

ASN Canada FIA



Canadian Karting Regulations Briggs & Stratton Racing Class LO206 Canadian Engine Effective January 1, 2018

**To be read and applied in conjunction with
ASN Canada FIA 2018 Canadian Karting Regulations
Book 1 – Sporting Regulations and Book 2 – Technical Regulations**

All enquiries regarding these Regulations should be addressed to the ASN office. Kart racing is a dangerous sport.

These regulations are intended to assist in the conduct of competitions and to further general safety. They are a guide, and in no way a guarantee against injury or death to participants, spectators or others.

No express or implied warranties of safety or fitness for a particular purpose shall be intended or result from publication of or compliance with these Regulations.

Participants are encouraged to inspect the racing facilities and to bring to the attention of the organizers and officials anything that is of a concern to their personal safety. If a participant is not comfortable with the facility they should consider withdrawing from the event. If the driver is under the age of majority, then the parents, guardians and/or handlers should inspect the facilities as above.

Affiliated Organizations may adopt these Sporting Regulations and the Technical Regulations in Book 2 for use within their own competitions.

Except in extraordinary circumstances, ASN Canada FIA does not interfere with the governing of kart racing matters organized by its affiliated Organizations

**ASN CANADA FIA IS THE GOVERNING BODY OF MOTORSPORT IN CANADA
APPOINTED BY**

THE FÉDÉRATION INTERNATIONALE DE L'AUTOMOBILE





Briggs & Stratton LO206 Canadian Engine 2017 Regulations

NOTE: Changes from 2017 have a left Red Border

About the Briggs & Stratton LO206 Canadian Engine



The Briggs & Stratton LO206 factory sealed engine platform is designed, engineered and hand-built in Milwaukee, Wisconsin exclusively for racing to provide a high level of consistency for the user.

Tailored for both the new driver and the mature driver, progressing from one class to another is accomplished easily and economically by changing an inexpensive carburetor slide or carburetor slide/ignition module combination. This feature allows an engine to have a useful life with normal maintenance.

Simplistically, an engine can be taken out of its box, fitted to the appropriate class chassis following the rules contained herein, and be ready for the track.

The Briggs & Stratton LO206 Canadian Engine Eligibility



The Briggs & Stratton LO206 Canadian Engine is built for the Canadian market and has a unique technical specification.

The only LO206 engines that are eligible for Canadian competition are identified with a special embossed stamp on the engine block and cylinder head.

Engines that do not bear the official special embossed stamp cannot be used.

NOTE: All measurement shown are Imperial measurements.
Example: Inch and Inches measurements are shown as 0.000".

These Regulations Are the Only Regulations

These technical regulations are to be utilized in conjunction with ASN Canada FIA Karting Regulations available at www.asncanada.com in the KartSport section.

Only the Briggs & Stratton Racing Department in Milwaukee can make changes to the technical specifications herein, provided they are first approved by ASN Canada FIA. Changes, corrections, addendums, etc. will be published only by ASN Canada FIA and become effective on a date specified.

The manufacturer Briggs & Stratton and their dealers and their agents are not authorized to alter, verbally or otherwise, any rule herein.

Should any Briggs & Stratton literature, catalogues, manuals, videos, etc. be different than these regulations, these regulations take precedence.

Any rules published by Briggs & Stratton for use in other countries are not applicable in Canada.

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

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1. Briggs & Stratton Canadian LO206 Engine Availability

The LO206 genuine engine products and service parts are available only through the Canadian distributor and authorized Canadian dealers. Engines, and parts thereof new or used, purchased from private sources may not meet these regulations and may not pass Technical Inspection at an event.

Enquiries can be addressed to:

| | |
|---|--|
| Power Source Canada 2815 Bristol Circle, Unit 1 Oakville, ON Canada L6H 6X5 Tel 905.829.0006 Fax 905.829.8611 Email info@powersourcecanada.ca | Power Source Canada (B.C.) 300 - 1628 Derwent Way Delta, B.C., V3M 6R9 Tel 800.663.9700 Fax 800.563.1361 Toll Free Customer Service: 1-800-663-9700 |
|---|--|

2. Factory Engine Sealing

There are two custom Homeland Security Tier III rated seals installed at the factory. Tampering with the seals is not permitted. Should the seals be tampered with, the engine is no longer eligible for competition.



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 WAS IMPLEMENTED.

Should an engine require dismantling for any reason that requires breaking of the seals, contact Briggs and Stratton at Email: briggsracing@basco.com

3. ASN National Classes Technical Configurations

| Class | Weight Lbs. | Engine Package | Technical Configuration |
|---|-------------|-------------------------|---|
| Reference Rule #29 regarding ignition modules | | | |
| National Cadet (formerly Novice) | 235 | LO206 with carb lock | RLV pipe Part #5507 Briggs Red Slide .440" opening Briggs Part #555733 |
| Junior | 300 | LO206 with carb lock | RLV pipe Part #5507 Briggs Yellow Slide .570" opening Briggs Part #555741 |
| Junior Light | 265 | LO206 with carb lock | RLV pipe Part #5507 Briggs Blue Slide .520" opening Briggs Part #555734 |
| Senior | 340 | LO206 | RLV pipe Part #5507 Briggs Stock slide Part #555590 |
| Masters | 375 | LO 206 | RLV pipe Part #5507 Briggs Stock Slide Part #555590 |

4. Club Classes Technical Configurations Example

Clubs are free to alter the class specifications and weights to suit their club driver licencing protocols and event programs.

| Class | Engine Package | Technical Configuration |
|--|-----------------------------|--|
| Reference Rule #29 regarding ignition modules | | |
| "Club Cadet" | LO206 Junior with carb lock | RLV pipe Part #5507 Briggs Black Slide .310" opening. Part #555732 Briggs Ignition Part 555725 Black 4,150 RPM Limiter (plus or minus-50 RPM) |
| "Club Junior Light" | LO206 with carb lock | RLV pipe Part #5507 Briggs Blue Slide .520" opening Briggs Part #555740 |

ASN National Cadet & Junior & Club Cadet and Junior Light, requires 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.



5. Carburetor Slide Optimization

Optimization of the slide opening in ASN National Cadet & Junior, & Club Cadet and Junior 1 classes is permitted.

The only allowable method of slide optimization is by removing material from the throttle cap in the area shown in the graphic on the right →. Slide opening must not exceed the appropriate "no go" specification as per class regulations.



A support video aid is available from Briggs and Stratton in the video section at <http://www.briggsandstratton.com/engines-racing/videos/slide-restrictor-system/>

CAUTION – The risk of exceeding the allowable limit on the slide opening could lead to an unnecessary DQ.

6. Briggs and Stratton Technical Inspection Tools

Briggs and 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 #**. The tools are available from:

Sox Racing, 2223 Platt Springs Rd.,
West Columbia, SC 29169, (803) 791-7050

Refer to separate document illustrating the Technical Inspection Tools.
The document is available at www.asncanada.com in the KartSport section.

7. 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 LO206 #124332-8201 or Junior 206 #124332-8202 engine is allowed in the classes recommended herein.
- c. All parts must be unaltered Briggs & Stratton LO206 parts specifically made for this engine by Briggs and Stratton. No aftermarket parts to be used unless specified in these regulations.
- d. All parts are subject to comparison with a known stock part.
- e. All engine safety and regulations must be followed according to ASN Canada FIA karting regulations. Example: Chain guards.
- f. The Technical Officials may at their sole discretion, at any time, replace a competitor's sealed engine or component thereof. Failure to comply is grounds for exclusion.
- 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. Seals are to be installed to the existing Briggs and Stratton seal located on the forward PTO side of the engine.

8. Briggs & Stratton Engine Paint Marking

The following specific locations should be Paint Marked at Events:

- Exhaust bolt to exhaust flange
- Flywheel shroud bolt to shroud
- One carburetor retaining nut to carburetor
- One carburetor spacer retaining bolt to cylinder head
- One exposed head bolt to the head
- One valve cover bolt to valve cover
- Carburetor float bowl retaining screw to carburetor body
- Centered carburetor drain plug to bowl

9. Things That Are NOT Permitted

- a. Addition or subtraction of material in any form or matter.

Exception – Optimization of the slide opening in Briggs & Stratton Cadet, ASN National Novice, Junior 1 and ASN National Junior classes is permitted per section 5.

- b. "Blueprinting" unless stated herein.
- c. Modification to or the machining of any parts in order to bring them to stated minimum/maximum specification, (or for any reason).
- d. Machining or alteration of any kind to the engine or replacement parts unless specifically stated herein.
- e. Deburring, machining, honing, grinding, polishing, sanding, media blasting, etc.
- f. Sandblasting or glass-beading any interior engine surfaces.
- g. No device may be used that will impede, or appear to impede, airflow to the engine cooling system.

10. Engine Ignition Switch

The Briggs & Stratton ignition switch and wires must remain in stock location. It is not permitted to alter the OEM wiring.

11. Engine Air Filter

The only air filter permitted is the Briggs and Stratton Green Air Filter Part #555729. No modification to the filter element is permitted. The addition of Briggs and Stratton pre-filter #557096 is allowed.

A protective shield may be attached for wet-weather competition provided that the shield does not create any ram-air effect.



12. 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 source may be specified in event supplementary regulations.

13. Engine Oil

High-quality synthetic oil within a 10W-20 range is recommended. The addition of oil additives in any manner is not 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.

14. Crankcase and Carburetor Breather Catch Containers

A crankcase overflow tube must be fitted.

A carburetor overflow tube must be fitted.

Both tubes must run to a securely mounted catch container.

The catch-container must be vented to atmosphere.

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 .75" 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.



Use of an inline fuel filter is highly recommended. Only a single filter is allowed. It can only be mounted inline between the fuel tank and fuel pump. (not allowed between fuel pump outlet and carburetor). The fuel filter itself is a non-tech item.

16. Cooling Shrouds, Covers and Blower Housings

All pieces of the engine cooling shroud/blower housing and control panel must be stock Briggs & Stratton and properly installed.

Engine Shroud may be painted any color. Engine shroud, covers, and control panel must be intact and not modified. Any bolt, with the exception of the head bolt and blower housing, 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.

Side Cover Fastener Changeover

B&S LO206 will be going to a SEMS fastener on the side cover.

On the left in the photo is the CURRENT fastener. On the right is the newer SEMS fastener with the integrated washer. Both fasteners are legal.



17. Use of Helicoils

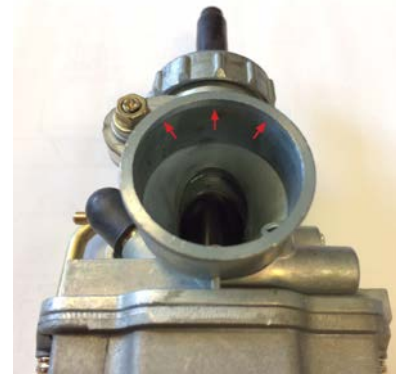
It is permitted to use Helicoil thread inserts for shrouds, valve cover, oil drain, oil fill holes, blower housing, and exhaust pipe attachment studs on the head and lower brackets.

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.

A slight chamfer around the choke bore ID (air horn) may be present. 1.149" no go **Tech Tool A7**.

Slide must remain B&S stock unaltered. Slide cutaway to be measured on flat surface. .075 no go **Tech Tool A10**. ALL intake manifold fasteners to remain factory stock. The use of studs, etc. are illegal.



Idle pilot jet must remain completely stock and be clearly identified with its original etched or stamped '32' as shipped from B&S.

Main jet must also remain completely stock and be clearly identified with its original etching or stamped '95' as shipped from B&S.

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 **Tech Tool A4**, should not protrude through the other side. If needle protrudes through the block it is out of specification.

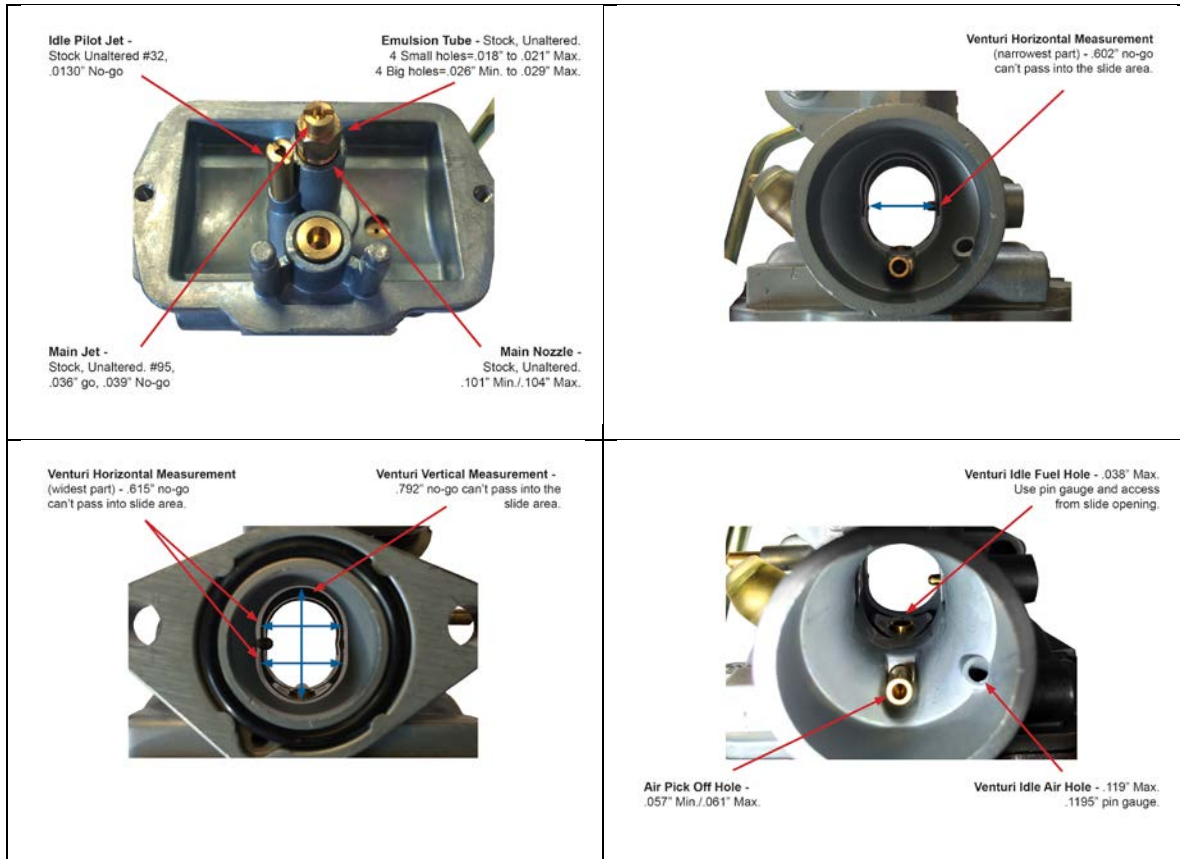
Throttle cable cap on the top of the carburetor must be properly installed and secured in the fully tight position.

Metal choke cover must remain in place but may be secured with silicone or epoxy sealer. Additional pin punching is allowed to tighten choke cover.

Air must only enter the engine from the natural air filter horn of the

carburetor.

Air entering through any other method is illegal.



NOTE: Slide openings should be measured only with the Briggs & Stratton slide tool listed on the tool reference chart.

| Class | Max. Slide Height |
|---------------------|----------------------------|
| Cadet | .310" Opening (Long Black) |
| ASN National Cadet | .440" Opening (Red) |
| Junior Light | .520" Opening (Blue) |
| ASN National Junior | .570" Opening (Yellow) |

19. Technical Items Description

| Technical Item | Description | Tech Tool |
|-----------------------|---|-----------|
| a. Needle Jet C-clip | Needle Jet C-clip must be properly installed but may be installed at any of the 5 factory settings on the needle jet. | |
| b. Throttle cable cap | Throttle cable cap on the top of the carburetor must be used and properly installed in tight position. | |
| c. Choke | Choke: OEM unaltered, but lever may be fastened open with a spring, rubber band, wire, etc. | |

| | | |
|--------------------------------------|--|------------------------------|
| d. Idle pilot jet | Idle pilot jet – #32, hole size is .0130" no go. | |
| e. Idle circuit air hole | No drilling, reaming, elongating of the hole allowed. .119" max. diameter. A small chamfer at the outer edge, as compared to a stock part, can be present. The measurement of that chamfer is subject to sanctioning body guidelines. | .1195" No-Go Pin gauge |
| f. Main jet | Main jet – #95, hole size is .0380" plus/minus 0.036" Go, 0.03"9 NoGo. | |
| g. Main nozzle and Emulsion tube | Main nozzle – OEM stock unaltered – hole size = .101" min and .104" max. No drilling, reaming, slotting or oblonging of hole. Emulsion tube – OEM stock unaltered: 4 small holes = .018" min to .021" max 4 big holes = .026 min to .029" max. | |
| h. Venturi Measurement | Venturi Measurement: Vertical: .792" max. | A8 |
| | Horizontal: .615" max at widest part | A8 |
| | Horizontal: .602" max at narrowest part. | A20 |
| i. Air pick off hole | Air pick off hole - .057" Go, .061" NoGo | A9 |
| j. Throttle bore | Throttle bore – Must be as cast and bore max diameter = .874". | A7 |
| k. Venturi idle fuel hole | Venturi idle fuel hole = .038" max | |
| l. Air filter | Air filter: Only GREEN air filter, part # 555729 is allowed. Filter adapters are not allowed, filter must attach directly to carburetor air horn | |
| m. Carburetor overflow | Carburetor overflow: Must be vented to a catch container. | |
| n. O-Ring | O-Ring part number Briggs part # 555601 is required and must be unaltered. | |
| o. Intake manifold | Intake manifold – max length = 1.740" min to 1.760" max | A12 |
| | Intake manifold – bore diameter = .885" min to .905" max | A11 |
| p. Choke Bore | 1.149" No-Go | A7 |
| q. Carburetor Slide Cutaway | .075" No-Go | A10 |
| r. Widest part of Combustion Chamber | 2.640" | A30 |

20. Cylinder Head

- The ONLY head casting for the LO206 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 thickness is 2.430".
- Cylinder head must be "as cast". Factory machining marks left on the head are technical inspection items.
- Hard carbon may be scraped from head before measuring.
- 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.
- Depth at floor of combustion chamber is .341" minimum.
- Inspect retainers for alterations that would increase valve spring pressure. Retainer flange thickness 0.055" to 0.075" maximum.

Both intake and exhaust must have OE stock Briggs & Stratton valve keepers.

- g. Unaltered Briggs & Stratton part #555552 (exhaust) and #555551 (intake) can be checked for appearance, weight, and dimensions.

No machining, polishing, easing, or titanium valves allowed.

Valve surface must be unaltered factory ground and have one 45 degree sealing surface only.

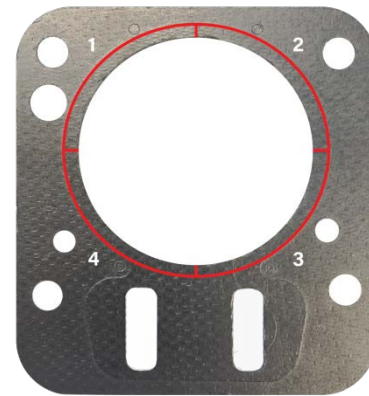
There will be no other angles ground on any part of the valve.

Tech Tool A22.

- h. Valve Guides: Replacement of valve guides with Briggs & Stratton part #555645 only is allowed. Maximum depth from the head gasket surface to the intake valve guide is 1.255".
- i. Briggs & Stratton heat disperser, P/N 555690 can be installed in the exhaust bolt boss per factory instructions.

21. Head Gasket

- a. Unaltered B&S part #555723 is the only head gasket allowed.
- b. Minimum thickness allowed is .047". 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 in the four defined quadrants with 3 meeting the minimum thickness of .047".



22. Ports

- a. No deburring, 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: 0.918" max.
Tech Tool A6.
- d. Exhaust Port AS CAST. Exhaust Outlet: 0.980" – **Tech Tool A6.**

- e. 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.
- f. Intake valve seat diameter inside: 0.972".
Tech Tool A2.
- g. Exhaust valve seat diameter inside: 0.850".
Tech Tool A1.

23. Valves

i. Intake valve

| | |
|---|---|
| Minimum Weight of Valve | 27.8 grams |
| Diameter of valve stem | .246" to .247" |
| Diameter of valve head | 1.055" - 1.065" Tech Tool A17 |
| Diameter of valve seat | .972" ID maximum |
| Valve length | Minimum 3.3655" |
| Height from angle of valve face to top of the valve | .057" minimum Tech Tool A26 |

ii. Exhaust valve

| | |
|---|--|
| Minimum Weight of Valve | 27.2 grams |
| Diameter of valve stem | .246" to .247" |
| Diameter of valve head | .935" to .945" Tech Tool A18 |
| Diameter of valve seat | .850" ID maximum |
| Valve length | Minimum 3.3655". |
| Height from angle of valve face to top of the valve | .060" minimum Tech Tool A27 |

24. Valve Springs

- a. Valve Springs are single coil stock, unaltered Briggs & Stratton part # 26826. Must be identical in appearance to factory part and have 4.00 to 4.75 coils in stack.
- a. Spring Wire Diameter: .103" to .107".
- b. Valve spring length: .930" max – **Tech Tool A15**
- c. Inside diameter: .615" to .635".

25. Rocker Arms, Rocker Ball and Rocker Arm Studs

- a. Rocker arms must be stock B&S part # 555711 or #797443 and may not be altered in any way. Rocker arms must be stamped with B&S Logo. Rocker arm overall length - 2.820" min.
- b. Rocker studs must be stock, unaltered B&S part #694544 U.S. (1/4-28 thread) or #797441 Metric (M8 x 1.00 thread) and in stock location.

Rocker arm #555711(U.S.) must be used with rocker stud #694544(U.S.).

Rocker arm #797443(metric) must be used with rocker stud #797441(metric).

Rocker Ball must stock Briggs & Stratton. Diameter .590" min. to .610" maximum. **Tech Tool A16**.
- c. Rocker arm mounting positions may not be altered in any manner. No helicoiling of mounting holes. No bending of studs.
- d. Rocker arm stud plate must be bolted to the head with one, OEM stock Briggs & Stratton gasket only - no alterations. Maximum thickness of gasket is .060".
Rocker plate to head fastener holes must remain stock .289" max.
- e. Rocker arm – overall length 2.820" minimum. Can be checked with a pair of dial calipers.

26. 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 .183 minimum inches to .190 maximum inches. Push rod length 5.638 minimum inches to 5.658 maximum inches. Tech Tool A5.
- d. Push rod diameter to be checked 3 points along the length and must pass two planes on each 360 degrees of rotation.

27. Engine Block

- a. Engine block must be unaltered "as cast" Briggs & Stratton 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) Briggs & Stratton 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. **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 dimension: - Briggs & Stratton stock bore is 2.690 inches. Allowance for wear is permitted up to 2.693" maximum for entire length top to bottom.

- f. Maximum stroke is 2.204". Push piston down to take up rod play. Check stroke on BDC to TDC. **Tech Tool A21.**

28. Valve Lift

Valve Lift: Camshaft check is taken at the top of 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" maximum.

29. 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.

| Intake lift | | Exhaust lift | |
|-------------|-------------------|--------------|-------------------|
| 0.006 | 59 to 51 BTDC | 0.006 | 101 to 93 BBDC |
| 0.020 | 19 TO 12 BTDC | 0.020 | 59 TO 55 BBDC |
| 0.050 | .5 TO 4.5 ATDC | 0.050 | 43 TO 39 BBDC |
| 0.100 | 17 TO 21 ATDC | 0.100 | 26 TO 22 BBDC |
| 0.150 | 33.5 TO 37.5 ATDC | 0.150 | 9 TO 5 BBDC |
| 0.175 | 43 TO 47 ATDC | 0.175 | 1 TO 5 ABDC |
| 0.200 | 54 TO 58 ATDC | 0.200 | 11.5 TO 15.5 ABDC |
| 0.225 | 68 TO 72 ATDC | 0.225 | 25 TO 29 ABDC |

| Intake lift | | Exhaust lift | |
|-------------|-------------------|--------------|-------------------|
| MAX LIFT | 0.257 | MAX LIFT | 0.259 |
| MIN LIFT | 0.252 | MIN LIFT | 0.252 |
| 0.225 | 38 TO 34 BBDC | 0.225 | 76 TO 72 BTDC |
| 0.200 | 24.5 TO 20.5 BBDC | 0.200 | 62.5 TO 58.5 BTDC |
| 0.175 | 14 TO 10 BBDC | 0.175 | 52 TO 48 BTDC |
| 0.150 | 4.5 TO .5 BBDC | 0.150 | 42 TO 38 BTDC |
| 0.100 | 12 TO 16 ABDC | 0.100 | 25.5 TO 21.5 BTDC |
| 0.050 | 29 TO 33 ABDC | 0.050 | 8.5 TO 4.5 BTDC |
| 0.020 | 45.5 TO 49.5 ABDC | 0.020 | 8 TO 12 ATDC |
| 0.006 | 83 to 91 ABDC | 0.006 | 47 TO 55 ATDC |

30. Flywheel

- No modifications are allowed to the flywheel.
- The minimum weight of the flywheel, fins and attachment bolts is 4 pounds 1 ounce.
- Stock Briggs & Stratton part #555683 only. No machining, glass beading, sand blasting, painting or coating of flywheel is allowed.
- A flywheel fan, Briggs & Stratton part #692592, with broken fins must be replaced.
- Stock, unaltered flywheel key with the Briggs & Stratton logo is required. Width of the key allowed is .1825"-.1875". No offset keyways allowed.

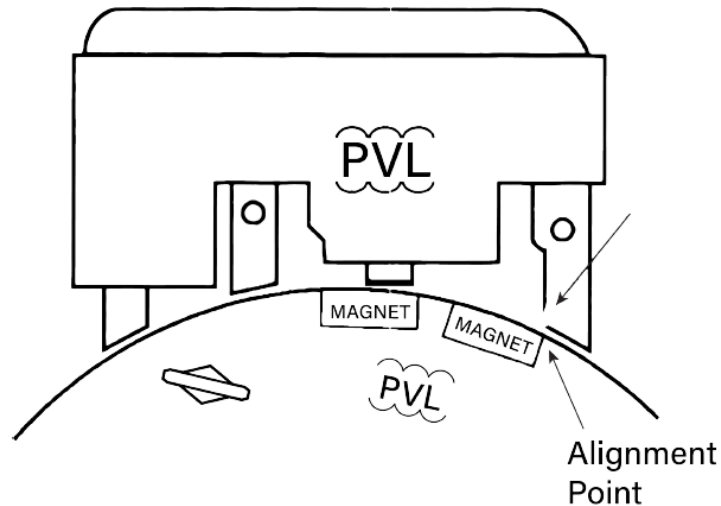
31. Ignition System

- Unaltered Briggs & Stratton stock ignition part #555718 is mandatory. Only "GREEN" ignition module allowed. Maximum RPM: 6,150.

Exception – Cadet class requires the use of unaltered Briggs & Stratton stock ignition part #555725 (BLACK in color). Maximum RPM: 4,150 with 50 RPM tolerance.

- 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.
- 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.
 Temperature thermocouple permitted as long as sealing washer and/or air guard are not modified.

- d. **Magneto air gap** is non-tech (recommended clearance .0160")
- e. **Ignition timing:** Maximum of 30 degrees BTDC.
- f. **Spark plug connector:** Only the OEM Briggs & Stratton part #555714 is permitted.
- g. **Static check for timing**
 - Install a degree wheel using a positive stop method.
 - With the left edge of the first magnet aligned with the start of the lead leg of the ignition (refer to photo), the engine must not exceed 26 degrees with air gap set at .016". Timing checked in the direction the engine operates.



32. Crankcase

Crankcase and cover must be Briggs & Stratton stock, unaltered, "as cast in factory" condition. No alterations or subtractions of metal or any other substance to crankcase cover.

33. Clutch

- a. ASN National Cadet, Junior 1, Junior, Senior, and Masters classes can run any rim centrifugal clutch with a maximum of 9 springs and 6 shoes.
- b. No alteration to clutch allowed, except springs, weights and key.
- c. Clutch drums must be stamped, single-piece steel, only. Aftermarket clutch drums with "machined" contact surfaces are not permitted.
- d. Clutch coolers are not allowed.

34. Recoil Starter

Briggs & Stratton part # 695287, must be retained, as produced and intact. Starter maybe rotated.

35. Exhaust Header

- a. Header must be RLV Model 5507 for all classes.
- b. Gasket and/or silicone allowed to seal header to head.
- c. Studs or bolts are permitted to fasten exhaust header to cylinder head. Bolts or nuts must be safety wired.
- d. Header support brace is mandatory.
The addition of a mechanical support bracket is permitted provided that there is no alteration whatsoever to the shape or dimensions of the exhaust configuration. The additional bracing may not be welded to the pipe.
- e. Helicoiling of the exhaust fastening threaded holes is allowed and is recommended.
- f. Any modification for or use of an O2, EGT, CO2 sensor is prohibited.



36. 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 4 baffles must remain unaltered and the hole size can be verified using a no-go pin of .1295". Exhaust gases may only exit through the muffler baffles. Muffler must be mounted on the header in a way that does not allow exhaust to leak at this joint. The exception, if a header becomes loose (header bolts loosen) during a race but remains mounted to the head this not grounds for disqualification.

37. Exhaust Protection

The exhaust header and silencer surfaces must be completely wrapped with non-asbestos insulation material starting approximately 3 to 4 inches from the exhaust flange.

38. LO206 online support resources

Please refer to 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. The on-line resources are assistive information with no regulatory value.

39. Torque Specification Guideline

| Description | Wrench / socket size | Torque |
|--------------------------|----------------------|-----------------------------|
| Air Guard | 7mm | 40-50 lb-in. (4.5-5.6 Nm) |
| Blower Housing | 10mm & 3/8" | 60-110 lb-in. (7-12.5 Nm) |
| Carburetor (to manifold) | 10mm | 80-110 lb-in. (9-12.4 Nm) |
| Connecting Rod | T27 | 115-120lb-in. (13 Nm) |
| Cylinder Head Bolts | 10mm | 200-220 lb-in. (20-27 Nm) |
| Exhaust Brace Screws | 10mm | 95-125 lb-in. (11-14 Nm) |
| Exhaust Stud | 10mm | 95-125 lb-in. (11-14 Nm) |
| Flywheel Nut | 15/16" | 55-75 ft-lbs. (74.5-101 Nm) |
| Flywheel Fan | 10mm | 180-240 lb-in. (20-27 Nm) |
| Intake (to cylinder) | 5mm Allen | 70-90 lb-in. (8-10.2 Nm) |
| Oil Drain Plug | 3/8" | 100-125 lb-in. (11-14 Nm) |
| PVL Module | 7mm | 20-35 lb-in. (2.3-4 Nm) |
| Rocker Arm Stud | 7/16" | 90-120 lb-in. (10-14 Nm) |
| Rocker Arm Plate | 10mm | 70-90 lb-in. (7.9-10.1 Nm) |
| Rocker Arm Set Screw | 1/8" Allen | 50-70 lb-in. (5.6-7.9 Nm) |
| Spark Plug | 5/8" Deep | 95-145 lb-in. (11-16.4 Nm) |
| Starter Gear | #2 Phillips | 35-53 lb-in. (4-6 Nm) |
| Top Control Plate | 10mm | 70-90 lb-in. (8-10 Nm) |
| Valve Cover | 10mm Lower & 3/8" | 30-60 lb-in. (3.5-7 Nm) |