

## CLASS 1/2-1600

**OPEN WHEEL – RESTRICTED 1600CC SINGLE AND TWO SEAT BUGGIES LIMITED TO 1600CC VW ENGINE AND VW TYPE 1 SUSPENSION SYSTEM** This is a restricted class, and all parts shall remain stock unless otherwise noted in the rules. **FRONT SUSPENSION** Front suspension is based on VW type 1 ball joint or king and link pin style. Any beam of two steel torsion tubes may be used but must retain stock width. Front axle torsion tube centers may be cut, rotated and rewelded to increase ground clearance. Uses of torsion adjusters are optional. Tube center spacing is open. Any manufacturer's torsion bars are allowed. Front trailing arms may be reinforced or replaced as long as stock VW width and length are retained. Suspension limiters are allowed. Spindles, link pins, ball joints, and shock mounting locations are open. Front suspension track width will be measured from wheel mounting face to wheel mounting face. The maximum width is 58.25 inches. Stock type sway bar is ok. Mounted in the stock location. **REAR SUSPENSION** Rear suspension is based on VW type 1 IRS or swing axle Rear trailing arms may be of any manufacturer. Tubular arms are allowed as long as stock VW IRS swing arm length is retained plus or minus 1 inch. Any type of pivot ok. The stock VW dimension between the center line of the rear axle to the center line of the rear torsion housing is 16.250" plus or minus 1 inch must be retained. Outboard bus reduction gears are allowed. Any axle assemblies are allowed as long as original VW type suspension is retained. This includes the use of "micro stub hubs" Rear torsion tubes may be supported or replaced but must remain steel and retain stock VW width. Torsion adjusters are allowed. A single torsion per wheel of any manufacturer is allowed. Torsion bars must remain inside the torsion housing. Torsion bars must be connected to the trailing arm with steel spring plates of any manufacturer. Rear suspension track width must not exceed a maximum of 58.25 inches as measured from wheel mounting face to wheel mounting face. CV joint mounting face to CV joint mounting face must not exceed 47.375" inches as measured at ride height. The entire outer CV must remain inboard of the trailing arm inner bearing.

**Shock Absorbers and Bump Stops** No limit on the number of shocks and the sizes of shocks, cooling fins allowed. No air or coil over shocks allowed **Secondary Suspension** No secondary suspension allowed **Wheels and Tires** Any tire and wheel are allowed that will mount directly on VW drums. No wheel adapters allowed.

**STEERING AND BRAKE COMPONENTS** Steering system open. Any tie rod and tie rod end allowed **Brakes** Any type of brake may be used as long as all other rules are adhered to.

**ELECTRICAL SYSTEM** Battery ignition only, no magnetos. Six- or twelve-volt systems may be used. Any distributor may be used. Any VW type 1 alternator or generator in the stock

location may be used and must be a working charging system. No crank fired ignitions allowed. FUEL SYSTEM Fuel Tanks Safety fuel cells are required.

**ENGINE, TRANSMISSION AND DRIVELINE** Engine and Engine Displacement Engine must utilize VW series type 1, 1600cc, U.S. model sedan components and dimensions. The maximum allowable engine displacement is 1600cc as delivered from the factory ENGINE CASE Any VW type 1, 2, 3 or “universal” case is allowed. The following modifications may be made to the stock case: • The case may be line bored • The case may be drilled and tapped for oil and temp sending units • The case may be machined for crank pulley seal • Case savers may be installed • Cylinder seating surface may be machined • Oil galleries may be enlarged to 10mm • Threaded oil gallery plugs allowed • Oil squirters allowed • Case may be full flowed. • Gussets are allowed. OIL PUMP Any oil pump is allowed. No deep sumps, dry sumps, or sump alterations. Windage trays allowed. Any oil bypass piston and spring allowed. No accusump systems allowed. FUEL PUMP Any combination of stock fuel pump or electric pump may be used. Any fuel filter and pressure regulator may be used.

**FUEL SYSTEM** SCR20 Fuel SCR21 Fuel Tanks Safety fuel cells are required SCR22 Fuel Lines, Vents, Caps ENGINE, TRANSMISSION AND DRIVELINE SCR23 Engine and Engine Displacement Engine must utilize VW series type 1, 1600cc, U.S. model sedan components and dimensions. The maximum allowable engine displacement is 1600cc as delivered from the factory ENGINE CASE Any VW type 1, 2, 3 or “universal” case is allowed. The following modifications may be made to the stock case: (A) The case may be line bored (B) The case may be drilled and tapped for oil and temp sending units (C) The case may be machined for crank pulley seal (D) Case savers may be installed (E) Cylinder seating surface may be machined (F) Oil galleries may be enlarged to 10mm (G) Threaded oil gallery plugs allowed (H) Oil squirters allowed (I) Case may be full flowed. (J) Gussets are allowed. OIL PUMP Any oil pump is allowed. No deep sumps, dry sumps, or sump alterations. Windage trays allowed. Any oil bypass piston and spring allowed. No accusump systems allowed. FUEL PUMP Any combination of stock fuel pump or electric pump may be used. Any fuel filter and pressure regulator may be used.

**PISTONS** Pistons must be stock 3 ring only. Any piston and cyl. as long as original stock dimensions are maintained. Any type of wrist pin keepers. Piston assemblies may be balanced to the weight in grams of the lightest original non balanced piston. Any manufacture piston rings allowed. CONNECTING RODS Any VW aftermarket connecting rod is allowed as long as the maximum length is 5.4”. connecting rod weight is 500 gram minimum with one (1) rod untouched. No polishing or profiling of rods.

**CRANKSHAFT** Crankshaft must be stock VW. Crankshaft may be balanced. Maximum journal size is limited to .030" undersize. No polishing or lightening. Any gear is allowed. Any engine bearing is allowed as long as stock dimensions are maintained. Pulley may be balanced. Sand seals ok. Any VW flywheel may be lightened and balanced. No aluminum flywheel. Any clutch disk and pressure plate but must retain stock VW diameter. Crank may be offset to a maximum of 69.5mm. **HEADS** Heads must be U.S sedan stock single port or dual port or their OEM equivalent. Heads may be fly cut for clean-up. No porting or polishing. Stock intake 34mm original equipment center section or its replacement. A 1" by 1.5" long by ½ inch tube may be welded 2 inches below the carb flange. A minimum of material may be removed from the end of the tube for clearance. A 1 5/8 X 2" long slip tube may be welded to the end of the runners for use of better hose connection. End castings must be original equipment VW, with the VW logo and part numbers. Balance slot may be welded closed. Vacuum hole may be plugged. **CAMSHAFT, LIFTERS, VALVES, ROCKER ARMS** Any camshaft, gear, valve spring retainers, lifters are allowed. Beehive springs allowed, Valve Spring seat diameter in head must remain stock. May use any valve but must be stock 45 degrees and stock dimensions and 8mm stem size. Multi-angle valve seats allowed. No titanium valves allowed. Valve guide may be steel, bronze, or cast iron. No grinding or polishing in the port including valve guide. Must use stock VW 1600 rocker arms. The rocker arms may be resurfaced to permit the use of swivel feet. No other grinding or changes may be made to the rocker arms. No roller or needle bearings will be allowed as part of the camshaft or as an interface between the rocker arms and the camshaft. Any push rods and push rod tubes. Any valve adj screws. Valve covers may be of any manufacture. **FAN SHROUD** Aftermarket VW fan shrouds are allowed.

**CARBURETOR** Stock VW carb 30 pict 1, 2, 3 or the solex h-30-pic replacement must be used. Maximum venturi size is 24.10mm. Velocity stacks may be used as long as they are not bonded to the carburetor. No internal modifications are allowed. This includes no removing of parts, no grinding, polishing, or filing. Intake manifolds must be stock. No chemical milling of manifold or carburetor. Choke housing may be removed. The stock float bowl vent may be plugged and relocated. Any air and main jet may be used. A 34mm to 30mm carb adapter must be used.

**RESTRICTOR PLATES** Single Seat restrictor plates are 27.00 mm Two Seat – none. Low compression engine option 1600cc maximum displacement and 8 to 1 compression ratio, must use same heads as high compression engine with same valve size and no porting at all. Stock VW end castings with VW part numbers must be used, no polishing allowed. An EMPI or WEBER 40 or 44 idf carb may be used and tube style intake manifold. Minimal internal modifications are allowed. This includes no removing of parts, no grinding, polishing, or filing. No chemical milling of manifold or carburetor. The use of any auxiliary

Venturi allowed. No Plenum Manifolds allowed. Must use a maximum 25.00mm Venturi (choke tube) for two seat and a maximum 24.00mm Venturi (choke tube) for single seat. This is a pump gas only engine option with a maximum of 91 octane. Transmission Must be stock VW type 1 or 2 transaxle housing with internal modifications only. No more than four (4) forward speeds are allowed. Any internal modifications allowed. Any gear ratio combinations allowed but only VW type gears (helical cut gears) may be used. Must have a working reverse gear. Any shifter allowed. Fluid Coolers Any oil cooler allowed with the location optional. Full flow systems are allowed. No deep sumps or dry sumps will be allowed or accusumps. Vehicle Weight 1550lb, Minimum Weight shall be considered dry weight for long course and wet weight for short course (dry weight is with all fuel tanks drained.) Tools, spare tires and parts must be removed. But otherwise, the vehicle must be race ready. Official weight will be considered weight shown on official scales.