

#300 TO #399 SPORTSMAN 1600 BUGGY TECHNICAL SPECIFICATIONS

DEFINITION

- A limited 4-wheel vehicle utilizing a type-1, 1600 c.c. Volkswagen air-cooled engine with one person in the vehicle.
- **Note:** In an effort to unify the rules in this class, either single or dual port heads may be used. Dual port engines will be using the 21.5 mm restrictor plate and the EMPI 981293B adapter plate. Single port engines will use the following rules but will not use a restrictor plate. Testing will be on-going and if a significant performance advantage is found, rule adjustments will be made.
- Technical specifications for this class supersede CCR

CHASSIS

- Minimum wheelbase is 95"
- Maximum front track width from wheel mounting surface to wheel mounting surface at ride height will be 56"

FRONT SUSPENSION

- Type "1" Volkswagen suspensions only are allowed
- Stock beam width 34 3/16" only
- Any reinforced stock or custom manufactured parts are allowed as long as stock dimensions and measurements are maintained
- Reinforcement of stock components is allowed
- Front axle torsion tubes may be cut, rotated, torsion adjusters installed and re-welded
- Any ball joint or kingpins are allowed
- Any manufacture tie rods and tie rod ends are allowed
- Stock towers may be strengthened, replaced, extended, but must be attached to the front beam
- Trailing arms can be reinforced or replaced with aftermarket arms. Stock dimension must be maintained
- Lower shock mounting stud may be relocated and/or enlarged
- Spindles may be reinforced or replaced
- Any manufacture's torsion bars allowed
- Sway bars may be removed
- Secondary suspension of any type is not allowed
- Aluminum front axle beams are not allowed

REAR SUSPENSION

- Volkswagen type 1 IRS or swing axle only
- The rear track width with drum brakes must not exceed 51" from backing plate flange to backing plate flange, while at ride height. If disk brakes are used, track width will not exceed 58.75" measured between the wheel mounting surfaces, while at ride height.
- Strengthening or replacement of the IRS swing arms is allowed as long as stock dimensions are retained plus or minus 1". The stock dimensions from the centerline of the rear torsion housing to the center of the rear stub axle are 16.25", plus or minus 1". The maximum measurement will be 17.25".
- Torsion adjusters are allowed | Out board bus/type 2 reduction gears are allowed
- Any manufactured rear torsion bars, axles, spring plates and additional retainer straps are allowed as long as original type suspension is retained.
- Rear torsion tube may be strengthened or replaced with a stock/maximum width of 40.5".
- Trailing arm bracket must be 13.50" plus or minus 1", measured from the inside of the spring/flex plate to the inner most flange of the trailing arm pivot point.
- Secondary suspensions of any type are not allowed

SHOCKS & SPRINGS

- Any size or number of shocks are allowed
- Cooling fins are allowed
- Air or coil over shocks are not allowed

BRAKES

- Any manufacturer drum or disk brakes allowed
- Inboard brakes are not allowed

WEIGHT

- Minimum weight with driver is 1,580 pounds
- Ballast allowed with 3/8" minimum bolts to secure ballast to the frame

BODY

- A roof is required. Roof must be made of .075" Aluminum or 16 gauge (.063") steel sheeting
- Opening in the roof must have a heavy-duty hinge with a secure latching system
- Positive latching system must be Sportsman Series approved.

ENGINE

- Stock Volkswagen type "1" 1600 CC only | US specifications, as received from the factory
- Maximum engine displacement will be 1600 CC | Maximum bore allowed is 85.5 MM | Maximum stroke allowed is 2.7465 (69MM stroke, ± .015)
- Polishing, knifing and/or lighting counterweights is not allowed
- Titanium composite or exotic parts or materials in engine are not allowed

CASE

- Any type 1, 2, 3 or universal case is allowed
- Align Bored is allowed
- Drilled and/or tapped for oil pressure and/or temperature sending unit is allowed
- Machined or push in crank pulley seal is allowed
- Case savers are allowed
- Seating surfaces for cylinders may be machined
- Oil galleries on the early cases may be enlarged to 10 MM, the same as a universal case
- All oil gallery plugs may be removed and treaded
- Oil by pass pistons and springs is open
- Oil sump windage trays are allowed
- Internal de-burring is allowed

FLYWHEEL | CLUTCH | PRESSURE PLATE

- Only stock diameter Volkswagen type 1 design flywheel with eight dowels may be used
- Lightening and balancing of flywheels is allowed
- Any gland nut and washer may be used on the flywheel
- Any stock diameter clutch and pressure plate may be used
- Clutches may be balanced
- Aluminum flywheel not allowed

CRANKSHAFT

- Stock Volkswagen type "1" 1600 CC only
- Any gears are allowed
- Any size power pulley is allowed
- Sand seals are allowed
- .030 undersize is allowed

- Balancing is allowed
- Any brand bearings are allowed as long as stock dimensions are maintained

CONNECTING RODS

- Connecting rods must be Volkswagen #311 "b" rods only. 5.395" length plus or minus .010" measured C/L to C/L
- Balancing of rod and pistons is allowed | when balancing rods one small end and one large end must be left untouched
- Bolts rather than the pressed studs and nuts will identify Volkswagen "A" rods
- Polishing and profiling is not allowed

OILING SYSTEMS

- Any manufacturer wet sump oil system is allowed
- Oil coolers may be used and must be mounted in a safe location
- Deep and/or dry sumps are not allowed
- Sump alterations are not allowed

PISTONS

- Any manufactured flat top pistons are allowed but stock dimensions must be retained 85.5 MM | Three ring pistons only
- Wrist pin retainer may be of any style
- Balancing of rod and pistons allowed
- Minimum piston weight of 310 grams
- Cylinders may be machined for proper deck height
- Piston skirts may be drilled. 3 -1/8 inch diameter holes per side | A total of 6 holes
- Slipper skirts, dished or domed pistons are not allowed
- Machined notching for valves is not allowed
- Cutting of the piston top other than 90 degrees is not allowed

CAMSHAFT AND CAMSHAFT GEAR

- Any manufacturer is allowed

CYLINDER HEADS

- U.S. sedan stock single port design
- Fly cutting for compression is allowed
- Combustion chamber volume is open
- Three angle valve jobs only, 15-45-75-only
- Cylinder heads may not be welded 360 degrees in the cylinder seating surfaces
- Welding for repairs only is allowed
- Grinding, polishing or porting in any area of the head or back cutting of the valve are not allowed
- Angle cutting of the head is not allowed
- Machining cylinder head for valve spring clearance is not allowed

VALVES

- One-piece valve of any manufacturer are allowed, stock sizes must be maintained. Intake 35.5 MM, exhaust 32.0 MM
- Swirled polished stainless steel valves are allowed
- Single 45-degree angle
- Valve guide may be bronze, cast iron or steel of any, manufacture and length
- Valve guide seals are allowed
- Any manufacture of valve springs, spring retainers and lifters are allowed
- Stock valve spring seat diameter in the head-inner and outer must be maintained

- Grinding, polishing, blending or porting of any kind is not allowed
- Titanium valves or any other exotic materials are not allowed

ROCKER SHAFTS & ARMS

- Any shaft that permits the use of stock Volkswagen type “1” 1600 cc 1.1 to 1 rocker arms is allowed
- Stock Volkswagen type-1, 1600 cc rocker arms only
- Re-surfacing of rocker arms to accept swivel adjusters is allowed
- Any manufacture push rods and tubes are allowed
- Any manufactured valve covers and gaskets are allowed
- Any other modifications are not allowed
- Needle or roller bearings are not allowed

INTAKE MANIFOLD

- Stock single port only
- Spacer (carburetor to intake) no more than 3/8” thick with a straight bore the same diameter as the carburetor
- Heater tubes may be removed
- Manifold may be shortened but not welded back together | Hose and clamps must be used to secured the manifold back together and allow inspection
- Any other modification is not allowed
- Chemical milling is not allowed

CARBURETOR

- Stock Volkswagen 30 pic 1, 2, and 3 only
- Maximum venturi size 24.10 MM
- Removing of automatic choke housing, choke plate and shaft is allowed
- Stock float bowl vent may be removed and plugged, external float vent allowed
- Any fuel pump stock or electrical, any fuel pressure regulator may be used
- Any manufacture air/fuel filter and any location is allowed
- Velocity stacks are allowed
- Brosol PIC carburetor is allowed, no modifications to throttle shaft, throttle plate or venturi
- Carburetor listed as pic 30 is not allowed.33.18.10Bonding or welding of velocity stack to the carburetor is not allowed.33.18.11Internal modifications including polishing, filing or chemical milling are not allowed
- Removal of any parts from the throat area is not allowed

FAN SHROUD

- Any manufacturer stock shroud allowed

HEADERS

- Open

MUFFLERS

- Open

IGNITION SYSTEMS

- A distributor must be used to send current to the spark plugs | Only one distributor is allowed
- Battery ignition of 6 or 12 volt is allowed
- Stock or direct replacement coil only
- Any manufacturer distributor is allowed
- Magnetic pickups that directly replace the points are allowed
- Any Volkswagen alternator or generator is allowed in the stock location
- Alternator and cooling fan must use the Type 1 design and the charging system must be operational
- Magneto, multiple coil and direct fire ignition systems are not allowed

TRANSMISSION

- Stock Volkswagen type 1 or 2 trans-axle housing with only four forward gears
- Any gear combinations are allowed using only Volkswagen style gears
- Internal modifications are allowed
- Gears other than Volkswagen style are not allowed

WHEELS AND TIRES

- Refer to Combined Class Rules
- D.O.T. tires only and available to the general public allowed
- Wheels that mount directly to Volkswagen drum allowed

MUD FLAPS

- All buggy classes are exempt from using mud flaps

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