

## Pro Jr. Dragster – Ages 13 & older

Dial-in of 7.90 and slower, breakout enforced, with a .500 Full tree where deep staging is not allowed. All cars qualify together with an all run field based off of reaction time, advance into final eliminations. Pro Jr. Dragster will run on a sportsman pairing ladder.

Open to Jr. Dragster competitors holding an NHRA Jr. Dragster Driver's Certificate, with a minor release on file. All NHRA rules are in effect for the Jr. Dragster category where E.T. rules, safety rules, and driver conduct are concerned. Please be familiar with all NHRA rules. Deep staging is NOT allowed. Courtesy staging will be enforced. Crew members or parents are not allowed to touch the Jr. Dragster once it has pre-staged. If a parent or crew member touches the car once it is pre-staged, that car and driver will be disqualified. Only track officials are permitted to touch the car once it has entered the pre-stage beam. Only one chance will be given to re-stage a car. The driver must accept the tree upon staging a second time. Jr. Dragsters will utilize the Auto Start system. Driver's must meet class age and elapsed time requirements as follows: Pro Jr. Dragster ages 13-17, with a max E.T. of 7.90 seconds. Any competitor running quicker than 7.50 E.T. in the eighth-mile or 4.10 E.T. in 330 feet or faster than 85.00 mph at any time during eliminations will be disqualified from the event. Drivers must stay fully equipped while engine is running (i.e. all safety equipment, belts, helmets, gloves). Following a run, all Jr. Dragsters must be towed back to the pits. Drivers must be fully seated with their head inside the roll cage if riding or steering car while being towed. Drivers are not allowed to drive the vehicle in the pit area.

## REQUIREMENTS & SPECIFICATIONS

### ENGINE: 1

### CAMSHAFT

Any camshaft permitted; no overhead valves, no overhead cams. Any size valve permitted. Any valve spring permitted.

### ENGINE

All vehicles restricted to a maximum of one rear-mounted – based on a five-horsepower, single-cylinder, single-spark-plug, flathead-configured, four-cycle engine or factory-sealed Briggs & Stratton 206 crate engine – engine from a recognized OEM or MWDRS/NHRA-accepted supplier. Must be MWDRS/NHRA

accepted. MWDRS/NHRA accepted aftermarket block permitted. Must retain original five-horsepower engine block configuration. Porting, polishing and relieving of block; boring or cylinder; machining of deck surface permitted. Aftermarket head permitted. Adding material to deck surface, installing a spacer between the block and the cylinder head, or any other modification designed to increase the effective deck height of the cylinder is prohibited. Briggs & Stratton 206 crate engine must maintain untampered hologram seal installed at the factory. No alterations or modifications to Briggs & Stratton 206 crate engine permitted except for installation of exhaust header and air filter. All accepted aftermarket flathead engines must not exceed 10-11/16 inches from base to deck. Any measurement that exceeds that limit is prohibited. An electric powered motor meeting the rules found below is also accepted.

#### EXHAUST

Regardless of design, no part of the tailpipe may extend more than 27 inches past exhaust attachment point on rear of engine block. Outlet must be directed rearward, away from driver and engine. Mufflers permitted. Tailpipe support mandatory on Briggs & Stratton 206 crate engine.

#### FUEL

Restricted to gasoline, alcohol or gasohol. Nitrous oxide and/or propylene oxide and/or nitromethane is prohibited. No fuel additives, power enhancers or mix-ins allowed; scents permitted.

#### AIR FILTERS

Air filters must be properly mounted, per manufacturers' instructions.

#### FUEL SYSTEM

Any naturally aspirated carburetor permitted. Carburetors that are mounted via rubber boots/adapters and clamps must have a secondary mechanical device (bolt, turnbuckle, bracket, etc.) securing the carburetor to the engine/intake manifold. Fuel injection is prohibited. Auxiliary vacuum fuel pump permitted; must be pulsed from manifold only. Pressurized fuel systems prohibited. Fuel tank must be located behind driver, below the shoulder hoop of roll cage, and be securely mounted. Insulated fuel tanks are prohibited. Maximum one fuel tank permitted. Fuel tank/cell must be equipped with a screw-on or positive locked cap. All vents must be routed downward and away from driver. Open hole(s) in fuel tank/cell are prohibited.

#### IGNITION SYSTEM

Magneto or battery ignition systems permitted. When a battery ignition system is used, the MSD Small Engine Ignition kits 41500 and 41510 and MSD ignition unit 42231 are the only accepted units for NHRA competition. The 42231 is limited to use of a high-side chip only. The low-side chip must be zero. The accepted coils are the MSD 42921, MSD 8232, Master Blaster 2 and Master Blaster 3 coils. Any other coils are prohibited in MWDRS and NHRA competition. All other battery ignition systems prohibited. Any other attachment prohibited. Ignition system and/or components must be utilized in an unaltered manner consistent with the manufacturer's installation and instruction books unless otherwise approved.

#### OIL SYSTEM

Oil additives for the intent of producing power is prohibited.

#### STARTER

Pull-rope or remote starter mandatory. Any driver-activated/operated starting system is prohibited.

SUPERCHARGER, TURBOCHARGER Prohibited.

#### THROTTLE

All vehicles must be equipped with a positive throttle return spring, which shall close throttle when released. Throttle control must be manually operated by driver's foot: electronics, pneumatics, hydraulics or any other device may in no way affect the throttle operation. Throttle stops, other than mechanical (i.e., a positive stop under throttle pedal) prohibited. Must be securely mounted (no tie wraps). MWDRS/NHRA-accepted hand controls for the physically challenged permitted.

#### VENT TUBES, BREATHERS

Where used, must be securely fastened (no tie wraps). Container/catch tank must be designed to prevent spillage onto racing surface (no open-top containers).

#### DRIVETRAIN: 2

## CHAIN GUARD

All cars must be equipped with a guard to cover the width and at least the top run to the forward and trailing centerline of the sprockets on any chains. Chain guards must be minimum .060-inch steel or .090-inch aluminum. Chain guard must be within 4 inches of the chain at all points. Must be securely mounted (no tie wraps). Plastic and carbon fiber chain guard prohibited. Moving engine/drivetrain parts must be protected by frame rails or guards.

## CLUTCH

Maximum one dry centrifugal-type engine clutch. Chain or belt drive only. Axle clutches prohibited. The clutch face plate must have sufficient material to cover the clutch housing using billet aluminum or steel. All clutch covers designed after April 24, 2006, must be MWDRS/NHRA-accepted.

## CLUTCH GUARD

Clutch cover/guard that provides 180-degree coverage over the top of the entire clutch plate, cover, hat, arms, springs, etc. made of .090-inch 2024T3, 6061T6 or 7075T6 aluminum or .060-inch steel mandatory. All other materials prohibited.

## CLUTCH SUPPORT

A clutch/crank support mandatory on any car running 9.99 or quicker, accepted on all vehicles. If a clutch/crank support is used, the clutch-side crank support bracket and bottom plate must be made of .350-inch-thick aluminum at its thinnest point. If the support bracket and bottom plate are built using a .500-inch-thick material, it will be allowed to have a pocket/cavity with a minimum thickness of the bracket .250-inch at its thinnest point. The support bracket must be mounted using three 5/16-inch bolts of four ¼-inch bolts to the bottom plate. A clutch support arm may be used in lieu of clutch/crank support bracket. Support arm must be made of .625-inch-thick aluminum and connected to block by 1-1/4-inch diameter stud and held in place by a 3/8-inch bolt. If Tecumseh block and clutch system is used, a clutch support is not mandatory.

## FLYWHEEL

Aftermarket billet flywheel or MWDRS/NHRA-accepted aftermarket flywheel shield mandatory unless original, stock carburetor is used. With original, stock carburetor, aftermarket billet or stock steel flywheel mandatory. Cast aluminum flywheel prohibited. Keyway modifications permitted. Lightening or modifications to stock flywheel prohibited.

## TRANSMISSION

Gear-type prohibited. Torque converter belt assembly units permitted.

## BRAKES & SUSPENSION: 3

### BRAKES

Two rear-wheel hydraulic drum or disc brakes, or MWDRS/NHRA-accepted mechanical brakes are mandatory. Hydraulic brake lines must be steel or steel braided. High-pressure brake hose must be used with steel line for vibration connections. Front brakes permitted, but only in conjunction with rear brakes. Live axle may have brakes on one wheel only if 7-inch minimum go-kart puck-type disc brake is used. Use of drive sprocket as a brake rotor is prohibited. Drilling of brake components is prohibited. Steel disc brake rotors are required and must be a minimum of 7-inch diameter with a .228-inch minimum thickness; dual steel brake rotors, 6-inch diameter with a 3/16-inch minimum thickness; or aluminum brake rotor, 11-inch diameter with .228-inch minimum thickness. Line-locks are prohibited. Hand brake is permitted, but must be directly coupled to foot brake; hand brake cannot be independent of, or in lieu of, foot brake. Application and release of brakes must be a direct function of the driver; electronics, pneumatics or any other device may in no way affect or assist brake operation.

### SUSPENSION

Suspension permitted; maximum upward suspension travel 2 inches.

### STEERING

Set screw steering shaft couplers/attachments prohibited. All components must have a positive "through" bolt connection; no roll or pressed pins, no ball-lock pins, set screws, etc. All rod ends must be installed with flat washers to prevent bearing pullout. Flexible steering shaft prohibited. Minimum spindle diameter ½-inch. Vertical adjustment of spindles via shims is permitted; aftermarket spindles configured to permit a maximum of two front/rear locations (with secondary locking devices) to change rollout/wheelbase stagger are permitted. Cars running 8.89 to 7.90 must have rack and pinion steering only.

### WHEELIE BARS

Permitted. Using wheelie-bar wheels as “fifth-wheel” sensing device is prohibited.

#### FRAME: 4

#### ALIGNMENT

Each car in competition must have sufficient positive front-end caster to ensure proper handling of car at all speeds.

#### BALLAST

Maximum amount of removal ballast is 25 pounds; maximum amount of total ballast (removable plus permanent ballast) is 100 pounds. Removable ballast must be secured to frame with minimum one 3/8-inch diameter bolt per 5-pound weight, or two 3/8-inch diameter bolts for weights of 10 to 25 pounds; hose clamps, wire, strapping, tape, tie wraps, etc. prohibited. If additional ballast is needed, it must be permanently attached to frame, bolted with minimum one 3/8-inch diameter bolt per 5-pound weight, or two 3/8-inch diameter bolts for weights of 10 to 25 pounds with nuts welded to the bolts. Ballast must be in the form of metal plates, bars, straps, etc., attached as described above. A steel pipe filled with shot may be substituted; must have screw-on, sealed cap(s). Ballast prohibited in cockpit. No part of ballast may be installed higher than top of the rear tires. Discovery of loose or disguised ballast will result in disqualification from the event during eliminations. If infraction occurs in qualifying, the run will be disqualified and car must pass technical inspection, to ensure the issue has been solved, after the infraction to continue in the event. No ballast may be added, removed or relocated after the engine has been started. Additional penalties may be imposed in the sole and absolute discretion of MWDRS.

#### DEFLECTOR PLATE

A deflector plate of minimum 1/16-inch aluminum must be installed between roll cage and engine extending from lower frame rail to the top of driver’s helmet. Portion between shoulder hoop and top of helmet must be minimum 7-inches wide, may be narrowed or rounded above the helmet. Two-piece plate permitted with no air gap between the two. Carbon fiber is prohibited.

#### GROUND CLEARANCE

Minimum 3 inches from front of car to 12 inches behind centerline of front axle; 2 inches for remainder of the car.

## MOUNTING HARDWARE

Hose clamps and tie wraps may be used only to support hoses and wires; all other components must be welded, bolted, aircraft clamped, etc. All self-locking fasteners must be metallic.

## ROLL CAGE

All new chassis must have manufacturer's name, serial number, and date of manufacture. Construction must conform to standard dragster configuration as outlined in illustration with minimum 5-point roll cage mandatory. When driver is in driving position, roll cage must be at least 3 inches in front of helmet. Roll cage hoops, upper frame rails and lower frame rails must be minimum 1-1/8-inch diameter by .083-inch wall thickness round mild steel tubing. Uprights must be minimum 7/8-inch by .083-inch. Diagonals must be minimum 3/4-inch by .083-inch. An upright (within 30 degrees of perpendicular to lower framerail) is required on each side of the roll cage within six inches of the second roll-cage hoop; must be fully welded to both the upper and lower framerails. If the upright spacing at the top framerail exceeds 28 inches, then a 7/8-inch by .083-inch or 3/4-inch by .083-inch, depending on corresponding diagonal thickness, X must be used in lieu of a single diagonal. Within the driver compartment (from foot box to back of seat), the maximum distance between uprights is 20 inches. Foot box must incorporate a minimum 3/4-inch by .083-inch diagonal. Note: .058-inch chromoly may be used in place of .083-inch mild steel. Chromoly mandatory on any car running between 8.89 and 7.90. Helmet bars (3/4-inch OD x .058-inch chromoly tubing or 3/4-inch x .083-inch mild steel, or 1/2-inch x .090-inch flat strap) are required between the secondary upper roll cage hoop and the upper roll cage rear braces on each side of the car. If the center-to-center distance between the upper roll cage rear braces exceeds 6-inches, then an additional helmet bar is required between the back braces. The helmet bars are to be installed at a height above the shoulder hoop that will keep the driver's helmet inside of the upper roll cage. All cage structures must be designed in an attempt to protect the driver from any angle. With the driver in the normal driving position, the driver's lower extremities, including the knees, must be below the top of the upper framerail. A steering crossmember 1/2-inch x .058-inch chromoly or .083-inch mild steel must be installed or plate or net must be installed across the upper framerails so as to retain the driver's feet/legs in case of upset/incident. The steering crossmember, plate or net must be located within 6 inches (forward or behind) of the driver's knees. If a crossmember is used, it must be either welded or aircraft clamped (no hose clamps). If a plate is used, it must be either welded or bolted in place unless it is located and fastened below the upper framerails. All chromoly welding must be done by approved TIG heliarc process; mild steel welding must be by approved MIG wire feed or TIG heliarc process. Welding must be free of slag and porosity. Any grinding of welds prohibited. Plating of chassis prohibited on all new vehicles.

## ROLL CAGE PADDING

Roll-cage padding meeting SFI Spec 45.1 or SFI 45.2 mandatory anywhere driver's helmet may come in contact with roll-cage components during an accident.

#### WHEELBASE

Minimum 90 inches; maximum 150 inches on long side. Maximum wheelbase variation from left to right is 2 inches.

#### TIRES & WHEELS: 5

##### TIRES

Rear tires minimum 18-inch diameter by 7-1/2 inches wide, as noted by size designation on sidewall of tire or by physical measurement at widest or tallest points. All front tires must have a manufacturer's maximum inflation rating. Tires may not be inflated above manufacturer's ratings. All tires must be pneumatic; no solid tires. Tires will be visually checked for condition, pressure, etc. and must be considered free of defects by the technical inspector prior to any run. Treatment of tires of prohibited in or near the staging lanes or starting-line area. Tire covers must be removed before leaving the ready line.

##### WHEELS

All wheels must be constructed from aluminum, billet or steel. All other materials prohibited. Front wheels, minimum 5-inches diameter; minimum spindle diameter, 1/2-inch. Spindle nut must utilize a cotter pin or be of the nylon-locking type. Wire spoke wheels must utilize .100-inch-minimum diameter steel spokes. Rear wheels, minimum 8-inch diameter. Modifications to any wheel prohibited. The use of "spinner"-style wheels or any wheel designs that incorporate movable pieces while vehicle is in motion or stationary are prohibited.

#### INTERIOR: 6

#### FOOT-BOX BULKHEAD



All cars must be equipped with a bulkhead in front of the driver's feet, minimum .024-inch steel, .032-inch aluminum, .060-inch carbon fiber. Bulkhead must be directly in front of or directly behind foot-box diagonal.

#### SEAT

Properly braced, framed and supported seat constructed of aluminum or fiberglass mandatory.

#### SHEET METAL

Driver-compartment interior must be aluminum, steel, fiberglass or carbon fiber. Magnesium prohibited.

#### UPHOLSTERY

Optional.

#### BODY: 7

#### AIR FOILS, WINGS

All wings must be bolted to frame structure. A positive locking device to prevent movement mandatory. No part may come in contact with tire or wheel at any time. Spring-loaded spoilers, wings, or canards prohibited. Adjustment of air foils, wings or spoilers during run prohibited. Ball lock pins and other quick-release fasteners prohibited. No rear wing may be supported with struts, rods, etc. attached to the roll cage. All rear wing supports must attach to the framerails at least 12 inches behind the roll cage. Front wings and spill plates permitted, must be at least 3-inches above the ground, no more than 15 inches forward of the center of the front spindle, and no more than 6 inches wider than the outside of the front tires. Rear wings must be at least 4 inches from rear tires; front wings must be at least 2 inches from front tires. All spill plates must be flat, vertical and parallel to each other.

#### BODY

Body and cowl must be constructed of aluminum, fiberglass or carbon fiber and extend forward to foot-box bulkhead. Driver compartment, frame structure, roll cage and body must be designed to prevent driver's body or limbs from making contact with wheels, tires, exhaust system or track surface. Any

portion of the body side panels that extend upward into the driver's line of sight must be clear and permit an unobstructed horizontal view for a minimum of 180 degrees. Body may not cover top of engine, wheels or tires. Front overhang not to exceed 15 inches, measured from centerline of front spindle to forwardmost point of car. Body must be of accepted dragster style/design. Roadster, altered, Funny Car, etc. body styles prohibited. Only OEM-style mirrors, mounted in the conventional fashion, permitted. Cover or canopy over cockpit prohibited. Front-wheel fairings and front wings that cover any part of the front wheel prohibited.

#### COMPETITION NUMBERS

Each car in competition must display the driver's permanent number. Minimum size: 4 inches x 1 inch. Driver's competition number and class designation must be displayed in a legible manner in a contrasting color to vehicle's background color, or light color on windows, in a prominent position and be clearly visible to the tower personnel.

#### FLOOR

Full floor, mounted on top of lower framerail cross braces, extending from driver's seat forward to 6 inches past pedals, mandatory.

#### WIND DEFLECTOR

All cars must be equipped with a wind screen or deflector to direct foreign matter over the driver's head. Wind screen or deflector must be a minimum of 4 inches tall. No blinders of any description are permitted.

#### ELECTRICAL: 8

#### BATTERIES

Dry cell batteries only permitted. Maximum total weight 5 pounds. Must be securely mounted outside driver's compartment.

#### BUTTONS/SWITCHES

Entrants are allowed to use a total of three switches/buttons in the cockpit. One of these switches/buttons is for the ignition shutoff, which cannot be momentary and cannot be reset from the driver's compartment; the second is available for any function (including a momentary ignition cutoff), except for the use of a trans brake or down track stutter. The third is available for onboard fresh air fan motor operation.

#### DELAY BOXES/DEVICES

Prohibited.

#### IGNITION SHUTOFF

A positive ignition shutoff, located within easy reach of driver, and which cannot be reset from the driver's compartment, mandatory. shutoff switches must be positive action (no "momentary contact" switches) and must be clearly labeled "on" and "off." A second shutoff switch, located on the deflector plate 3 inches or less from the top of the roll cage, within easy reach of crewmember or race official, mandatory. The second shutoff switch wiring must be completely independent of the primary switch (i.e., wired in parallel from end to end of both wires). All ignition wiring connections, including the coil and switch, must use eyelet, lug, terminal board, or other screw-type connections; push-on-type, quick disconnect type, and twist-type connectors prohibited. A wire tie, minimum 6 inches long, must be attached to the spark-plug wire within 1 inch of the spark plug. All magneto ignition systems must be equipped with an MWDRS/NHRA-accepted manual kill switch. When a battery ignition system is used, a master cutoff switch ("push/pull" type) is mandatory in the driver's compartment and must be connected to the positive side of the electrical system and must stop all electrical functions. Timed ignition-interruptions devices (stutter boxes) or any action that causes ignition interruption prohibited.

#### TAILLIGHTS

One functioning light mandatory. Must be visible from rear of the car. Taillight must be permanently mounted to the car in a manner that batteries are also secured; tie wraps, wire ties, hose clamps, etc. prohibited.

#### CAMERAS

One camera permitted unless MWDRS/NHRA permission is granted for additional cameras. Incident video may not be transmitted under any circumstances. No video monitors permitted in or on the car. Video may not be used in any way to determine track position in real time. Must be securely attached to

the vehicle with appropriate fasteners. For all drivers, attachment to the driver, the driver's helmet or the steering wheel prohibited.

## COMPUTERS

Prohibited. A computer is defined as any device (electrical, mechanical, pneumatic, hydraulic, etc.) that activates any function of, or in any way affects the operation of, the vehicle based on measurement, sensing, processing, etc. of any data related to the performance of the vehicle. Display or transmission of any data gathered or processed, to the driver or any remote location is prohibited.

## DATA RECORDERS

All data recorders manufactured after Jan. 1, 2006, must be MWDRS/NHRA accepted. A data recorder may be used to record only engine RPM, engine temperature, exhaust temperature and jack-shaft sensor data; may not activate or initiate any function of the vehicle. Data recorder may not be activated by the throttle, brake, or other mechanisms, nor by the Christmas Tree, radio transmitter, sensing of wheel speed, inertia, laser device or transmission of track position. Must be activated by separate switch. Transmission or display of data gathered or processed by data recorder to the driver (during the run) or any remote location is prohibited. Data may be reviewed after the run. Discovery of a device that displays or transmits "on-track" or "track location" type data will be grounds for immediate disqualification from event, loss of points for season totals and possible suspension.

## GAUGES

Tachometer, engine-temperature, and cylinder-head-temperature gauges permitted. All other gauges and indicators prohibited. Playback-type gauge(s) permitted. Download capabilities (other than stand-alone tachometers) classify unit as a data record, and it must be located outside driver compartment (see also Data Recorders, above). Analog or digital display permitted. Gauges (display) may not be mounted on steering wheel. Speedometer and/or RPM/shift light of any description is prohibited.

## ELECTRONIC CONTROLS

Prohibited. Electronic controls may in no way affect any functions (i.e., clutch, throttle, brakes, etc.). All controls must be function of the driver.

## LIFTING DEVICES

Any form of mechanical, hydraulic or other leverage-type device for raising a car's driving wheels off the starting-line surface is prohibited.

#### STAGING AIDS/DEVICES

Mechanical, hydraulic, electric, pneumatic and similar devices to aid in staging vehicle is prohibited. Shutoff switches must be positive action (no "momentary contact" switches) and must be clearly labeled "on" and "off." Push-staging any vehicle into the stage beam is prohibited. Car can be pushed into pre-stage only; staging must be done under the vehicle's own power.

#### TWO-WAY RADIOS

Prohibited.

#### WARM-UPS

Vehicle must have drive belt completely disengaged during warm-ups unless a qualified Jr. driver is seated in the cockpit and car is off the ground.

#### DRIVER: 10

#### ARM RESTRAINTS

Mandatory. Must be worn and adjusted in such a manner that driver's hands and/or arms cannot be extended outside of the roll cage and/or frameroils. Arm restraints shall be combined with the driver restraint system such that the arm restraints are released with the driver restraints. Refer to manufacturer for all instructions.

#### CREDENTIALS

NHRA competition license is mandatory.

#### DRIVER RESTRAINT SYSTEM

Five-point, 1-3/4-inch wide driver restraint system mandatory. Driver restraint system must meet SFI Spec 16.1 or 16.2 and be updated at two-year intervals from date of manufacture. All seat-belt and shoulder harness installations must be mutually compatible, originally designed to be used with each other. Only units that release all five attachment points in one motion are permitted. When arm restraints are worn with a restraint system that uses a "latch lever," a protective cover must be installed to prevent arm restraint from accidentally releasing the latch lever. Protective cover is not required if system uses "duck bill" latch hardware. All harness sections must be mounted to the frame, crossmember or reinforced mounting and installed to limit driver's body travel both upward and forward. Wrapping of belts around lower frame rail prohibited. Where belts are wrapped around the frame members, they must be secured from sliding along the axis of the tube/frame member either by a tab or additional tubing. Under no circumstances are bolts inserted through belt webbing permitted for mounting.

#### HELMET

A full-face helmet meeting Snell SA2020, SA2015, K2010, K2015, M2010, M2015, SAH2010, or SFI 24.1/2010, 24.1/2015, 31.1/2010, 31.1/2015, 41.1/2010 or 41.1/2015 helmet and shield mandatory. Taping or other modification to the helmet or visor that reduces the driver's field of vision is prohibited.

#### NECK COLLAR/HELMET RESTRAINT DEVICE

For Trainee, Youth, Novice, Intermediate and Advanced Classes Beginning January 1, 2010, a head and neck restraint device/system meeting SFI 38.1 is mandatory and must display a valid SFI label. At all times that the driver is in the race vehicle, from the ready line until the vehicle is on the return road, driver must properly utilize an SFI 38.1 head and neck restraint device/system, including connecting the helmet as required for full functionality of the device. The SFI 38.1 head and neck restraint device/system, when connected, must conform to the manufacturer's mounting instructions, and it must be configured, maintained and used in accordance with the manufacturer's instructions. A head and neck restraint device/system may be used with or without a neck collar. If the device/system is used without a neck collar, a head sock or skirted helmet is mandatory.

#### PROTECTIVE CLOTHING

All drivers are required to wear a jacket and pants meeting SFI Spec 3.2A/1. Shoes, gloves and socks mandatory. Socks must extend up into the pants. Nylon or nylon-type gloves and socks are prohibited. No open-toe or open-heel shoes or sandals. Synthetic clothing not recommended.

## ELECTRIC-POWERED JR. DRAGSTER: 11

Requirements and specifications for electric-powered Jr. Dragster vehicles are the same as those for the MWDRS Jr. Dragster category's with the following exceptions.

### MOTOR

All vehicles are restricted to a maximum of one (1) rear-mounted electric motor. Motor must be mounted in conventional position. Exposed motors must have a shield of .024-inch steel, .032-inch aluminum or .120-inch Lexan.

### BATTERIES

Wet (free liquid) batteries prohibited. All batteries must be securely mounted outside of and completely sealed from driver compartment. Batteries may not be located above top of drive tires or outside of frame. Batteries must be installed so as to withstand a force four times (vertical) and eight times (horizontal) the weight of the battery pack, and each battery or battery pack must be secured with bolts and straps commensurate with the size and weight of the battery (see chart in NHRA rulebook). Vehicles are permitted to use ABSORBED GLASS MAT, STARVED ELECTROLYTE, OR SEALED VENTED NICAD-style batteries for power source. The use of flooded batteries is limited to an PDRA/NHRA-accepted installation. Traction motor and/or high-current wiring may not be located in driver's compartment. Instrumentation wiring permitted. All traction wiring must be isolated from vehicle chassis.

### FUSING OF BATTERIES

All battery packs must have over-current protection. Circuit breaker(s) or fuse(s) permitted. Such protection devices must have a DC voltage rating equal to or greater than nominal pack voltage. Current rating must be lower than master disconnect, wiring and battery pack can carry without damage. Battery sub-packs must be individually fused.

### IGNITION

All vehicles must be equipped with a switch, attached to the driver with a lanyard, capable of shutting off all power to motor. Switch may actuate relay or contractor. Solid state switch prohibited. A flashing yellow light must be affixed to the top of roll cage indicating when electrical system is energized.

## MASTER CUTOFF

All vehicles must incorporate a master electrical disconnect switch that must disable all electrical functions. Switch must be located on deflector plate no more than three inches from top of roll cage. Must be clearly labeled as to "off" position. Must disconnect all power from motor. Switch may actuate relay or contactor.

## RECHARGING

Batteries may be recharged in pits. Polarized plug connection to battery pack from charger is mandatory.

## VOLTAGE

Maximum permitted operational voltage is 144 volts nominal. Voltage checked at battery pack. No load using digital voltmeter. Maximum fully charged battery-pack voltage is 156 volts.