



# 2021 LLM RULES

Rules updated: January 4, 2021

**SAFETY EQUIPMENT:** SNELL-RATED SA2010, SA2015 OR SA2020 HELMET REQUIRED. SFI-APPROVED FULL FIRE SUIT REQUIRED. FIRE RETARDANT GLOVES, SHOES AND NECK BRACE (OR HEAD AND NECK RESTRAINT) REQUIRED ANYTIME CAR IS ON THE RACING SURFACE. IF YOU DO NOT HAVE REQUIRED EQUIPMENT, YOU WILL NOT BE ALLOWED TO COMPETE. Right and left seat head supports required if using head and neck restraint system. Driver-side window net required, minimum 16 inch by 20 inch ribbon or mesh style, and must be mounted to roll cage so latch is at top front of window. Minimum three inch (two inch with head restraint system) wide SFI-approved five point safety belt assembly required, must be mounted securely to main roll cage. Recommended: Safety belts no more than two years old. Kill switch required within easy reach of driver and must be clearly marked 'OFF' and 'ON'.

Fire suppression system recommended. Full containment seat recommended.

**FRAME:** Must be constructed of two inch by two inch square steel tubing, or minimum 1.75 inch round tubing - with minimum 0.083 wall thickness. Minimum wheelbase of 103 inches, maximum 105 inches, both sides.

**ROLL CAGE:** Main roll cage must be at least 1.5 inch O.D. tubing with minimum wall thickness of 0.083 inches. Driver's head must not protrude outside cage with helmet on.

**DOOR BARS:** Minimum three driver door bars must be at least 1.5 inch O.D. tubing with minimum wall thickness of 0.083 inches. Steel door plate, 18 gauge or 0.049 inch minimum thickness, must be securely welded or bolted to driver side door bars. Minimum 16"x26".

**BODY:** Body must meet minimum IMCA late model specs. All body panels and bumpers must be present at the beginning of the event. No composite body panels allowed except roof rock guard and hood scoop. No fins or lips anywhere along length of car. Maximum body width at bottom of doors is 82 inches. Minimum ground clearance is three inches. No part of body can be wider than 90 inches. Roof must be stock appearing, mounted level, parallel to body, centered on car and rounded down in all directions. Maximum 1.5 inch rolled down rock guard allowed on roof front. Roof supports and window side panels must be present and must extend to edge of body. Rear spoiler may be maximum eight inches in material height and maximum 72 inches wide. Spoiler may have rear stiffener, must be one inch or more down from top. Maximum of three spoiler braces allowed, must be mounted in line, and must resemble all aspects of drawing. No inner panels. No rear filler panel required. Car number must be minimum four inches thick and 20 inches tall and clearly visible, on both sides, top and back of car, and front.

**DRIVER COMPARTMENT:** Minimum three windshield bars in front of driver. Lexan or aluminum cowl panel in front of driver allowed, but can be no wider than cockpit and no farther back than steering wheel. Driver must be sealed off from track, driveline, engine, fuel cell, suspension components, battery, coolers, pumps, fuel and oil lines. Aluminum high back seats only, must be bolted in with 0.375 inch bolts. No mirrors. No driver-adjustable devices allowed while car is in competition except brake adjuster and right front brake shut-off.

**FRONT SUSPENSION:** Must be of A-frame or strut configuration. **No suspension stops allowed.**

**STEERING:** Rack and pinion steering allowed.

**SHOCKS:** All cars will run any of the following **unaltered** Integra Shocks:  
7"=ITG310421735, ITG3104274, ITG31042753, ITG3104275  
9"=ITG310421935, ITG31042194, ITG31042195 ITG310421963.

Coil over kits allowed. Only one shock per wheel, plus one optional shock on a rear suspension mechanical traction device. Mechanical traction device shock must be an unaltered shock of the same allowed series. No bump stops allowed. If you wish to separate spring from shock on left rear, you may do so only by utilizing a steel coil over eliminator  
Any/all shocks are subject to a \$75 per shock claim.

**SPRINGS:** One steel coil spring per wheel only. Exceptions are: left front "take up" spring allowed and one additional spring allowed on pull bar. All coil springs must be maximum 16 inch (or less) free height with 0.5 inch tolerance. No stacked springs or progressive rate springs allowed. No torsion bars, air bags, air springs or inner liners. Spring rubbers are NOT allowed. Leaf springs may be composite or steel.

**REAR SUSPENSION:** No independent rear suspension. Only one mechanical traction device is permitted, pull bar or lift arm. One bird cage attached with two solid radius rods to chassis per side. Birdcage brackets and attachments must be welded or bolted solid to birdcage except pivoting shock bolt. Chassis mounts must be solidly welded or bolted to frame.

**REAR END:** Quick changes allowed. Standard weight aluminum or steel axle tubes only. No open tube or cambered rear ends. All rear axle components must match in material and design left and right. No heavy weight axle or axle tube components or exotic materials allowed.

**BUMPERS:** Must be either capped, or bent forward at ends, no sharp edges. All cars must be equipped with tow hook or similar device front and rear. Complete front nose and side pieces required.

**TIRES/WHEELS:** Hoosier RC4 part number 36240 28.0/10.5-15 and part number 36310 29.0/10.5-15. Will be the class exclusive tire for the 2021 season. No softening, conditioning, or grooving. Grinding and siping allowed on tire tread only. 12 (twelve) inch wide, aluminum or steel wheels and lug nuts only. Bead locks allowed on right side only. External bead lock only,

cannot make wheel any narrower than 12 inches and no wider than 12.75 inches. Foam, plastic, or aluminum mud plugs allowed on any wheel.

**BRAKES:** Must be operative and lock up all four wheels during any inspection. Steel brake rotors only. Brake shut-off allowed on right front only (electric or mechanical).

**EXHAUST:** Round tube headers only. All primary header tubes must enter directly into one collector, at same point, at end of header. Collector and turn down length maximum nineteen inches total. Non-stepped, painted headers only. No heat wrap. All exhaust must go through collector, two per car, one per header. No pan evac systems, exhaust sensors, merge collectors, crossovers, inserts, cones or balance tubes.

**FUEL SYSTEM:** Racing fuel cell required, maximum 32 gallon capacity (Recommended 12 gallon), must be in minimum 20 gauge steel container. Must be securely mounted behind rear axle, between rear tires, minimum four inches ahead of bumper, minimum 10 inches above ground. Must mount with minimum one inch square tubing or two solid steel straps around entire cell, two inches wide and 0.125 inch thick. All cell mounts must be steel, securely welded to frame/cage. Protective tubing must cover rear and extend past both sides of cell. No part of cell shall be lower than protective tubing. Fuel cell vents, including cap vent, must have check valves. If fuel cell does not have aircraft style positive seal filler neck/cap system - a flapper, spring or ball type filler rollover valve is required. Fuel shut-off recommended. Pickup must be on top or right side of cell. One fuel filter allowed. No cool cans. Air cleaner top/stud cannot direct air into carburetor. No top flow air cleaner housings or cold air boxes. Mechanical OEM type push rod fuel pumps only. Maximum 0.100 inch thick carburetor gaskets on all engines.

- **CLAIM ENGINE:** must use unaltered 500 c.f.m. Holley - part no. 0-4412, 0-4412SA, both may be modified to Holley HP Dorton part no. 0-80583-1 specs only. Float bowl must face forward. Any adapter, maximum one inch thick. No throttle bore adjustable carburetor spacers.
- **GM CRATE ENGINE:** may use any Holley 4-barrel carburetor, all components (float bowls and main body) must be Holley manufactured. Metering blocks and base plate may be billet aluminum non-Holley. No aerosol-style carburetors allowed. If carburetor spacer is used on crate, must use Speedway Motors part #545-64940 or Moroso part #64940 carburetor spacer.

**FUEL:** Gasoline only. Racing fuel allowed. No E85. Recommended: pump grade. No performance enhancing or scented additives. Fuel must pass both dielectric meter and chemical tests. Fuel sample may be taken from any car at any time

**ENGINE LOCATION:** Measured from centerline of upper ball joints to center of number one spark plug hole. Maximum setback is 8 inches.

### **ENGINE OPTIONS AND SPECIFICATIONS:**

**(A) CRATE ENGINE:** Must use unaltered sealed GM 602 crate engine. All GM 602 crate engines with Chevy logo cap seals must have IMCA CableLok seals. Upon inspection, any

different, altered or missing GM seal bolts will result in automatic DQ. GM seal bolt exception is IMCA approved and issued Cable-Lok repair system, and oil pan may be replaced with Champ pan #CP57LTRB and Champ pickup #1012SB, or Kevko pan #1090NRHw/ISP or IMCA90 and Kevko pick-up #1003-3/4. All cars utilizing the GM602 crate engine must clearly display on both front roof posts the Chevrolet Performance emblem.

**(B) CLAIM ENGINE:** All engines must be able to be used in conventional passenger car without alterations. External engine casting and threaded holes cannot be altered. **BLOCK:** OEM steel passenger vehicle production block only. No GM Bowtie, Ford SVO or Chrysler W components allowed. GM approved block numbers are: 10105123, 10066034, 3892657, 3914660, 3914678, 3932388, 3932386, 3956618, 3970000, 3970006, 3970010, 3970014, 10066033, 10066036, 10243880, 14010207, 14010209, 14010287, 14016376, 14016379, 10054727, 14088528, 14088548, 14088552, 14093638, 14101148. Stroke must match block. No 400 or larger cubic inch parts allowed. Maximum 361 cubic inches (GM); 363 (Ford); 370 (Chrysler). Violation of cubic inch limit will result in disqualification, loss of all track points for the season, \$1,000 fine and a 30-day suspension. Maximum compression ratio is 9.0 to 1, no tolerance. Compression ratio checked using Whistler and cubic inches checked using pump, OR by visual inspection of part and/or casting numbers, pistons, etc. (track option which method is used). Flat top or dished pistons only, no gas-ported pistons. OEM or OEM appearing replacement steel crankshaft only - cannot be lightened. No aerowing, bullnose, knife edge, undercut or drilling of second or third rod throws. OEM or OEM cast appearing replacement steel rods only – GM 5.7 inch, 6 inch or GM Vortec rod part number 10108688 allowed. Cap screw allowed. No splayed main caps. Conventional flat tappet cam and lifters only, cannot alter lifter bores. OEM firing order cannot be changed (GM: 1-8-4-3-6-5-7-2). May use oil restrictors. ‘Wet’ sump oiling system only. Steel oil pans only. Racing oil pans allowed. **Mandatory one inch inspection hole in all pans – no obstructions to crank and rods.** Accumulator allowed. **CYLINDER HEADS:** Steel only. Must be unaltered approved OEM and minimum 76 cc combustion chamber (GM). Only GM OEM approved head numbers are: 14079267, 3986336, 3986339, 3986339X, 3986388, 3932441, 376445, 3928454, 3932454, 3876487, 3973487, 3973487X, 3973493, 3951598, 468642, 330862, 333882, 3998920, 3998991, 3998993, 3998997, 3970126. Maximum size valves on these heads are 2.02 inch intake and 1.60 inch exhaust. May use Stock Replacement (SR) cylinder heads: Engine Quest (EQ) part number CH350I, DART Speedway Motors part number 91624360, (EQ) Chrysler part number CH318B, World Products Ford part number 53030 - 1.250 inch ( $\pm$  .015 tolerance) maximum O.D. valve springs. All SR heads must remain as produced, seat angles and valve sizes can not be changed: three angle valve job only (absolutely no casting removal in valve pocket of EQ, DART or World Products head, for any reason); Ford - no SVO heads; Chrysler - no W-2 heads, 360 cubic inch heads only. No porting, polishing or unapproved alterations allowed to any cylinder head or intake, disqualification and \$250 fine if illegal. Guide plates, screw-in shouldered studs (GM 0.375-inch max) and polylocks allowed. No stud girdles. Steel roller tip rocker arms allowed. GM - 1.250 inch ( $\pm$  .015 tolerance) maximum O.D. valve springs with magnetic steel retainer and maximum 5/16 inch pushrods, no beehive valve springs allowed. **INTAKE:** Unaltered, aftermarket aluminum intakes allowed are: Weiland GM #7547, #7547-1; Ford #7515, #8023 or #7516; Chrysler #8022; Edelbrock GM #2701; Ford #7121, #7181, #7183; Chrysler #2176. Cooling

lines allowed. Unaltered OEM type harmonic balancer only. OEM type steel or aluminum water pumps only.

**GAUGES/ELECTRONICS:** No cell phones, unapproved cameras, transmitting or listening devices (exception is one-way Race Receiver radio by officials), timing retard controls, or digital gauges (including tach). No electronic monitoring computer devices capable of storing or transmitting information except memory recall analog tach. 12 volt ignition system and HEI distributor only. Ford/Chrysler may use HEI distributor. No billet distributors or crank triggers. Ignition rotor, cap, coil and module must remain OEM appearing. All engines **MUST** use unaltered MSD #8728 or #8727CT (#8727CT required in 2022) rev-control and **maximum 6,200 rpm chip for crate engine and maximum 7,000 rpm chip for claim engine**. No unapproved or additional ignition accessories allowed. All components must be out of reach of driver, but with rev-control easily accessible facing up or out for inspection. All wiring must be visible for inspection. Only gauges allowed are analog oil pressure, fuel pressure, brake bias, water temperature and tach. OEM type alternator with internal regulator allowed. No electronic traction control devices.

**BATTERY/STARTER:** 12 VOLT BATTERY ONLY Battery must be securely mounted to chassis, protected by tubing, and positive terminal must be covered. Starter must be in working order. Car must start under its own power

**TRANSMISSION:** Must have at least two forward gears and one reverse, plus a neutral position. With engine running and car in still position, must be able to engage car in gear and move forward, then backward. OEM production type or IMCA approved aftermarket transmissions allowed - two-speed, three-speed, four-speed and automatic. No five speed (or more) transmissions, 'in and out' boxes, or quick change devices allowed. Functioning shift levers must be in OEM location on all OEM production type transmissions. All belt drive pumps must be mounted on front of engine. Flexplates must be full, steel, unaltered OEM, or OEM replacement. Flywheel/flexplate must bolt to engine between clutch assembly and crankshaft and all driveline components within bellhousing must rotate while car is in any gear.

Transmission must be one of the following designs:

- **OEM Manual:** Must have a standard OEM case and working disc-type clutch or approved cone or disc-type coupler inside an explosion-proof steel bellhousing. One flywheel only, minimum 8.5 inch diameter. Diameter of clutch disc must be a minimum of 5.5 inches. Clutch assembly must be steel, except housing, which must be steel and/ or aluminum. Bellhousing can have only a hole for throwout bearing lever or hose, must be 270 degrees around top of clutch and flywheel area. Standard or reverse mount starter allowed, must directly engage flywheel.
- **Automatic:** Must remain in OEM or OEM replacement case, with a functioning OEM appearing pump. Aluminum OEM bellhousing may be replaced with aftermarket explosion-proof steel or aluminum bellhousing. Original OEM bellhousing must have approved scattershield constructed of minimum 0.125 inch by three inch steel, (1) 270 degrees around flexplate.

- **Aftermarket Manual: There are eight aftermarket, aluminum case, internal clutch transmissions approved**

Bert p/n LMZ

Bert generation II models 1300 and 1400

Falcon p/n 60100

Brinn p/n 70001

Brinn Predator p/n 70600

RaceGator p/n 140002

Mitchell Machine Bullet Internal Clutch

Please note that these are the basic, aluminum case transmissions and the transmission rule specifically states “**No ball-spline transmissions.**” Must bolt to explosion-proof steel bellhousing, and use full, steel, unaltered OEM or OEM replacement flexplate with starter mounted in OEM location. No coatings or paint allowed on transmission case. **The use of any other aftermarket transmission, including magnesium case or ball-spline is not legal and an automatic DQ.**

**DRIVE SHAFT:** Steel slip-yokes only. Minimum two inch diameter steel drive shaft and must be painted white. 360-degree drive shaft loop required and must be constructed of at least 0.25 inch by two inch steel, or one inch tubing, mounted six inches back from front U-joint.

**WEIGHT:** Must weigh minimum 2,300 pounds after race with driver. Weights must be painted white with car number on them. Must be securely fastened with minimum two 0.5 inch steel bolts, inside body panels, not on rear bumper. Standard axle tubes only. No bolt on wheel weights. Filling hubs with lead or other weights not allowed on rear axle. No weights and/or loose objects in driver’s compartment. Only carbon fiber components allowed are rock guard and hood scoop.

**CLAIM ENGINE PROTEST PROCEDURES:** Within 5 minutes after race, any driver starting and finishing the feature on the lead lap may, for \$500, protest (in writing) any engine. Protest and money must be taken directly to tech official. \$100 of the protest fee goes to the track and will not be refunded, regardless of protest outcome. Driver may only make one protest per event, may not protest another driver finishing in a position behind them and may not protest same driver more than once per calendar year. One protest allowed per event, draw determines multiple protests. Under this protest, following **MUST** be inspected: intake manifold, cylinder head (removal required), bore and stroke, and visual inspection in oil pan. \$400 will be returned to protestor if engine is found illegal. If engine being protested is found legal, \$400 protest fee will be paid to driver being protested. If parts are found illegal, or if driver refuses to submit to protest, automatic disqualification and no track points. **During engine protest, only people allowed in the immediate tech area will be driver being protested along with one crew member, protesting driver, tech inspector(s) and the race director. Race director and tech officials’ decisions are final.**