



LITE BUGGY™ CLASS RULES

The Lite Buggy™ class is intended to be a reasonably priced, highly competitive, class for beginners and veterans alike; desert racers, stadium veterans, and short course drivers are welcomed. You will probably see young driver's graduating from the Kart classes as well participating here. This is a very unique class of race vehicle where Class 9 desert vehicles, Midwest Limited Light Buggies, and purpose built Lite Buggy™ vehicles can all race together competitively.

Specifically, Lite Buggy™ is a one or two seat limited open 4 wheel rear engine buggy class with close competition and budget in mind. **Absolutely NO titanium, inconel, unobtainium, and / or high cost exotic materials are to be used on anything unless specified so.**

The spirit of this class is for it to be a "driver's" class with a fun, reliable, and safe race vehicle that is both budget in minded and easily maintained while maintaining high levels of competition. If the rules say you cannot do something, DON'T! If you think you have found a loophole because it may not be specified in the rules, DON'T do it without consulting the Lite Buggy Board of Directors. If you think you can buy wins and success with a fat pocket book, please choose a more open and unlimited class to participate in as this is a driver's class.

1. CHASSIS
 - a. Chassis construction must comply with sanctioning body General Competition Regulations (GCR's)
2. SAFETY EQUIPMENT
 - a. All safety equipment must comply with sanctioning body GCR's.
3. WHEELBASE
 - a. Vehicles must be a minimum of 95" measured at race ready vehicle ride height.
4. WEIGHT
 - a. Minimum weight with driver is 1580 pounds at race end with driver, cleaning of vehicle may be required. Short course weighing rules and conditions apply see GCR's.
 - b. Ballast may be applied and must be mounted with minimum fastener size of .375".
 - i. Ballast must be painted white with vehicle number clearly marked as well.
5. FRONT SUSPENSION
 - a. Limited to 9" of maximum wheel travel as measured from the center of the hub.
 - b. Link Pin or Ball Joint Front End
 - i. Maximum beam width – 34.1875"
 - ii. Front axle tubes may be cut, rotated, and re-welded to increase torsion leaf preload
 - iii. Front Torsion Adjusters allowed
 - iv. Stock or aftermarket beams allowed provided stock VW dimensions are maintained.
 1. No aluminum beams.
 - v. A single one piece tube may be welded from one shock tower to another for added strength
 - vi. Shock towers must be welded to front beam.
 - vii. Front axle seams may be welded
 - viii. Only stock VW numbered ball joints may be used; no aftermarket ball joints allowed
 - ix. Stock or aftermarket link pins, link pin bushings, and shims may be used; however link pin diameter may not exceed 18mm / .625".
 - x. Stock or aftermarket torsion leaves are allowed
 - xi. Urethane, rubber, steel or nylon limit straps may be used to limit up and down travel, however, any type of secondary suspensions, hydraulic bump stops, air bags, etcetera are not allowed.
 - xii. Stock or aftermarket Link Pin or Ball Joint spindles may be used; however drop, lift, tubular, and / or hollow spindles are not allowed
 1. Filling / welding of speedometer hole on either style spindle is permitted for added strength.
 2. Spindles may be reinforced by adding material via gussets.
 - xiii. No sway bars or devices allowed whatsoever.
 - c. Only 1 shock absorber per wheel is allowed.
 - i. Outside diameter of shock may not exceed 2.0" or 50.8mm
 - ii. Maximum shaft size is .625"

- iii. No air shocks, coil over shocks, bump shocks, bypass shocks, internally or externally adjustable shocks, and / or position sensitive shocks allowed.
- iv. Remote reservoir or piggyback reservoir shocks allowed provided the reservoir is of the same diameter as the shock body and is available to the general public for sale.

6. FRONT BRAKES

- a. Original VW Type 1, 2, 3, and 181 Safari Drum Brakes are allowed
 - i. Drums may be 4 lug or 5 lug VW bolt pattern.
 - ii. Drums may be studed
 - iii. Aluminum converted drums allowed.
 - iv. Lightening or drilling is not allowed.
 - v. No wheel adapters; wheels must mount directly to original hub surface.
- b. Any combination of VW wheel cylinders are allowed
- c. Any combination of VW type brake shoes may be used provided that original VW dimensions are maintained.
- d. Dual master cylinder brake systems are mandatory.
- e. Aftermarket disc brake systems are allowed provided that the calipers have no more than 2 pistons and rotor size is a minimum of .375" thick and 10" in diameter.

7. REAR SUSPENSION

- a. Limited to a maximum of 9" of wheel travel as measured from the center of the hub.
- b. VW Type 1 IRS or Swing axle style rear suspensions only.
- c. Maximum 51" track width is measured from backing plate to backing plate at race ready vehicle ride height.
- d. Stock or Aftermarket torsion housings are allowed provided stock VW dimensions are maintained
 - i. Maximum torsion housing width is 40.5"
 - ii. Rear Torsion Adjusters allowed
- e. Stock or aftermarket spring plates and grommets may be used provided stock dimensions are maintained.
 - i. Spring plate retainers are allowed
- f. Stock or aftermarket torsion bars allowed
 - i. Gun drilled or hollow torsion bars are not allowed.
 - ii. Torsion bar diameters must be a minimum of 19mm and a maximum of 30mm
 - iii. Torsion bar lengths must be a minimum of 21.75" long and a maximum of 26.5625" long.
 - iv. No sway bars or devices allowed whatsoever.
- g. IRS suspensions must use stock VW Type 1 trailing arm.
 - i. Plates and gussets may be added for strengthening provided original stock VW trailing arm dimensions are maintained
 - ii. 16.25" length measurement will be taken from center of torsion bar installed in housing to the center of stub axle.
 - iii. Aftermarket bearing housings may be installed provided original VW dimensions are maintained for both trailing arm and bearing housing.
 - iv. Stock or aftermarket Type I Stub Axles only
 - 1. Stock Type 1 Stub Axles may be modified to use Type 2 or Type 4 CV Joints
 - v. VW Type 1, 2, 4, or 930 CV Joints allowed
 - 1. No shaving, cutting, or lightening of CV Joints.
 - 2. The use of aftermarket CV Cages are allowed
 - 3. CV Joints may be drilled for larger 3/8" bolts
 - 4. Any rubber type CV boot and steel or aluminum boot retainer may be used. No leather or composite boots allowed.
 - vi. Stock or aftermarket drive axles may be used.
 - 1. Gun drilled or hollow drive axles are not allowed.
- h. Swing axle suspensions may use axle over tubes for strengthening.
 - i. Stock or aftermarket drive axles are allowed.
 - 1. Gun drilled or hollow drive axles are not allowed.
- i. Only 1 shock absorber per wheel is allowed.
 - i. Outside diameter of shock may not exceed 65mm
 - ii. Maximum shaft size is .625"
 - iii. No air shocks, coil over shocks, bump shocks, bypass shocks, externally adjustable shocks, and / or position sensitive shocks allowed.
 - iv. Remote reservoir or piggyback reservoir shocks allowed provided the reservoir is of the same diameter as the shock body and is available to the general public for sale.

8. REAR BRAKES

- a. Original VW Type 1, 2, 3, and 181 Safari Drum Brakes are allowed
 - i. Drums may be 4 lug or 5 lug VW bolt pattern.
 - ii. Drums may be studded.
 - iii. Aluminum converted drums allowed.
 - iv. Lightening or drilling is not allowed.
 - v. No wheel adapters; wheels must mount directly to original hub surface.
 - vi. Foam mud plugs allowed.
 - vii. Aluminum, steel, plastic, etcetera wheel covers are not allowed
 - b. Any combination of VW wheel cylinders are allowed
 - c. Any combination of VW type brake shoes may be used provided that original VW dimensions are maintained.
 - d. Dual master cylinder brake systems are mandatory.
 - e. Mechanical or hydraulic brake bias adjusters are allowed.
 - f. Aftermarket disc brake systems are allowed provided that the calipers have no more than 4 pistons and rotor size is a minimum of .375" thick and 10" in diameter.
 - g. No Micro Stub set ups. Rear hub / brake package must use original style / dimensioned VW Type 1 bearing housing and original style / dimensioned VW Type 1 Stub axle
 - h. Single or dual handle hydraulic turning brakes are allowed.
9. TIRES & WHEELS
- a. Must use a 15" steel wheel and the width is not to exceed 8"
 - b. Stock VW or aftermarket steel wheels allowed
 - c. Bolt pattern must be either 4 x 130 or 5 x 205
 - d. No bead locks
 - e. No wheel adapters; wheels must mount directly to original hub surface.
 - f. Foam mud plugs allowed.
 - i. Aluminum, steel, plastic, etcetera wheel covers are not allowed
 - g. D.O.T. tires only
10. STEERING
- a. Must use rack and pinion type steering.
 - b. No stock VW steering boxes
 - c. Steering dampeners allowed
 - d. Hydraulic, electric, or other power steering or assisted steering devices are not allowed.
 - e. Any tie rod and tie rod end allowed.
 - f. Positive locking quick release steering wheel recommended.
11. FUEL SYSTEM
- a. Fuel cells are required and must have any one of the following approvals: FIA, SFI, SCORE, and BITD.
 - i. Maximum capacity is 22 gallons
 - ii. Cells must be contained in a steel or aluminum container.
 - iii. Cells must have flapper and rollover valves installed in filler neck and vent.
 - iv. Electric fuel pumps are not allowed.
 - v. Any manufacturer fuel filter and regulator may be used
12. ELECTRICAL SYSTEM & IGNITION
- a. 12 Volt positive charging battery based electrical systems only
 - i. Alternator or Generator must be in working operating condition and provide at least 12.5 volts back to charging electrical system when engine is running
 - ii. No "gutting" of alternator or generator
 - iii. Stock or aftermarket distributors allowed
 1. Electronic ignitions and / or magnetic pick-ups that directly replaces the points in a distributor are allowed
 2. Direct fire, crank triggered, magneto, and / or multiple coil ignitions are not allowed.
 - iv. A Master on/off switch wired to the battery that will cut off all electrical power and the engine is required.
 1. Must be clearly labeled and accessible from outside of the race vehicle.
13. ENGINE
- a. Must be Volkswagen Type 1 1500/1600 USA spec as received from the factory.
 - i. Aluminum or Magnesium cases allowed.
 - b. Maximum engine displacement will be 1,584.65 cc's using standard 85.5mm bore pistons and cylinders and a stock 69mm stroke crank.
 - ii. No offset grinding of crankshaft

- iii. No lightening, knife edging, or counterweighting of crankshaft.
- c. No Titanium, composite, ceramic, painted, and / or impregnated materials or coatings allowed.
- d. Any type 1, 2, 3 or universal case
- e. Case may be align bored.
- f. Case may be drilled and / or tapped for oil pressure and / or temperature sending units.
- g. Case may employ a machined or push in crank pulley sand seal.
- h. Case savers may be installed.
- i. Oil galleries may be enlarged to 10mm.
- j. Oil gallery plugs may be removed and threaded.
- k. Aftermarket and adjustable oil bypass piston and springs are allowed.
- l. Windage trays allowed.
 - a. Deep, wet, or dry sumps or any sump alterations thereof are not allowed.
- m. Aftermarket exhaust systems are allowed provided all noise requirements per sanctioning body are met.
 - a. Exhaust coatings allowed
- n. Any brand or manufacturer engine bearings are allowed provided stock dimensions are maintained.
 - a. No composite, ceramic, painted, and / or impregnated materials or coatings allowed.
- o. Pistons and cylinders must be from either Cima / Mahle or Cofap cast or forged.
 - a. 85.5mm is the maximum size
 - b. Three ring pistons only maintaining stock ring groove sizes of 2mm by 5mm
 - c. J&E, Nikasil, or other aftermarket piston and cylinder than prescribed are not allowed.
 - d. Pistons may be balanced to the lightest of the set. Thus, one piston must remain free from any cutting, machining, or lightening.
 - e. Piston tops may not be machined, decked, or relived for valves.
 - f. Slipper skirts, notched pistons, domed pistons, or any piston that strays from the original dimensions and style are strictly prohibited.
- p. Connecting Rods must be Volkswagen #311 "B" type only.
 - a. Measurement of 5.395" plus or minus .010" measured from the center of the small end to the center of the large end.
 - b. Connecting rods may be balanced to the lightest of the set. Thus, one connecting rod must remain free from any cutting, machining, or lightening.
 - a. No polishing, profiling, lightening, chemical milling or coating.
- q. Camshafts and cam gears are open.
 - a. No composite, ceramic, painted, and / or impregnated materials or coatings allowed.
- r. Oil pumps are open provided they are of wet sump original equipment design only.
 - a. Full flow oil systems are allowed
- s. Flywheel, clutch, and pressure plate must be of Volkswagen Type 1 design, concept, and diameter.
 - a. No aluminum flywheels
 - b. No multi-disc or "mini-sized" clutches and / or components.
 - c. Flywheel, clutch, and pressure plate may be balanced.
 - d. Flywheels may be lightened
 - e. Flywheels and crankshafts may be 8 doweled
 - f. Gland nut and washer are open.
- t. Single Port or Dual Port cylinder heads are allowed.
 - a. Only the following Volkswagen Dual Port Cylinder Heads are allowed: 0401013752, 04010137513, 04010137519, or OEM 311
 - b. Maximum compression ratio is 9.0:1.
 - c. No porting, polishing, or coating of cylinder head internally or externally.
 - d. Stainless steel valves are allowed provided they maintain stock profile
 - e. Stock one or two-piece valve with stock profile.
 - a. Valve sizes must be 35.5mm for Intake and 32.0mm for Exhaust
 - b. No Titanium valves.
 - c. No back cutting of or swirl polished valves.
 - f. Valve springs, retainers, and lifters must maintain stock dimensions completely.
 - a. No titanium retainers
 - b. No composite or ceramic lifters.
 - c. No carbon fiber push rods.
 - g. Rocker arms and shafts must be Volkswagen Type 1 1.1:1 only.
 - a. No needle or roller bearings allowed.
 - h. Valve covers and gaskets are open.
 - i. Crankcase breathers allowed.

- a. Vacuum pumps are not allowed
- u. Carburetor must be Stock Volkswagen 30 PIC 1, 2, or 3, only.
 - a. Brosol PIC carburetor is allowed
 - b. Throttle shaft, throttle plate, and venturi must not be modified from original condition in any way.
 - c. Maximum venturi size must not exceed 24.10mm.
 - d. Removal of electric choke housing, plate and shaft allowed.
 - e. Stock float bowl vent may be plugged in lieu of an external float bowl vent.
 - f. Stock fuel pump must be used.
 - a. Electric fuel pumps are not allowed.
 - g. Fuel filters, air filters and fuel pressure regulators may be of any manufacturer
 - h. If velocity stocks are used they cannot be bonded or welded to the carburetor.
 - i. Internal modifications to carburetor are not allowed.
 - a. No polishing, profiling, chemical milling, etcetera.
 - b.
 - j. Single or Dual Port Intake Manifolds are allowed.
 - a. Heat risers may be removed.
 - b. No polishing, profiling, chemical milling of manifold, manifold end caps, etcetera.
 - c. Dual Port Intake Manifold and End Castings must have OEM Volkswagen casting numbers.
 - d. Dual port manifolds must have 34mm to 30mm adapter EMPI part number 981293B.
 - e. No polishing, profiling, chemical milling, etcetera.
 - f. Boost bottles are allowed provided intake manifold has not been modified for its installation.
- v. Any Volkswagen Type 1 Fan Shroud and Cylinder Tin are allowed.

14. TRANSAXLE

- a. ONLY Type 1 Swiangaxle or Type 1 IRS transaxles are allowed.
 - i. Transaxle must have a minimum and maximum of four (4) operating forward gears.
 - ii. Transaxle must have a fully functional reverse gear.
 - iii. Only Volkswagen style helical cut gears allowed.
 - 1. No straight cut and / or dog ring gears allowed.