

**2024 CWRA Rulebook**

## Wheels

* Bleeders are Allowed
* Steel approved five lugs wheels only, must be 15×10. 15” diameter x 10” width
* Wheel must be 5×5 or wide five pattern only.
* Minimum wheel weight 17 lbs. Steel wheels only permitted.
* A minimum of five (5) lug nuts per wheel, minimum 0.625-inch (5/8”) solid steel nuts, showing a minimum of two (2) threads through the nut, must extend through the lug nut when clamping the wheel to the hub.

## Body

* Five Star Referee will be the official method of body tech
* Measurements done on 4” blocks front and 4” blocks rear
* Any Year (1990+) ABC appearing full-sized bodies allowed.
* Body Must resemble Manufactures Model and Year (No radical Mix and Match)
	+ No attempt to get any aero advantage allowed, panning of nose or sides, windows, side skirts, noses, tail panels, etc.
* 12-inch side vent windows only
* Front, Rear, and Side Windows must be installed.

## Spoiler

* Minimum of 3/16″ thick clear poly-carbonate blade
* Maximum width of 60” measured across back of spoiler
* Maximum Spoiler blade height of 6.5”.
* Spoiler must be centered on bumper cover with each blade measuring maximum of 29-3/4” with a minimum 1/2 inch to maximum 5/8-inch split in the center to accommodate the center line template.
* Minimum spoiler angle – 55 degrees.
* Top height 34-7/8” max at base of spoiler on centerline;
* Max spoiler height is 41.5” on 4” blocks.
* Rudders or forward mounted brackets will not be permitted

## Chassis

Minimum wheelbase allowed is 101”

* Front and rear tread width is a maximum of 66”
* Tread Width measurement will be taken with frame height in front on 3.5” blocks and 4” in rear

## Engine

* All engines must be located so that the center of the furthest forward spark plugs no more than 4 inches behind the front axle center line
* All engine location measurements will be made with the frame height set at 3.5” front and 4” rear

## CARBURETOR

* All engines use a single **Holley 4412 style 2bbl** approved carburetor, and only the GM 604 Crate engine may use a single **Holley 650cfm 4bbl 4150** HP carburetor.
* All 4 barrels of Holly 650cfm must be fully operational at all times, no secondary’s disconnected
* All Carburetors must pass all CWRA gauges and specs.
* **Booster** must be stock appearing and as cast for carbs style and no extra holes may be drilled. May not be tapered.
* **Booster Location:** Must be in stock location in body. No modifications of boosters allowed.
* **Metering blocks:** Must be stock as cast for carb style and no extra holes may be drilled. Block may be plugged and may be machined but must remain stock appearing no aftermarket blocks.
* **Gauge Legal Items:** Throttle bores, Boosters and Booster legs, Throttle plates, Throttle shafts, Main body.
* **CARB ADAPTER (SPACER) RULE:** 1-1/8” max thickness w/gaskets. Original orientation required. Adaptors are one piece only. Tapered or Beveled Adapters Allowed. All Sealed Engine Packages must use builder certified adapter specific to approved engine package. **LS Spec Engines 5.3L must use Wegner #WA0349 adapter only for the Holley 4412 2bbl. (This Does Not Apply to Crate Engine Packages)**.

## Fuel

* No oxygen bearing or performance enhancing additives may be introduced into the inductions or fuel supply, either at the fuel cell or upstream in the system.
* Ethanol (E-85) will be permitted on a test basis only

## Fuel Cell

* Fuel cells with rubber bladders fuel cell plates or fuel cell tubs are mandatory.
* Fuel cell must be mounted behind quick-change cover, between frame rails.
* No part of fuel cell can be ahead of the quick-change rear cover.
* Front side of cell is to be no closer than 11” to the back of the rear end tube.

Fuel cell must be banded both ways with two steel straps each way. 1-inch minimum straps.

* Fuel cell can 1/8 thick steel with one-inch lip. Front, bottom and rear will be one piece.
* The top of the box will use current 18- or 20-gauge top with 1 inch by 1/8 steel straps with two in each direction.
* All fuel cell cans must be magnetic steel.
* All fuel cells must have check balls in place.
* Fuel cell minimum height 10 inches;
* Fuel cell height will be measured based on 3-1/2” blocks in the front and 4” blocks in the back.

## EXHAUST SYSTEM

* Super Late Models must meet a rating of 100 decibels Max @ 100 ft

 Any collector may be used without a cone style insert.

* Mufflers are Mandatory for Exhaust that exits from door must be flush and must have door flange and mounted flush to door.

## WEIGHT COMBINATIONS

* All cars will be allowed up to a maximum left side weight percentage up to 60%
* All added weight must be solid LEAD OR STEEL no tungsten. Must also be painted White with car numbers on weights. Lead must be in solid blocks

|  |  |  |  |
| --- | --- | --- | --- |
| **Common Engine Options** | **Carburetor** | **RPM****Limit** | **DRP/MMS****Tomah****LaCrosse** |
| Limited Late Model ConceptEngine (BIG8 Compliant) | Holley-4412 500 cfm 2bbl |  | 2650 |
| Ford Crate  | Holley 650cfm 4bbl 4150 HP | 6400 | 2700 |
| Chevy 604 Certified Crate Engine  | Holley 650cfm 4bbl 4150 HP | 6400 |  2600 (Tomah)2600 (DRP)2575 (MMS)2600 (LAX) |
| Wegner/LLM Spec 5.3LS (Aluminum Block) | Holley-4412 500 cfm 2bbl | 7600 | 2725 |
| Open Regulation 5.3LT (Chevy) (Iron Block)  | Holley 650cfm 4bbl 4150 HP | 7600 | 2725 |
| Open 9:1 (Ford/Chevy/Dodge) Engine | Holley-4412 500 cfm 2bbl |  | 2725 |
| ACE (Ford /Chevy) Spec Engine | Holley-4412 500 cfm 2bbl |  | 2725 |
|  Hamner, Mcgunegill, TESNER 6.0L Spec 6.2 LST Southern Spec or Chevy 604 Engine with Updates |  Holley-4412  500 cfm 2bbl | 7600 | 2750 |

**Engine Weight Chart / Gas allowance is one half pound per lap.**

**Unapproved engine contact CWRA Tech official. Starting weight 2800- Holley 4412**

## AIR INTAKE/AIR BOX/RADIATOR/COOLING

* Air boxes are permitted
	+ Forward intakes are not allowed
* The back of the air box must be fat or must be stock Five Star part or AR part.
	+ You may not grab or funnel air into air box.
	+ No additives allowed in air filter.
* Maximum width on radiator ducting is 29”.
	+ Antifreeze is not allowed.

## CLUTCH

* 5.5 inch or larger will be the only clutch allowed.
* Max Clutch price MSRP. $1600
	+ Absolutely no carbon fiber or poly clutches allowed.
* Bell housing must have a minimum 2 1/2” hole at bottom (to allow a clear view of clutch).
* Only standard material clutches allowed.
	+ No Slipper or Centrifugal clutches allowed.

## TRANSMISSIONS

* Must have two forward and 1 reverse working gears minimum.
	+ Bert or Brinn style transmissions are allowed.
	+ No bottom load transmissions.
* Must be self starting
* Transmission shaft drop offset minimum of 5” (using a straight edgier measured from the bottom of transmission to the center of the tail shaft)

## BRAKES

* All cars must have functioning brakes on each wheel.
	+ Maximum 4 piston brake calipers.

Fixed, mounted or floating rotors only

* Steel rotors only
* Maximum MSRP $500 limit on brake calipers
* All air for brake blowers for front wheels must be taken from nose or radiator air box only,
* Air must only be blown on brake rotors.

## SHOCKS

* Maximum cost on racing shocks is MSRP $850 for a complete unit
* One shock and spring per wheel
	+ Any bump spring or bump rubber allowed.
	+ No electronic shocks permitted.
* Shocks must be mechanical and no part of the shock or suspension may utilize electricity. No Magnet Shocks.

## ROLL CAGE CONSTRUCTION

* Only steel round, rectangular or square tube is approved for roll cage or chassis construction of any main or supporting substructures.
	+ Drilling holes to lighten any part of the body, chassis, suspension is not permitted.
* Wall thickness; size and/or diameters are specified where necessary.
* A four-point (4) roll cage structure utilizing a minimum 1.75- inch x .090-inch (1- 3/4”x.090”) od dom steel tubing
* The entire structure must be welded to the primary frame structure with a minimum of four (4) horizontal driver side door bars.
* A minimum of 2” x 3” x .095” wall steel tubing is mandated for main frame rails.
* Roll cage structure must be braced to the front frame stub, with the hoop section surrounding the engine compartment; running rearward with diagonal member’s connection to the rear frame section.
* Nose, right side kick outs and rear bumper cover supporting structures must be a minimum 1.500-inch x .063- inch OD steel tube.
	+ Absolutely no aluminum allowed on the structure of the chassis.

## DRIVER SIDE DOOR PLATES

* Left side driver support bars or plates are mandatory.
	+ No material substitution is permitted.
	+ All support bars or plate installation is subject to approval.
* All plates must be steel.

## DRIVER SIDE DOOR PLATE Options

**Plan A** – 0.125-inch, 1/8” solid steel plate bolted to the left side door proton of the roll cage. Doorplate must be bolted to the roll cage using a minimum of six (6) each 3/8” (.375-inch) aircraft quality bolts and washers. Welding of the plate to the roll cage is prohibited.

**Plan B** – minimum 0.125-inch (1/8”) thickness steel plate must be welded to the space between each left- side door bar. Offset chassis right side door bars commonly called the outrigger or the kick-up bar, must be constructed of a minimum 1.250-inch x .065-inch wall round or square steel stock. Front of outrigger bar must go to right front frame behind right wheel. All supporting substructure must be constructed of 1- inch x .063-inch wall round or square steel stock. No material substitutions permitted.

## DRIVESHAFT

* The drive shaft shall be made of steel or aluminum only.
* 2 Containment hoops constructed of a minimum 0.1875-inch-thick steel are mandatory
* Forward Containment hoop Must be 4-5 inches minimum behind front yoke.

## SUSPENSION

* Coil over or leaf style suspensions only.
	+ No computer or hand operated controlled suspension.
	+ No titanium axle shafts allowed.
	+ No cantilever, wishbone, or torsion type suspensions allowed.

## FRONT SUSPENSION

* Independent front suspension with articulated upper and lower control arms are mandatory.
	+ One shock absorber and spring per corner of the car is permitted.
* Front suspension adjustment must be done from under the car or by lifting the hood.
	+ No holes in the hood, fenders or other body parts from the windshield forward to adjust front suspension component(s) are permitted.
	+ No suspension adjustment devices are permitted in the driver’s compartment area or in reach of driver at any time in car.
	+ Weight transfer or suspension adjustment devices, adjustable while the car is under way are prohibited.
	+ Spring rubbers are permitted but must be removed manually.
	+ No removal devices may extend outside the body of the car or be accessible to the driver in the driver’s compartment.
	+ No electronic power steering allowed.

## REAR SUSPENSION

* Non-independent, live axle type rear suspension is mandatory.

Rear ends may be quick-change, min 10-inch ring gears, with full-floating hubs or 9-inch Ford type.

* + No open tube rear ends permitted.
* Rear axle tubes must be steel. Max rear camber is + or – 1 degree measured w/the rear axle level.
	+ Remote rear suspension adjusters are permitted when accessible through the rear window. A maximum of three (3) one-inch (1”) diameter holes are permitted in the rear window. Each hole can allow access to one adjustment device only. No adjuster may extend forward of the rear window area.
	+ Lift bar suspensions will be permitted. No 5 Coil Suspensions, no birdcage set-ups of any kind (3 or 4 link). No part of the trailing arm mounting may freely rotate around the rear end, must be welded or bolted in place.

## SAFETY

*In all matters pertaining to safety, car owners, drivers and crew members must review and educate themselves in all safety standards. It is the responsibility of the car owners, drivers and crew members to install, wear and maintain all safety equipment as specified by manufacturer’s instructions. This includes, but is not limited to, helmets, fires suits, racing suits, gloves, shoes, fame-resistant underwear, fame- resistant head sock, head and neck restraint systems, driver’s racing seat and safety belts. Any Safety infraction will deem the car ineligible for competition until the infraction has been repaired or corrected and the car inspected.*

## DRIVER SEAT

* All driver seats must be manufactured by a recognized manufacturer of seat and safety equipment, multi-layer aluminum seat.
* Seats must remain “as purchased and produced”.
	+ No holes or other modifications made for weight reduction. Homemade seats or sprint car type seats are not permitted.
* Seat construction must be solid aluminum sheet material from the seat bottom to above the driver shoulder area; must be fully padded, with padded pelvis, rib and shoulder supports on both the left and right side.
	+ Lajoie seat where construction is such that rib supports are not required. A head restraint system, manufactured by a recognized manufacturer of seat and safety equipment, is mandatory and subject to approval.
	+ Bolt on systems are approved for competition.
* Seats must be equipped with left and right leg extensions, fully padded, running from the edgier of the seat to the entrance of the foot box area.
	+ A minimum 1/8” (.125-inch) thick steel plate be mounted on the front of backside of the rear hoop of the mid-section in front of the left rear wheel and should extend from the horizontal shoulder bar downward the height and width of the driver seat.
	+ Seat may not protrude outside 4 point upright or top cage halo.

## SEAT BELT AND SHOULDER HARNESS INSTALLATION

* All seat belt and shoulder harness systems must me SFI specification 16.1, type.
* Belts must be dated ***2014*** or newer.

Minimum 3-inch-wide lap belt, 3-inch-wide shoulder harness and submarine strap

* Belts must be anchored to roll cage or frame, Grade “5” bolts and hardware required.
* Shoulder harness must not be anchored lower than 2inches below drivers shoulder height or 10 degrees.
* A minimum five-point harness system is mandatory.

## DRIVERS HELMET

* Helmet Snell **SA-2015** helmet or newer required.
* SFI or Snell approval sticker must be visible for CWRA officials’ inspection.
	+ Snell “M” or D.O.T. helmets not allowed.
* Eye protection is mandatory at all times.

## LEFT SIDE WINDOW NET

* Left side driver window net is mandatory.
* Window Net Construction must be web-type safety net with mechanical release. Net bar must be a minimum of .1875-inch (3/16”) fat steel or .375inch (3/8”) round stock and run the entire length of the window net between mounting points.
* Mechanical release must be welded to the front or “a” pillar end of the bar.
	+ Spring-loaded releases are not approved for competition.
* Driver net must be secured in place and centered in the door area and must be secured to the upper roll cage horizontal member.
* Window nets must drop down and must latch on top.
	+ No Fish net style window nets allowed.

## FIRE SUPRESSION SYSTEM

* A minimum 5-pound on-board fire suppression system
* Cold Fire systems recommended for cockpit usage.
* Must have gauge in view.
* Fire suppression needs to be fully charged.

## DRIVER HEAD/NECK RESTRAINT SYSTEM AND DRIVER UNIFORM

* Driver uniform must be a multi-layer, full-coverage, fire-retardant uniform specifically designed for racing,
	+ Use of head and neck restraint devices is highly recommended.
	+ Fire retardant gloves and shoes required

## CARBON FIBER USAGE

* Carbon fiber for safety use only in Helmets & Hans Devices allowed
* Carbon Fiber is NOT allowed for dash, panels, duct work, bolts, brake ducks, brackets, or braces made out of this material.

## TRACTION CONTROL

* All Electronic traction Controlling Equipment is Illegal

# On-Board Telemetry Sensors and Data Acquisition Software

* Data acquisition equipment will only be permitted if all participating cars are equipped with the same sensors, and all participating teams have access to the information acquired (Transponders are a good example of an exception).

## On-Board Cameras and Video Capturing Software.

* Camera cannot be mounted externally on “Contact Prone” panels, roof Mounted Cameras are allowed.
	+ Camera or Cameras can be mounted internally, and be pointed in any direction.
	+ CWRA asks that its participants respect the track and not to live stream the race event, and asks that they wait at least 48 hours to post full race videos.

## IGNITION

* All ignition systems must be 12 volts.
	+ Only one 12-volt battery may be used at any time.
	+ Car maybe wired for dual boxes but must have only one box in car while on track
* Ignition boxes may be checked by CWRA officials and may be swapped with another if absolutely necessary.

## Distributor Based Ignitions

* **Recommended Ignition:** (call for others that maybe used) Crane Cams Ignition Hi-6r p/n 6000- 6400, or Hi-6rc p/n 6000-6700, or Hi-6 p/n 6000-6440 MSD MSD6A, MSD 6T, MSD6AL, MSD 6ALN, MSD6
* **Recommended Connector:** the 6-wire harness must be 24” long maximum and have a female 6 pin, weather pack connector.

## Crank Fired Ignitions

* **Recommended Ignition**: MSD 6014
	+ **Restriction:** No “On-The-Fly” Switchable Ignition Configurations.
	+ **Exception:** Built-in 20° start retard Permitted

## HEI Style Ignitions

* Make CWRA Tech Officials Aware that you are using an HEI Style Ignition in your car.
* CWRA Official’s will work with the team in order to inspect and approve ignition when necessary.

##  TITANIUM HARDWARE:

* Titanium bolts, brackets, braces, are **not allowed.**

## RADIOS

* **Radios are not required**

## TOW HOOKS

* Tow hooks on front and rear recommended.

## TRANSPONDER

* Transponders are needed at many CWRA events.
* Transponder mounts 8” forward from center of rear axle.

## \*CWRA Requires Drivers Signature of Agreement before Competing