr>
<td>Flywheel Fan</td>
<td>10mm</td>
<td>180-240 lb-in. (20-27 Nm)</td>
</tr>
<tr>
<td>Intake (to cylinder)</td>
<td>5mm Allen</td>
<td>70-90 lb-in. (8-10.2 Nm)</td>
</tr>
<tr>
<td>Oil Drain Plug</td>
<td>3/8&quot;</td>
<td>100-125 lb-in. (11-14 Nm)</td>
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<tr>
<td>PVL Module</td>
<td>7mm</td>
<td>20-35 lb-in. (2.3-4 Nm)</td>
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<tr>
<td>Rocker Arm Stud</td>
<td>7/16&quot;</td>
<td>90-120 lb-in. (10-14 Nm)</td>
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<tr>
<td>Rocker Arm Plate</td>
<td>10mm</td>
<td>70-90 lb-in. (7.9-10.1 Nm)</td>
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<tr>
<td>Rocker Arm Set Screw</td>
<td>1/8&quot; Allen</td>
<td>50-70 lb-in. (5.6-7.9 Nm)</td>
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<tr>
<td>Spark Plug</td>
<td>5/8&quot; Deep</td>
<td>95-145 lb-in. (11-16.4 Nm)</td>
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<tr>
<td>Starter Gear</td>
<td>#2 Phillips</td>
<td>35-53 lb-in. (4-6 Nm)</td>
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<td>Top Control Plate</td>
<td>10mm</td>
<td>70-90 lb-in. (8-10 Nm)</td>
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<tr>
<td>Valve Cover</td>
<td>10mm Lower &amp; 3/8&quot;</td>
<td>30-60 lb-in. (3.5-7 Nm)</td>
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</tbody>
</table>

38. Technical Inspection Tools

Refer to separate document illustrating the Technical Inspection Tools

39. IMPORTANT online support resources

Please refer to [www.Briggsracing.com](http://www.Briggsracing.com) for a host of resources. Due to the sealed nature of this engine we highly recommend reading and viewing important documents and videos to insure a great racing experience.

Located online:

a. 206 Engine tips and guide supplement – A must to print out and read BEFORE installing your engine!

b. Carburetor tuning guide – Understand your carburetor to get the most out of your 206.

c. Videos:

   a. Proper clutch installation – Properly installing your clutch will prevent the possibility of crankshaft damage.

   b. Setting the float height – A simple video highlighting a necessary technique to insure a properly tuned carburetor.

   c. Setting, measuring, and optimizing your junior slide restrictor.
A. Spirit and intent

The following rules are applied in order to provide fair and equal competition within the class. The specifications and limitations are supplied in order to allow each competitor to insure that his or her engine meets these rules. Compliance is the competitor’s responsibility. Any attempt to circumvent these rules violates the basic premise of the class and will be dealt with as any direct violation of the rules. Violation of spirit and intent is defined as any attempt to elaborate on the existing rule in order to gain a competitive advantage. Anything not specifically outlined in the rules should be considered illegal.

1.0 Engine

The 1999 Honda CR125 “kit motor” is generally accepted as the motor that the class is designed around.

1.1 Cylinder

No Modifications allowed to the cylinder height, port inlets, passages, or port windows of the OEM part as supplied from Honda. The cylinder must be as cast, no modifications, and no replating for any reason.

The new 2015 Factory Honda Racing Stock Moto Cylinder Kit # is approved for 2018.

Cylinder Height 1997-1999 Minimum is 3.311” min to 3.316” max, measured from the cylinder base to the head surface. 2000-2002 Minimum is 3.307” min to 3.312” max, measured from the cylinder base to the head surface.

Exhaust Valves (power valves) may be removed and plugged. Plug is a non-tech item and may be blended to match the exhaust port. All modifications to plug must be done prior to installation in cylinder and no grinding, polishing, or machining of any type may be done to the exhaust port.

Allowable Base Gasket OEM Thickness:.020”.

Exhaust Port - Cylinder top Minimum Distance: 1.145" (29.08 mm)

Stroke: 2.149" (54.59 mm) maximum

Bore: 2.129" (54.10 mm) Maximum

1.2 Cylinder Head

No modification to the OEM combustion chamber volume, shape, or dimensions.

1997-1999 cylinder head Combustion Chamber Profile must match the approved Shockwave 99 CR125 Cylinder Head Gage.

2000-2002 cylinder heads will be checked by squish dimension.

Cylinder Head Gasket will be OEM only. Thickness = .010” + or -.001”.
Cooling spigots may be replaced with a substitute in the original location.
One spigot may be plugged for single water outlet.
Combustion Chamber Profile
Using approved Shockwave 99 CR125 Cylinder Head Gage, inspect Parabola of Chamber Dome and Squish recess for apparent gaps greater the .005" deep.
Spark Plug sealing surface must be above spark plug stem of gage. The overall height is measured also. "The "go" portion of the stem of the profile gage should protrude above the spark plug sealing surface. The "No Go" portion of the stem should not."


1.3 Crankcase
Crankcase halves must be OEM. Internal Crankcase modifications are not allowed with the following exception. Minor grinding of casting flash is allowed but only to eliminate the possibility of flash breaking off and damaging the motor.
Kick Starter may be removed and plugged.

1.4 Crankshaft
Crankshaft must be OEM Honda CR125 any year. The crankshaft main bearing journals may be polished for slip fit of bearings.
Precision alignment of crank is allowed.
No material may be added or removed from Crank Wheels or Rod.
No “heavy metal” balancing allowed.

1.5 Connecting rod
Connecting rod must be OEM with no lightening or polishing.
Bearings, piston pin and cir-clips are direct replacement OEM only.

1.6 Piston
1999 OEM Flat Top design direct replacement OEM only.
This piston has a window and cannot be replaced with non-window piston.
Piston Ring Minimum Thickness: .038" (.96 mm) as measured with calipers.
Coatings are NOT allowed on the Piston or Ring.

1.7 Bearings
All crankshaft and rod bearings must be stock OEM without modifications.

1.8 Gaskets and seals
Gaskets are OEM.
Seals must be stock OEM without modifications and installed as manufactured.

1.9 Clutch
Stock OEM 1999 CR125 Clutch Basket and Pressure Plate must be used.
No modifications allowed to any component.
All 7 Clutch disks and 6 Clutch Plates must be installed.
Aftermarket replacement clutch discs, plates, springs and hardware parts are NOT allowed.
1.10 Transmission
Transmission Bearings are to be stock OEM.
**Five or six gears are allowed.**
Gears are per the 1994-96 ratios as follows;
First - 14/33
Second - 15/28
Third - 19/29
Fourth - 21/27
Fifth - 23/26
Sixth - 24/24

1.11 Water pump
Water pump must be used as originally intended. No external or axle driven pumps allowed.

2.0 Induction System

2.1 Carburetor
Approved carburetors are,
Keihin PWM, Keihin PWK,
The Air Striker and the Quad vent are Not allowed
No modifications allowed. No polishing, grinding or machining allowed.
Venturi Diameter may not exceed 38.6 mm in diameter measured from the first .450” of the Venturi diameter downstream from the slide. Round bore only
Pump-around Carburetor Fuel Feed Systems are allowed.

2.2 Fuel Pump
Fuel Pump(s) must be driven by pulse pressure in the motor. No Electronic Fuel Pumps. Dual Fuel Pumps for Pump around Carburetors allowed. Fuel Pump must be a separate component from the Carburetor.

2.3 Carburetor Boot
The stock 1999 CR125 30° Boot is recommended.
The RS125 Straight Boot or the RS125 5° boots are allowed For Seat Clearance Purposes. However, the Stuffer Lobes of the Straight Boot and the 5° boot must be cut off flush with mounting surface and may not extend into Reed cage.
SwedeTech RS Replacement Boot part number SRE – RS125 is allowed. Use SwedeTech tech tool SRE – T – RS125 for inspection.

2.4 Reed cage and Reeds
Reeds are open but must be single petal design. No dual stage reed petals Reed cage must be 1999 CR125 6-Petal Design.
No material may be added or removed.
Reed Stops (Stiffeners) must be 1999 CR125. Bending stops to fit into unaltered reed throat of crankcase is allowed.
No removal of material from Reed Stops allowed.

2.5 Air Filters and Air Boxes
Motor may be equipped with either Air Filter or Air box. Air Box Requirements may be imposed by Local Track regulations.
3.0 Exhaust System

3.1 Pipe/Expansion chamber
The Pipe/Expansion chamber is restricted to the following,
RLV 6800 series also marked as (RLV-R2)
RLV-R4 and RLV-R4 ---Two piece
Pro Circuit Pipe #SK-1

The Pipe/Expansion chamber Maximum Circumference is 17-1/8” (440mm) measured at the
drum/dwell section.
Addition of exhaust gas temperature lead is legal, but hole must be plugged if exhaust temp lead is
not used. --------- External mounting brackets may be added.

3.2 Silencer
Silencer are mandatory. The dimensions are open as long as they meet safety and noise
requirements. Tracks that have noise emission requirements shall provide any necessary
supplemental rules for where noise abatement is required.

3.3 Exhaust Flange
The exhaust flange is open but aftermarket headers may not alter the effective length of the exhaust
system by more than plus or minus .050”.

4.0 Ignition
4.1 Coil
Coil must be Stock 1999 Honda CR125 Coil.

4.2 CDI
Capacitive Discharge Ignition (CDI) must be Stock 1999 Honda CR125.
Denso Part Number 071000-1410 should be legible on Tag.

4.2 Flywheel and stator
Flywheel and stator must be Stock 1999 Honda CR125 parts.
No material may be removed from Flywheel.
Flywheel Key may not be machined to offset timing.
Stator may be mechanically advanced or retarded but must remain in a fixed position while running.
Stator Plate may NOT be slotted for adjustment and must remain OEM or utilize the Red-MSE or Blue
- replacement.

4.3 Spark Plug and Ignition Wires
The spark plug manufacturer is open, but the plug must be commercially available and measure
18.5mm long by pitch M14 x 1.25. Exception: The spark plug washer may be removed to facilitate
the use of a cylinder head temperature sensor and the gap of the electrode may be adjusted.
Ignition Wires are non-tech.
No additional components may be electrically connected to the CDI or Coil. Only an inductive RPM
sensor may be used.

5.0 Ancillaries
Studs, Bolts and washers are non-tech.

6.0 Junior Restrictions
Junior class must use RLV air box with (2) 23mm inlet tubes.
RLV part number #0300 Red or #0301 Black.

Junior Class must use a Flange type Exhaust restrctor.0120” thick + or - .005”. With a max
opening of 1.0990” --- The No go gauge dimension 1.100”

Keihin PWK35 is allowed
Technical inspection procedure and specifications

1.0 Engine

**Cylinder Height Minimum:** 3.311” min to 3.316” max., as cast, no modifications, and NO replating for any reason. Measure Base Surface to Head Surface with calipers.

**Port Inspection**
If Ports appear substantially different, the Tech Inspector should follow up with a close inspection for any evidence of grinding to modify the port sizes. Small differences in sizes make very little difference in performance gains. Any DQ actions should be based on obvious modification evidence.

**Exhaust Port - Cylinder top Minimum Distance:** 1.145” (29.08 mm)
Note 1: This measurement is taken from the top of the cylinder to the exhaust port opening. It is not intended to measure opening in relation to piston travel alone.
Note 2: Exhaust Valves may be plugged. Plug is a non-tech item. Plugs may have blades removed or angled to blend flow into passage. This does not allow for blending of plug to port all modifications to plug must be done prior to installation in cylinder. In some cases the blades may appear to provide a false reading of depth - this is OK as long as inspection does not indicate any grinding.
CR125 Exhaust ports have a height that is controlled by the machining operation of the Exhaust valve and is very accurate in controlling port location.
Insert Approved Port Height Check Gage (1.140” Step) tool into Cylinder in line with Exhaust Port Center. Inspect through Port - Gage end should not extend past Port Opening at edge. Check both ports at highest points.

**Combustion Chamber Profile**
1997-1999 cylinder heads Using approved Shockwave 99 CR125 Cylinder Head Gage, inspect Parabola of Chamber Dome and Squish recess for apparent gaps greater the .005” deep.
Competitor may clean off carbon build up with abrasive pad. Spark Plug sealing surface must be above spark plug stem of gage. The overall height is measured also. "The "go" portion of the stem of the profile gage should protrude above the spark plug sealing surface. The "No Go" portion of the stem should not."2000-2002 cylinder heads will be checked by squish.

**Cylinder Head Gasket** thickness is .010” + or -.001”. OEM only.
Measure thickness of Head Gasket with calipers

**Piston Deck Height**
Rotate flywheel to bring piston close, but not at, Top Dead Center. Insert .060 solder thru spark plug opening making sure that the solder reaches the cylinder wall and roll piston over top dead center. Measure with calipers


**Piston inspection and dimensions**
Flat Top design OEM Piston has window and cannot be replaced with non-window piston. Only direct 1999 OEM replacement allowed.
Distance from Top of Piston Pin to top of Piston: .807” (20.5mm) plus or minus .0025”
Slide piston pin out of piston with no more than 1/4” protruding.
Measure depth from top of piston to top of piston pin with caliper slide.
Piston Ring Minimum Thickness: .038” (.96 mm) as measured with calipers.

**Stroke: 2.149” (54.59 mm) maximum**
Piston may rock on pin. Measure depths directly above pin. Measure Piston depth at TDC. Measure Piston depth at BDC. Subtract TDC from BDC to get the stroke.
Bore: 2.129" (54.10 mm) Maximum
Measure with Inside Micrometer.

Allowable Base Gasket Thickness: .020".

Measure Base Gaskets with a caliper

2.0 Induction System
Carburetor
Max diameter 38.6 mm round bore only Approved carburetors are Keihin PWM, Keihin PWK, The Air Striker and the Quad vent are Not allowed

No modifications to Carburetor No polishing or machining of air intake allowed
Control point for measuring purposes is the first .450” of the Venturi diameter downstream from the slide. This .450” wide zone cannot exceed 38.6mm in diameter.

Carburetor Boot
The stock 1999 CR125 30° Boot is recommended. As this part is optimal from the factory and measurements very subjective, there are no other restrictions on it.
For Seat Clearance Purposes, the RS125 Straight Boot or the RS125 5° boots are allowed. As a handicap the Stuffer Lobes of the Straight Boot and the 5° boot must be cut off flush with mounting surface and may not extend into Reed cage. SwedeTech RS Replacement Boot part number SRE – RS125 is allowed. Use SwedeTech tech tool SRE – T – RS125 for inspection.

3.0 Exhaust System
Pipe/Expansion chamber
Measure largest diameter of the drum/ dwell section (between convergence and divergence cones) with a flexible tape measure. Pipes may have obstructions such as mounting flanges, metal tags, seams, or weldments in the way. It is the competitor’s obligation to assure there is an area where the circumference can be measured by tech.

4.0 Ignition
Stock 1999 Honda CR125 Coil
Stock 1999 Honda CR125 Capacitive Discharge Ignition (CDI) System.
Denso Part Number 071000-1410 should be legible on ID tag. CDI cannot be DQ’d over ID tag legibility. Sanctioning Org may take possession of CDI unit to test for illegal altering of the component. CDI Unit must be returned to owner or replaced with a new part within 30 days.

CDI Swap
The Tech Steward shall have the option to collect CDI Units between heats and redistribute them at Tech / Impound. This is at the Tech Steward/Promoters discretion.

Flywheel and stator.
Stock 1999 Honda CR125
No material may be removed from Flywheel. Flywheel Key may not be machined to offset timing. Stator may be mechanically advanced or retarded but must remain in a fixed position while running. Stator Plate may NOT be slotted for adjustment and must remain OEM or utilize the Red-MSE or Blue -- replacement.

Spark Plug and Ignition Wires.
The spark plug manufacturer is open, but the plug must be commercially available and measure 18.5mm long by pitch M14 x 1.25. Exception: The spark plug washer may be removed to facilitate the use of a cylinder head temperature sensor and the gap of the electrode may be adjusted. Non-tech. No additional components may be electrically connected to the CDI or Coil. Only an inductive RPM sensor may be used.
"ANNUAL" PARENTAL CONSENT
FOR RELEASE AND WAIVER OF LIABILITY, ASSUMPTION OF RISK, AND INDEMNITY AGREEMENT
*ALL MINORS MUST SIGN A NEW WAIVER EVERY 12 MONTHS*
(this form is for Minor participants only)

IN CONSIDERATION of my minor child being permitted in RACING PROGRAMS to enter, for any purposes, the RESTRICTED AREAS (herein defined as including, but not limited to, the racing surface, pit areas, infield, burn-out area, approach area, shut-down area, any area where there are tow vehicles or race vehicles, either running or non-running, and all walkways, concessions, and other appellant areas where any activity related to the event shall take place or where special authorization, permission, or credentials are required, or where attendance to the general public is restricted or prohibited), or to compete, officiate, observe, work for, or for any purpose participate in the event in any way, I acknowledge the following:

1. I am aware of the nature of the Event(s) and am also aware of the Minor's experience and capabilities, and believe the Minor to be qualified to participate in the Event(s). I will inspect the premises, facilities, and equipment to be used, or with which the Minor may come in contact, and if I or THE MINOR BELIEVE ANYTHING IS UNSAFE, I WILL INSTRUCT THE MINOR TO IMMEDIATELY LEAVE THE RESTRICTED AREA AND REFUSE TO PARTICIPATE FURTHER IN THE EVENT(S).

2. I FULLY UNDERSTAND and will instruct the Minor that: (a) the activities of the event(s) are VERY DANGEROUS, and participation in the Event(s) and/or entry into Restricted Areas involve risks and dangers of SERIOUS BODILY INJURY, INCLUDING PERMANENT DISABILITY, PARALYSIS, or DEATH ("Risks"), (b) these Risks and dangers may be caused by the Minor's actions or inactions, the actions or inactions of others participating in the Event(s), the rules of the Event(s), the condition and layout of the premises and equipment, or THE NEGLIGENCE OF THE "RELEASEES" NAMED BELOW, (c) there may be OTHER RISKS NOT KNOWN TO ME or that are not readily foreseeabale at this time; (d) THE SOCIAL AND ECONOMIC LOSSES and/or damanges that could result from the Risks COULD BE SEVERE AND COULD PERMANENTLY CHANGE THE MINOR'S FUTURE.

3. I consent to the Minor's participation in the Event(s) and/or entry into Restricted Areas and HEREBY ACCEPT AND ASSUME ALL SUCH RISKS KNOWN AND UNKNOWN, AND ASSUME ALL RESPONSIBILITY FOR THE LOSSES, COSTS, AND/OR DAMAGES FOLLOWING SUCH INJURY, DISABILITY, PARALYSIS, OR DEATH, EVEN IF CAUSED, IN WHOLE OR IN PART, BY THE NEGLIGENCE OF THE "RELEASEES" NAMED BELOW.

4. I HEREBY RELEASE, DISCHARGE, AND COVENANT NOT TO SUE the promoters, participants, racing associations, sanctioning organizations or any subdivision thereof, track operators, track owners, officials, car owners, drivers, pit crew, rescue personnel, any person in any Restricted Area, sponsor, advertisers, owners and lessees of Premises on which the Event is conducted, premises inspectors, Event inspectors, surveyors, underwriters, consultants, and other persons or entities who give recommendations, directions, instructions, or engage in risk evaluation or loss control activities regarding the premises or Event(s), and each of them, their officers, directors, agents, and employees, all for the purpose herein referred to as "Releasees," from all liability to me, my and the Minor's personal representatives, assigns, heirs, and next of kin FOR ANY AND ALL CLAIMS, DEMANDS, LOSSES OR DAMAGES ON ACCOUNT OF ANY INJURY, including, but not limited to, death or damage to property, caused or alleged to be caused in whole or in part by the negligence of the Releasees or otherwise.

5. If, despite this release, I, the Minor, or anyone on the Minor's behalf, makes a claim against any of the Releasees named above, I AGREE TO INDEMNIFY AND SAVE AND HOLD HARMLESS any of the Releasees from any litigation expenses, attorney fees, loss, liability, damage, or cost they may incur due to the claim made against any of the Releasees named above, whether the claim is based on the negligence of the Releasees or otherwise.

6. I sign this agreement on my own behalf and on behalf of the Minor participant.

I HAVE READ THIS PARENTAL CONSENT FOR RELEASE AND WAIVER OF LIABILITY, ASSUMPTION OF RISK, AND INDEMNITY AGREEMENT: I FULLY UNDERSTAND THAT BY SIGNING IT, I AM GIVING UP SUBSTANTIAL RIGHTS TO WHICH I AND/OR THE MINOR MIGHT OTHERWISE BE ENTITLED TO RECOVER DAMAGES FOR LOSSES SUSTAINED AS A RESULT OF THE RELEASEES' NEGLIGENCE. I HAVE GIVEN IT FREELY AND VOLUNTARILY WITHOUT ANY INDUCEMENT, ASSURANCE, OR GUARANTEE, ORAL OR WRITTEN, BEING MADE TO ME, AND INTEND MY SIGNATURE TO BE A COMPLETE AND UNCONDITIONAL RELEASE OF ALL LIABILITY TO THE GREATEST EXTENT ALLOWED BY LAW.

I HAVE READ THIS RELEASE

Signature of Parent or Legal Guardian __________________________

Printed Name of Parent or Legal Guardian ________________________

Date ________________________

I HAVE READ THIS RELEASE

Signature of Minor Participant __________________________

Printed Name of Minor Participant ________________________

Birth Date of Minor ________________________

Signature of Witness __________________________

Printed Name of Witness ________________________

Date ________________________

ANNUALLY EXECUTED MINOR WAIVER & RELEASE
February, 2009
DME 991732

h-112
The Official TAG™ Technical Glossary

Ambient — Surrounding.

CIK — Commission Internationale de Karting. International kart racing sanctioning arm of the Federation Internationale de Automobile (FIA).

Chord — A line segment that joins two points on a curve.

Compared to known stock — Must resemble the OEM part that the given part is replacing.

Ferrous — Iron based material.

Go Gage — A gage for determining if a feature is larger than the minimum allowable size. The size of this gage is normally two ten-thousandths of an inch less than the minimum allowable size.

Homologation Form — The official certification by the CIK of an engine, chassis or other equipment, describing its as-supplied condition, characteristics and dimensions. Used an article of comparison for conformance.

Longitudinal — of or relating to length or the lengthwise dimension.

Maximum — The largest allowable measurement that a given feature may possess.

Minimum — The smallest allowable measurement that a given feature may possess.

No-Go Gage — A gage for determining if a feature is smaller than the maximum allowable size. The size of this gage should be exactly that of the maximum allowable size.

Nominal — of a designated or theoretical size that may vary from the actual.

Non-Tech — Not subject to technical inspection, open in construction, configuration, material, and dimensions.

Perpendicular — At a ninety-degree angle to the prescribed base item. Stock — The basic configuration intended by the manufacturer.

Stock appearing — Must be visually indistinguishable from the OEM original part in shape and finish.

Stock unaltered — Factory OEM part with no modifications of any kind allowed.

Unaltered Stock — In the same condition as supplied from the manufacturer.