# Class 5-1600

**OPEN WHEEL – 1600cc Baja Bugs**

**Competition Numbers 550-599**

## DEFINITION

Vehicle must be a VW Sedan Type 1 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.

## 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. Vehicles that raced SCORE previously, and do not meet current specifications, can possibly be modified and “Grandfathered” into current competition. Contact SCORE Tech Director for information.

***NOTE:*** *The CR abbreviations listed under this class (i.e.CR1 HELMETS) refer to cross reference listings in the Competition Regulation section on this website. 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

**CR 1 HELMETS**
**CR 2 PROTECTIVE CLOTHING**
**CR 3 EYE PROTECTION and DENTURES**
**CR 4 FIRST AID KIT**
**CR 5 EMERGENCY SIGNALING DEVICES**
**CR 6 HORNS**
**CR 7 REFLECTORS**
**CR 8 FIRE SUPPRESSION EQUIPMENT**
**CR 9 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 with any manufacturer as long as stock measurements are retained. Any manufacture link pins and kingpins 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 bolt hole only.

Suspension limiters allowed.


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**Rear Suspension** *cont'd*

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.

May convert existing swing axle suspension to IRS by welding any manufacturer's tabs to torsion housing in stock location while mounting stock geometry. ± 30°.

Original wheelbase must be retained.

Rear suspension track width must not exceed a maximum of 58.250" as measured wheel mounting face to wheel mounting face. CV joint mounting face to CV joint mounting face must not exceed 47.375", as measured at ride height. The entire outer CV must remain inbound of the trailing arm inner bearing.

**CR 10 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 coilover shocks are allowed. No hydraulic bump stops allowed.

**CR 11 SECONDARY SUSPENSION**

No secondary suspension is allowed.

**CR 12 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 the body, and must meet SCORE Director approval..

**CR 13 FASTENERS**

## STEERING AND BRAKE COMPONENTS

**CR 14 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.

**CR 15 BRAKES**

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

## ELECTRICAL SYSTEM

**CR 16 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.

**CR 17 BATTERIES**

Number of batteries and location are optional.

**CR 18 LIGHTS**

Additional lighting is permitted. Any manufacturers stop and tail lights are allowed. Must retain "VW Baja Body".

**CR 19 STARTERS**

## FUEL SYSTEM

**CR 20 FUEL**

**CR 21 FUEL TANKS**

Safety fuel cells are required

Fuel cells 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.

**CR 22 FUEL FILLERS LINES, VENTS, and CAPS**

## ENGINE, TRANSMISSION AND DRIVELINES

**CR 23 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.


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### 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 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.

### Fuel Pump

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

Any fuel filters and fuel pressure regulators 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 aluminium 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 fly cut for cleanup. No porting or polishing is allowed. Only dual port heads from Brazil, and MOFOCO and EMPI are approved. Part numbers 040 101 375 2 or 040 101 375 13, 040 101 375 19, 040 101 375.13 or stock OEM heads are 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 weld two inches below carburettor 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 powers allowed. Balancing slot may be welded-closed. Vacuum hole may be plugged. A 34mm to 30mm carburettor adapter must be used. The only carburettor 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 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.


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**Carburettor**

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 carburettor. Stock VW carburettors 30 pict 1,2 or 3 or the Solex H-30-PIC replacement must be used. Maximum venturi size of carburettor is 24.10mm. No internal modifications in the carburettor 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 carburettors. 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.

**Option:** Low compression 1600 c.c. engine with maximum 8.0 to 1 ratio. May use a Weber 40 or 44 cfm carburetor. Carburetor 26 mm inserts can be purchased from SCORE Tech (702) 210-7785.

**CR 24 ENGINE REPLACEMENT**

**CR 25 TRANSMISSION**

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 aftermarket side covers.

Any gearshift lever allowed.

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

May use any CV joint. Oversized 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.

**CR 26 THROTTLES**

**CR 27 EXHAUST** - Any manufacturers exhaust system is allowed.

**CR 28 DRIVE SHAFTS**

**CR 29 FLYWHEEL SHIELDS**

**CR 30 FLUID COOLERS** - Any manufacturers oil cooler is allowed with the location inside vehicle. No roof coolers allowed. Full flow system is allowed. No deep sumps or dry sumps will be allowed.

**CR 31 AUXILIARY EQUIPMENT**

**CR 32 SUPERCHARGERS and TURBOCHARGERS**

**VEHICLE SAFETY EQUIPMENT**

**CR 33 ROLL CAGES**

**CR 34 SAFETY HARNESS**

**CR 35 SAFETY NETS**

**CR 36 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**

**CR 37 DRIVERS COMPARTMENT**

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

Pedals must remain in stock fore and aft location. Clutch pedal may be reinforced but not relocated or removed. 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”.

**CR 38 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.

**CR 39 FIREWALLS**

**CR 40 BALLAST**

**CR 41 WEIGHT**

**CR 42 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


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interchanged from late to early or early to late.

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**CR 43 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.

**CR 44 MIRRORS**

**CR 45 SKID PLATES**

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

**CR 46 STORAGE**

**CR 47 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.

**CR 48 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.

**CR 49 HOSES**

**CR 50 IDENTIFICATION MARKINGS**

**CR 51 ADVERTISING ON VEHICLES**

**CR 52 RADIO EQUIPMENT**

**CR 53 WORKMANSHIP**

**CR 54 TRACKING DEVICE**


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