

# 2024

## Big 8 Late Model Rules

<https://big8latemodels.com/>

Rules: Ron Blood

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Events: David Deery

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### **SAFETY AND APPEARANCE**

**SEATS** Approved aluminum driver's seat required. Seat must be fastened to frame/roll cage and located to give adequate distance from driver's arm to door bars. Shoulder supports on right and left sides of seat and head support on right are required. Full containment seats recommended.

**SAFETY BELTS** All seat belt and shoulder harness systems must be SFI specification 16.1, type Y-type shoulder belts are not approved for use. A minimum five-point harness system is mandatory. Competitors using the HANS device may use a standard three-inch (3") or the Schroth racing or equivalent two inch (2") wide shoulder strap. Schroth Racing shoulder strap system has been specifically designed for use with the HANS device. Schroth part numbers are profi iii-6fh; hybrid iii-h; profi iii-6h. Shoulder harness belts shall not be mounted lower than the shoulder line of the driver or 10 degrees. Belts must be anchored to roll cage or frame. Grade "5" bolts ½" min diameter required. Six-point belts (double crotch strap) are recommended. No Cam lock systems permitted

**DRIVING COMPARTMENT** Cockpit must be completely sealed off from engine compartment and fuel cell. Padding required around driver including steering post Securely mounted fully charged fire extinguisher with visible dial type gauge required. Ribbon or mesh type window net with belt buckle release required. Buckle located at top/front recommended. Clearly labeled push-pull or toggle type kill switch accessible from either side of car required. No suspension components including stabilizer bar can be adjustable from the driving compartment.

**DRIVER'S ATTIRE** Complete approved fire retardant driving suit and gloves required. Eye protection and a Snell SA-2015 helmet or newer required. 2020 recommended SFI-38.1 Head and Neck restraints, fireproof shoes, and fire systems recommended.

**APPEARANCE** A professional appearing paint job in an attractive color required. All lettering must be professional and in good taste. Numbers: 18-inches on both doors, and roof, readable from the right side. 1" square rub rails allowed, mounting must be within 3" of ends & ends must be tapered and capped.

**MISC** Management and/or officials reserve the right to impound a car at any time for any reason All parts declared illegal by inspection will be confiscated by Officials and disposed of at their discretion.

**Transponders must be mounted 6"-8" in front of rear axle centerline.**

## CHASSIS, ENGINE & BODY

**WHEELBASE & TREAD WIDTH:** Minimum 103" wheelbase required on both sides, Under 103" cars add 25#'s 101" cars not allowed. Maximum tread width front and rear is 65" measured center to center of tires and measurement taken as car rolls thru tech, no touching or crushing of suspension to meet width measurements. The wheelbase difference from left to right may not exceed ½ inch. The Five Star Referee is the official device of measurement

**ROLL CAGE:** All roll cage tubing must be at least 1.75" x .090" wall. Welded gussets required on all joints. At least four evenly spaced horizontal bars required on left, and three on right side. X-configuration on right side, counts as one bar. All door bars must be mounted to the frame rails and the main roll cage uprights. Door bars must be connected with a minimum of two equally spaced vertical tubes. Left side door bar deflector plates of at least .125" steel required. Diagonal bar in top hoop required. Floor pan under driver must be heavy-gauge steel.

**SUSPENSION:** Conventionally mounted 5-inch springs or coil over type suspensions. Spring must be magnetic steel with maximum retail price of \$150.00. Minimum coil over spring free height will be 8" (inches) anything shorter will not be allowed. No progressive springs. Will be measured with spring off the shock. Springs on Camaro or stock style fab chassis cars, minimum spring free height rule will be 8.5" (inches) this spring dimension is 8.5" (inches) X 5" (inches). Springs will be measured off the car. Approved Non-Adjustable Shocks (Maximum retail price of \$210) series; **Afco 13T, R, S, 21, ARS 2000, Bilstein SZ, SN, Genesis GSO, Integra 431, Pro A, AC, TA, PG, QA1 21/26, QA1 16, 50/51, 62/67 63.** Manufacturer's components must be used, valving optional. Post-Race shock disassembly is the responsibility of the Car Owner/Crew Chief. Bring Tools or make arrangements. NO Bump-Stops/Rubbers, Compression/Rebound-limiting or Coil-Bind set-ups. NO chains, bolts, straps, coil bind, etc. Coil Binding ---Cars will be inspected by using a 1.5" (inches) ramps. Bumper must be mounted solid. Nose must comply with minimum nose heights rules at all times during the inspection procedure. Front of car will be pushed down to the ground by crew and officials and held there. The nose must touch the ground. Visual inspection by officials to meet the no bumping or coil binding rules will be done. Other means of inspection may be used. One shock/spring per wheel. One (1) conventional (single coil), spring rubber per spring allowed. Koni shocks WILL be allowed. 30 SERIES part numbers 7325, 7436, 7499, 7647, 9325, 9436 (adjustable, non-Rebuildable) mandatory 7" on the front and 7" or 9" on rear only, bump stop enclosed in Koni package will NOT BE ALLOWED. No shock covers All shock absorbers will have min of 2" inches of travel (compression and rebound) in mounted position at all times. Cars will have 2 minutes (post-race/ post-podium) to rebound to body height requirements, without any assistant with driver in car. Rear suspension must be solidly mounted (no rubber bushings). Heim Joints only. No Coilover eliminators or sliders allowed. No lift bar, fifth coil or other spring-loaded/hydraulic suspension device allowed. No rear stabilizer bars. 1/8" protector plate in front of left rear trailing arm required. (or may be boxed)

**SPINDLES & HUBS:** Any steel spindle allowed. Aluminum steering-arm and ball-joint mounts allowed.

- Aftermarket hubs with 5/8" wheel studs required, maximum retail price \$325. No gun-drilled studs permitted. No oil filled or oil fill-style hubs allowed.

**STEERING:** Rack & Pinion, or steering box with center link style required. No electric power steering units. Quick release steering wheel hub required. Collapsible steering shaft recommended.

## REAR END:

- Rear ends may be stock or rear spur type quick-change units with minimum 10 inch ring & pinion
- No open tube rear ends permitted
- No Aluminum tubes allowed. Steel tubes only.
- Material used for rear end section is at the discretion of the team, hub pins must be steel.
- Maximum camber  $\frac{1}{2}$  degrees and measured w/the rear axle level.
- One-piece straight spline drive plates only.
- No titanium or traction wrap up axle shafts, left side & right side axles must have the same I.D. and O.D. with a minimum of 1.125 O.D. Magnetic Steel only, gun drilled axles allowed must be used on both sides.

Stock or rear spur gear type quick change units with steel tubes, No mini type (8.5" or less) quick change. Maximum camber  $\frac{1}{2}$  degree. No lock out plugs. Spool differentials only Spool Type or Detroit Locker (ratchet type) allowed. Add 25# weight penalty for ratchet. Max MSRP \$819.95.

- Torque Sensing Gleason Torsen type differential are **NOT** Allowed.
- All plugs (drain, inspection, etc.), must be safety wired

**BRAKES:** Four wheel brakes required at all times. Single or dual piston (steel or aluminum) calipers. Maximum retail price \$250. Single Piston Caliper no weight addition Any single, dual or four piston caliper brake system allowed with NO weight penalties. (Maximum retail price \$190) NO Thermal Lock Pistons allowed

Rigid mounted rotors, maximum diameter 12 $\frac{1}{4}$ " rotors, no drilling permitted. No floating calipers or rotors, no self-centering rotors, ABS units or brake recirculation systems. Only one brake bias adjusting unit per car. No blower motor devices allowed. Wheel fans allowed



**ENGINE LOCATION:** GM engines must be located so that the center of the furthest forward spark plug hole is no more than 2" behind the front axle centerline. Ford and Chrysler allowed 4" engine set back. 302 Ford allowed 4" engine set back with 25 lbs penalty, otherwise 2" set back. Ford/Mopar based engines may have weight adjusted in the spirit of competition. Crankshaft centerline 10" minimum ground clearance. Wegner Automotive Research 5.3L only, must be used as produced. Maximum 3 1/2" set back. ALL Engines: Oil pan must not be lower than bottom of cross-member. Options to correct are add to bottom of crossmember or raise motor.

## ENGINES

**Limited Concept Engine** – Two valves per cylinder. No aluminum blocks or heads. GM & Ford - 362 CID maximum, Chrysler - 373 CID maximum. All engines must meet the following specifications regardless of manufacturer: Stock or stock replacement cast iron heads with factory valve angles. GM Bowtie numbers 14011058, 10134392, (casting number 14011034 and 12480034), World Products Sportsman II numbers 011150, 011250 & Dart Iron Eagle numbers 10110010-10220010 allowed. Ford 351N and 352N heads, World Products Windsor Sr. 053040 allowed. Chrysler 5249769, 4529446, LAX heads allowed. Casting numbers must be visible on all heads. Minimum combustion chamber 62cc, maximum 2.02" intake and 1.6" exhaust valves both with minimum stem diameter of 5/16". Flat top pistons required. A minimum of zero deck height required. 10:8 to 1 maximum compression ratio. Connecting rods must be magnetic steel. Rod journal minimum diameter 1.900". Oil pan minimum depth 6.5". A 3/4" NPT inspection hole in oil pan required. Inspection hole must be located in line with second or third rod journal of crankshaft, on either side of pan and above sump area (oil level). Hole in windage tray in line with inspection hole required. Valve spring retainers are the only titanium parts allowed. No radius edge lifters. No solid roller cam/lifters. Flat tappet Maximum valve lift - .600" (measured at retainer). Hydraulic roller cam/lifters allowed Maximum lift of .575" (measured at retainer). OEM style rocker arm mounting required. Firing order may not be altered.

Production type steel crankshaft with normal configuration counter weights. No dry sump or vacuum systems of any kind allowed. External single stage oil pump allowed on Ford engines. OEM type, mechanical fuel pump, in original location, required. Chrysler engines add 20 lbs. for CID over 362. Intake Manifold: Edelbrock Victor Jr. 2975 (GM), 2915, 2920 (Chrysler), 2921, 2980, 2981 (Ford). Plenum and port configuration must remain as produced. No adapters/ spacers between intake and heads. If Bee-Hive valve springs are used, the competitor will be required to switch to conventional style valve springs for post-race tech purposes.

**Carburetor:** Holley 4412-2 bbl. Holley 4412 Carburetor Rework Guidelines: Body of Carbs: No polishing, coating, grinding, or drilling of holes allowed. Gasket surfaces may be machined for improved sealing. The choke may be removed, but all screw holes must be permanently sealed. Choke horn may not be removed. Boosters may not be changed including no additional holes. Height, size, and shape must remain standard and unaltered. Venturi area must not be altered. Casting ring must not be removed. Base plate must not be altered in shape or size. Butterflies: Must not be thinned or tapered. Screw ends may be cut even with shafts, but screw heads must remain standard. Throttle Shafts: Shafts must remain standard and must not be thinned or cut in any manner. Metering block stock or HP metering blocks allowed with a maximum of 3 emulsion holes per side, metering blocks with additional holes may be plugged and non-functional. No aftermarket blocks permitted. Holly 4412-2bbl only / Holley ultra-series carb not allowed. The Holley aluminum (part# 0-4412sa) 500cfm carburetor is not approved at this time. Any attempt to pull outside air other than straight down through the venture is not permitted. Jets may be changed. No dial-a-jet devices. No addition of any material, such as epoxy, may be added to carb or parts except to seal vacated external screw holes. Epoxy allowed on boosters of 4412-2 bbl. at main body only.

**Carb Adaptor:** 1 5/8" adaptor plate maximum thickness, with gaskets adaptor may protrude into plenum of intake manifold by a maximum of 1/4". Tapered or beveled adaptors are allowed. Adaptors are one piece only. This does not apply to crate motors. LS Spec Engine must use 1" spec adaptor plate by Wagner part# WA0349. No Holley Ultra XP Carburetors allowed.

**RETURN SPRINGS & AIR CLEANER:** Double return springs required Air boxes allowed with cowl inlet only

**GM Crate Engine** (P/N# 88958604 or 19318604) Must be used as produced from factory. Maximum 2" set back. Ignition: MSD with Rev-control required and must be out of drivers reach. No add-on or inline Rev Limiters allowed. Rev Limiter must be built into ignition box. Mounting on right side of dash required. RPM limit will be listed on the Event Entry Form.

**Crate Carburetor:** Holley 4 bbl 650 cfm carburetor #80541-(with no modifications). All crate engines may not be altered from factory specs. Any evidence of tampering with engine components will result in disqualification, confiscation, fine, and suspension for balance of season. Factory/Certification Seals may be removed by Officials for tech purposes, Tech staff reserves the right to impound motors for inspection or dyno testing. GM Crate engines weight #2800 Stock, 2825 Rebuilt. Specific updates are; 1.6 rocker arms, Small Harmonic Balancer, Carb Spacer. Compression limit 9.7 to 1

**ALL CRATE AND LS 5.3 SPEC ENGINES SHEETS MUST HAVE A COMPLETE ENGINE BUILD SHEET ON FILE WITH BIG-8 LATE MODEL SERIES.**

**EXHAUST:** Headers allowed on all engines (max retail price \$650). Tri-Y not allowed, no Merge-Collectors. NO Stingers, inserts, cones, scavenge devices or any other devices allowed in header collector at any time. Exhaust must exit in front of rear axle (pointed towards the ground) or out passenger door. Under car allowed 100-decibel max. **Right door exit must be 12" max from ground, not pointed up, and be 95-decibels max.** Exhaust door plates must be flush at all times, with or without rub rails. NOTE some tracks may require exhaust to be under the car. Track rules apply when applicable. NO custom, one of a kind or homemade headers. No weight penalty of exhaust out the door, but Be exhaust MUST REMAIN FLUSH.

**CLUTCH & DRIVESHAFT:** Made-for-racing clutch required. Two disk 5 1/2" minimum. Carbon clutch/poly not permitted. Steel or Aluminum driveshaft minimum diameter 2 1/2". Safety hoop required on front half of driveshaft. Driveshaft must be painted a bright reflective color.

#### **TRANSMISSIONS:**

- Standard type transmission with full OEM style case and 7, 8 or 9 bolt side cover and side shifting.
- Transmission must have two forward and one reverse working gear plus a neutral position minimum.
- Internal clutch transmission (Bert, Brinn, and Falcon) allowed with a 50# weight penalty.
- Scatter shield or steel bellhousing is required.
- No bottomload or quick change transmissions allowed. No Automatic transmissions will not be permitted.
- No 5-speed or more transmissions, No 'in and 'out boxes allowed. Must be self-starting
- All plugs (drain, inspection, etc.), must be safety wired, a \$100 fine will be assessed.

**RADIATOR/COOLING:** Metal radiator mounted in front of engine, between frame horns. Fan protection and overflow tank located in engine compartment required. Water pump must be stock type in stock location. Antifreeze is not allowed. Electric water pumps are NOT allowed.

**IGNITION SYSTEMS:-**All ignition systems must be 12 volts. Only one 12 volt battery may be used at any time, batteries must be securely mounted outside of driver's compartment. All cars must have battery disconnect switch located within reach when standing outside the car. No magnetos. All ignition systems must have an operational rev limiter system. Only one ignition box allowed in car at any time. Car may be wired for dual boxes but must have only one box in car while on track. Box must be in clear view, mounted on right side of dash with dials to right window opening. Crane/Fast Ignition and JMS-Daytona sensors CD1 units must be kept complete with plate, coil, and box as a unit. Ignition boxes may be switched by UMA officials from car to car or swapped with UMA house ignition boxes at any time, Must be able to remove in five minutes. Approved Ignition boxes; Crane/Fast Ignition Hi-6rc p/n 6000-6700, 6000-6701, JMS-Daytona sensors CD1 p/n 6000-6701K MSD 6,6A,6T,6AL,6ALN,6CT, MSD 6014CT must only be used with the cast iron block coil pack engine package. Crane/Fast ignition box must use PS92N coil only. Any unlisted ignition systems may be approved for competition following inspection by UMA technical officials. Ignition must not be mounted within the reach of the driver. All wiring inside driver's compartment must stay out of reach from driver. Adjustment tabs may be sealed by UMA Officials. Car side harness must match all factory connections per diagram below with no modifications to allow tech officials to test system. Teams will have 20 minutes to correct the wiring harness or face disqualification and/or fines. If you believe you have a problem please ask. Owner/driver must provide tools to remove part. Connector: the 6 wire harness must be 24" long maximum and have a female 6 pin, weather pack connector. Wiring of the system with a six pin weather pack approved style plug in.

a– Ignition switch 12v (small red)

b –Points pick-up (small white) brown gm boxes

c –Coil negative (small black)

d –Coil positive (small orange)

e –Green Wire to distributor

f – Purple Wire to distributor

**BATTERY:** 12-volt systems max. Batteries must be securely mounted ahead of rear axle, away from fuel cell and lines. Batteries in driving compartment must be in approved sealed battery box. Battery (negative post) disconnect switch recommended .

**FUEL & FUEL CELL:** Fuel cell complete with 1/8" steel can, interior bladder, foam baffle and rollover valve required. No deflector plates. Fuel cell must be mounted behind rear axle, between frame rails. Over-Tail chassis – maximum 22 gallon capacity (25"x18"x10") and must have ASA bar. Bottom of fuel cell must be at least 10 inches from the ground. Filler must be accessed through deck lid. Filler spout may be extended, but not connected to bodywork. All vents must be valved to eliminate leakage. Aeroquip or equivalent gas line required. Routing must be outside of cockpit and protected from damage. Oberg Fuel Shut-Off (Part # SV0828) is optional. Fuel must meet properties of track supplied fuel. **NO E-85 FUEL ALLOWED** Fuel samples may be taken at ANY TIME and tested (digitron, specific gravity, germaine drop testing, water testing and any other testing deemed necessary). Alcohol, nitro methane, nitro propane, nitrous oxide, other oxygenating agents, other additives and/ or fuels that contain masking agents or oxygen

are NOT permitted. USE OF SUCH SUBSTANCE OR ADDITIVE WILL RESULT IN IMMEDIATE DISQUALIFICATION.

## **BODY & APPEARANCE**

Five Star Next Gen, ARbodies Revolution, and all first generation ABC-approved bodies are approved and must be mounted in accordance with the original published manufacturer body guidelines. These measurements must be in compliance using standards set forth by the official Referee. All cars will be measured to determine conformity with manufacturer supplied templates. Original ABC body configuration rules apply, unless otherwise stated. The Referee will be the official method of body measurements including tread width. Refer to rulebook body guidelines posted at <http://www.fivestarbodies.com> No attempt to get any aero advantage allowed, panning of nose or sides, windows, side skirts, noses, tail panels, etc. are not allowed. Five Star Bodies or ARbodies molded door vent windows or flat 12" side vent windows only allowed. 3 window braces front and 2 rear window braces required, and must be approved. Clear polycarbonate quarter panel windows with a minimum thickness of .090 inch must be used in all cars. No cutting, lightening, or excessive trimming around windows or drilling of holes in any body panels or windows to exhaust air. No panels allowed to extend tops of doors, add to The Five Star Rules measurement "A" Must be a minimum of 11.5 inches and nose measurement must be 20 inches minimum from hood to bottom of the nose at all times. Right side door inner panel must drop down from the door and must be official approved. Rub rail are discouraged and may only be used if they are polycarbonate. Window tint of any kind will not be allowed on windows or spoilers. Titanium bolts, brackets, braces, are not allowed. 1" square tube rub rails allowed, mounting must be within 3" of ends & ends must be tapered and capped, Five Star Lexan rub rails allowed. **A Sunset policy will be in place for all non-conforming bodies will be placed effect with a compliance date of April 1, 2025. All bodies will be under review at this time as well to ensure conformity to the "Spirit of the Rule." (Add 25# for AR Revolution)**

Any non-approved (ABC or shorttrack late model body) will add an additional 200 lbs. No carbon fiber components of any kind. Deck height 34.5" max. Minimum ground clearance including nose and rocker panel is 4". All windows must be of Lexan. 12" max vent (wing) window. Window may not be tinted.

No venting cockpit air allowed. 2 – 3" maximum diameter hoses and ducts allowed for driver cooling. Air box between nose and radiator may have no pieces wider than radiator 29" (inches) max Air may not be blown or forced onto tire or bead. Air maybe only directed to brake rotors. NO under body air deflectors or panning allowed. All air for ducts and cooling must be pulled from radiator air box or nose. Weight penalties may be assessed for bodies not conforming to Five Star guidelines, dimensions, and/or templates.

### **WEIGHT/ENGINE PACKAGE COMBINATIONS:**

- All cars will be allowed up to a maximum left side weight percentage up to 58.0% & 51.0% rear
- Weights include driver, race ready with fuel on board.
- All lead weights must be painted white, with the car number painted on each individual piece. All lead weights must be securely fastened with grade five ½ bolts minimum with washers and lock nuts. Any loss of weight from any car will result in a \$100 fine. No Tungsten or similar weight allowed! All weight must be in solid blocks.

LATEMODEL Fuel allowance is one 1/2# per lap & caution lap provision if necessary of 1/4#

Base Weight	Engine	Carb	RPM Rule
2675	GM 602 Crate #19258602 W/HEI Dist	Holley 650cfm4bbl 4150 HP carburetor, part number 80541-1 or 80541-2	6400 RPM Chip
2725	GM Certified 604 Crate # 88958604 or 19318604	Holley 650cfm4bbl 4150 HP carburetor, part number 80541-1 or 80541-2	6700 RPM Chip
2800	Concept 10:8 to 1 Engine Iron Block & Heads Only	Holley-4412 500 cfm 2bbl	7400 RPM Chip
2800	Non- GMcertifiedor Updated Crate 602 or 604	Holley 650cfm4bbl 4150 HP carburetor, part number 80541-1 or 80541-2	6400/6700 RPM Chip
2800	Wegner 5.3L sealed engine Must have 20lb weight plates on each side of the block	Holley-4412 500 cfm 2bbl	7600 RPM Chip
2800	5.3 Cast Iron Block LSW	Holley-4412 500 cfm 2bbl	7600 RPM Chip
2800	Ford 302 Block	Holley-4412 500 cfm 2bbl	7600 RPM Chip
2825	AFR Alum Head 10:8-1 SS-1096- 716/1095-716	Holley-4412 500 cfm 2bbl	7400 RPM Chip
2850	Chrysler over 362 CID	Holley-4412 500 cfm 2bbl	7400 RPM Chip

\*Add 25 lbs. for 302 Ford with 4" engine set back.\*

**GM 602 CRATE ENGINE:** (P/N #19258602) Engine must be used as produced from factory; Maximum 2" set back. Motor will be allowed one Holley 4 bbl 650 cfm carburetor #80541-1 (with no modifications) One .070 single paper gasket allowed. The 602 Crate Motor will use the Holley 4 bbl. 650 cfm carburetor with No stepped, 180 degree or Tri-Y headers. Crate engine must run stock style HEI distributor with coil in cap. MSD Soft Touch Rev Control Part #018-8728 or 8727CT with a maximum 6400 rpm chip required. Box must be mounted out of reach of driver. Maximum compression can never be greater than 9.25:1. All crate engines may not be altered from factory specs. Any evidence of tampering with engine components



will result in disqualification, confiscation, fine, and suspension for balance of season. Tech staff reserves the right to impound motors for inspection or dyno testing. 602 Crate engine may use 1-5/8" max thick w/gaskets. Original orientation required, adaptor may protrude into plenum of Intake Manifold. Adaptors are one piece only. Tapered or Beveled Adapters allowed with 75# weight penalty. No Ford or Chrysler crate engines allowed.

**WHEELS & TIRES:** Aftermarket made for racing, steel wheels required. 15" x 8" maximum. Wheel fans allowed. Approved Big 8 Series Tires required. Series will be running the Hoosier D800 tire Marked tires must be used for all competitive events. Altering of any kind to the tires (softening) is not permitted. No Air Bleeds or Bead Blower allowed.

**TOW HOOKS:** Tow hooks on front and rear required.

**ELECTRONICS:** Radio frequencies must be registered with the tech officials. Video recording from car, limited to 1 track viewing camera only. Data recording/acquisition not permitted. Transponders must be mounted 6"-8" in front of rear axle centerline. **No digital gauges (including tach), no electronic monitoring computer devices capable of storing or transmitting information except for recall analog tach. All wiring must be visible for inspection.**

\*\*\* Continuous developments in racing may necessitate changes. If necessary, we may update, modify and add to or delete rules. The "EIRI" (Except In Rare Instances) rule is always in effect and applicable.