



## Limited Modified Rules

### Section 1 – Engines

#### A. General

**a.** The General Motors (GM) / Chevrolet Performance Engine 602 is the only engine permitted in all DIRTcar Sportsman Modified events. The 2024 GM part number is #19434602, engine part number is subject to change.

**b.** The engine and all components must remain in their original configuration and form as purchased and/or delivered from the factory. Any alterations to the engine will not be permitted, including treating or coating of any parts. The Engine must remain as manufactured by General Motors with a stock 4"-inch bore. Overbore(s) will not be permitted.

**c.** All engines are to remain sealed from the factory or have DIRTcar, RYR or Pace Performance cable seals. The original factory seals or DIRTcar, RYR or Pace Performance cable seals must remain unaltered, tampering, removal, modifications of any type and/or broken factory seals will not be permitted. The GM Engine must remain unaltered in any way.

**d.** The GM Crate Engine seals (bolt-type/bottle cap) must remain unaltered, tampering with and/or alteration of any seals will not be permitted and is subject to immediate penalty and/or suspension. Any Rush legal seals.

**e.** Only GM replacement parts of any type will be permitted for any type of replacement and/or repair work. Only GM Crate Engine specific valve springs may be used for replacement and/or repair, Part Number # 10212811/19154761.

**f.** The engine must be centered between the frame rails in the front of the chassis and placed in an upright position.

**g.** Engine set back will be as follows; Minimum is 56"-inches and a Maximum of 66"-inches with a tolerance of ½"-inch (+/-). The setback will be measured from the centerline of the front axle to the rear-machined surface of the engine where the motor plate is attached to the motor.

**h.** GM Crate Engine repairs must be authorized through Authorized Repair Centers, Don Blackshear and Technical Inspector. GM Crate Engine repair procedure works as follows:

**i.** Contact a Authorized Repair Center and/or Technical Officials before any sealed components are removed.

**ii.** The Technical Officials will provide a list of Authorized Repair Center locations, or they are listed in 19.1.EV.

**iii.** Based on the estimate and the detail of the repair, Authorized Repair Centers and Don Blackshear will determine if the repairs may be made or if a new engine must be purchased.

**iv.** If a repair is approved, the Authorized Repair Center will perform all repairs to the GM Specifications.

**v.** Upon completion of the repair(s) the engine will be 'resealed' before being released for competition.

**vi.** Bead blasting and/or any polishing and/or any alteration to the intake manifold and/or cylinder heads will not be permitted.

**vii.** All engine information regarding repairs and/or engine introduction will be retained by Officials and Don Blackshear, to track and manage engine database, including the driver, serial number, repair, type of repair and/or what type of service was performed to any engine.

**i.** Officials reserve the right to technically inspect, exchange and/or confiscate any GM Crate Engine at any time. Failure to surrender the engine and/or submit the engine for inspection equals disqualification from the event and/or suspension.

**B. Engine Verification**

- a. All motors repaired through the Authorized Repair Centers will have a DIRTcar, RYR or Pace QR coded seal. The QR seal will retain information pertaining to the repaired motor.
- b. All current motors with GM Bolts/Bottle Cap seals or previously DIRTcar sealed must go through the verification program at an Authorized Repair Center and have a QR seal attached to the motor.
- c. A new motor may also be purchased from Authorized Repair Centers or GM Performance Dealer and be updated to a verified motor with a QR seal.
- d. Seals from other sanctioning bodies are not accepted as verification seals.
- e. Verification pricing is locked in among all centers at \$650 (US) and \$875 (Can.) plus needed replacement parts.

**Authorized Repair Centers**

Petrucci Engines Carlquist Competition Engines 98 Falls Avenue Oakville, CT 06779 (203) 297-2815	Donath Motorworx 4848 Route 20 LaFayette, NY 13084 (315) 677-8116	Enders Racing Engines 55 County Route 59 Phoenix, NY 13135 (315) 695-4491
Hunts Machine 102 Weaver Street Schenectady, NY 12305 (518) 372-7177	LaFrance Performance 16397 County Road 2 Long Sault, ON K0C 1P0 (613) 551-6212	DRIVR Performance 2925 Nelson Saint Hyacinthe, QC J2S 2V8 (450) 230-1906
New Generation Engines 563 Highway 20 Fenwick, ON L0S 1C0 (905) 892-3255	DMO Engines 83 Bridge Street Plattsburgh, NY 12901 (518) 563-2749	Hull Motorsports Racing 31 Smith Road Orange, VT 05641 (802) 371-7027
955 Automotive 4725 Iroquois Avenue Erie, PA 16511 (814) 897-9559		

**Crate Engine Program Overseen by Don Blackshear - (724) 977-7424**

**C. Carburetor / Air Cleaner**

- a. Only one (1) 650 cfm Holley carburetor, Part Number 4777C or Holley HP Carburetor Part Number **0-80541-1 or 0-80541-2** will be permitted. (\*\*\*) Note 0-80541-2 uses an 80541-3 main body.
  - i. The 0-80541-1 & -2 carburetor must maintain the stock venturi and throttle bore dimensions; the primary and the secondary venturi must be 1 1/4". The 4777C primary venturi will be 1-1/4" and the secondary must be 1 5/16".
  - ii. The carburetor (float bowls and main body) must be Holley original equipment manufactured. Metering blocks and base plate may be billet aluminum, Holley or after market.
  - iii. The carburetor must maintain all stock dimensions, including mounting and stud location on intake manifold.
  - iv. The booster height must remain stock OEM from Holley. Cutting, tumbling and/or polishing will not be permitted.
  - v. No visible modifications will be permitted to the OEM center section except the addition of the optional billet base plate and metering blocks
  - vi. The following alterations will be permitted;
    - 1. Holes drilled in the throttle plate for proper idle.
    - 2. Drilling, tapping and plugging of unused vacuum ports.
    - 3. Welding of throttle shaft to linkage arm.
    - 4. Drilling of idle and/or high speed air correction jets.
    - 5. Milling of center carburetor body metering block surface, maximum of .015" on each side.
    - 6. Removal of choke plate and shaft.

7. The jets may be changed as needed.

8. Boosters may be safety wired

vii. Gauge measurements (go/no-go) must meet Holey OEM measurements, including after-market base plates regardless of carburetor temperature at all times.

viii. Jets, bleeds, needle and seat, emulsion bleeds, power valves, accelerator pumps nozzles, accelerator pump cam adjustments and secondary adjustable linkage will be permitted.

ix. Physical alteration of carburetor components and/or parts and/or any alterations, machining and/or reshaping will not be permitted. The use of epoxy and/or coatings of any kind will not be permitted.

b. A WRG approved carburetor roll over plate that prevents fuel spillage in case of a roll over is highly recommended.

Currently approved roll over plate approved as followed,

i. Willy's Carb & Dyno shop LLC. Part # WCD4000SB

ii. Willy's Carb & Dyno shop LLC. Part # WCD4002

c. A single unaltered carburetor spacer plate with an unaltered single opening including gasket with a maximum thickness of 1-1/8"-inch will be permitted. A maximum two-inch (2") non-tapered air cleaner spacer may be added. Tapering, machining and/or any other alteration to the spacer plate will not be permitted.

d. Only a single conventional round type air cleaner housing with one 5" round hole in the center will be permitted. Ram air hood (No forward-facing opening), air box and/or heat shield type devices will not be permitted. The air cleaner must remain in place when the hood is removed. A flat piece of metal may be added and securely fastened to AND LEVEL WITH the hood following the contour of the hood scoop to act as a dust shield. The metal attachment can follow the contour of the air cleaner and is not to go past the centerline of the carburetor. The rear 180 degrees of the bottom of the hood scoop must remain open and not enclosed. The opening behind the air cleaner must extend parallel to the air cleaner, to the rear of the hood enclosure/firewall. There cannot be any metal attached to the air cleaner. Air cleaner must be centered on carburetor.

e. Air cleaners that provide ventilation through the top cover (such as the K & N brand) will be permitted.

f. Air induction plastic carburetor insert and/or other air diffuser devices that direct air into the air intake will not be permitted.

**D. Ignition and Battery**

a. Only stock OEM distributors will be permitted. The distributor must maintain the factory mechanical advance curve to stock OEM specifications. Alterations and/or adjustments will not be permitted with the exception of welding the advance of the addition of lock out plates to the mechanical and vacuum distributor advance system. **The weight plate may also be added to the distributor shaft.** Also, a distributor gear shim may be added to reduce shaft end play. When both lock plates are added, mechanical weights and springs are to be removed along with the vacuum advanced canister.

b. The ignition amplifier box ("rev box") and coil must be mounted under the hood and on a panel behind the air filter shielded from heat (out of the driver's reach) for ease of inspection. The black wire must be grounded to the motor. When the hood is removed the "rev box" must be clearly visible and not covered.

c. The car must be fitted with one (1) unaltered approved MSD/DIRTcar RPM (rev) limiting box, maximum 6000 RPM. The box must remain operable and in working condition, prior to, during and after all racing events. The MSD 8727CT will be the only MSD/DIRTcar RPM (rev) limiting box permitted for competition.

d. Only the stock OEM H.E.I. distributor, ignition coil and module will be permitted.

e. The wiring must remain as specified by the ignition amplifier box manufacturer.

f. One American Passenger Car sized battery with terminals on top and a maximum of 12 volts will be permitted. The voltage must not measure more than 14.3 volts anywhere in the system. Step up transformer and/or any other device designed to increase voltage will not be permitted.