

## Willamette Speedway

### 2022 Late Model Rules

Tech Officials have final say in all decisions.

#### Safety

- *Fire Suits* – A fire-resistant suit designed for auto racing will be REQUIRED at all times that the car is on the track. A one- or two-piece fire-resistant suit is permitted. Fire resistant gloves, shoes, socks and head socks are HIGHLY RECOMMENDED. The highest quality suits are recommended for all drivers.
- *Helmets, Head and Neck Restraints* – Snell rated SA2010 and SA2015 helmets are required at all times that the car is on the track. (M rated helmets are not permitted). It HIGHLY RECOMMENDED that drivers utilize SFI approved helmet skirts, neck and head restraint systems.
- *Seat Belts* – Minimum 3-inch-wide, 2-inch shoulder belts are allowed, SFI approved five-point safety belts are REQUIRED. Center crotch belt must be used and must be mounted to the roll cage seat mount. All belts must be mounted securely to the main roll cage. Must complete matching set from manufacturer.
- *Seat* – A professional racing seat is required. Seat must be mounted with a minimum of 3/8-inch grade 5 bolts. It is HIGHLY RECOMMENDED for seat to provide rib protection, have leg extensions and have head rest on both sides. No fiberglass, plastic or homemade seats are permitted.
  - *Raceivers are mandatory. No 2-way radios permitted.*
  - *Window Net* – Rib style or mesh is allowed. Must be permanently mounted at the bottom and have an approved quick release at the top. Must be in good condition.
  - *Fire Control* – All entrants must have a fully charged 10-lb Halon 1211, Haltron-1 or equivalent fire extinguisher in their pit.

**Fuel Cell/Line** – Fuel cell shall be securely mounted. Recommended to be a minimum of 10 inches off of the ground at all times. AF steel framework, welded to the frame rails, must be used to mount the fuel cell. A fuel cell protector bar made from a minimum of 1-1/4inch x 0.09 steel tubing is required. Fuel cell protector bar must attach to the frame rails and extend down below the fuel cell with a center bar that attaches to the rear frame cross member. Fuel pump must mount in stock location. Fuel lines must be encased in steel where running through the interior. Glass fuel filters are not permitted

## **Quick Reference**

**Weight: Minimum weight 2350lbs. 8" spoiler.**

### **Batteries**

- A) NO batteries to be located in the driver's compartment/cockpit.
- B) The battery must be securely mounted with positive fasteners and brackets.
- C) The battery terminals must be insulated or enclosed with a non-conductive material that will prevent contact with any part of the race car should the battery become dislodged from the battery mount.
- D) One mandatory battery disconnect switch must be installed on the rear deck, behind the driver seat, in a location that is easily accessible from outside the race car. The switch must be clearly labeled with off/on direction. The switch must be directly in-line with the NEGATIVE battery cable and be capable of completely disconnecting the NEGATIVE terminal of the battery from the race car. Negative or "ground" wiring connections must not be made anywhere from the battery negative terminal to the input side of the disconnect switch. An additional battery disconnect switch within the driver's reach may also be used

### **Seats**

- A) All seats must be full containment type constructed of aluminum or carbon fiber (SFI 39.2 rated) to the general design specifications of SFI 39.2 standards. Design shall include comprehensive head surround, shoulder and torso support system, and energy impact foam. B) SFI 39.2 certified seats are recommended for all drivers.
- C) A non SFI 39.2 seat with bolt on kits will be permitted with a seat manufacturer produced kit and a base seat acceptable to the seat manufacturer. Components must include comprehensive head surround, shoulder and torso support system and energy impact foam. Must be installed in accordance to seat manufacturer's instructions. Non SFI 39.2 seats must be made of aluminum.
- D) Seats must be used as supplied and instructed by the seat manufacturer.
- E) Seats must be mounted to a seat frame that is welded to the race car frame/roll cage structure. Attaching points, angles, and materials for the seat frame and mounting of the seat to the seat frame must be in accordance to the seat manufacturer's instructions.
- F) Seat mounting brackets must use properly sized bolts and washers for the hole in bracket. No oversized holes or slotted holes in the bracket.

## **Restraint Systems**

A) The use of a five, six- or seven-point driver restraint system certified to SFI Spec 16.1 or 16.5 is REQUIRED, no exceptions. All driver restraint systems shall not be in excess of two years of age past the date of manufacture. The use of a seven-point driver restraint system is strongly recommended. All mounting points of the racing harness MUST be mounted properly in accordance with the manufacturer's instructions, and securely mounted to the chassis with the use of grade five or better hardware.

## **Window Nets**

A) Window nets certified to SFI Spec 27.1 or safety nets certified to SFI Spec 37.1 are strongly recommended and must be mounted in accordance with the manufacturer's instructions and technical director's satisfaction.

## **Drive Line**

A) A drive line "sling" is REQUIRED.

## **Helmets**

A) A helmet certified to Snell SA2010/FIA-8860, Snell SA2015/FIA-8860, SFI 31.1/2010 or SFI 31.1/2015 is REQUIRED to be worn during competition or on the racing surface at all times.

## **Driver Suits**

A) A driver suit certified to SFI Spec 3.2A/5 is REQUIRED to be worn during competition or on the racing surface at all times.

## **Gloves**

A) Gloves certified to SFI Spec 3.3 are REQUIRED to be worn during competition or on the racing surface at all times.

## **Socks and Shoes/Boots**

A.) Socks and Shoes certified to SFI Spec 3.3 are HIGHLY RECOMMENDED to be worn during competition or on the racing surface at all times.

## **Cockpit Tubs**

A) Eighteen-gauge steel or one and one-eighth inch (1 1/8") aluminum "cockpit tub" to protect front, sides and rear of driver is HIGHLY RECOMMENDED.

## **Head and Neck Restraints**

A) Head and neck restraint devices/systems are REQUIRED.

B) At all times during an event (practice, time trials, and competition), drivers must connect their helmet to a head and neck restraint device/system certified to SFI Spec 38.1, and must be acceptable to the series. The device/system must display a valid SFI Spec 38.1 label. The

head and neck restraint device/system, when connected, must conform to the manufacturer's mounting instructions, and must be configured, maintained and used in accordance with the manufacturer's instructions.

- C) It is the responsibility of the driver, not the Lucas Oil Late Model Dirt Series, to ensure that his/her device/system is certified to SFI Spec 38.1, correctly installed, maintained, and properly used.

### **Fire Suppression**

- A) All race cars are HIGHLY RECOMMENDED to be equipped with a thermally deployed automatic fire suppression system. The fire suppression system will consist of a DOT approved cylinder manufactured from aluminum or steel with a capacity of ten pounds of fire extinguishing agent, steel or steel reinforced lines, and two thermally activated discharge nozzles.
- B) All systems must meet or exceed SFI 17.1 specifications.
- C) Systems must be fully charged with ten pounds of DuPont FE-36, 3M NOVEC 1230, or Fire Aide and display a legible and valid SFI and manufacturer label depicting fire extinguishing agent, capacity, and certification date. Cylinders that are beyond useful certification date must be inspected, serviced and re-labeled by the manufacturer.
- D) Cylinders must be mounted forward of the fuel cell. Cylinders must be securely mounted to the frame/roll cage assembly. The certification label must be unobstructed and easily accessible for inspection when the mounting is complete.
- E) The cylinder must be connected to the nozzles with steel or steel reinforced lines.
- F) Two thermally activated nozzles must be used. One nozzle must be located directly above the fuel cell in the fuel cell area and the second nozzle must be located in the driver cockpit area.

An optional engine bay nozzle may be added.

- G) An optional manual override cable may be added to the system.

### **One-Way Single Channel Radio Receivers**

- i) One-way radio receivers are required to be used in every portion/segment of an event.
- ii) Race Director and Head Scorer are the only people permitted to transmit on a one-way radio receiver device. Use of any other type of radio is not permitted.
- iii) Approved single channel one-way radio devices include: Nitro Bee, Raceceiver Fusion, or Racing Electronics Solo.

## **Signaling**

i) Lights are not permitted ii) Two inches maximum diameter with a length of thirty inches (30") are allowed to signal from a safe area where pit pass access is required. No signaling from the general admission area unless otherwise instructed at the driver meeting.

## **Late Model Rules**

### **Bodies**

- A) Nose piece and roof must match body style of car.
- B) All cars must have a minimum of one-half inch (1/2") and a maximum of two (2") inches of roll at top of fenders, doors, and quarter panels. A sharp edge or angle will not be permitted. Body roll must go from sides over interior, not interior over sides.
- C) Floorboards and firewall must cover the driver's area and be constructed to provide maximum safety.
- D) Driver's seat must remain on the left side of the drive line.
- E) Front window bars are mandatory.
- F) Legible numbers, at least eighteen inches (18") high are required on each side of the car and roof.
- G) No fins or raised lips of any kind are permitted anywhere along the entire length of the car.
- H) Right side body line must be straight from front to rear with a one-inch (1") tolerance up and down, left and right.
- I) No "slope noses" or "wedge cars" permitted. Noses must be stock appearing, subject to Series template.
- J) No "belly pans" or any type of enclosure on bottom of cars will be permitted. Skid plate to protect oil pan is permitted.
- K) No wings or tunnels of any kind are permitted underneath the body or chassis of the car. A maximum of one stone deflector, for rear mounted oil pumps, oil filters, and for the main oil tank will be permitted. The deflector may be made of steel, aluminum, carbon fiber, or heavy gauge wire. Can run from rear of motor mount to in front of the four bar brackets not to cover bracket. Not to be above the top frame rail. Not to exceed below the bottom frame rail.
- L) All body panels must be solid. No holes, slots, or air gaps are permitted. NACA ducts or NACA style ducts are not permitted. One hole for interior (deck) mounted oil cooler is permitted.
- M) All non-approved bodies or any section(s) of the body can or will be assessed a fifty pound (50lbs.) minimum weight penalty. Placement of the weight will be at the discretion of the Technical Director.
- N) No panels of any kind under the rear deck running from the front to the rear of the car. Bracing from fuel cell top from front to rear is legal.
- O) Any air cleaner scoops used must be positioned in front of or around the air cleaner and cannot exceed one inch (1") in height above any part of the air cleaner. The scoop cannot be designed

with fins or raised edges to direct airflow. The scoop cannot extend behind the rear of the air cleaner and must have a maximum width of seventeen inches (17") at the rear, with a maximum of ten inches (10") width at the front and cannot have more than one inch (1") opening in height at the front.

P) No cockpit or driver adjustable shocks, hydraulic or pneumatic weight jacks, trackers, MSD boxes or similar adjustable components of any kind are permitted inside the cockpit of the car. Taping over of any adjuster is not permitted. The offending component must be removed from the cockpit.

### **Stock Nose Pieces**

- A) The Series Technical Inspector must approve all stock nose pieces.
- B) Nose pieces must be made of molded type material.
- C) Two-piece noses must be fastened together in the center. No spacers to gain width or cutting to narrow overall width of the nose are permitted.
- D) The nose must be mounted flat where filler panel and nose piece meet. Nose piece may not be altered from its original shape. Nose piece will be checked with a template. Nose will be pushed against mounting supports to gauge its profile against template.
- E) Adding to the bottom of the OEM valance to achieve lower ground clearance is not permitted.
- F) A stock nosepiece can extend a maximum of fifty-two inches (52") from the center of the front hub to the farthest point extending forward. One-inch (1") Tolerance.
- G) Front fender flairs must be made of plastic and cannot alter the original shape of the nose piece. The front fender flairs cannot extend beyond the front tire more than one inch (1") in width with wheels pointed straight.
- H) Front fender flairs must have collapsible support.
- I) Front fender flairs can extend a maximum of three inches (3") above the fender tops and hood.
- J) Front fender flairs can extend a maximum of four inches (4") above where the filler panel meets the hood.
- K) The nose piece must have a headlight decal package attached. One warning will be permitted and then the car must run contrasting color tape in the shape of a headlight.
- L) Holes for cooling purposes must be in the center area (in front of the radiator) of the nose and/or valance.

### **Roof and Roof Supports**

- A) The roof length size must be a minimum of forty-four inches (44") to a maximum of fifty-four inches (54").
- B) The roof width size must be a minimum of forty-eight inches (48") to a maximum of fifty-two inches (52").
- C) Roof must be mounted directly to roll cage with no spacers.

- D) The roof must be mounted parallel to body and near center of the car.
- E) A maximum one- and one-half inch (1.5") roll, turned downward, is permitted along the front edge of the roof. A maximum one-inch (1") ninety-degree (90°) bend is permitted along the rear edge of the roof. (Roll permitted to help strengthen roof).
- F) No odd shaped roofs permitted.
- G) All roof side (sail) panels must extend to the edge of the body. Maximum (no tolerance) right side sail panel size – seventeen inches (17") at the top and forty-three inches (43") at the bottom. Maximum (no tolerance) left side sail panel size – seventeen inches (17") at the top and forty-three inches (43") at the bottom and minimum fifteen inches (15") at the top and forty inches (40") at the bottom. The window area may be covered with clear Lexan or transparent material. Both roof support openings must be covered or both must be left open, if left open the openings must maintain a border frame of 2-3" at the top and sides and 3" at the bottom. Decals will be permitted but must meet the dimensions in the drawing and must be approved by the Technical Inspector. Maximum two-inch (2") radius (No Breaks) in either direction in rear roof side panels is permitted.
- H) Sail Panel Windows Openings must be a border frame of two to three inches (2-3") at the top and sides and three inches (3") at the bottom with no tolerance.
- I) All cars must have a minimum of three inches (3") and a maximum of four inches (4") between sail panel and spoiler side where they meet the deck.
- J) Front posts must be flat and in uniform width from top to bottom – four inch (4") maximum width. Left and right sides must match in size.
- K) Any sun shields, four-inch (4") maximum, must be able to hinge for easy exiting of car.

### **Front Fenders and Hood**

- A) Hood can drop one-inch (1") with a one-inch (1") tolerance measured at the back edge of the hood and in front of the carburetor from left to right side of car. Fenders must taper from outer edge to hood in a straight line. Fender material must be flat with no bubble. Fender top must have ten inch (10") minimum width.
- B) Fenders are not permitted to gain height from rear to front of car. Will check with a string from the top of the quarter panel at the spoiler to the top of the highest point of the fender. Must be flat with a one-inch (1") tolerance.
- C) No part of fender or hood can be outside of the body line.
- D) The front fender can be a maximum of thirty-six inches (36") in height with a one-inch (1") tolerance. Height is measured vertically from the ground to the top of the fender behind the front tires.

### **Doors**

- A) Door to door cannot exceed seventy-six inches (76") in width at the top of the doors. One inch (1") tolerance.

- B) Door to door cannot exceed eighty-nine inches (89") in width at the bottom in the center of the car. One-inch (1") tolerance.
- C) At no point can the door sides break in towards the center of the car between the top and bottom. One-inch (1") tolerance including plastic.
- D) The minimum ground clearance permitted is three inches (3").

### **Quarter Panels**

- A) Quarter panel can be a maximum of forty-nine inches (49") from center of rear hub to rear edge measured horizontally. Quarter panel can be a maximum of fifty-four inches (54") from center of hub to rear T-bar at spoiler with no tolerance.
- B) Tire clearance from body must be a minimum of two inches (2"). No wheel skirts permitted.
- C) At no point can quarter panel sides break in towards center of the car between the top and bottom. One-inch (1") tolerance including plastic.
- D) Right side quarter panel must be straight in line with the door. Will check with a string from the top of the quarter panel at the spoiler to the top of the highest point of the fender. Must be straight with a one-inch (1") tolerance.
- E) Left rear quarter panels must extend downward from the deck a minimum of thirty-three inches (33") and a maximum of thirty-six inches (36") including the plastic. Measured at the front and rear of the quarter panel. Right rear quarter panels must extend downward from the deck a minimum of twenty-seven inches (27") without the plastic and thirty-one inches (31") with plastic. Measured at the front and rear of the quarter panel. One-inch (1") tolerance.

### **Deck Height**

- A) The maximum height from the ground to the top of the rear deck at the top of the rear quarter panels (spoiler hinge bottom) is thirty-eight inches (38"). One-inch (1") tolerance.
  - B) Deck height will be measured with the nosepiece splitter at a maximum height of fifteen inches (15") with no tolerance from the ground to the top (highest point) of the splitter.
- Effective Date: April 1, 2018

### **Frames**

- A) No aluminum frames or bumpers permitted in construction of car.
- B) Minimum one hundred three inches (103") and maximum one hundred five inches (105") wheelbase.
- C) Rectangle or Square Tubing:
  - i) The frame of all cars must be constructed of two inches (2") by two-inch (2") minimum rectangular or square tubing with a minimum of eight-inch (8") circumference and a minimum of eighty-three thousandths inch (.083") wall thickness.
- D) Round Tube Frame:



i) The frame of all cars must be constructed of a minimum of one and three-quarter inch (1¾") round tubing and must have a wall thickness of eighty-three thousandths inch (.083") wall thickness minimum.

- E) If rear bumper is stubbed, it may only extend a maximum of eight inches (8") beyond frame. Any stubbed rear bumpers that extend eight inches (8") or more beyond frame must be rounded and directed towards the front of the car.
- F) It is recommended that all cars be equipped with a tow hook or strap.
- G) All battery supports must be braced in two axis - two horizontal and one vertical.

### **Roll Cages**

- A) Cars must have a suitable steel roll cage in driver's compartment.
- B) Side roll bars are mandatory and must extend into the door panels.
- C) A minimum of three (3) bars must be used on the left side of the car. Each bar must be a minimum of one and one-half inch (1½") in diameter with a minimum thickness of ninety-five thousandths inch (.095").
- D) Roll cage must be welded to the frame.
- E) Roll cage must be above the driver's helmet thirty-eight inches (38") minimum between floor pan and the bottom of the roll cage
- F) No "fin-shaped" or "foil-shaped" add-ons permitted on any part of the roll cage. The entire roll cage must be constructed of round tubing only.
- G) Roll cage padding certified to SFI Spec 45.1 is required anywhere the driver's helmet may contact the roll cage while in the driving position.

### **Interiors**

- A) Interior is permitted to be dropped to the middle (just behind the seat) of the car a maximum of five inches (5") below the top of doors and a minimum of twelve inches (12") below the roll cage.
- B) Interior must be fastened flush at the top of the door and quarter panels and must taper gradually towards the center of the car. Maximum of seventy-degree (70°) angle from the deck.
- C) Interior must run in a straight line from behind the driver's seat to the rear spoiler.
- D) Interior (deck) must run in a straight line (vertical and horizontal) across the back of car at the spoiler.
- E) All interiors must be made of aluminum.
- F) If interior is flat through the car, it must maintain a twelve-inch (12") clearance from roll cage for easy exiting from either side of the car.
- G) Cowl (driver protection) panels in front of the driver may have a maximum of three inches (3") in height. The cowl panel must taper to the deck or end in line with the steering wheel.
- H) If interior is dropped at firewall/back of hood, that portion of the firewall must be filled in vertically with aluminum. Interior may be dropped a maximum of two inches (2") from the top of the hood.

## **Spoiler**

- A) Rear spoiler must be manufactured of material of adequate strength, such as Lexan, Aluminum, or Carbon Fiber.
- B) Rear spoiler material maximum eight-inch (8") height measured from deck to tip of material. Maximum seventy-two-inch (72") width between outer edges of spoiler sides.
- C) Rear spoiler is not permitted to be suspended above the deck to create a "wing effect."
- D) Rear spoiler must begin where quarter panels end. No extended decks permitted.
- E) Maximum of three rear spoiler supports. Option of two additional one-inch (1") aluminum braces.
- F) Spoiler support sides must be flush with the top of the quarter panel.
- G) Spoiler must be straight (vertical and horizontal) where it mounts to interior (deck) panels.

## **Engines**

- A) Engines must be based on a factory design and must be naturally aspirated. Aluminum or steel blocks permitted.
- B) No fuel injection devices, electric fuel pumps, turbo chargers, or blowers permitted.
- C) Magnetos are permitted. However, the engine must have an operating self-starter.
- D) The engine may be set back a maximum of (25 1/2") from the center of ball joint to back of the block.
- E) Carburetor is limited to one four barrel.
- F) All engines are limited to one spark plug and two valves per cylinder.
- G) No engines using coil packs are allowed. Engine must operate using a single distributor. No distributor-less engines allowed. GM Performance Sealed CT525 is permitted. H) A harmonic balancer certified to SFI Spec 18.1 is required.
- I) No overhead cam engines.

## **Fuel Systems**

- An approved fuel cell (32-gallon maximum) must be used at all times.
- A firewall must be installed between the fuel tank and driver's compartment.
- Gasoline or Alcohol only. Nitrous gases or other nitrate additives are not permitted.
- Willy's Carburetor roll over plate part # WCD4000 is approved for competition.
- Fuel Cell Can must be sixty thousandths (.060) aluminum or twenty (20) gauge steel.
- Caps must be threaded on. No twist on d-ring caps. - ATL Part #751 twist on cap is permitted.

## **Steering Components**

- A) One mechanical power steering pump permitted. Electronic steering components are not permitted.

## **Chassis**

- A) No titanium chassis or suspension components.
- B) No titanium fasteners.

## **Transmission, Clutch, and Axle Housing (Rear End)**

- A) Any transmission with working reverse and working forward gears is permitted.
- B) Manual transmission must be equipped with an operational clutch.
- C) Automatic transmissions are permitted.
- D) The transmission must be mounted to the rear of the engine and lead to one drive shaft.
- E) No "live-axle" rear-ends are permitted.
- F) No independent rear suspensions are permitted.
- G) All axle housings using a cable to lock-in the rear-end must have the cable mounted outside the cockpit area and not in reach of the driver.
- H) The axle housing must be of the "closed tube" design utilizing "full floating" magnetic steel axle shafts.
- I) The center section of the axle housing must be manufactured of either aluminum or magnesium.
- J) 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 (ex: tungsten) 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.

## **Drive Shafts**

- A) All drive shafts must be a minimum of two inches (2") in diameter. All drive shafts must be painted silver or white.
- B) Only one drive shaft is permitted.
- C) The drive shaft must be protected with a secure drive shaft hoop or sling.

## **Tires**

- No tire softeners, no conditioners, no altering of tires with any natural or un-natural chemicals, no hazardous or un-hazardous components or chemicals which alter the factory set baseline settings of a given tire.
- All sidewall markings must be visible at all times. No buffing, removing or altering of the compound designations.
- Winner to have tires tested. All winnings and points will be forfeited. \$500 fine if found to have illegal tires. Second offense \$1,000 fine and 3 race suspension.

## **Wheels**

- A) Only aluminum wheels will be permitted.
- B) Wheels must be mounted with lug nuts: no knock-off mounting devices are allowed.
- C) Maximum wheel width is fourteen inches (14”).
- D) Maximum width outside of front tires is ninety inches (90”).
- E) Maximum width outside of rear tires is eighty-eight inches (88”).
- F) Only approved wheel discs will be permitted. Approved wheel discs are wheel discs that are fastened to the wheel using a minimum of three (3), quarter-inch (0.25”) or five sixteenth inch (0.3125”) diameter magnetic steel hex head bolts. The use of wheel discs with any other type of fastener will not be permitted.
- G) Only aluminum wheel spacers will be permitted.
- H) The combined weight of the wheel, wheel hardware, wheel disc and fasteners, and tire must not exceed 40 pounds\*. \*The maximum combined weight in this rule is based upon current tire rules and may need to be adjusted in the event of an alternate tire.
- I) Bleeder valves of any kind are not permitted.

## **Brakes, Brake Components, Wheel Hub**

- A) Must be equipped with sufficient four wheel braking system.
- B) On track three-wheel braking is allowed.
- C) Brake rotors must be manufactured of magnetic or stainless steel. No titanium or carbon fiber brake rotors are permitted.
- D) Brake rotors must be used as produced by the brake rotor manufacturer.
- E) Brake calipers must be manufactured of aluminum.
- F) The brake caliper including brake caliper pistons must be used as produced by the brake caliper manufacturer.
- G) Wheel hubs must be manufactured of aluminum or magnesium.
- H) Wheel hubs must be used as produced by the wheel hub manufacturer.
- I) The combined weight of the wheel hub, wheel bearings and seal, spindle nut and washers, brake rotor and attaching hardware, the axle cap, and the wheel spacer must not exceed twenty-seven pounds (27lbs.).

## **Shocks and Springs**

- A) Shocks must be constructed of aluminum or steel. Canister shocks are permitted.
  - i) The only external connection allowed to the shock is a single hose to a single remote canister with the option of a compression adjuster in the canister.
  - ii) Compression adjuster and/or canister cannot be mounted within the reach of the driver.

- iii) Maximum shock body outside diameter is two (2), half-inch inches (0.50"). iv) Maximum front shocks length is twenty-one inches (21"). Measured center to center of the shock eyes.
- v) Maximum rear shocks length is twenty-seven inches (27"). Measured center to center of the shock eyes.
- B) No cross connected shocks are allowed.
  - i) The only external connection allowed to the damper is a single hose to a single remote canister with the option of a compression adjuster in the canister.
  - ii) Compression adjuster and/or canister cannot be mounted within the reach of the driver.
- C) No "Rod-Through" designs are allowed.
  - i) "Rod-Through" shocks are defined as those shock absorbers in which the piston rod protrudes from both ends of the shock body.
- D) No Inverters are allowed.
  - i) No rotating parts inside the damper.
  - ii) No internal style dampers, either mechanical or hydraulic, or other type of primarily acceleration sensitive damping devices permitted.
- E) No Electrical adjusted or active dampers are allowed. No electrical wires, transmitting or receiving components will be allowed to be attached internally or externally to the dampers or mounted inside any component or dampers. No portion of the race car including and not limited to - shocks and spring components or chassis components may have the ability to communicate transfer/transmit/receive any type of digital or analog data or any language and or adjust or monitor in any way whatsoever including but not limited to a variation of a wireless remote device/phone/computer/tablet/iPad or a mechanical remote device.
- F) Any new chassis design or component designs pertaining to and/or but not limited to shock absorber mounts must be submitted to the Series for approval before they will be permitted for use in competition. Manufacturer and/or competitor may be required to disassemble for complete inspection before in-statement of new part is permitted.
- G) Springs must be made of steel. Torsion bars are not allowed in rear.
- H) Coil springs must be steel. Leaf springs may be composite or steel.
- I) Spring preload adjustments for coil springs must be made using mechanical adjusting nuts on the shock body.
- J) Spring preload adjustments for leaf springs must be made using a mechanical adjusting device such as an adjustable shackle or threaded rod type mount.
- K) Other than spring dampening 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.
- L) Shock Locations
  - i) Only one shock per wheel is permitted at the left front, right front, and/or right rear corners.

- ii) ii) Left rear must have one shock behind the axle tube and may have one traction (dummy) shock on the front side or top of axle tube. Must mount vertically to the birdcage or clamp bracket.
- iii) iii) One fifth coil shock permitted.
- iv) One 90/10 optional shock may be mounted above lift arm on upper lift arm plates. Must be mounted towards the front of the car lying parallel with the car. Shock must mount within three inch (3") of the centerline of the rear ends center section.
- M) One drop chain (limiting chain) is permitted. Must mount vertically from the frame to a bracket on the birdcage to axle tube. Bracket on the axle tube can have a bearing or clamped solid.
- N) All bump stops and/or springs must be mounted on a shock with the exception of a left rear drop chain assembly, 6th coil assembly and/or lift arm assembly. No bump sticks are permitted. O) Suspension covers are not allowed. Rear covers on race car are not allowed outside of your pit area. Spring and/or shock covers are permitted, but must be fastened directly to the spring or shock.
- P) A swing arm and/or z-link suspension is permitted as long as the top and bottom solid links are mounted on hiems and run in the opposite directions of the bird cage. The shock on a swing arm or z-link rear suspension may mount to the bird cage or the bottom radius rod.

### **Suspension Components**

- A) Any new chassis design or component design and or technology pertaining to and/or containing suspension must be submitted to the Lucas Oil Late Model Dirt Series for approval before they will be permitted for use in competition. Manufacturer and/or competitor may be required to disassemble for complete inspection before instatement of new part is permitted.
- B) Suspension and/or rear end parts can be made of steel or aluminum. Aluminum mounting brackets are permitted.
- C) Frame and/or suspension mounts must be welded or bolted solid to the frame and not move. Ex. Floating, sliding, flexible, pivoting and/or rotating mounts and/or brackets of any sort are not allowed.
- D) Bolted components must match the correct bolt size with the hole (for instance no  $\frac{3}{8}$  inch (.375") bolts in a  $\frac{1}{2}$  inch (.50") hole will be deemed illegal) and be torqued to a min of forty (40) foot pounds per inch.
- E) Rear Suspension Mounts
  - i) All mounts must be double sheer. ii) Double sheer mounts must be  $\frac{1}{8}$  inch (.125") minimum steel and/or  $\frac{1}{4}$  inch (.25") minimum aluminum. iii) Sheer mounts must use minimum  $\frac{5}{8}$  inch (.625") rod ends with minimum  $\frac{1}{2}$  inch (.50") grade eight bolts only. The bolt must be bolted through both sheer mounts. iv) Double sheer mount must be no wider than four inches (4") with a minimum  $\frac{1}{2}$  inch (.50") inch grade eight bolt with steel or aluminum spacers only.

F) Only one (1) mechanical traction device is permitted. Only one (1) pull bar or one (1) lift arm is permitted. No other options are allowed. Covers of any sort in any relation to the lift arm or pull bar are not allowed.

#### G) Lift Arm & Pull Bar

- i) Floating, pivoting and/or rotating mounts and/or brackets of any sort (connected to and/or associated with the pull bar or lift arm) are not allowed.
- ii) Lift arm is defined as a steel or aluminum triangulated bar that is connected at the top and bottom of the rear end housing, extending forward where it is connected to a shock, shockspring coil-over combination and a limiting chain. One stabilizer bar is permitted to locate the front of the lift arm from left to right in the car.
- iii) Sixth coil or braking spring assemblies are permitted, must be in front of 5th coil shock. iv) Pull bar is defined as a continuous assembly that is connected to the top of the rear end and extends forward to a solid mounting point located on the chassis. The mounting location at both the front and rear of the pull bar may be adjustable but must remain constant during competition (cannot be adjustable from the cockpit).

#### H) Radius Rods

- i) All rear suspension radius rods must be of a fixed length. No hydraulic cylinders, torsion bars, bump rods, spring rods, slider rods or shock-type radius rods are permitted.
- ii) The only materials used to fabricate attaching (radius) rods that will be permitted are magnetic steel or aluminum.
- iv) 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 (0.1875).
- v) Radius Rods must be a minimum of one-inch (1") diameter OD. Rods can be round, square, or hex shaped. Rods must be a minimum of .095 steel or .120 aluminum in tubing thickness.

Heim joints must be a minimum 5/8, and a maximum 3/4" steel heim. No rubber bushings.

vi) ONLY - two (2) radius rods per side.

1) Radius rods must be spaced on the frame a minimum of 6"

2) Radius rods must be spaced on the birdcage a minimum of 6" and a maximum of 12" 3)

Measurements will be made from center of each radius rod bolt. vii) All radius rods must be straight with the exception of the left lower, that can have a bend for axle housing mount clearance.

#### I) Axle Housing Mounts (Birdcages)

- i) Axle Housing Mounts (Birdcages) may consist of multiple barrels but must bolt or weld together to work as single barrel birdcage.
- ii) Limited one (1) Axle Housing Mount (birdcage) per side.
- iii) Shock(s) and radius rods must mount to the Axle Housing Mount (birdcage).
- iv) Floating, pivoting and/or rotating mounts and/or brackets of any sort are not allowed. All brackets or mounts attached to the Axle Housing Mount (birdcage) must be bolted or welded solid.

v) The only materials used to fabricate axle housing mounts (birdcages) that will be permitted is aluminum or magnetic mild steel. Axle housing mounts fabricated of exotic, heavy materials will not be permitted.

J) Jack Bolts are permitted.

### **Shock, Spring, and Suspension Penalties and Infractions**

A) If violations are found during pre-race technical inspection: The driver and/or team will receive a warning and must meet full compliance before being allowed to compete. If a violation is found after pre-race technical inspection: No Winnings, Points, Winners Circle Pay will be paid and a fine of \$500 may be assessed to the violating team and or driver.

### **Remote Control Suspension Devices**

A) NO "in-cockpit driver controlled" suspension devices permitted. NO weight jacks of any kind permitted. (This includes fifth [5th] coils, etc.). ANY driver using "in-cockpit driver controlled" suspension devices or weight jacks WILL BE DISQUALIFIED FROM COMPETITION!

### **Mufflers**

A) Mufflers are MANDATORY. Only variance of this rule will be where not required by host track.

B) Exhaust is not permitted to be directed towards ground. Exhaust must be parallel to the ground.

### **Traction Control Devices**

A) All Traction Control Devices are strictly prohibited.

B) All traction control devices, whether electronically controlled in the ignition system, wheel sensors or any means of measuring ground speed to control wheel spin, are strictly prohibited. All devices not mentioned in the above that are found to control wheel spin, timing or fuel delivery control will be considered strictly prohibited.

C) At NO time during the 2018 season and beyond will there be any type of ping control devices, dial chip controls, timing controls or any modifications to the ignition control boxes, distributors, or any other part of the Ignition System. This includes any add on component or components inside or outside the cockpit of any competitor's race car. There shall be NO driver-controlled wheel spin, timing or fuel delivery control devices in the cockpit area of any race car.

D) A competitor found with any of the above mentioned will lose the complete device permanently and will lose all points earned to that point in the season. A competitor may be asked for his electronic ignition at any time by the Technical Director to be sent for testing and inspection. Failure to hand over the electronic ignition will result in the holding of any purse monies won.



E.) GPS and/or any other type of electronic tracking and/or locating device will not be permitted for any reason.

### **Weight Limit**

- A minimum weight limit of 2350lbs for both aluminum and Steel blocks will be in effect. We reserve the right to amend this rule in certain locations on the schedule. - The scales used by the Series will be considered the official scales for the event.
- Scales will be available at all events.
- Series officials have the right and duty to weigh any car at the official's discretion. - Any attached weights must be securely attached to the frame, painted white and have the car number clearly displayed on them. All weights must be secured by two (2) half inch (1/2") Grade 5 or higher bolts on two weight clamps per each piece. Weights secured by one bolt and/or held on by a means other than accepted by the Technical Inspector will not be permitted. Due to the high-risk factor involved, any car that loses lead weight during an event may be fined or face disqualification.
- All added weight(s) must be securely attached to the frame below the body decking.
- Frame is defined as the steel welded structure only.
- Any part that moves or is not a fixed component to the steel frame structure may not be used for any weight attachment.
- No weights may be attached to rear bumper.
- No driver-operated weight adjustment devices are permitted.

### **Car Construction Infraction Penalties**

- A) You may be given a simple warning.
- B) You may be asked to correct the infraction.
- C) You may be assessed a weight penalty of twenty-five pounds (25 lbs.) to one-hundred pounds (100lbs.).
- D) You may be disqualified when found and/or noticed with an infraction.
- E) You may choose to leave.

### **Other**

- A) No two-way radios. No crew to and from driver radio or transmitted communications of any kind.
- B) No "in-cockpit driver controlled" electronic devices of any kind permitted.
- C) No computer-controlled devices of any kind permitted.
- D) No rear-view mirrors of any kind permitted.
- E) No cellular devices in cockpits.
- F) No cameras of any type permitted below the interior (deck) of the car.
- G) No data systems or harnesses of any kind permitted.

H) Series officials reserve the right to change and/or alter rules and procedures at any time. ALL OFFICIAL DECISIONS ARE FINAL!

### *Conduct*

- The following actions will result in suspension: use of nitrous oxide, alcohol or drug use, dumping gas, oil or chemicals, use of traction device of any kind or going into another pit spot in anger. NEVER approach the flag stand, your concerns will be dealt with after the races. Result of approaching the flag stand will be a 2-race suspension. During the race: work on car during yellow, must be done in pits, no work on any cars during red, all tire changes must be done in pits.

*In keeping with Willamette Speedway's commitment to maintaining proper balance in the competition arena, it may be necessary for Willamette Speedway to make rule changes and/or rule modifications from time to time. Such changes are designed to enhance close competition. Willamette Speedway's goal of a full starting field of various makes in each race, that are equally matched as possible, is certainly in the best overall interest of the sport.*