



## *2009 USAC National .25 Midget Rule Book*

*Updated April 21, 2009*

*This Rulebook will be used for all National, District and Championship Events.*

# APPENDIX I

## **2009 .25 Midget Division Technical Specifications**

**This Appendix Pertains to Quarter and Half Midgets**

***(May be referred to in this section as QM & HM where needed)***

### **701 Design and Construction**

All phases of design and construction are subject to the approval of the Technical Director. The Chief Steward and the Technical Director may exclude any car, design or construction, which they deem unsafe or not meeting the specifications, the spirit and/or the intentions of the rules contained herein.

### **702 Inspections (Yearly)**

All cars will be inspected for mechanical and safety deficiencies and compliance with these rules at least once a year. USAC inspection decal is mandatory for a car to compete.

### **703 Dimensions and Weight**

- A. **Wheelbase** (Measured center to center of axle on EACH side)  
The QM wheelbase must be at least 42 inches and no more than 56 inches.  
The HM wheelbase must be at least 50 inches and no more than 56 inches.
- B. **Length** (Measured bumper to bumper)  
The overall QM length will be limited to 84"  
The overall HM length must be at least 76" and no more than 88"
- C. **Tread (Width)** (Measured from tire center to tire center)  
The QM tread must be at least 28" and no more than 34"  
The HM tread must be at least 32" and no more than 36"
- D. **Height** (Including Roll Cage)  
The height will be a maximum of 50"
- E. **Car Weight** (Cars weighed after qualifying, heats, semis, consi's & mains)  
The QM weight must be at least 160 lbs.  
The HM weight must be at least 170 lbs.
- F. **Tires**  
The front tire diameter must be no more than 11" diameter  
The rear tire diameter must be no more than 12.5" diameter

G. **Ballast/Weights**

Any ballast, excluding bellypan itself, must be securely bolted within the confines of the frame tubes.

- 1 Weights must not be fastened to the inside or outside of any nerf bars, front or rear bumpers or shoulder bars, or to the roll cage.
- 2 All lead weights must be covered in a manner to keep from coming in contact with driver, i.e. Plastic Coat, Tape.
- 3 It is recommended that the lead be painted white or a fluorescent color.

H. **Driver Weight**

Driver weight in heavy class will be at least 100 lbs. Minimum weight of heavy driver weight is to be without any racing gear (normal street attire). Gear includes driving suits, shoes, helmet, gloves, and safety equipment, no weighted belt buckles. There will be no weights in pockets or concealed in or under clothing (racing gear and shoes will be included in the total combined weight). Heavy drivers weighed after qualifying or if no qualifying after first heat race.

I. **Class Weights**

**Table Appendix 1-1**

**USAC Required Ages and Weights by Class/Division**

<b>CLASS</b>	<b>DIVISION</b>	<b>DRIVER AGE</b>	<b>DRIVER WEIGHT(min)</b>	<b>COMB. WEIGHT(min)</b>	<b>CAR WEIGHT(min)</b>
Rookie	Junior	5-8	N/A	250 lbs.	160 lbs.
Rookie	Senior	9-16	N/A	260 lbs.	160 lbs.
Honda	Junior	5-8	N/A	250 lbs.	160 lbs.
Honda	Senior	9-16	N/A	275 lbs.	160 lbs.
Honda	Heavy	8-16	100 lbs.	325 lbs.	160 lbs.
Super Stock	Junior	5-8	N/A	250 lbs.	160 lbs.
Super Stock	Senior	9-16	N/A	275 lbs.	160 lbs.
Mod	Light	7-16	N/A	270 lbs.	160 lbs.
Mod	Heavy	7-16	100 lbs.	325 lbs.	160 lbs.
Honda 160	Light	8-16	N/A	270 lbs.	160 lbs.
Honda 160	Heavy	8-16	100 lbs.	325 lbs.	160 lbs.
B	Light	8-16	N/A	270 lbs.	160 lbs.
B	Heavy	8-16	100 lbs.	325 lbs.	160 lbs.
AA	Light	9-16	N/A	270 lbs.	160 lbs.
AA	Heavy	9-16	100 lbs.	325 lbs.	160 lbs.
Half	Junior	11-17	N/A	350 lbs.	170 lbs.
Half	Senior	18 up	N/A	350 lbs.	170 lbs.
World Formula	Light	9-16	N/A	270 lbs.	160 lbs.
World Formula	Heavy	9-16	100 lbs	340 lbs.	160 lbs.

J. **Combined Weights**

Equipment and shoes will be included in total weight (car and driver combined). At the end of a race, driver and car will still have to meet total weight. For combined weight drivers should be sitting or standing in cockpit. No weights will be carried loose in cars/or on the driver. Refer to Table Appendix 1-1 for official weights.

K. **Club Options for Weights (Club Option)**

Clubs may choose to run at weights that are outside of those specified above, in order to combine divisions within a class and make full fields of cars. Weights may be changed at club level, with the following stipulations: District Board and National Office must be notified in writing of these deviations from standard weights at the beginning of each season. Weights must fall within minimum and maximum weights listed by class.

## 704 Car Construction

- A. All cars shall be rear direct drive only. No clutches (except half midget) allowed. If only one rear wheel drive it must be the right rear.
- B. All Body panels must be readily removable. Body panels rigidly attached to the frame, to prevent chassis flex, will not be permitted.
- C. All cars must have a body that completely covers the driver's legs, a tail section, and a housing that covers the engine. The tail section can be the engine housing.
- D. The body and tail section must not have any sharp edges. There must not be sharp corners – such as square corners. Make all corners and edges rounded in shape to avoid cutting in an accident.
- E. The bottom of the tail cone must not be higher than the top of the bumper when normally installed. Holes are allowed in the tail cone for access.
- F. Belly pan or body must enclose the front end or it must be enclosed by using metal sheeting at least .048" thick. Open holes larger than 1/2" must be filled.
- G. Due to today's smaller tail section, the carburetor may have to be covered with a bubble or scoop, securely attached to the tail section
- H. Any radical changes in body, tail section, or side panels must be submitted for approval to USAC.
- I. All cars must have side panels on both sides of the cockpit and engine compartment.
- J. Maximum height of body is 28 inches as measured from the bottom frame rail.
- K. Side cockpit panels must be at least 6", and no more than 22" high, as measured from the bottom frame tube.
- L. USAC Designated Stickers are required on all cars
- M. All cars must have a bellypan, utilizing aluminum at least .040" Thick, or steel at least .025" thick. The bellypan must extend from the front axle to the firewall. Bellypans should not have open holes larger than ½" in diameter. The bellypan must be flat from side to side without any aerodynamic aids. Excessive holes in bellypan will be considered lightening and not legal. Bellypans are subject to the approval of Tech and/or Safety Director.
- N. Airfoils, wings, spoilers or other aerodynamic appendages will not be permitted. The Chief Steward or Technical Director may have any panel or part removed which in their opinion is not within the spirit or intent of this rule.
- O. Rear view mirrors are not permitted.
- P. Windshields are not permitted.
- Q. Decorative or distractive lights are prohibited on any race car.
- R. Must be able to access the engine flywheel nut through the body panel via a minimum 2" diameter hole.

## 705 Roll Cage and Frame

ALL cars constructed after 1/1/2009 will be made from 4130 Steel Tubing (Chrome Moly)

- A. All cars must have a roll cage that is integral with the frame. The roll cage must be adequately braced fore and aft, and side to side, to secure it in an upright position in case of rollover. Front and rear uprights must completely enclose drivers shoulders and head when sitting upright in cockpit. The roll cage should extend one inch above the driver's helmet when sitting upright in cockpit, measured from the bottom portion of the tubing. Any manufacturer wishing to produce a design that is a departure from standard .25 and ½ Midget car construction must submit a finite analysis report for the roll cage structure proving their design is equal in strength.
- B. Roll Cage Construction – Must be 4130 steel tubing if manufactured after 1995
  - 1. Main uprights forming the roll cage that is **LESS** than 34" from the top of the bottom frame rail to the top of the roll cage must be minimum O.D. 3/4; Minimum wall thickness .058

2. Main uprights forming a roll cage that is **MORE** than 34" from the top of 7/8, minimum wall thickness .058 and must have two rear support bars that attach to the roll cage no more than four inches from the top of the roll cage, and extend downward towards the rear of the car, and attached to the rear part of the frame. Support bars must be minimum O.D. 5/8"; minimum wall thickness .049". Support bars are bolted or welded to the roll cage and frame. Holes **cannot** be drilled in the roll cage to bolt the support bars to the roll cage.
3. Radius design required. No square corners.
- C. Left side shoulder bar mandatory on all cars – Constructed of either:
  1. 4130 steel tubing minimum O.D. 5/8" O.D; Minimum wall thickness .049"
  2. Stainless steel tubing minimum O.D. 5/8"; Minimum wall thickness .065"
- D. Shoulder bar must be securely fastened to left nerf bar and rear roll cage upright using a grade 5 bolt or better. Shoulder bar can be attached by welding, mounted with split clamps or nerf style spuds.  
Shoulder bar must be securely fastened at nerf end between the leftmost point of the nerf bar and a point four inches inboard of that. At the Cage the shoulder bar must be at least as high as the top of tail cone
- E. Helmet hooks attached to the chassis are not allowed.

### 706 Fuel System

- A. Fuel tanks must be vented no more than 1" above the belly pan with no holes in the cap.
- B. No pressurized tanks.
- C. Fuel tanks must be mechanically mounted to the frame preventing all movement inside the tail section. Minimum of 2 hose clamps must be used if hose clamps are used. Zip Ties and Duct Tape not permitted.
- D. Fuel tanks cannot be replaced during a race.
- E. Aluminum fuel tanks required and must have a minimum wall thickness of .050
- F. Fuel fittings must be automotive type. Lines must be attached with a positive stop clamp.
- G. Fuel lines must be rated for the appropriate fuel (Gasoline or Methanol), and must be made of flexible hose. Steel braided line is allowed.
- H. Cool cans and other device for cooling fuel are not allowed. Devices used to reduce the temperature or remove energy from the fuel system, are not allowed.
- I. Fuel line at fuel tank must be equipped with a fuel shutoff device.
- J. Fuel pumps of any type are NOT allowed in Rookie, Honda 120, Honda 160
- K. Vacuum type fuel pumps which stop "pumping" immediately upon engine stopping are allowed in Modified, B, AA, W/F, Super Stock & Half Midgets.
- L. Maximum fuel tank size 140 ounces.

### 707 Firewall

An effective firewall of aluminum (Minimum .048 inch) or steel (minimum .025 inch) thick must be installed between the engine compartment/fuel tank and the cockpit. It must be as leak proof as practical with no open holes. Any holes for seat belt or shoulder mounts must contain no sharp edges.

### 708 Revolving Parts – Chains & Sprockets

All chains and sprockets or belt drive systems must be placed so as not to be exposed to driver or handler while vehicle is in motion.

### 709 Bumpers

- A. The car must be equipped with a front and rear bumper securely fastened, using at least tow grade 5 bolts or better, to the structural components of the chassis and designed without any stubs pointing downward.

- B. The bumper must be strong enough to be used to lift the car. Double bumpers with at least two connecting tubes are required. Horizontal tubes must be at least two inches apart.
- C. Front and rear bumper tubes must be mounted over each other with a maximum rake of 15 degrees from vertical. They must have at least two inches of radius bend on the ends.
- D. Front and rear bumper must not extend more than three inches out past the main frame rail.
- E. The bumpers must be constructed of metal tubing having a minimum wall thickness of .049 inch. No ballast is allowed in the bumper tubing. Titanium and composite materials are not allowed.
- F. Bumpers must be mounted with minimum 6-32 to max 10-32 grade 5 or better bolts. Minimum of two bolts per bumper.

### **710 Nerf Bars**

- A. All cars must be equipped with nerf bars (Side bumpers) starting at the rear, just forward of the rear tire. The nerf bars must extend outward to at least the center of the rear tires. The nerf bars cannot extend beyond the outside of the rear tires.
- B. Nerf bars must be constructed from steel. Wall thickness is limited to a minimum of .049 inch. A maximum of three horizontal and/or three vertical tubes are allowed in the construction of nerf bars. No ballast is allowed in the nerf bar tubing. Titanium and composite materials are not allowed. Panels on the nerf bar will not be allowed.
- C. Nerf bars must be mounted with a minimum 6-32 to maximum 10-32 grade 5 or better bolts. Minimum of two bolts per nerf bar.

### **711 Steering and Suspension**

- A. Tie rod or rack and pinion steering only. No cable systems allowed.
- B. Steering system must not allow the drivers legs to impair right or left steering
- C. Steering may not go past center in either direction to keep steering from locking
- D. Steering wheel hub must be padded, and must be at least 1 inch thick, and must be at least two inches outside diameter
- E. The use of carbon fiber, titanium or other composite material as a steering shaft, radius rod, tie rod or suspension component is not allowed.
- F. Radius Rods, Steering Rods, & Track locating rods must be constructed of aluminum. Rod ends may be constructed of ferrous materials, however the maximum length of adapter is 1 ½"
- G. Bird Cages, torsion bars and sway bars may not be constructed of titanium and/or composite materials.
- H. Remote reservoirs and Cockpit Adjustable Shocks will not be permitted.
- I. Titanium or Composite Steering Wheels not allowed.
- J. No data acquisition devices allowed on steering wheel.

### **712 Axles**

- A. Independent rear suspension is not permitted.
- B. No portion of the axle, hubs or nuts can extend beyond the outer edge of the wheel rim.
- C. All front axles must be constructed of steel. All rear axles must be constructed of steel, aluminum, carbon composite or titanium.

### **713 Wheels**

- A. The number of allowable wheels is restricted to two (2) front wheels and two (2) rear wheels on each car.
- B. The rim diameter must be at least 5 inches and no more than 6 inches

- C. The use of full-face brake scoops and/or wheel covers on the inside of wheels is not allowed.
- D. All wheels must be constructed of steel or aluminum.

#### 714 Tires

- A. Any device(s) used for warming the tires prior to competition is prohibited.
- B. Any solvents or chemicals applied to the tire that alter the chemical makeup of the compound or have the effect of altering tire durometer is prohibited. Any tire that is found to deviate from the original factory specifications will be confiscated. The penalty for chemically altering a tire is a minimum year suspension for the family from USAC racing.
- C. All tire sizes and compounds must be selected from the approved list for the event and surface raced on (Pavement or Dirt)
- D. The use of any device(s) to alter the air pressure of the tires while the car is in motion is prohibited.

#### 715 Throttle

- A. Two (2) return springs recommended be connected to the throttle.

#### 716 Brakes

- A. Cars must be equipped with an effective braking system. A minimum of one wheel brake is required, located on the rear axle. The brake must be able to lock the drive wheel(s)
- B. Master cylinders not fixed to the frame must have flexible lines. Copper tubing is not acceptable anywhere in the system.
- C. Brake discs are limited to being manufactured of steel, ferrous, aluminum alloy or Titanium. Carbon or carbon composite brake discs or components are not allowed. Brake pad material is open.
- D. Cars must be equipped with a full brake pedal or positive heel stop.
- E. No plastic brake lines.

#### 717 Clutches

- A. The use of onboard starters and a de-clutching device on a quarter midget is not allowed.
- B. All Quarter Midgets will be direct drive
- C. The use of clutches on a half midget is allowed

#### 718 Engines

All engines subject to technical specifications contained in the quarter midget technical manual(s)

- A. **Quarter Midget:**
  1. **Rookie Classes:**  
Honda GX120 motors as specified in technical manual  
Timing max is 20 deg. (with key or flywheel)
  2. **Honda 120:**  
Honda GX120 motor as specified in technical manual  
Timing max is 20 deg. (with key or flywheel)
  3. **Super Stock:**  
Continental and Deco motors as specified in technical manual
  4. **Honda 160:**  
Honda GX 160 motors as specified in technical manual
  5. **Modified, B, AA:**  
Continental and Deco motors as specified in technical manual
  6. **Briggs and Stratton World Formula**  
Briggs and Stratton World Formula as specified in technical manual

**B. Half Midget:**

Half Midgets must comply with the following specs:

1. 4 Cycle, Single Cylinder
2. 253 CC maximum displacement
3. Single Crankshaft

**C. All Classes**

1. Air cooled only and no external liquid cooling devices
2. No fuel injection or supercharging
3. Flywheels must not freewheel.
4. NO liquid cooled engines allowed in Quarter or Half Midgets
5. No external cooling devices

**D. Restrictor Plates (Unaltered) must be used in the following:**

1. **Junior Rookie**  
**Senior Rookie**  
**Junior Honda**  
**Junior and Senior Stock** – When using Tillitson carb
2. Restrictor plates will be supplied by USAC to Clubs at a nominal cost.
3. No plates to be used other than USAC approved.
4. Identification tab must be visible. Technical inspections of plate at any time by removing plate and inspecting surface and hole size.
5. Alterations of any kind will be disqualified.
6. Failure to use proper restrictor plate in any designated classes or any alteration of restrictor plate is cause for immediate DQ and applicable suspension with DECO or Honda Suspension Program.
7. **DECO Restrictors** –  
**Jr. Stock** must use .500 restrictor plate on the exhaust side.
8. **HONDA Restrictors** –  
**Junior Rookie** = .3125" (5/16"),  
**Senior Rookie** = .4375" (7/16)  
**Junior Honda** = .4375" (7/16")  
Restrictor must be installed between carburetor and plastic insulator, with a stock gasket on each side of restrictor. All airflow must pass through restrictor.
9. If a restrictor plate is removed for racing in a non-restricted division by another driver, then it is allowable to run 2 gaskets temporarily.

**10. Restrictor Dimensions**

<b>Division</b>	<b>Color</b>	<b>Restrictor</b>
Jr. Rookie (Honda)	Red	.3125"
Sr. Rookie (Honda)	Blue	.4375"
Jr. Honda	Blue	.4375"
Jr/Sr Stock (Deco) w/Tillitson - Model HL357	Black	.660"
JR DECO EXHAUST NO USAC LOGO	SILVER	.500"

**719 Fuel - Air**

- A. Fuel is restricted to gasoline and/or methanol only, as specified by the class. The addition of any unauthorized material(s) to the fuel is strictly prohibited.
  1. Honda 120, Super Stock, Honda 160, Mod, B & World Formula: Gasoline, automotive, "Pump" 89 Octane only per spec format. No White, Aviation or "Racing" fuel.
  2. AA & Half: Straight methanol OR gasoline. No additives.

- B. The addition of any material(s) to the intake air or the addition of any mechanical device(s) essential to the application of this material(s) is strictly prohibited.
- C. All fuel is subject to testing at any time. Any fuel that does not conform to the USAC standards, as administered at the track, will be considered illegal. The use of illegal fuel will result in disqualification &/or suspension for that event.

#### **720 Shut Off, Ignition, Battery and Electronic Equipment**

- A. All cars must be equipped with an on/off ignition switch or emergency shut-off located within easy reach of the driver. It must be located in the upper left portion of the drivers compartment or on the steering wheel. Switch and bracket should be located to prevent contact with drivers knee. Switch must be installed so when the handle is down, or rearward, the ignition is off.
  - 1. Only one ignition switch may be installed, EXCEPT when car is running in rookie class, a second switch mounted on the upper rear of the roll cage is allowed so that handlers, trainers and corner workers may shut off car.
- B. Battery – Battery must be securely mounted.
  - 1. All wet-cell batteries mounted in cockpit area must be enclosed and vented out of cockpit.
- C. All engine electronics must be securely mounted.
- D. Electronics that provide traction control are prohibited. All electronic components may be inspected, sealed or confiscated by USAC at any time. The penalty for utilizing traction control is a minimum one year suspension from competition.
- E. The use of electronic logic processors to control any function of the race car, and/or any system for gathering continuous data from any function of the race car is strictly prohibited.
- F. Data may be gathered from the engine, however, this data may not be in communication with ignition electronics except for the tachometer. A throttle position sensor (TPS) may not be part of the engine data collection.
- G. All data acquisition and measuring devices shall be mounted securely within the roll cage or down tubes. No Data acquisitions allowed on steering wheel or in sight of the driver.
- H. No in car video cameras in a car during a race without prior approval from Chief Steward and/or Safety Director.

#### **721 Radios**

- A. The use of in-car radio transmitting devices is prohibited
- B. No Radio communication with the driver is allowed during a race or event.
- C. Only one-way communication from USAC Race Control may be allowed.
  - 1. When used participant may only use a RACING ELECTRONICS “Legend” or an approved non scanning RACEIVER device.

#### **722 Oil Catch**

- A. All cars are required to have a catch can if the engine is vented. All breathers, engine vents and catch cans are to be placed in the engine compartment tail section or air box.
- B. The frame cannot be used as a catch can.
- C. Oil breathers must be located so as not to endanger the driver.
- D. Oil may not be added to the engine supply during a race.

#### **723 Exhaust**

- A. Exhaust systems must be designed to create a minimum fire hazard and a minimum hazard to other competitors.
- B. Exhaust system must extend outside of engine housing.
- C. Exposed portions of exhaust system must not be higher than the rear tire.

- D. Exhaust system must not extend outside of a straight edge extended from rear edge of rear tire and rear of the rear bumper.
- E. Exhaust systems facing forward must not extend outside of nerf bar.
- F. Exhaust system must include at least one and not more than 4 Briggs & Stratton 4 to 8 horsepower mufflers. Part #3294599 or equivalent.
- G. Drilling holes in the baffles is prohibited. Inside seam of baffle must be straight, although seams may not be parallel in baffle) A nut or washer welded onto muffler flange is allowed for safety wiring.
- H. Honda 120, Honda 160 classes must use a tailpipe and muffler combination conforming to technical manual specifications. Muffler must retain the threaded flange on Honda exhausts
- I. Clamps should be positioned with screw adjustments, bolts and excess strap material facing inboard when possible.
- J. Exhaust system must be intact at scales. If any part comes off during race and not replaced before the checkered flag the car will be disqualified at the scale. No repairs after checkered flag is waved.
- K. All exhaust must pass through the mufflers.

#### 724 Seating

- A. Cars must have a web type safety belt with quick release buckle. Safety belt must be securely fastened to the frame. Pull up lap belts are recommended.
- B. Use of safety belt is required at all times, and belt should be worn as tight as possible.
- C. Seat belt must be worn in such a manner that it passes around the pelvic area at a point below the anterior superior iliac spine. Under no condition may it be worn over the area of the intestines and abdomen. (Lap portion of safety belt must be located so that pressure is across driver's hips)
- D. Metal quick release is preferred
- E. Minimum of a **five** point safety belt is mandatory.
- F. Double Shoulder straps are mandatory. They must be worn securely across the right and left shoulders, and should be worn as tight as possible.
- G. No restraining device may be used to keep the drivers head or body outside of the roll cage.
- H. **Anti-Submarine belt mandatory as of May 16, 2009.**
- I. Both the fastening design and condition of the straps are subject to the inspection of the Technical Committee.
- J. Shoulder straps must be attached directly to a strong structural member of the chassis close behind the driver's head and neck.
- K. Life of the belts in use shall not exceed four (4) years and must be date stamped by the manufacturer.
- L. **Aluminum seats may be used.** The seating system should provide a lateral support on both the left and right sides. It is recommended that the seat provide left and right lateral support for both the shoulders and head.

#### 725 Fire Prevention

- A. No smoking will be permitted in, hot chute, staging area, judging stand, flag stand, work areas, racing surface, scale and fuel areas, especially whenever fuels may be exposed to the atmosphere. Anyone found violating this rule will be subject to removed from the area.
- B. Extreme care should be taken in the handling of fuels. Where local regulations are posted, they become a part of the United States Auto Club rules. Any individual found violating these regulations will be subject to fine and may be removed from the pit area.
- C. All clubs must have at least five charged canisters of FUEL BUSTER or equivalent placed in designated areas around racing surface.

- D. While refueling the driver must be out of the car. The penalty will be a DQ for the event from that class.

### 726 Safety Equipment

Any participant not complying in full with all safety requirements will not be permitted to compete. Safety officials have the right to safety any or all cars in any class at any time.

- A. **Helmets**- All participating drivers must wear a well fitted safety helmet designed specifically for auto racing (SA designation) that meet or exceeds the 2000 or better Snell Foundation or SFI Foundation 24.1 youth spec helmet specifications and are labeled as such. Helmets will be in good condition (no exterior cracks, evidence of impact or deteriorating interior lining)Helmets will be subject to inspection at each event by the Technical, Safety and/or medical representative. Hair must be under the helmet or inside the drivers suit/jacket.
1. Visors/Face shields must be in the down position when on the racing surface.
  2. Clear, or amber, face shields must be worn after dark, or whenever track lights are turned on.
- B. **Uniforms**
1. **Suit** - All drivers must wear a one or two piece fire resistant suit which fits snugly around the neck, wrists and ankles, exposed skin not allowed. These items must meet SFI Foundation specifications 3.2A1 or higher. Jeans are not permitted.
  2. **Head Sock** – Use of Nomex Hood/head sock is highly recommended.
  3. **Nomex Underwear** – Recommended
  4. **Gloves** – All drivers must wear Nomex or equivalent gloves that must completely cover the hands and fingers. SFI Foundation specifications 3.3 or higher.
  5. **Shoes** – Must completely cover the feet, flat bottom shoes only.
  6. **Neck Collar** - Neck collar is mandatory, must be made of Nomex or equivalent is mandatory except as noted here, recommended rating of SFI Foundation 3.3.
  7. **Head & Neck Restraints** - SFI approved Hans device may be used without Neck Collar, and SFI approved Hutchins device requires Neck Collar.
- C. **Arm Restraints** - Arm restraints are mandatory and must be worn at all times during competition. Center fastening point will be fastened in conjunction with quick release safety belts.
1. Arm restraints are fastened securely to the driver's forearms, (between the wrist and the elbow), never at or above the elbow.
  2. Arm restraints should be adjusted short enough to keep driver from reaching more than two or three inches above the steering wheel.
- D. **Roll Cage/ Frame Padding** – Recommend that all chassis protrusions, frame tubes, roll cage tubes, steering shafts and roll bars, in close proximity to the driver's be padded with a securely attached high impact material.

### 728 Dental Appliances

All drivers are required to remove all dental appliances before starting an event. (Example, Retainers, Removable Braces, or any other choking hazard) This also includes chewing gum, candy.

### 729 Car Numbers (Club Option)

All car numbers are assigned by the club if so desired.

### 730 Appearance

Cars, crews and all pit personnel, whose appearance detracts from the character of the program, may be excluded by the Chief Steward.

### **731 Engine Claims**

#### **CLAIMER RULE - For GX120 Honda, GX160 Honda and B&S World Formula Engines**

1. Claims shall be from within the same division of class only, i.e. Jr., Sr., Lt.& Hvy. 120-160 or World Formula – Only. Competitors in the same division, and in the same race may make a claim on an engine. No claiming in Rookie Class. One claim per race event, per handler, per class.
2. Honda Engines may be claimed for \$550.00 cash only. No claim related inspection will be started prior to the funds being posted with the proper official. Claimed party shall retain air filter, exhaust system and throttle linkage.
3. World Formula Engines may be claimed for \$1,750.00 cash only and shall include the gearbox. No claim related inspection will be started prior to the funds being posted with the proper official. Claimed party shall retain Exhaust system.
4. This claim form and cash must be submitted to the Chief Steward, or his/her designee, before the end of the race that the claimed engine is participating in I.E. Checkered flag lap complete.
5. The Chief Steward, his/her designee, will hold the claim money until the claimed engine has been inspected for legality. The claimed engine shall be tagged/marked and sealed as soon as it car comes across the scale.
6. The claimed engine shall be immediately taken to impound and/or presented to the tech Director for inspection. Engine must remain in impound and in the possession of tech officials throughout the entire process including shipping to National Tech Director and the transferring of funds.
7. Inspection of claimed engine MAY NOT be waived by any party
8. Both claimer and claimed have the option to be present at the time of inspection.
9. Any claim that is withdrawn will be assessed a \$50.00 fee that will be paid to the host club.
10. Multiple claims on an engine shall be decided via a lottery system. Owner, handler or family member cannot claim his/her own engine.
11. If the claimed engine is found to be illegal, the motor must be completely torn down to check for additional illegalities. The Tech Director must confiscate all illegal parts and related parts from the claimed engine and shall immediately forward them to the National Tech Director along with the confiscation form. Claiming party has the option to accept the engine, as is, less confiscated parts or void the claim if engine is found illegal and claim money will be returned to the person filing the claim.
12. Refusal of claim, destroying or withholding of parts or any other lack of cooperation in this claim or inspection process shall be interpreted as an admission that the engine is illegal and shall subject the driver and handler to the conditions set forth in the Suspensions Program.
13. Any teched or claimed engine, block or part which are deemed to be over maximum wear limits in one or more spots but is under maximum wear limits in other spots is subject to confiscation but not DQ'able. The claiming party has the option to void the claim with no financial penalty.
14. Note: Reference to Confiscation due to Wear Limits in "Engine Block Internal Rules" of both Manuals.
15. The person claiming the motor "claimer" must have their engine inspected for compliance first. If the "claimer's" engine is found illegal the claim is null and void and the claim fee will go to the club. If the "claimer's" engine is found legal the claim will continue.

### **732 Engine Suspension Rules**

**Handlers and drivers guilty of having an engine declared illegal at technical inspections shall be disciplined as follows:**

1. First offense – 30-day suspension for handler and driver from participating in the respective class at any USAC Sanctioned event.
2. Second offense within one year of first infraction – One-year suspension for handler and driver from participating in the respective class at any USAC Sanctioned event.
3. Third offense within two years of last infraction – Suspended for life from USAC's .25 Midget division.
4. Suspension for life is open to review by USAC.
5. Suspension shall begin immediately,
6. Illegal **Honda and World Formula** part/s shall be sent within five Business days to the USAC office or designee for review. The Tech director has 48 hours to determine if the part/s are legal or illegal. If the part/s are determined to be legal it shall be returned to handler. Handler shall be notified if part/s are legal or illegal. All illegal or confiscated part/s shall be sent to National Tech Director. All legal parts shall be returned to handler.
7. If a **Honda** motor is found to have a valve oil seal during tech it shall be a race disqualification only.
8. Spark plugs and exhaust infractions are a race disqualification only.
9. Refusal of tech shall be interpreted as an admission that the engine is illegal and a suspension from the class shall be immediate with all awards and qualifications being revoked with a six-month suspension driver and handler suspension at any USAC Sanctioned event.
10. For the purpose of this rule only, if a handler has multiple cars competing at one race event and more than one engine is found to be illegal at that event; it will be considered to be one offense.
11. All membership suspensions must be sent to the National Tech Director within 5 Business Days.
12. Illegal Rookie engine parts shall be confiscated (Honda) but the suspension shall not be levied against handlers or drivers for the first offense. The second offense shall result in a 30 days Suspension from Rookie.
13. The cost to appeal a suspension is \$175 plus any associated fees. The appeal must be made within 3 days of the ruling.

**733 Fuel Testing**

1. The approved testers are: Digitron DT-15 or DT-47FT tester or the Precision Fuel Testing System.
2. Cars will return from track through inspection area to be checked for fuel additives immediately following qualifying and racing.
3. Use a clean plastic one gallon gas can of fuel. Put a fresh sample of track fuel into this clean can. This will be used as a control sample for comparison. Testing must be done in a clean and safe area.
4. Set the meter to zero in the sample of track fuel. Each time the meter is turned off this procedure must be repeated.
5. Suspend the probe in the fuel to be tested for a minimum of ten seconds to allow for stabilization. Fuel reading from -10 to +40 is track fuel. If testing is done after fuel is allowed to cool and settle, the fuel will read to within +/-7 of the track fuel sample.  
If readings are between 50 and 100 or higher set car aside and retest in approximately ten minutes. If readings are still this high DISQUALIFY THE CAR.  
Readings that are +/- 100 at any time are not track fuel.
6. Replace the 9-volt battery each day.
7. Other methods may be used at the discretion of National Tech.
8. MANUFACTURED BY:

DIGITRON  
N 8102 FREY A ST.  
SPOKANE, WA 99207  
509-467-3128

9. Suspension Procedure for Illegal Fuel. Anyone found using illegal fuel or fuel additives when track fuel is provided, will be disciplined as follows:  
First Offense 30 day suspension from all USAC Sanctioned event..  
Second Offense 1 year suspension from all USAC Sanctioned event.  
Third Offense will be a lifetime suspension from all events in USAC.

### **734 Oil Testing**

1. The approved testers are "Snap-On" model EELD 101 tester or CPS Model LS790B (Must be used on Sensitivity 2)
2. Engine oil will be tested through the fill port in the block. Engines will have their oil inspected in the staging lane prior to entering the track for qualifying and racing. Deco engines must have the firewalls removed and will be tested through the oil filler hole. Ensure that engines with splash baffle covering the hole is not sealed. Cars with Briggs or Honda engines will be checked through either front or rear fill holes.
3. The probe must pull air from the crankcase only.
4. Turn on tester and extend probe through the fill hole. Be careful not to touch the probe, or touch it on the block, or in the oil. Listen for a BEEP tone. BEEP tone is slow, then oil is OK.  
BEEP tone is fast and then stops, it found fuel fumes, and is OK.  
If BEEP tone is fast and does not stop, there is a fuel additive that is not legal in the crankcase.
5. If an additive is in the case, the oil must be changed in the hot chute, before it may enter the race. A recheck must be done after oil is changed. If there is nothing present, car will be allowed to continue.  
If there still are fumes detected, the oil will be changed once again.  
No car will be allowed to race with the detection of unknown additives in the crankcase.
6. Check all vent lines and containers to insure that no illegal additives that can enhance the performance of the car can be added after inspection.
7. Other methods may be used at the discretion of National Tech.

### **735 Technical Inspection Procedure**

Tech officials have the right to tech or safety any or all cars in any class at any time.

1. All technical and safety rules are the responsibility of the handler.
2. It is the Handlers responsibility to make sure that the car and engine are weighed and properly sealed after qualifying and/or races. If in doubt check with the Tech Director before the car leaves the scale/sealing area.
3. If repairs or maintenance are needed that require breaking of seals or an engine needs to be changed approval must be obtained prior to starting any work. This work must be done under supervision of Tech Director or his designate. Engine must be resealed immediately after work is completed.
4. After racing, cars must be weighed and have the engine seals checked. Cars finishing mains in announced impound positions must be placed immediately in the designated impound area.
5. Engine and car may not be removed from impound area without permission from Technical Director
6. If car is to be raced in another class or division, handler must make sure weights and seals are checked before leaving the scale/impound area. If a restrictor plate needs to be removed and/or added it must be supervised by tech

- director or his designate and resealed. Removed restrictor plate must remain in the possession Tech until engine is inspected.
7. Entry to the impound area is prohibited without approval from Tech Director or his designate.
  8. A car may be disqualified at post race tech for missing safety items.
  9. Technical Inspector will tell Handler to remove engine and bring it to the Tech bench. Handler is responsibility for having tools necessary to remove and disassemble engine. Handler is responsible for any storage containers for disassembled engine components.
  10. Engine will be inspected by Technical Inspector according to the USAC manual for engine being inspected. Appropriate Tech sheet should be used to go through inspection in the proper order. If during inspection a part is found to be illegal the inspector will get a second opinion. If the second opinion concurs the engine will be declared illegal and car and driver will be disqualified. If the second opinion does not agree, the senior inspector in attendance should be consulted.
  11. Any engine that is disqualified, all appropriate forms must be filled out.
  12. No engine will be released from tech until Senior Tech inspector has signed the release.