# CLASS 5-1600

**OPEN WHEEL - 1600cc Baja Bugs**

## DEFINITION

Vehicle must be VW Sedan Type I hardtop or sunroof as delivered from the factory. Vehicle must have the external appearance of a "Baja Bug". No convertibles, Karmann Ghia, 181 Safari's, Variants or Super beetles.

Revised – 02/20/2016

## GENERAL REGULATIONS

Entrants in this class shall comply with all applicable general regulations.

## COMPETITION REGULATIONS

This class is a stock production class and all components must remain stock except for those modifications allowed herein.

NOTE: The CR abbreviations listed under this class (I.E. CR1 HELMETS) refer to cross reference listings in the front of this book. These cross-referenced listings are part of the class rules. Where a conflict occurs between the cross-referenced listing and a rule contained under this class, the rule contained under this class has precedence.

## SAFETY EQUIPMENT

**CR1 HELMETS**
**CR2 PROTECTIVE CLOTHING**
**CR3 EYE PROTECTION and DENTURES**
**CR4 FIRST AID KIT**
**CR5 EMERGENCY SIGNALING DEVICES**
**CR6 HORNS**
**CR7 REFLECTORS**
**CR8 FIRE SUPPRESSION EQUIPMENT**
**CR9 SURVIVAL SUPPLIES**

## SUSPENSION COMPONENTS

Front and rear suspension components are limited to stock VW production Type 1 parts unless otherwise stated within.

### Front Suspension

Front suspension may use either VW Type 1, 181 ball joint or link pin only. Front axle torsion tube centers may be cut, rotated, re-welded or adjusters added so long as stock width is maintained. Front torsion tubes may be replaced with any ferrous material as long as stock width is maintained. Front torsion tubes may be additionally supported by attachment to the floor pan and/or the roll cage. Original seams may be reinforced. Any manufacture torsion plates allowed.

Upper shock mounting is open. Lower shock mount may be moved or replaced as long as it remains on the lower trailing arm.

Sway bars may be removed.

Spindles and trailing arms may be reinforced or replaced with any manufacturer as long as stock measurements are retained. Any manufacture link pins and king pins allowed provided they maintain stock geometry.

Suspension limiters are allowed. Front suspension track width will be measured from wheel mounting face to wheel mounting face; the maximum width is 55.75 inches.

### Rear Suspension

Rear suspension is based on VW Type 1 IRS or swing axle. IRS swing arms may be modified or replaced for strengthening purposes as long as stock VW IRS swing arm length is retained ±1". The stock VW dimension between the centerline of the rear torsion housing to the centerline of the rear stub axle (16.250") must be retained ±1". Outboard bus reduction gears are allowed.

Rear torsion tubes may be additionally supported by attachment to the floor pan and/or the roll cage. Center torsion adjuster is allowed.

Any manufacturer's axle assemblies are allowed as long as original VW type suspension is retained, this includes the use of "micro stub hubs".

Rear shock tower may be removed to body mounting bolthole only.

Suspension limiters allowed.

Any manufacturer spring plate may be utilized with additional retainer straps and top and bottom stops removed as long as stock mounting method is maintained.

© 2011 SCORE International, All Rights Reserved

# CLASS 5-1600

**OPEN WHEEL - 1600cc Baja Bugs**

## DEFINITION

Vehicle must be VW Sedan Type I hardtop or sunroof as delivered from the factory. Vehicle must have the external appearance of a "Baja Bug". No convertibles, Karmann Ghia, 181 Safari's, Variants or Super beetles.

Revised – 02/20/2016

May convert existing swing axle suspension to IRS by welding any manufacturer's tabs to torsion housing in stock location while maintaining stock geometry.

Original wheelbase must be retained.

Rear suspension track width must not exceed a maximum of 58.250 inches as measured 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.

**CR10 SHOCK ABSORBERS and BUMP STOPS**

Any manufacturer's shocks and sizes are allowed. Cooling fins and/or reservoirs are allowed. One shock per wheel allowed in the front. Two shocks per wheel in any location allowed in the rear. No air shocks or coil over shocks are allowed. No hydraulic bump stops allowed.

**CR11 SECONDARY SUSPENSION**

No secondary suspension is allowed.

**CR12 WHEELS and TIRES**

Any manufacturer's rims allowed that will mount directly on VW drums. No wheel spacers allowed. Any manufacturer tires are allowed as long as CR12 guidelines are maintained. Spare tire may be relocated anywhere inside body.

**CR13 FASTENERS**

### STEERING and BRAKE COMPONENTS

**CR14 STEERING**

Steering box may be of any origin. Any manufacturers steering wheel and adaptor may be used in the stock location. Any steering dampener may be used. Any steering shaft allowed and sheet metal tube may be removed. Power steering is allowed as long as all other rules are adhered to. Any tie rods and tie rod ends are allowed.

**CR15 BRAKES**

Any type and manufacture brake may be used as long as all other rules are adhered to.

## ELECTRICAL SYSTEM

**CR16 IGNITION**

Battery ignition only, no magnetos. Six or twelve volt systems may be used regardless of year model. Any manufacturer's distributor may be used. Any VW type alternator or generator system in the stock location may be used.

**CR17 BATTERIES**

Number of batteries and location are optional.

**CR18 LIGHTS**

Additional lighting is permitted. Any manufacturers stop and taillights are allowed.

**CR19 STARTERS**

## FUEL SYSTEM

**CR20 FUEL**

**CR21 FUEL TANKS**

Safety fuel cells are required.

Fuel cell may be relocated from stock location. Any size fuel cell is allowed. A minimum of two (2) additional hold down straps must be installed to support fuel cell in the event of an upset. Straps may be rubber coated steel or nylon webbing.

Any combination of stock or electric fuel pump may be utilized.

**CR22 FUEL FILLER LINES, VENTS, and CAPS**

## ENGINE, TRANSMISSIONS and DRIVELINES

**CR23 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 align bored.

(B)The case may be drilled and tapped for oil pressure and/or temperature sending units.

(C)The case may be machined to allow the installation of a crank pulley seal.

(D)Case savers may be installed.

(E)Cylinder seating surface may be machined.

(F)Early case oil galleries (8mm) may be enlarged to the dimensions of the universal case (10mm).

(G)Threaded oil gallery plugs allowed.

**Oil Pump**

Any manufacturer's oil pump is allowed. No deep sumps, dry sumps, or sump alterations. Windage trays are allowed. The use of any oil-bypass pistons and springs are allowed.

© 2011 SCORE International, All Rights Reserved

# CLASS 5-1600

## OPEN WHEEL - 1600cc Baja Bugs

### DEFINITION

Vehicle must be VW Sedan Type I hardtop or sunroof as delivered from the factory. Vehicle must have the external appearance of a "Baja Bug". No convertibles, Karmann Ghia, 181 Safari's, Variants or Super beetles.

Revised – 02/20/2016

**Fuel Pump**

Any combination of stock fuel pump or electric pump may be used.
Any fuel filters and fuel pressure regulators of may be used.

**Pistons**

Pistons must be stock 3 ring only. Pistons and cylinders may be any manufacture as long as original stock dimensions are maintained. Any type wrist pin retainers. Piston assemblies may be statically balanced to the equivalent weight in grams of the lightest original non-balanced piston, wrist pin, etc.

**Crankshaft**

Crankshaft must be stock VW. Crankshaft may be balanced. Crankshaft maximum journal re-sizing is limited to .030" undersize. No polishing or lightening of crankshaft is allowed. Any crankshaft gear is allowed. Any manufacturers engine bearing may be used as long as the stock dimensions are maintained. Power pulleys are allowed. Pulleys may be balanced. Sand seals may be used. Any VW flywheel may be lightened and balanced. Flywheels may be eight dowel pinned and any gland nut and washer may be used. No aluminum flywheels are allowed. Any manufacturers clutch disc or pressure plate allowed but must retain original stock VW diameter. Clutch and pressure plate may be balanced. Connecting rods may be statically balanced, but not polished or profiled. Balanced weight of the connecting rods in grams should be equivalent to the lightest original non-balanced stock rod. Connecting rods may be of any manufacture but must retain stock dimensions. Minimum rod weight is 580 grams.

**Heads**

Heads may be U.S. sedan stock single port or dual port or their equivalent. Heads may be flycut for clean up. No porting or polishing is allowed. Only dual port heads from Brazil, part number 040 101 375 2 or 040 101 375 13, 040 101 375 19, or stock OEM heads will be allowed.

Intake manifold is restricted to a stock 34mm original equipment center section or its replacement. A 1½-inch (1.500) long by half-inch (.500) diameter tube may be weld two inches below carburetor flange. A maximum of a ¼ inch (.250) may be removed from each end of the center section for clearance. A slip tube with a 1 5/8 inch (1.625) diameter, two inches (2.000) long may be welded to the end of the runners to allow the use of a better hose connection. No porting or polishing.

End castings must be original equipment VW, with VW logo and part numbers. No porting, polishing, or matching of ports allowed. Balancing slot may be welded close. Vacuum hole may be plugged. A 34mm to 30 mm carburetor adapter must be used. The only carburetor adapter that is allowed is the EMPI part number 98-1293-B.

**Camshaft, Valves, Lifters, and Rocker Arm(s)**

Any camshaft, camshaft gear, valve spring retainers, valve springs and lifters are allowed. Valve spring seat diameter, in head, must remain stock VW. Valves must be stock 45 degrees. One-piece valves are allowed. Valve guides may be steel, bronze or cast iron. Valve guide seals are allowed. No grinding or polishing in the port including valve guides. Any camshaft may be used which will allow the use of the standard stock VW 1600cc rocker arm(s). The rocker arm(s) may be resurfaced to permit the use of swivel feet or similar devices. No other grinding or changes to the rocker arm(s) are permitted. No roller or needle bearings will be allowed as part of the camshaft or as an interface between the rocker arm(s) and the camshaft. Push rods and push rod tubes may be of any manufacturer. Rocker arm valve adjustment screws and wave washers may be of any origin. Clips on rocker arms may be wire tied. Valve covers may be of any manufacture.

**Fan Shroud**

After market fan shrouds are allowed. Heater tubes are optional.

**Carburetor**

Air cleaner location is optional and may be of any manufacture. Velocity stacks may be used as long as they are not welded or bonded to the carburetor. Stock VW carburetors 30 pict 1, 2, or 3 or the Solex H-30-PIC replacement must be used. Maximum venturi size of carburetor is 24.10mm. No internal modifications in the carburetor venturi or throttle blade are allowed. This includes no removing of parts, no grinding, polishing, or filing. Intake manifolds must be stock VW. Intake manifold may be cut to allow for head modifications. No chemical milling of manifold or carburetors. Automatic choke housing may be removed. Choke plate and shaft may be removed. Electric needle valves are optional. The stock float bowl vent may be moved and/or plugged. An external float bowl vent may be incorporated. Any air and main jet may be used.

**CR24 ENGINE REPLACEMENT**

**CR25 TRANSMISSIONS**

Must be stock VW type 1 or 2 transaxle housing. Any internal or external modifications to housing are allowed. No more than four (4) forward speeds are allowed. Any gear ratio combinations but only VW type gears (helical cut gears) may be used. Any internal modifications are allowed.

May use after market side covers.

Any gearshift lever allowed.

May use any manufacturers Type 1,2, 181 or “micro stub” axle.

May use any CV joint. Over sized bolts allowed as long as engine remains in stock location. Rear frame horns may be modified for CV joint clearance as long as modification does not exceed below the seam.

**CR26 THROTTLES**

**CR27 EXHAUST**

Any manufacturers exhaust system is allowed.

**CR30 FLUID COOLERS**

Any manufacturers oil cooler is allowed with the location optional. Full flow system is allowed. No deep sumps or dry sumps will be allowed.

© 2011 SCORE International, All Rights Reserved

# CLASS 5-1600

**OPEN WHEEL - 1600cc Baja Bugs**

## DEFINITION

Vehicle must be VW Sedan Type I hardtop or sunroof as delivered from the factory. Vehicle must have the external appearance of a "Baja Bug". No convertibles, Karmann Ghia, 181 Safari's, Variants or Super beetles.

Revised – 02/20/2016

**CR31 AUXILIARY EQUIPMENT**
**CR32 SUPERCHARGERS and TURBOCHARGERS**

## VEHICLE SAFETY EQUIPMENT

**CR33 ROLL CAGES**
**CR34 SAFETY HARNESS**
**CR35 SAFETY NETS**
**CR36 SEATING**

Any manufacturers seats are allowed but must remain in stock location. Rear seat may be removed. If stock seat mounts are used they must be reinforced using at least two U-bolts per seat runner.

## GENERAL VEHICLE COMPONENTS

**CR37 DRIVER'S COMPARTMENT**

Rear seat, upholstered panels, headliners, and carpets may be removed. Removal of dash and firewalls is prohibited. Dash may be covered with sheet metal to facilitate the installation of additional engine instrumentation.

Pedals must remain in stock fore and aft location. May use replacement roller pedal or stock pedal cluster. May use any manufacture throttle cable.

Air cleaner hose and oil lines may pierce firewall. Any holes drilled in the firewall for oil lines, etc. may not leave a gap larger than 0.125".

**CR38 DOORS and LATCHES**

Doors must remain functional and in original stock location with original hinges and working latch. Secondary positive latching devices mandatory if nets are attached to doors.

**CR39 FIREWALLS**
**CR40 BALLAST**
**CR42 FLOORBOARDS**

Serial numbers are required on the floor pan. No alteration to pan allowed except for heating, bending, or cutting of pan 1" to allow for tie rod clearance and CV joint clearance. Frame head may be interchanged from late to early or early to late.

**CR43 BUMPERS and HAZARDOUS PROTRUSIONS**

Nerf bars may be added to the sides in front of the rear wheels. The supporting bar hole should not have more than 0.125" clearance between the bar and the body where it enters the body.

**CR44 MIRRORS**
**CR45 SKID PLATES**

Any type front and rear skid plates may be used. Any engine guards are allowed.

**CR46 STORAGE**
**CR47 FENDERS**

Fenders must be stock Baja bug kit fenders. Rear fenders may be of any manufacturer. Metal fenders require rolled edges. Rear fenders may be mounted a maximum of 1.5" above the body line as measured at the top of the fender. Minimum width of 6" as measured at the center line of the rear wheel.

Rear fender wells may be modified or removed 0.5" below stock fender mounting holes. Rear package trays must remain in stock location and remain stock size. If fender well is removed the resulting hole must be covered air tight with metal of the same thickness as the metal removed.

**CR48 CHASSIS and BODY**

Original wheelbase must be maintained. Body must be VW Type 1 Bug or Sunroof Bug. No convertibles, Ghia, 181 Safari's, Variants or Super Beetles. Main body shell must be all original. Sunroofs must have metal covering. No fiberglass body or doors. Front and rear sheet metal may be removed far enough to allow installation of Baja bug kit.

Running boards may be removed.

Single piece front fiberglass Baja bug hood allowed. No canvas hoods allowed.

No lift kits allowed.

**CR49 HOSES**
**CR50 IDENTIFICATION MARKING**
**CR51 ADVERTISING on VEHICLES**
**CR52 RADIO EQUIPMENT**
**CR53 WORKMANSHIP**
**CR54 TRACKING DEVICE**

© 2011 SCORE International, All Rights Reserved