

721 BRIGGS LOCAL OPTION 206

Briggs & Stratton (B&S) Model 124332 Type 8201 only.

The intent of this class is to provide a sealed, simple-to-operate, ultra dependable and ultra-reliable, engine using only factory parts.

The crankcase is sealed at the factory to help control costs and maintain equality while simplifying tech. Only the top end must be inspected. No engine may enter this class without a crankcase seal or with a seal that shows evidence of tampering.

This engine must be raced exactly as it comes from the factory. All parts must be B&S factory production parts unless otherwise noted in these rules. No machining, media blasting or alteration of parts is permitted unless specifically noted in these rules. All parts are subject to comparison to a known stock B&S part.

721.1 SHROUDS & COVERS: Engine shroud may be painted any color. Engine shroud, covers, and control panel must be intact and not be modified. Any bolt, except head bolts, used to secure sheet metal shrouds and covers may be replaced with a larger diameter bolt. Stock kill switch must remain in stock location and wires must remain in place. No taping or covering of the rewind shroud allowed.

715.2 HEADER AND SILENCER:

721.21 Header must be RLV Model 5506.

721.22 Silencer must be RLV B91 with round baffle holes only. Baffle holes 0.1285" maximum.

721.23 Gasket and/or silicone allowed to seal header to head.

721.24 Studs or bolts allowed to fasten header to head. Bolts or nuts must be safety wired. Header support brace is mandatory.

721.3 AIR FILTER: Air filter not required, but strongly recommended. Any air cleaner/filter is permitted. It must be installed directly to the carb. No filter adapters allowed. Filter may not be used as an air ram and must filter from all areas as raced. Any unfiltered areas in filter must be covered with a filter sock.

721.4 FUEL AND FUEL PUMP

721.4.1 The fuel is gasoline. Leaded 89 to 92 octane only.

721.4.2 Fuel pump is Briggs & Stratton #808656, mounted in the factory holes and pulsed from the top of the side cover only. Fuel line and pulse line must be 1/4" I.D. No extra fuel line anywhere in the system. Return fuel line from the pressure side of the pump is not allowed.

721.5 CARBURETOR: PZ Model 22 Carburetor only. Any 6mm bolts may be used to attach carb to manifold. Studs are not allowed. Carb to manifold seal is by O ring only. No sealer allowed. Air must enter carb at air horn only. Choke must be stock as from factory and must operate. Spring or rubber band may be used to hold choke lever in position.

721.5.1 Throttle bore I.D. is 0.874" no-go. Must be as cast.

721.5.2 Choke bore I.D. is 1.149" no-go. Must be as cast.

721.5.3 VENTURI: Vertical dimension is 0.792" no-go. Horizontal dimension is 0.615" no-go. When 0.615" no go is inserted horizontally into the air filter side of the venturi, it may not pass into the slide area. When the 0.615" no go is inserted horizontally into the manifold side of the venturi, it may not enter the venturi section at all. When Sox Tool # AT331 - 0.602" gauge is inserted horizontally, it may not pass into slide area at the narrow point formed by the overlap of the two venturi circles. No machining allowed. Must be as manufactured.

721.5.4 Air pick off hole is 0.061" no-go.

721.5.5 THROTTLE SLIDE: Minimum length from top edge of slide to deepest part of cut away is 1.148" Must be stock.

721.5.6 Jets must be stock gasoline jets only. Factory marking is required.

Needle jet - BGB - set at any notch.

Pilot jet - #32, hole size is 0.130" no go.

Main jet - #95, hole size is 0.380" no go.

Main Air Jet - #1.50, hole size is 0.620" no go.

Main Nozzle - #2.6, hole size is 1.030" no go.

721.5.7 Overflow from float bowl must be vented to catch can.

721.6 INTAKE MANIFOLD

721.6.1 Length of manifold must be from 1.740" minimum to 1.760" maximum.

721.6.2 Inside Diameter must be 0.885" must go minimum, 0.905" no-go maximum.

721.6.3 Stock manifold to block gasket required.

721.6.4 The gasket surfaces may be machined to meet the length specification in Section 721.6.1, 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 carburetor slotted hole will be checked with the same NO-GO.

721.7 ROCKER COVER: Stock rocker cover from factory is required.

721.7.1 Rocker cover gasket must be stock. No sealer allowed.

721.7.2 Filter or tubing to a catch can may be fitted to outlet. No welding or tapping of rocker cover allowed.

721.7.3 Tube to catch can is required.

721.8 CAMSHAFT: Cam check must be taken with zero valve lash.

Total lift check will be taken at the valve spring retainers. The movement of the valve spring retainer 0.252" maximum. Maximum duration of 326 degrees on intake and 314 degrees on the exhaust shall be taken between 0.005" after opening and 0.005" before closing of the valve. Duration is + or - 4 degrees.

721.9 VALVE OPERATING MECHANISM:

721.9.1 ROCKER ARMS: Must be unaltered from stock. Overall length 2.865 minimum.

721.9.2 BALL ROCKER: must be stock. Diameter 0.600" +/- .010"

721.9.3 PUSH RODS: Must be stock. Diameter is 0.185" - 0.190". Length is 5.638" - 5.658".

721.10 HEAD BOLTS: Four stock head bolts are mandatory.

721.11 HEAD GASKET: Must be of stock B&S part. 0.049" minimum thickness measured in four places between head bolts. Measurement to be made with micrometer from inside of gasket.

721.12 CYLINDER HEAD PLATE: Must be stock

715.12.1 Cylinder head plate gasket must be stock with maximum thickness of 0.060".

721.13 ROCKER ARM STUDS: Must be stock.

721.14 VALVES: Stock valves only. One angle only. Valve may not be polished or lightened. If working area (that portion of the valve stem translating with the valve guides) of valve stem is cleaned, no material may be removed. No grooves, cross hatching, etc.

721.14.1 INTAKE VALVE: 45 degree face. Head diameter is 1.055" - 1.065".

721.14.2 EXHAUST VALVE: 45 degree face. Head diameter is 0.935" - 0.945".

721.14.3 Length of valves must be 3.362" to 3.382".

721.16 VALVE SPRINGS: Stock B&S valve springs and keepers are mandatory. Springs must remain unaltered as supplied from the factory. WARNING: Aftermarket spring with higher spring rate will result in damage to the camshaft.

721.16.1 Maximum valve spring length is 0.930". Wire diameter is 0.103" to 0.107", measured in three places on the spring. Inside diameter of spring is .615" minimum to .635" maximum.

721.16.2 VALVE SPRING RETAINERS: Thickness is 0.055" - 0.075".

721.16.3 VALVE SPRING TENSION: To Be Announced.

721.17 CYLINDER HEAD: Stock B&S part as shipped from factory is the only configuration approved. No machining of head allowed. Machining marks left on head gasket surface are a tech item. Bosses on back of head, just below valve cover gasket surface may be tapped for attachment of header supports. No media blasting of combustion chamber or ports.

721.17.1 COMBUSTION CHAMBER: Hard carbon may be scraped from head before measuring.

721.17.1.1 From head gasket surface the depth of head at shallow part is .011" minimum. Depth at floor of head is 0.319" minimum.

721.17.1.2 Depth to top of valve seats is 0.335" minimum, 0.360" maximum.

721.17.1.3 Shoulders of Sox tool # AT 341 may not touch head gasket surface when tool is placed into combustion chamber.

721.17.2 VALVE SEATS: Must have only one 45° angle on valve seats. Stock B&S seats are mandatory.

721.17.2.1 Intake seat diameter is 0.966" - 0.972".

721.17.2.2 Exhaust seat diameter is 0.841" - 0.850".

721.17.3 PORTS: Must be stock, no machining, polishing, easing.

721.17.3.1 INTAKE INLET PORT: 0.918" no-go. When checking 90° to line between center of studs, no - go will be straight. When checking on line with center of studs, no-go will set on floor of port at bottom and stop at upper edge of port on top.

715.17.3.2 EXHAUST OUTLET: 0.980" no-go.

721.17.4 Valve guides must be stock as supplied from factory. Maximum depth from the head gasket surface to the intake valve guide is 1.255".

721.18 DECK/PISTON: No machining of deck surface is permitted. Factory machining marks on deck are a tech item. Arrow on piston must point to flywheel side of motor. Maximum pop out allowed is .005" measured with a flat bar set on top of piston parallel to the wrist pin.

721.19 CYLINDER BORE: Stock bore is 2.690". Allowance for wear is permitted, up to 2.697".

721.20 STROKE: maximum stroke is 2.204". Push piston down to take up rod play. Check stroke from BDC to TDC.

721.21 IGNITION: Unaltered B&S PVL components are mandatory.

721.21.1 Coil unit color is green. Rev limit specified on coil is 6100. No alterations or disturbance of coil is allowed.

721.21.2 CHECK IGNITION TIMING: Set up degree wheel on motor with using a piston stop inserted in the spark plug hole. With the left edge of the right coil leg aligned with the right edge of the right magnet, the motor must be from 23 degrees BTDC to 27 degrees BTDC. See Fig. 717.11.2.

721.21.3 Attachment bolts must not be altered.

721.21.4 Spark plug connector must be stock factory type.

721.21.5 Rubber plug boot is allowed.

721.21.6 Coil air gap is non tech. Recommended air gap is 0.022".

721.21.7 Any commercially available sparkplug allowed. Sparkplug must be stock except plug sealing ring may be removed.

721.22 FLYWHEEL: B&S PVL flywheel with plastic fins is the only flywheel permitted. No machining, glass beading, sandblasting, painting or coating of flywheel is allowed. Minimum factory overspray is allowed.

721.22.1 Plastic fins are required. All fins must be in place.

721.22.2 Stock flywheel key with B&S logo is required. Width of key allowed is .1825" - .1875".

721.22.3 Minimum weight of flywheel, fins and fin attachment bolts is 4 pounds, 1 ounce.

721.23 CYLINDER AND SIDE COVER: Unaltered seal must be in place. No alterations or welding are allowed to any component.

721.24 CLUTCH: Any rim centrifugal stamped steel shoe type clutch with a maximum of 3 springs and 3 shoes is allowed. Clutch coolers not allowed.

721.25 STARTER: Recoil starter must be retained, as produced and intact. Starter may be rotated.