

## OPS Tiger Cat Figure 8 Division 2021

### OVERALL

A. **Safety** – These OPS Tiger Cat Figure 8 Car construction rules are to encourage the highest degree of safety for participants and spectators with the integrity of racing competition in mind. Cars must be painted of a light color to aid in visual detection. **A Receiver communication device to monitor OPS Race Director is allowed.**

B. **Rules** – Because of the many types of cars that can be built under these rules, it is impossible for these rules to provide for every situation that might occur. OPS is given discretion with the intent of safety and competition in mind to rule on any matter not covered specifically in these rules.

C. **Inspection** – Each car is required to a technical and safety inspection by OPS Tech before its first appearance on the track. Subsequent inspections may occur by the OPS Tech at any time. At inspection, the car owner is responsible for the car meeting these rules and proving the car meets the rules when asked. The decision of the OPS Tech as to whether the car complies with the rules is final and is not subject to appeal. **A short, rugged chain is required to be bolted around the center of the bumpers front & rear to allow for quick wrecker truck towing**

D. **Changes** – OPS reserves the right to make changes in these rules during the course of the season should the changes become necessary to insure greater safety or more equal competition.

E. **Additional Safety Equipment** – At all times while in car, driver must wear an approved Snell 95 or greater helmet, fire resistant driving suit, and gloves. Suits must cover legs, arms and body of driver. Suits and gloves must be of fire resistant material. Driving shoes are highly recommended. All cars are required to have a flashing or blinking yellow light mounted on the roof and must be activated when the ignition switch is turned on. All other OPS safety rules apply to this division also. **Must have a fire extinguisher with a metal bracket NO PLASTIC brackets (cars that don't have a metal bracket will not be allowed to compete)**

### CHASSIS

A. **Chassis** – Stock Manufacture chassis only of Mid Size cars with 4 cyl or 6 cyl engines and **97 to 108"** inch wheel base. Must be 2 door Sedan, 4 door Sedan, or Wagons only. Must have stock frame, floor pan, front firewall, rear firewall, all inner body panels, & rear trunk pan in place. **No lightening of chassis allowed.**

B. **Front Clip & Suspension** – Must be factory and stock for year, make, and model only. May be reinforced in a safe manner.

C. **Roll Cage** – It begins with a 4-point cage. All parts of the roll cage including door bars must be built from a minimum of 1.75" (1 3/4") round steel tubing with a minimum wall thickness of .095 inch. The roll cage must be welded with no gaps or holes. Key stress points must have steel gusset plates for reinforcement. Safety must be made as priority #1. Any additional bars not specifically mentioned below are very welcome and highly recommend. Bracing bars for front and rear must fit under original closed hood and trunk lid with minimal cutting of inner panels. Any holes in front or rear firewalls must be sealed tightly around bracing.

- There must be four equally spaced horizontally mounted door bars on the left side and 3 equally spaced on right side. The left side door bars must be curved outward as far left as possible. The right door bars can be curved or straight located directly above the right-side frame rails. All door bars must be connected by at least three equally spaced vertical bars. The bottom door bars must be connected to the frame rail by at least three equally spaced vertical bars. At least two curved outward horizontal bars must be installed to protect the driver's legs and feet. The left side door bars and foot bars must be covered by a .25" steel plate.

- The roll cage is constructed with a vertical hoop behind and above the driver's head that is welded to the frame rails at the bottom and to the left and right front roll cage legs by a roof hoop. The top cross bar of the rear vertical hoop and the side bars of the roof hoop must be located so the bottom sides of those bars are higher than the top of the driver's head when the driver is seated in the car. The front legs should follow the contour of the side of the windshield and be welded to the frame rails. The rear vertical hoop must have a diagonal bar from top left to bottom right or top right to bottom left. A bar must connect the

left and right of the rear vertical hoop at seat height. This bar must be welded to the diagonal bar. A bar must connect the legs of the rear hoop at their base or it is recommended that an X connects the left and right frame rails at the points the front legs and rear hoop are connected. A bar must be installed across the dashboard connecting the left front roll cage leg to the right front roll cage leg. Rear support bars, left, and right, must extend behind the top of the rear vertical hoop to the rear of the frame. OPS Tiger Cat Figure 8 Division 2021

**D. Driver's Seat** – Must be racing type aluminum constructed seat. The seat must be at least 8 inches from any door bar and mounted in front of the rear hoop of the roll cage and inside the left frame rail or frame rail extension. The frame rail extension must be constructed from the same material as the frame rail and it must extend at least from the front left roll cage post to the left rear hoop upright. From the racing seat to the right side of the chassis, nothing should interfere with a driver's ability to exit the right side of the car or for personal to extricate a driver in the event of injury.

**E. Seat Belts** – A minimum of a 5-point harness system must be used. All seat belts must be new or no more than 3 years old with the manufacturer's date being visible. The belts must be a minimum of 3" wide (the crotch strap can be a 2" wide minimum). All belts must connect to a quick release buckle. No frayed belts allowed.

**F. Window Net** – The OPS Figure 8 Car must have a window net for increased driver safety.

**G. Firewalls** – There needs to be a stock firewall between the fuel cell and the driver as well as between the engine compartment and the driver. Any holes must be covered with sheet steel of at least 22-gauge.

**H. Floor Boards** – The driver's compartment floorboards must remain stock and any holes covered with sheet steel of at least 22-gauge. The stock floorboard must remain in place side to side and connect to the front and back firewalls.

**I. Drive Shaft Tunnel** – Stock floorboard area in and around the drive shaft (if equipped) must remain in place. If driveshaft is in place then 2 bands equally spaced shall be welded around the driveshaft under the floor pan and shall be made with a minimum of .125-gauge steel.

**J. Bumpers** – The front & rear bumpers must be securely mounted and braced. No sharp edges. If stock bumper or bracing is destroyed a replacement may be used with the idea this zone should not be solid and will absorb impact.

**K. Rub Rails** – They are to be installed along the sides of the car. The rub rail on each side must be mounted as close to the body as possible and mounted between the tires. Rub rails must be constructed of round or square tubing and curved inward on both ends with no sharp edges.

**L. Wheelbase** – The OPS Junior Figure 8 Cars wheelbase must be between 97" and 108".

**M. Fuel System** – Cars may use stock fuel tank in original location if in good condition and safely mounted or must have an approved fuel cell mounted 6-12 inches behind the differential in the trunk area and between the frame rails. The following applies to the fuel cell, cage, can, and fuel lines:

- The fuel cell must be professionally made-for-auto-racing. It must have a full sponge baffle inside, a top mounted bolt-on filler plate assembly, a full sealing cap and operable check valve in the vent line. Maximum fuel cell capacity is 22 gallons. A check valve is mandatory for a gravity-fed cell.

- The fuel cell container must be built of at least 18-gauge steel enclosing the bottom, all four sides, and top with hole only for the filler plate.

- The fuel cell cage must be adequately constructed. The cage must be strongly attached to the rear trunk area. The front of the fuel cell, inside its mounting cage must be 6 to 12 inches behind the differential housing.

- All fuel lines must be attached through the bolt-on filler plate. The vent line must contain a check valve to eliminate fuel leakage if the car should be inverted. The fuel line may be a safety-constructed system of steel and/or neoprene line. If the fuel line is routed above the floor board in the driver's compartment, the line must run through continuous steel conduit in its run between the front and rear firewalls. OPS Tiger Cat Figure 8 Division 2021

**N. Shocks, Springs, Front and Rear Suspension** – Must be stock for year, make, and model or fabricated with no excessive construction or bracing behind bumper cover.

**O. Steering** – The steering system must be designed with safety in mind. A quick-release removable steering wheel is mandatory. The steering column must be stock or made collapsible. A padded steering wheel is recommended.

**P. Brakes** – The OPS Junior Figure 8 Car must have fully operational brakes at all four wheels.

**Q. Wheels** – Stock steel wheels only.

**R. Tires** – Competitors can use DOT tires 340 min. tread wear or the OPS Hoosier 790 competition

series spec tire. The OPS Hoosier 790 tires allowed are ONLY sold at the OPS. No other Hoosier tires will be permitted. No tire softening or tire soaking or tire altering allowed. No chemicals or materials for these purposes allowed on the OPS property. The OPS tech staff can check tires at ANY time and by ANY means. Their decisions being final. Violators will be penalized. (Legend takes of are acceptable)

S. **Ground Clearance** – The frame, engine, exhaust system and all other parts of the under carriage must be a minimum of 5" off the ground with the car being ready for racing competition.

T. **Weight** – OPS Junior Figure 8 Cars must weigh a minimum of 2000 pounds after race with driver unless posted.

U. **Ballast** – Ballast must be a piece of steel or a solid substance (such as lead) encased in steel and solidly mounted (as not to be dislodged in an accident) to the car. No "temporary" mounting permitted. All ballast must be painted white and include car number. No ballast containers may be installed inside the driver's compartment. No ballast may be used that is not solid metallic material such as liquids, sand, etc.

## **BODY**

A. **Design** – The overall design of the OPS Junior Figure 8 Car's body must be stock but is open to creativity with limitations detailed below. The design should not prohibit the operation of the car mechanically and safely. This includes the eyesight lines for the driver as well as the sightlines of the other competitors.

B. **Material** – Body panels stock steel only except for stock bumper covers.

C. **Mounting** – The body must be stock but some roof decorations or spoilers are allowed with solid mounting.

D. **Windshield** – The car must have a stock OEM or replacement 3/16" Lexan windshield. Windshields shall be stock size and cover the driver's area thus ensuring driver protection from hot fluids. At least three vertical steel rods of at least .5" diameter must be welded to the roll cage in front of the driver's head. The bars may be no more than 5" apart and be in the center of the windshield. The windshield opening must remain stock size.

E. **Roof** – A roof is required to remain stock.

F. **Hood** – The hood must cover the entire engine compartment including the radiator and be securely mounted. A hood scoop covering the air cleaner is allowed if the scoop does not obscure the driver's view and the scoop is open only in the front. The hood must be closed in the rear to separate the engine compartment from the driver's compartment.

G. **Rear Spoiler** – The spoiler should be made of a clear material for drivers to see thru.

H. **Sideboard Wings** – These can be a maximum of 60" from the ground and cannot extend past any part of the driver compartment. The sideboard wings should be made of a clear material for drivers to see thru. Lettering can be used on these wings, but for safety reasons CANNOT entirely cover the surface.

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## **DRIVE TRAIN**

A. **Engine Block** – Must be stock for year, make, and model.

B. **Engine Location** – The engine must remain in stock location.

C. **Carburetor** – Must remain stock for year, make, and model.

D. **Heads, Intake and Exhaust Manifolds** – Must remain stock for year, make, and model.

E. **Oil System** – Must remain stock for year, make, and model.

F. **Ignition System** – Must remain stock for year, make, and model. NO TRACTION CONTROL ALLOWED

G. **Radiator and Fan** – Must remain stock for year, make, and model. The fan must be shrouded at the top to prevent injury. The radiator cap must be of the safety, pressure-release type.

H. **Fuel Pump** – Must be stock for year, make, and model.

I. **Fuel** – No alcohol or nitrous allowed, only pump gasoline with no fuel additives or oxygen-bearing agents.

J. **Exhaust System and Mufflers** – Solid exhaust pipe must be used (no flex pipe is allowed). Street legal mufflers meeting track specs must be installed on each exhaust pipe. The noise created cannot exceed 105dB. Exhaust may exit thru the hood.

K. **Starter and Battery** – Car must be capable of starting the engine without assistance before each race. The battery must be mounted inside the car away from the driver securely mounted and covered.

L. **Clutch and Flywheel** – Must be stock for year, make, and model.

M. **Transmission** – Must be stock for year, make, & model.

N. **Drive Shaft** – If used it must stock or one piece, open, at least 3" in diameter and painted white. The drive shaft is to be encircled by two 360 degree steel straps (minimum 1 ½ inches by ¼ inch thick). These straps must be mounted securely enough to prevent the front of the drive shaft from falling onto the ground or flailing into the driver's compartment. No aluminum drive shafts are allowed.

O. **Differential** – Must be stock for year, make, and model.

Note: This is a new OAS division for 2018 OPS and rules may be changed or updated to enhance Safety or Competition by OPS Tech when needed.

**Note: Be sure if printing rules to print on white paper so as there is no confusion. These rules are depicted in black with this note and the original notice paragraph in red, if in fact you sense any coloration of gray your best suggestion would be to get a new print cartridge!**