

## **CLASS 5-1600 Updated February 2023**

### **OPEN WHEEL – 1600 BAJA BUG**

**VEHICLES 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, KARMAN GHIAS, 181 SAFARI’S, VARIANTS OR SUPER BEETLES**

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### **COMPETITION REGULATIONS**

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

### **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 ball joint or king and link pin only. Front axle torsion tube centers may be cut, rotated, rewelded or torsion adjusters added. Any manufacturer’s torsion bars are allowed. Any beam of two steel torsion tubes may be used but must retain stock width. Front torsion tubes may be additionally supported by attachment to floor pan and/or roll cage. Original seams may be reinforced. Front trailing arms may be reinforced or replaced as long as stock VW width and length are retained. Spindles, link pins, ball joints, and upper shock mounting locations are open. Lower shock mount may be moved or replaced as long as it stays on the lower trailing arm. Sway bars may be removed. Front suspension track width will be measured from wheel mounting face to wheel mounting face and the maximum width is 55.75 inches.

### **REAR SUSPENSION**

Rear suspension is based on VW type 1 IRS or swing axle. Rear torsion tubes may be additionally supported by attachment to the floor pan and/or roll cage. IRS trailing arms may be modified or replaced as long as stock measurement is 16.250 plus or minus 1 inch as measured from center of torsion to center of axle. any manufacturers axle assemblies are allowed as long as 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. Torsion adjusters are allowed. Original wheel base must be retained. Torsion bars must be connected to the trailing arm with steel spring plates of any manufacture. Rear suspension track width must not exceed a maximum of 58.250 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. May convert existing swing axle suspension to IRS by welding in any manufacturers pivot boxes to torsion housing in stock location while maintaining stock geometry.

### **Shock Absorbers and Bump Stops**

Any manufacturer's shocks and sizes are allowed. Cooling fins and/or reservoirs allowed. One shock per wheel in the front. Two shocks per wheel in any location in the rear. No air or coilover shocks allowed. No hydraulic bump stops 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. Spare tire may be relocated anywhere inside body

## **STEERING AND BRAKE COMPONENTS**

### **Steering**

Steering box may be of any origin. Any steering wheel in the stock location. Any tie rod and tie rod ends allowed. Power steering ok.

### **Brakes**

Disk brakes ok.

## **ELECTRICAL SYSTEM**

### **Ignition**

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

## **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

## **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 wrist pin keepers. Piston assemblies may be balanced to the weight in grams of the lightest original non balanced piston, wrist pin, ect, total seal rings are ok.

## **CONNECTING RODS**

Any VW aftermarket connecting rod is allowed as long as the rods are stock VW length (5.393) and stock weight with a 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. Power pulleys are allowed. Pulley may be balanced. Sand seals ok. Any VW flywheel may be lightened and balanced. No aluminum flywheels. Any clutch disk and pressure plate but must retain stock VW diameter. May be offset to 69.5mm.

## **HEADS**

Heads must be U.S sedan stock single port or dual port or their equivalent. Only dual port heads with the following numbers will be allowed. 040101375 2, 040101375 13, 040101375 19 or autolenia heads or stock OEM heads will be allowed. The MOFOCO replacement heads with a part# (mfc-cch040) will be allowed. 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 springs, valve spring retainers, lifters are allowed. Valve spring seat diameter in head must remain stock. Valve guide may be steel, bronze, or cast iron. No grinding or polishing in the port including valve guide. 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. **no titanium valves allowed.** 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**

After market 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.

### **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, No Plenum Manifolds allowed. Must use a maximum 26mm venturi. 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 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 gear shift lever allowed. Rear frame horns may be modified for cv joint clearance as long as it does not exceed below seam. Any cv joint and axle assemblies.

## **Fluid Coolers**

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

## **GENERAL VEHICLE COMPONENTS**

### **Drivers Compartment**

Rear seat, upholstered panels, headliners, and carpet may be removed. Removal of dash and firewall is prohibited. Dash may be covered with aluminum to install gauges. **Aftermarket pedals (clutch, brake, throttle) and master cylinders allowed.** Air cleaner hose may pierce firewall for such things as oil lines, etc

### **Doors and Latches**

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

### **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. Frame head may be interchanged from early to late or late to early.

### **Fenders**

Fenders must be stock Baja Bug kit fenders. Rear fenders may be of any manufacturer. Medal 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 from the center line of the rear wheel. Rear fender wells may be modified or removed .5" below stock fender 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 the same thickness as the material removed

### **Chassis and Body**

Original wheel base must be maintained. Body must be VW type 1 bug or sunroof bug. No convertibles, Ghia's, 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 can be removed far enough to allow a Baja Bug kit. Running boards may be removed. One piece front end allowed. No canvas hoods allowed. No lift kits