



## 2023 CRATE LATE MODEL RULES

1. Engine
  - Engine seals, all series seals, GM bolts, GM cap style seals are legal.
  - Only GM 602 and 604 engines are legal.
  - Engines must be sealed at the intake manifold, cylinder heads, front cover and oil pan.
  - Engines must not be altered, modified or changed from factory specs.
  - Any seals that have been tampered with, removed, modified and/or broken will make the engine illegal and will result in immediate disqualification.
  - Engine setback maximum of 25 ½ inches from the center of the ball joint to the front of the motor plate/engine bell housing flange.
  
2. Fuel/Fuel Systems
  - NO ALCOHOL!
  - Additives and/or blending of any type including methanol, alcohol, nitrous oxide, propylene oxide, nitro methane and or other performance enhancing chemical additives will not be permitted. Fuel may be tested from time-to-time and/or submitted for verification.
  - Mechanical fuel pumps only; cam driven or belt driven style. Regulators permitted.
  - No electric fuel pumps of any type.
  - No nozzles, etc. may be connected to the fuel system at any point.
  
3. Carburetors
  - Any 750 CFM carb or smaller. Must have 1 11/16ths base plate maximum.
  - Maximum venture measurement 1.375.
  - Billet base plate may be used. (.780) MAXIMUM thickness.
  - Carb Spacer 604 - 1" inch maximum (NO TOLERANCE) 602" 2 inch spacer maximum (NO TOLERANCE).
  - Spacer may not protrude down into intake at any point.
  - One gasket per surface .070 maximum.
  - Normal aspirated carburetor only.

- No fuel injection. No nitrous oxide. No aerosol carbs.
- Two throttle springs MANDATORY.
- No added lines to carb affecting air, fuel flow, pressures, additional gases or chemicals.
- Roll Over plate strongly recommended.
- ICT Carb not legal.

#### 4. Water Pump

- Cast or aluminum permitted.
- No electric water pump.

#### 5. Fan

- Engine must be equipped with a mechanical fan, steel, aluminum or plastic.
- No electric fan.

#### 6. Exhaust

- Collector-type headers required. Must have four (4) tubes into one (1) collector of a consistent diameter.
- NO tri-y headers, merged headers, or square-tube headers allowed.

#### 7. Oil Pump

- Must be as "from factory."
- No external oil pumps even if "inside" oil system etc.
- (1) remote oil filter permitted.
- (1) oil cooler permitted.

#### 8. Distributor

- Electronic ignition permitted.
- MSD type box permitted.
- NO CRANK TRIGGERS OR DEVICES THAT ALLOW FOR EXTERNAL ADJUSTMENT OF TIMING.

#### 9. Electronic Devices

- No electronic devices allowing shock adjustment or car from cockpit.
- Traction control ILLEGAL.
- Go Pro and similar cameras are permitted IF and ONLY IF they do not connect to the car in ANY WAY.
- No lap timers.

#### 10. Transmission

- In and out box not permitted.
- Any transmission "without exotic materials" allowed.

- Must have forward and reverse gears.
- Drive shafts should be painted white with car number. This is a safety issue!
- Drive shaft loop is mandatory.
- Automatic transmission permitted.
- Air shifters not permitted.
- Carbon fiber, aluminum and steel drive shafts permitted.
- A functional clutch must be used.

#### 11. Battery and Starter

- Maximum one 16-volt battery.
- One (1) mandatory battery disconnect switch must be installed on the rear deck, behind the driver seat, in a location that is easily accessible from the “outside” of the race car. The switch must be clearly labeled with off/on direction.
- All cars must have a starter in working order.

#### 12. Weight

- GM 602 2200 lbs. with driver.
- GM Crate 604 2350 lbs. with driver.
- Any Crate spec shock program 25lb. weight break.
- Any car found light at the scales will be disqualified.
- The track scales are considered the official scales for the event.
- The scales are open all night to check your weight.
- Only lead can be used for weight.
- No tungsten.
- Minimum grade 5 bolt (GRADE 8 BOLTS ARE NOT RECOMMENDED)
- Weights may not be bolted to rear end housing OR ANY MOVING PART.
- Burnoff will be given for features only, 1lb. per lap.

#### 13. Brakes

- Must have operational 4-way brake system.
- Brake rotors must be manufactured of magnetic or stainless steel.

- All brake components must be used as produced by the manufacturer.

#### 14. Wheels

- Maximum 14" wide. Steel or aluminum only.
- Any wheel covers permitted. Must be securely fastened.
- Only aluminum wheel spacers permitted.

#### 15. Chassis

- No part of frame may be aluminum, titanium or other 'exotic' material.
- All frames must be a minimum of 2 inches square or rectangular with minimum of .083 wall thickness.
  - Round tube frames must be a minimum of 1 3/4 inches and a minimum wall thickness of .083 magnetic steel.
  - Wheelbase minimum of 102.0 at any time.
  - Jig chassis allowed. • Clip chassis allowed.
  - No wings or tunnels of any kind allowed on/under the body or chassis of the car. Rock shields are allowed as long as they do not create a spoiler effect. These may be constructed of aluminum or steel provided that they are attached securely to the chassis and are a MAXIMUM of 18 inches in height and 24 inches in length.

#### 16. Rear Suspension (These rules are per the Unified Dirt Late Model Committee for all series in 2017)

- General

A. Rear suspension designs and applications are constantly evolving. Although the intent of the rear suspension rules are an attempt to accommodate the majority of suspension and suspension component designs and applications currently being used in competition, the rules cannot be absolute. Any and all new designs or modifications to an existing suspension and/or suspension component must be communicated to and approved by the Series Director before being used in competition.

B. Rear suspension may utilize either coil or leaf springs.

C. Rear suspension configuration of current designs known as 3 link, 4 link, cantilever, Z link, or swing arm designs may be used.

- Rear Suspension Frame Mounts

A. All frame suspension mounts must be fabricated using magnetic steel.

B. Frame suspension mounts may be either a single or double shear configuration for mounting suspension components.

C. Single shear frame suspension mounts must be a minimum of 1/4 inch in thickness. Double shear frame suspension mounts must be a minimum of 1/8 inch thickness on both sides of the mount.

D. All frame suspension mount component mounting holes must be round and sized correctly for the fastener being used. Clearance between the fastener and the mounting hole must not exceed common industry standards for fastener clearance.

- Axle Housing Mounts

A. Only one (1) axle housing mount per side will be permitted.

B. Axle housing mounts may be a solid (welded) type or a floating type design.

C. The final assembled axle housing mount must be a one (1) piece mount. When a floating type mount is fabricated using two (2) pieces, the two (2) pieces must create a common one (1) piece pivot (barrel). The two (2) pieces must be fastened or welded together to prevent independent movement of the two (2) pieces. The axle housing mount must attach directly to the axle tube with clearance only to permit rotation of the entire mount. Fore, aft or vertical movement of the mount or the axle housing within the mount will not be permitted.

D. Axle housing mounts may be fabricated from magnetic steel or aluminum.

E. Mounts for suspension attaching (radius) rods must be an integral part of the axle housing mount. The mounts may be either a single or double shear configuration. When using a single shear configuration, a minimum thickness of 1/4 inch for magnetic steel or 1/2 inch for aluminum is required. When using a double shear configuration, a minimum thickness of 1/8 inch for magnetic steel or 1/4 inch for aluminum is required. Dynamic movement of any mount other than movement created in normal suspension travel will not be permitted.

F. The mounting of any component(s) other than suspension attaching (radius) rods or shocks will not be permitted on the axle housing mounts.

- Rear Suspension Attaching (Radius) Rods

A. A maximum of two (2) attaching (radius) rods per side will be permitted.

B. Attaching (radius) rods may be fabricated from magnetic steel or aluminum.

C. Attaching (radius) rods may be solid or tubular material. The material may be round or hexagon in shape.

D. Spherical rod ends or steel clevises must be used at the end of each rod for pivoting, static length adjustment, and mounting. Bushings of all types will not be permitted.

E. The final assembled attaching (radius) rod must not have the capability to change length dynamically by any means or devices.

F. Spherical rod end sizes may be a minimum of a 5/8 rod end body with a 1/2 inch bearing to a maximum of a 3/4 inch rod end body with a 3/4 bearing.

G. In all applications, the correct size fastener must be used when mounting the spherical rod end to a bracket (example: 1/2 fastener must be used with a 1/2 bearing and mounting hole). H. Attaching (radius) rods must mount directly to the frame suspension mount at the forward end and to the axle housing mount at the rearward end.

I. All rear suspension fasteners must be magnetic steel with a minimum diameter of 1/2 inch. The use of grade 8 fasteners is highly recommended. All fasteners must be correctly sized for the component and application of use.

- Rear Droop Limiter

A. One (1) droop limited chain per side will be permitted.

B. The droop limiting chain may incorporate bump stops and/or springs.

C. The droop limiting chain must attach to a collar type mount on the rear axle tube and to the frame assembly directly above the lower mount.

D. Droop limiting chains must be mounted vertically. A droop limiter is allowed to utilize a bump stop or spring type connection. Any enclosed connector device may be considered as a shock absorber and counted in total number allowed.

E. 6. Torque Control Devices

F. Lift arm assemblies and pull bars will be permitted.

G. Only one (1) torque control device may be used.

H. Lift arms must attach to the axle housing using a mounting configuration that prevents any movement between the lift arm and the rear axle housing. A gusset or brace bar to prohibit side to side flex will be permitted.

I. The forward end of the lift arm may use a spring over shock assembly (5th coil), a braking shock (6th coil) and a limiting chain. J. Pull bars may be adjustable on both ends; however, the adjustments must remain fixed during competition. \*Adjustors within reach of the driver will not be permitted. TUNGSTEN IS NOT LEGAL

## 17. Axle Housing & Rear Differential

- The axle housing must be of the “closed tube” design utilizing “full floating” magnetic steel axle shafts.

- The center section of the axle housing must be manufactured of either aluminum or magnesium.

- Axle tubes must be one (1) piece. Axle tubes must be manufactured of aluminum or magnetic mild steel. Axle tubes manufactured of exotic, heavy materials will not be permitted. The outside diameter of the axle tubes must not exceed three (3) inches. Axle tube internal inserts or external sleeves will not be permitted. The addition of any ballast weight to the axle housing will not be permitted.

#### 18. Rear Suspension Attaching (Radius) Rods

- The only materials used to fabricate attaching (radius) rods that will be permitted are magnetic steel or aluminum.

- Aluminum attaching (radius) rods may be solid or tubular material. Magnetic steel attaching (radius rods) must be tubular with a maximum wall thickness of 3/16 inch.

- No spring rods or devices which change dynamically through the use of a spring to like device.

#### 19. Steering Components

- Only one (1) power steering pump allowed.

- Electronic steering or electronic steering components will not be permitted.

- All cars must be equipped with a quick-release-type steering wheel that is a full circle.

#### 20. Standard Late Model Suspension

- Standard Late Model suspensions only. No spring loaded or shock-type 4-bar rods. Only standard solid 4-bar rods allowed. No torsion bar front or rear suspension. Sway bar ok. No brake floaters permitted.

- Standard Late Model suspension equals one (1) shock per wheel except on left rear. Left rear is allowed two (2) shocks; one in front of rear end, and one behind rear end. Shocks must be mounted vertical to axle tube, not horizontal.

- No shock to be utilized as a droop limiter; chains only; under slung bar type permitted. Droop limiting chain may have between the links a device using urethane or rubber biscuits as long as biscuits are visible and not contained inside a housing device.

- One mechanical traction device allowed, either a lift bar or a pull bar. Only one (1) "wrap up" shock, defined as a shock that damps axle wrap, is allowed with a pull bar. If a lift bar device is used instead of a pull bar, a "wrap-up" shock may NOT be used in addition to the lift bar's coil over shock.

#### 2023 Crate Late Model Rules – Page 7 21. Springs

- ONLY coil springs or leaf springs will be permitted. No pneumatic springs, hydraulic springs, "air" springs, or "air" shocks permitted. A shock that produces in excess of 250 pounds of rod force, measured by compressing the shock to 2" on a spring smasher/rater, is considered an "air spring" and is illegal. Shock shaft shall be no larger than 3/4".

- Coil springs must be manufactured from magnetic steel. Leaf springs must be manufactured from either magnetic steel or approved composite material.
- Stacked springs will not be permitted. Only one spring per shock; no dual, concentric, which is defined as a spring contained within the diameter of another spring, or stacked springs on any shock. Traditional take up springs will be permitted providing they carry no functioning rate (must be able to compress by hand). A progressive rated spring will be permitted.
- Solid material bump stops permitted; rubber, urethane, and plastic. Coil spring-type bump stops permitted on right front only. No valve spring-type bump springs permitted. No convex disc bump spring permitted. No pneumatic or hydraulic bump stops permitted.
- Spring preload adjustments for coil springs must be made using mechanical adjusting nuts on the shock body.
- Spring preload adjustments for leaf springs must be made using a mechanical adjusting device such as an adjustable shackle or threaded rod type mount.
- Other than spring damping by the shock absorber, hydraulic, pneumatic, or electrically controlled adjusting devices, (static or dynamic) that affect spring preload or race car heights will not be permitted; "air dump" devices are not permitted.

## 22. Shocks

- Shocks, at any position on the race car including lift bar or torque arm shocks, must be constructed of magnetic steel or aluminum. "Thru rod" style shocks are NOT permitted. Remote reservoirs are permitted. Each shock may have a maximum of two external adjustment mechanisms. External reservoir may only have one external adjustment. Adjuster mechanisms may not be hidden by the rod end. All adjusters must be located on the shock body, on the shock rod, or on the remote reservoir; cockpit adjustment are NOT permitted.
- NO remote adjustment of shocks is permitted, including electronic adjustment whether hard wired or wireless. Shock/Damper devices that are or can be referred to or defined as an "inertor" or referred to or defined as a "jdampor" are not permitted anywhere on the car.
- Shock absorbers may not contain any "internal" spring that functions as a load bearing suspension spring, "internal" coil bump spring above or below the working piston nor "internal" bump stop of any kind. 17 • No pneumatic springs, "air" springs, or "air" shocks permitted.
- Shock covers permitted, but must be removed for all technical inspections.

## 23. Front Suspension

- All cars must utilize independent front coil spring suspension consisting of (1) one right and (1) one left lower control arm, (1) one right and (1) one left upper control arm, (1) right and (1) one left spindle, (1) one right and (1) left shock, and (1) one right and (1) one left spring.



1) Lower control arms must be fabricated using magnetic mild steel or 4130 chrome moly tubing.

2) Lower control arms may be of the "A" frame design with (2) two inner pivots or the Ford design with (1) one inner pivot and a strut rod to secure the control arm fore and aft movement. The strut rod may be mounted either forward or rearward of the control arm.

3) All lower control arm frame mounts must be welded to the applicable frame rail. (The right lower control arm mounts must be welded to the right side frame rail and the left lower control arm mounts must be welded to the left side frame rail.) This procedure applies to the Ford style including the strut rod as well.

4) Lower control arm mounts, (inner pivot points) must remain to the outside of the front frame centerline for the respective side.

5) The frame mounts for the lower control arm inner pivots may be adjustable by (2) two methods: a. A series of single round holes b. A machined slot that will accept a steel "slug" with a single round mounting hole(s).

6) Both methods of mounting must produce a secure non-moveable mount when assembled and tightened.

7) Upper control arms must be fabricated using magnetic mild steel or 4130 chrome moly tubing.

8) Upper control arms may be either the "A" frame type design with or without a shaft or the individual tube type with individual inner pivot mounts.

9) All upper control arm frame mounts must be welded to the applicable frame rail. (The right upper control arm mounts must be welded to the right side frame rail and the left upper control arm mounts must be welded to the left side frame rail.)

10) The frame mounts for the upper control arm inner pivots may be adjustable by optional methods including but not limited to:

a) A series of single round holes

b) A machined slot that will accept a steel "slug" with a single round mounting hole(s).

c) A machined slot with a capture eccentric (cam) type adjuster

11) All methods of mounting must produce a secure non-moveable mount when assembled and tightened.

12) Spindles must be fabricated or forged using magnetic mild steel.

13) If separate, spindle steering arms must be welded to the spindle.

14) Steering arms must remain below the spindle pin.

15) Spindles must connect to the upper and the lower control arms by utilizing ball joints, mono-balls, or spherical rod ends.

## 24. Tires

- Any late model tire may be used.
- Any 1300 or harder tire can be ran on all four (4) conors
- All tires may be grooved and siped.
- No traction compounds of any kind.

## 25. Driver Compartment

- Driver's seat must remain on the left side of the driveline.
- A full metal firewall fabricated from magnetic steel and/or aluminum must encompass the driver's compartment from front to rear on both sides and floorboards. Firewall and floorboards must completely cover the driver's area with no openings.
- Any edge and/or sheet metal end in and around the driver's compartment must be protected with trim and/or beading and rounded. Sharp and protruding edges will not be permitted.
- The interior of the cockpit must be a minimum of 11"-inches below the top of the roof and/or roll cage, measured perpendicular to the ground from the bottom of the roof to the cockpit deck. Roof rolls are not part of the measurement.
- The side window opening(s) must be 15" from the top of the door to the bottom of the roof.
- Support bars that block the right window from the driver exiting the cockpit will not be permitted.
- A substantial rock guard with a minimum of three (3) window bars must be mounted in "front" of the driver. The rock guard must be made from wire or screen. Windshield screens must be a minimum of .090 inches and must be securely fastened.
- A rock guard (Lexan screen) can be no higher than 4"-inches and no farther back than the front edge of the "right" side of the head rest. 9. A clearly marked electrical engine shut off switch within the reach of the driver.
- Roll bar padding mandatory. Other cockpit padding, knee and steering pads recommended. All padding must be fire resistant.
- Window nets certified to SFI Spec 27.1 or safety nets certified to SFI Spec 37.1 are highly recommended and shall be installed and used in accordance with manufacturer's instructions.
- Driveline U-Joint scatter shields are recommended.
- It is highly recommended cars be equipped with 10-lb fire suppression system meeting SFI 17.1 requirements.

- Cockpit adjustable components with the exception of brake bias adjusters will not be permitted. Adjusters of anytype, including but not limited to adjustable shocks, hydraulic or pneumatic weight jacks, trackers, ignition boxes or similar adjustable components will not be permitted inside the cockpit of the car or within reach of the seated driver. Any driver using any of the above will be disqualified from the event (loss of points and monies) and forfeit the device permanently.

- Sun/glare shield permitted, 4" maximum; must hinge for easy exiting of car. 26. Gauges and Dash Modules

- Gauges to monitor engine conditions are permitted but will be limited to the following:

- 1) Oil pressure
- 2) Oil temperature
- 3) Engine coolant pressure
- 4) Engine coolant temperature
- 5) Fuel pressure
- 6) Battery voltage
- 7) Engine RPM

- All electronic gauges whether analog or digital, except tachometers, will only be permitted to have one (1) input from the respective gauge sensor. Outputs from the gauges will not be permitted. Tachometers will be permitted to record engine RPM for recall and playback.

- When an electronic dash module is used in lieu of individual gages, only the inputs as described above for individual gauges will be permitted. All other input channels must be disabled and blocked off from usage. Only engine RPM may be recorded. Wiring to the electronic dash module must be accessible and removable for ease of inspection.

- All additional wiring harnesses related to electronic dash modules or any other type of data acquisition must be completely removed from the race vehicle during an event.

27. Bodies (check diagram in rear of rules) \*\*\*All measurements are with driver "in the car."

- Ford, GM, Dodge and Toyota bodies allowed.
- All body parts must be same as nose. (Ford, GM, Dodge, Toyota) Standard.
- Dirt type bodies only.
- No wedge bodies.

- No lips allowed on sides or nose that may be utilized for spoiler purposes (inside or outside).
- Filler panel must be flat, not dished. • Front fenders and hood must be level and flat from left side to right side of car and at least as far back as engine plate.
- No part of fenders or hood may be below outside body line nor angle inward or outward.
- A single strip of plastic material along the bottom of doors permitted.
- No part of rear deck may extend past quarter panels.
- Center of rear hub to end of quarter panel cannot max 50 inches (measured in a horizontal line at longest point).
- Must have number on both doors, roof, and one readable from front of car.
- No part of body may “V in” from outside to middle of car or middle of that part.
- No wheel skirts.
- 38 inches from top of door to ground maximum.
- Rear Deck height measured from ground 41 inches maximum with driver in car (measured in the middle before the race).
- No bracing material under deck may be angled in such a way to create downforce (officials discretion).
- 78 inches at the top of the doors maximum side to side (width). Checked at firewall and behind driver’s seat.
- 72 inches maximum rear width measured at spoiler.
- 78 inches maximum rear body width measured 12 inches below spoiler.
- Maximum width of body measured at bottom of doors 86 inches. Measured in the center of doors.
- ELEPHANT EARS: NO MORE THAN 5” TALL. MEASURED WITH STRAIGHT EDGE DOWN TO HOOD. May not be bolted back to fender to create side spoiler.

## 28. Firewall

- Must be approved firewall (approved by Series Official). Edges of firewall should be completely ‘sealed’ in case of fire.
- Floor should be reinforced for safety.
- Sheet metal beside driver should be strongly reinforced or use heavier gauge in this location.

## 29. Interior

- Interior body work may be dropped a maximum of 5 inches below the door. Drop interior must be enclosed at firewall in.

- Flat interior must maintain a minimum of 11 inches from roll cage to allow for easy exit in case of emergency.

- Plastic, Lexan or aluminum glare shield permitted at front of cockpit as normal method (4 inch maximum height).

- Plexiglass is not legal.

- No side pieces inside of car at any point.

### 30. Roofs

- Sheet metal, fiberglass or plastic. Carbon fiber edges permitted.

- No odd shaped or partial tilted roofs. Must be parallel to body.

- Must have FULL roof supports and posts. Bottom of front post Maximum 12 inches. Post must run in straight line and maximum 4 inches total of both sides. May taper at bottom into post.

- No V shape of roof measured from outside to middle.

- Roof Length Minimum 44 - Maximum 54

- Roof Width Minimum 48 - Maximum 52

- Front and rear of roof must roll, not create a spoiler effect.

### 31. Sail Panels

- All sail panels must extend to the edge of the body.

- Maximum sail panel at top max 17 inches top max 15 inches top minimum.

- Bottom of sail panel 43 inches maximum – 40 inches minimum.

- Window area may be covered in lexan etc.

- Both sail panel openings must be covered or both open.

- Window opening border frame Minimum 2 inches and maximum 3 inches.

- Sail panels must have minimum of 3 inches and maximum of 4 inches at deck where it meets the spoiler blade.

- Maximum 2 inch arch measured with straight edge from top of door to bottom edge of roof.

- Sail panels cannot be offset from side to side or to spoiler blade.

- Sail Panels Maximum of 5/8ths inch lip at any point for support.

- No horizontal supports on Sail Panel.

### 32. Spoilers

- 8 inch spoiler maximum. No minimum.
  - Metal or Lexan permitted. Plexiglass is not permitted.
  - Adjustable spoiler permitted up and down only. Side to side not permitted. Spoiler may not be adjustable during the Race from inside the car manually or electronically.
  - Maximum measurement is 8 inches tall X 72 inches wide max. FROM END TO END
  - 2 piece spoiler allowed, but must be bolted together at joint and attached to single blade at that joint.
  - If bolted together, both pieces must be exact same angle.
  - Measured total of all material including any turns up or down and including support brace.
  - Spoiler may not extend over side of car.
  - Spoiler blade may extend up to ¼-inch off of back of car.
  - Maximum 3 blades or supports allowed.
  - Supports or blades maximum length of 18 ½ inches where it attaches to the car. Includes middle blade.
  - Blade must have a minimum of 1 ½-inch clearance between front of blade and sail panel.
  - Blade at front edge must be a maximum height of 4 inches.
  - If angle material is used to support rear of spoiler, cannot be more than 1 inch. May be mounted flush to blade.
  - “Stackable” spoilers are not permitted.
  - Rocket spoilers are legal provided they meet parameters. Max 2 inch material off the back of the blade.
  - Spoiler must remain flat on forward facing side.
  - \*\*Cars with GM 602 engine MAY utilize 12” inch ‘side blades.’ Middle blade ‘if used’ must remain 8 inches. Both side blades must be the same size.
  - \*\*12” inch side blades. Taper from 4” front to 12” rear.
- ### 33. Nose Pieces
- Any extensions must be of flexible material.
  - Must be mounted flat to top of fenders. Fenders may not “V” in.
  - Maximum measured from center of front hub to longest point of nose 54 inches.

- Nose must be same as body type. 34. Seats
- Minimum of 6 inches of containment on the right side of the seat.
- If you do not have left side containment of 6 inches you must use a driver side “sprint car type” window net.
- Seats must be bolted to solid mounts, not to floor and/or firewall.