

Brookfield Speedway

Crate Sportsman Rules

**GM (General Motors) Crate Engine part number 88958602/19258602
are the ONLY crate engines allowed.**

- A. The crate engine and all its components must remain in their stock location/configuration as purchased/delivered OEM from the factory. Any engine alterations will not be permitted, as the engine must remain as manufactured by GM. 4" inch stock bore. Overbore(s) are not permitted, however sleeve repair is permitted BUT keep in mind when done, the bore cannot be more than 4" inches.
- B. The GM 602 Crate Engine comes with factory seals. The factory seals must remain in place unaltered and as originally manufactured. Factory GM seals should not be tampered, modified, or removed. The crate engine comes this way for a reason and should not be altered in any way.
- C. GM Crate Engines come with factory seals (bolts normally) that must remain unaltered. If the GM seals/bolts are altered in any way showing tampered with, the driver is possibly subject to immediate disqualification.
- D. IF the GM 602 Crate Engine has been opened up for ANY REASON and either doesn't have seals or has an engine builders seal, the driver MUST provide the following information ON THE SPOT AT THE TIME OF INSPECTION: Name of engine builder that opened it, what was done to the engine by engine builder, contact information to engine builder that opened it, and paperwork from engine builder showing what was done to the engine to freshen, replace part, sleeve work, etc. If this information is not provided ON THE SPOT, driver is subject to disqualification from the event, monies.
- E. ALL engine repairs should be done using ONLY GM 602 CRATE ENGINE REPLACEMENT PARTS.
- F. ANY and ALL parts used during repair even including gasket repair kits MUST be stock OEM GM Performance 602 Crate Engine specific replacement parts. When the replacement parts are purchased we suggest you (driver/engine builder) obtain receipt(s) from the GM Performance dealer or parts department they are purchased from. They can then be presented to officials upon request.
- G. Valves may be lapped (process to allow the valves to mesh or seat better), however further valve work or 'valve jobs' are not permitted.
- H. No machine work is permitted to the cylinder heads. If the cylinder head requires any sort of resurfacing or valve seats, a new cylinder head may be required.
- I. Any altering, polishing, blasting etc. to the intake manifold and/or cylinder heads is not permitted.

- J. The distributor must remain factory stock as manufactured by GM for the 602 Crate Motor. The distributor advance curve must also remain stock. No welding solid.
- K. ANY AND ALL engine repair work MUST be documented, retained. Also keep in mind, ANY AND ALL engine repair if deemed necessary should be resealed by engine builder! There is no reason to not have seals on a GM 602 Crate motor of some sort. If there is any question, DO NOT HESITATE TO ASK FIRST.
- L. Track reserves the right to request further technical inspection by track officials and/or via assistance from appointed tech inspectors on an alternate or neutral site.
- M. GM 602 Crate Motors are intended as a cost effective engine package for the Sportsman division. It provides an affordable racing program for teams to avoid unnecessary additional costs via rebuilding, balancing, porting, polishing, and other bells & whistles more suited for 358 Modified competition, not Sportsman competition. Maintaining the integrity of the GM 602 Crate Sportsman engine program is our goal with the rules set within. No alterations, modifications, balancing, polishing, machine work, blue printing, or any alteration to improve a drivers competitive edge is a clear violation of the rules and integrity of the GM 602 Crate Engine and will be dealt with swiftly.
- N. O) Final judgment and/or decision of a driver's legality according to Brookfield speedway rules will be at the discretion of track officials.

Carburetor/Air Cleaner

- A. Holley 650 cfm carburetor part number 4777 or 80777 is legal. The carburetor must have the stock venturi and throttle bore dimensions. It must maintain all stock dimensions including mounting and stud location on the intake manifold. Booster heights must remain stock OEM from Holley. Cutting, tumbling, and/or polishing are not permitted, as it must remain stock OEM from Holley. Any visible clear modifications to gain competitive advantage that are not stated within the rules will not be permitted. Maximum height of carburetor measured from bottom of carburetor (throttle plate) to horizontal surface of the block must be 7" inches in both front and back of block. Only a single unaltered square hole/opening carburetor spacer plate with a maximum thickness of 1 1/8" inches with gasket is permitted. NO tapering, machine work, or any other alteration to the spacer plate is legal. **THE FOLLOWING ALTERATIONS/WORK MAY BE DONE:** Drilling holes in the throttle plate to help proper idle. Drilling, plugging, or taping of any unused vacuum ports. Welding of throttle shaft to linkage arm. Choke plate and shaft may be removed. Center carburetor body metering block surface may be milled no more than .015" on each side. Idle and/or high-speed air correction jets may be drilled. Jets may also be changed as needed or preferred. **NOTE: The gauge measurement or go/no-go gauge must be met and pass at all times regardless of the carburetor temperature.**
- B. Holley 650 cfm HP 80541-1 carburetor is also legal. The carburetor must maintain all stock dimensions/measurements including mounting and stud location on the intake manifold. Only specified Holley replacement parts for the HP carburetor may be used for any adjustments or repair. You may adjust the jets, bleeds, needle, seat, emulsion bleeds, power valves, accelerator

pumps, accelerator pump cam, and nozzles. Alterations of the carburetor, its parts, or any machining/reshaping are not permitted. Coatings of any kind or epoxy are not permitted. Only a single unaltered square hole/opening carburetor spacer plate with a maximum thickness of 1 1/8" inches with gasket is permitted. NO tapering, machine work, or any other alteration to the spacer plate is legal. **NOTE: The gauge measurement or go/no-go gauge must be met and pass at all times regardless of the carburetor temperature.**

- C. The standard round type air cleaner is permitted. Any air cleaner that provides ventilation through the top cover (such as the K&N style air cleaner) is permitted. Any ram air or tin that directs the flow of air directly to the air cleaner above and beyond the normal manufactured fiberglass hood piece is not permitted. The air cleaner must remain in place when the hood is removed. If the air cleaner has to be removed to remove any piece/part of the hood or tinwork it's not legal. Any inserts or other devices that flow air directly to the carburetor or the air intake is not permitted. No air diffusers.

Ignition/Rev Boxes

- A. Only stock OEM distributors as manufactured by GM for the 602 Crate Engine are permitted. The distributor must maintain the factory stock mechanical advance curve according to OEM specifications. Any alterations and/or adjustments are not permitted
- B. Only stock OEM H.E.I. ignition coils are permitted. No trigger or crank trigger type ignitions are permitted. ONLY stock OEM H.E.I. replacement ignition coils are permitted. NO AFTERMARKET. The ignition must be mechanically driven and remain in the stock location.
- C. Only one standard sized 12-volt battery with top or side mounted terminals is permitted. Any step up transformers or devices designed to increase voltage are not permitted. The battery voltage must not measure more than 14.3 volts if checked.
- D. OEM stock GM 602 Crate Engine firing order (which is 18436572) is required on all engines.
- E. We are requiring the use of a REV BOX and it must be unaltered and working. The MSD rev box part number 87286 or 8727CT must be mounted under the hood out of the reach of the driver and easily accessible for inspection. Please make sure the black wire is grounded to the motor and when the hood is removed the rev box should be clearly visible and not hidden/covered. It MUST BE operational prior to and after each racing event with a maximum 6200 chip (6200 RPM). Rev boxes with the RPM limiting chip can and will be inspected and again MUST BE UNALTERED IN ANY WAY WITH A MAX 6200 RMP CHIP OPERATIONAL and MOUNTED IN THE CAR. No exceptions.
- F. Traction control or braking devices that control traction of any kind are not legal.

Exhaust/Muffler Systems

- A. Any steel exhaust header is permitted, but can't exceed 1 5/8" inches in outside diameter from the head flange to the collector. No Tri-Y, stepped, ceramic, coated, or stainless steel headers and/or collectors permitted.

- B. Must have just one noise reduction muffler per side. Suggested mufflers (but not mandatory) include Dynomax (part# 17223 or 17296), Extreme (part# 31530 or 31230), or Beyea (part# MUF3DM). Other mufflers such as Henry's Stainless Steel are legal.
- C. The GM 602 Crate Engine comes with factory seals. The factory seals must remain in place unaltered and as originally manufactured. Factory GM seals should not be tampered, modified, or removed. The crate engine comes this way for a reason and should not be altered in any way.
- D. Header collector extension pipe, tail pipe, curves, and tips, may be stainless steel (Henry's Stainless Steel Exhaust) and exit the racecar past the driver and rear tires.

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Oil Cooler/Oiling Systems/Engine Cooling

- A. The GM 602 Crate Engine comes with break off sealed bolts on the oil pan. In the event they need to be removed due to repair/damage where the repair is LESS than overall replacement the following rules apply. Only one single wet sump oil pump is allowed. Only stock steel replacement oil pans should be in place, if needed to be replaced only OEM Stock GM performance 602 Crate Motor replacement pan may be used.
- B. Dry sump oil systems, external type oil pumps, vacuum pumps, and accu sumps are not allowed. Engine evacuation systems by either internal or external driven pumps by exhaust system or valve covers, intake manifold, or oil pan are not allowed.
- C. Oil coolers are permitted.
- D. Only cast iron water pumps are allowed.
- E. Only one brass and/or aluminum radiator is permitted.
- F. Cooling fan for the radiator must be mounted in the stock OEM location on the front of the cast iron water pump. No mounting the fan to the crankshaft is permitted. Electric water pumps or cooling fans are not allowed

Driveshaft/Rear End/Axles

- A. Only steel magnetic drive shafts are legal. No titanium or aluminum drive shafts are permitted. Only steel drive shaft yokes or driveline components are legal. ABSOLUTELY no titanium or aluminum drive shafts, yokes, or components are permitted.
- B. Competition type manufactured quick-change 8 bolt, wide 5, or smart tube style rear ends only. Live rear ends with aluminum or steel tubes are permitted. No open tube rears are permitted. Only full size competition manufactured type rear ends are permitted meaning no miniature rear end housings are allowed. All rear end components, ring & pinion, gears, and any other components must be

specific in size to the rear end manufacturer. A minimum of 8" inch diameter ring gear is permitted and mandatory.

- C. Titanium axles are NOT legal or permitted. Any other titanium drive shaft, rear end, axles, or components of the rear are not permitted.
- D. No limited slip rear ends, locker rear ends, slip hubs, or ratcheting drive flanges are allowed

Front End

- A. Only strait one-piece steel tubing from axle with no camber adjustments permitted. No split axles or drop axles allowed.
- B. All brackets on the front axle must be bolted or welded solid. No birdcages or sliders allowed on the front axle. Kingpin type axles only.

Shocks/Springs/Suspension

No independent front or rear suspension, A-Frames, ball joints, cantilever, electric or pneumatic devices, computer data aided devices, 4 wheel steering/drive, or traction control devices of any kind are permitted on the suspension.

- The only inboard adjustment permitted is the brake bias. Only one spring per shock.
- Any steel body non-adjustable shock is legal. No steel adjustable or big body shocks are permitted. No aluminum small or big body shock and/or aluminum adjustable shocks are permitted at all. No aluminum shocks of any kind are legal. Schroeder valves are legal.

Fuel

- A. Absolutely no oxygenated fuels permitted.
- B. Sunoco 110 and/or 112 and/or max 94-octane pump fuel is permitted. No mixing of fuels with different octane.
- C. No methanol, alcohol, nitrous oxide, nitro-methane, or propylene oxide fuels are permitted or legal. Fuel may be subject to inspection and/or testing at ANY time.

Fuel Cells

- A. A racing fuel cell is mandatory with a maximum fuel volume of 24.5 gallons.
- B. Fuel cell must be a minimum of 12quot; inches from the ground and be centered in the frame rails. No offsetting.
- C. The fuel cell must be completely enclosed in a steel fuel cell container with a minimum gauge of 20.
- D. Aluminum fuel cell containers are also allowed, but must be at least .060" minimum thickness.
- E. The fuel cell must be fully foamed inside with a minimal cut out for the filler.
- F. Fuel cell must be mounted securely by at least 2 steel straps.

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Bodys/Bumpers

- A. Traditional Sportsman body rules in effect. No exotic large doors or window panels permitted. Please use the DIRTcar Sportsman body rules for guidelines if unaware what is or is not legal.
- B. Traditional bumpers/rub rails in effect. Bicknell, Teo, HigFab, etc. all make bumpers/rub rails along with speed shops. Utilize their products. No exotic or outrageous bumpers/rub rails permitted.

Wheelbase/Tread Width

- A. Front-end width (tread width) must be minimum 74" inches with a maximum of 86" inches measured from the outside edge of the sidewall of tires on each side.
- B. Rear-end width (tread width) must be minimum 74" inches with a maximum of 86" inches measured from the outside of the sidewall of tires on each side.
- C. Wheelbase must be a minimum of 106" inches with a maximum of 110" inches measured from the tire wall at center hub location with a ½" tolerance.

Wheels/Tires

- A. Any Sportsman/Modified type American Racer/hoosier tire is legal. NO late model tires, no block pattern tires, no 49 AR compound.
- B. No left rear on the right rear or left rear on the right front etc.
- C. Chemical alteration of any tire is not legal or permitted. Tire siping, grooving, or grinding is permitted. Tires can be subject for inspection/testing at ANY time.
- D. Heating the tires by torch, heating blanket, or any heating devices is not permitted.

Conclusion

Please understand the rules and/or guidelines are in place to keep the 602 Crate Sportsman division cost effective and balanced for all competitors.

Remember 3 things about rules:

1. Just because it isn't listed, doesn't make it legal.
2. If you are unsure of the interpretation, ask.
3. There is no 'what if' section in any rulebook. Rules are subject to change for the betterment of the sport.

Good luck to all drivers.