

# IHRA Motorsports 2012 Rulebook Supplement

This supplement provides competition and technical information for specialized vehicles that may be used at IHRA or affiliated events not included in the official rulebook. IHRA may allow additional vehicles for exhibition purposes if adequate information is provided by the party in question and written approval has been received prior to the exhibition.

## *Nitro Funny Car*

Reserved for supercharged, fuel-burning Funny Cars built specifically for drag racing competition. Minimum weight at conclusion of run: 2,400 pounds, including driver.

### **REQUIREMENTS & SPECIFICATIONS**

Requirements and Specifications are the same as Top Fuel with following exceptions.

#### **AIRFOILS / WINGS**

Prohibited.

#### **BODY**

IHRA accepted coupe or sedan body mandatory. Contour of body must resemble same configuration and design for specific body selected. Maximum width variation from front to rear is 6 inches. Minimum body width is 60 inches. Bodies are measured at centerline of front and rear axles. Fender flares or lips, maximum 1 inch permitted on forward half of front and rear wheel openings; may not extend rearward of spindle or axle centerlines. Lips must be mounted in line with wheel opening, and may not be mounted in front of opening. A body header flange lip is allowed and can measure a maximum of 1 inch or as wide as the body, whichever is less. Enclosing the wheelwells or the use of wheel fairings is prohibited. Front and rear wheelwell must maintain OEM radius and contour. wheelwell openings: front, minimum 5 inches measured vertically from centerline of the front axle to wheelwell opening; rear, minimum 8 inches measured vertically from centerline of rear axle to wheelwell opening. Trailing edge of rocker minimum 18 inches measured directly from centerline of rear axle. Front overhang not to exceed 40 inches from centerline of front axle. Taillight area may be hinged (top only) for air venting, maximum 100 square inches, one per side, and must be rectangular; any other holes in rear of body prohibited. Maximum height of hood cowl 5 inches, may be no wider than base of A-pillars. Roofs may be chopped maximum 2 inches. Complete removal of roof prohibited. Minimum roof width 32 inches. Minimum width at A-pillar 48.75 inches; minimum width at C-pillar 49.50 inches. Rocker panel extensions may not be more than 1 inch wide. No underbody streamlining will be permitted. Bodies must be removable from a rear-release mechanism that must be accessible in the taillight panel area. Body (hood) burst panel, minimum 288 square inches, mandatory. Underside of body, including any roof area, must be covered with an IHRA accepted flame-retardant covering or coating.

#### **ESCAPE HATCH**

A working escape hatch must be installed in top of body to permit easy driver exit. Minimum size, 18 inches x 17 inches. Roof hatch must be permanently attached and hinged at front.

#### **FIREWALL/DASH**

Must be of aluminum or steel. Dash may be minimum .040-inch aluminum, firewall minimum .050-inch aluminum. Distance from center of hole to edge of panel, 3/4-inch minimum. Distance from top of bellhousing shroud cutout to "V" of firewall, 6 inches minimum. Minimum .050-inch doubler plate permitted. One-piece, .050-inch dash/firewall permitted. Firewall must be equipped with fire windows measuring no greater than 25 square inches on either side of firewall in vicinity of valve covers to warn driver of fire. Fire-resistant plastics such as Lexan or Plex 70 mandatory.

#### **REAR BUMPERS**

Must be equipped with rear bumper consisting of a minimum vertical surface of 3 inches, maximum allowable cutout for parachute shroud lines 4 inches by 30 inches. The trailing edge of rear bumper may not extend more than 54 inches from the centerline of the rear axle. Maximum measurement from trailing edge of rear bumper to ground 29 inches at rear tire pressure of 4.5 PSI.

#### **REAR SPOILER**

Rear spoiler cannot be "built in" to body. Maximum rear-spoiler width, including spill plates and attachment points, 54 inches. Rear-spoiler spill plates cannot be located forward of the centerline of the rear axle and onto rear quarter. Spill plates cannot be more than 5 inches above the roof line, or 60 inches from the ground, whichever is LESS. Trailing edge of spill plate may not be more than 60 inches past the centerline of the rear axle. Spill plate supports permitted on one side of spill plate only, not both. Lip on rear edge of spill plate (vertical), 1/2-inch maximum. The trailing edge of rear spoiler may not extend more than 56 inches past the centerline of the rear axle, may not be more than 4 inches above the roof line or higher than top of spill plates, whichever is LESS, and the forward and trailing edge may not be mounted so as to preclude a "wing" configuration. Wicker on spoiler not to exceed 2 inches forward or back. Vortex prohibited on car body. Any adjustment or movement during run prohibited. Airflow through spoiler or past the underside of spoiler, other than hinged taillight area, prohibited.

## **SHEET METAL**

Driver compartment interior, firewall, seat, etc. must be aluminum or steel.

## **DRIVELINE COVER**

Each end of driveshaft must have a full 360-degree cover of minimum 1/16-inch steel or 1/8-inch aluminum. Rear cover must surround the coupler. Front cover must surround the driveshaft from the back of the reverser to the end of the Spicer sleeve in the area of the driver's legs. All covers must be securely mounted to frame, suitable cross member, reverser, or third member

## **CHASSIS**

Chassis must have manufacturer's name, serial number, and date of manufacture. Chassis must meet SFI Spec 10.1E. Plating of chassis prohibited, painting permitted. Chassis must be inspected yearly and have serialized sticker affixed to frame before participation. All wiring must be external of the framerails; routing of cables, hydraulic or pneumatic lines inside the chassis is permitted. Pressurization of framerails in lieu of air bottles is prohibited. All competitors in NFC must incorporate roll cage shielding in addition to the existing deflector plate. The shield must be, at a minimum, higher than the top of the driver's helmet and must be shaped to conform to the roll cage.

## **WHEELBASE**

Minimum, 124 inches; maximum, 125 inches; measured on long side. Maximum wheelbase variation from left to right: 2 inches. Rear tread width cannot be outside of body line nor more than 3 inches inside body line. Front tread width must be no more than 6 inches inside body line. Measurements will be taken from outside edge of tire to inside edge of body.

## **ENGINE**

Dry Sump System mandatory.

## **EXHAUST**

Double-pipe insulated exhaust headers mandatory.

## **FUEL INJECTOR HAT**

Maximum fuel injector air inlet opening: 65 square inches, excluding cross shaft. The maximum accepted height from the crankshaft centerline to the top of the injector hat is 34.0 inches. Electronic or electrically controlled fuel injection prohibited.

## **IGNITION SYSTEM**

The MSD 8971 Pro Mag Digital Retard Control and MSD 7570 Graphic Editor are the only accepted units for competition. Ignition systems and/or components must be utilized in an unaltered manner consistent with the manufacturer's installation and instruction books unless otherwise approved. Maximum two spark plugs per cylinder.

## **FIRE EXTINGUISHER SYSTEM**

Fire extinguishing system must meet SFI Spec 17.1. Minimum 20-pounds or more IHRA-accepted fire extinguishing system mandatory. System must direct a minimum of 15 pounds into engine compartment by outlets in front of each header. Remaining 5 pounds must be dispersed in driver compartment near driver's feet.

## **HEAD AND NECK RESTRAINT**

SFI 38.1 mandatory.

## **PROTECTIVE CLOTHING**

Driver's suit meeting SFI Spec 3.2A/20, gloves 3.3/20, boots 3.3/20, and head sock 3.3 mandatory. All jacket and pants or driver suits that meet SFI Spec 3.2A/20 must be recertified on a five-year interval. A head sock is not mandatory when helmet is manufactured with a skirt and labeled as meeting SFI Spec. 3.3. Fresh air system mandatory.

## **CREDENTIALS**

Valid Competition License required.

# *Alcohol Funny Car*

Numbers must be at least 4" high on both sides of the car. Minimum Weight: 2,200 lbs.

## **REQUIREMENTS & SPECIFICATIONS**

### **AIRFOILS, WINGS**

Prohibited.

### **BODY**

Must be coupe or sedan of type originally mass produced by an automobile manufacturer. Body must have originally measured 63" wide or more at centerline of front and rear axle. Minimum body width 60" when mounted. Bodies will be measured from centerline of existing front axle to centerline of existing rear axle. Fender flares or lips not on original factory produced bodies will not be considered in any width measurement. One inch lip around car body allowed. Duplications of production bodies made of fiberglass or carbon fiber allowed. Body may be lengthened or shortened. Tops may be chopped, maximum 2". Front fender bubbles may not exceed 2.5" as measured from

flat portion of fenderline to top of bubble. Holes in top of fenders prohibited. Complete removal of top prohibited. A working escape hatch must be installed in top of body to permit easy driver exit. No see-through types permitted. Minimum size, 18" x 17". Roof hatches must be permanently attached, i.e., hinged at front. Must have single release mechanism operable from inside and outside. Front overhang not to exceed 40". Enclosing the wheel wells or the use of wheel fairings is prohibited. Drilling or cutting the rear window for air passage is not allowed. Bodies 1990 or newer must meet IHRA body specifications.

### **BODY COATING**

Must be covered with IHRA accepted flame retardant material.

### **BURST PANEL**

Body (hood) burst panel, minimum 288 square inches, mandatory. Body burst panel must be secured with plastic screws and two 1/8" stainless steel wires, with body pad bolted with plate on both sides of panel.

### **SPOILERS**

Permitted front and rear. Rear spoiler may not be molded into body. Maximum rear spoiler width, including spill plates and attachment points, 56". Rear spoiler spill plates cannot be located forward of the centerline of the rear axle. The trailing edge of rear spoiler may not extend more than 60" past the centerline of the rear axle, may not be over 4" above the roof line and the forward edge may not be mounted so as to simulate a "wing" configuration. The installation of vortex generators is permitted on the spoiler assembly only, not allowed on car body.

### **WINDOWS**

Windshield mandatory. Windows optional. If windows are used they must be clear. If fully covered, side windows must have one 6" hole per side.

### **CHASSIS**

Chassis required to meet SFI 10.1E. Use of non-ferrous materials for certain component parts such as front axle, bellhousing, frame and headers prohibited except IHRA accepted products.

### **BRAKES**

Four wheel brakes mandatory with dual master cylinder mounted above frame rails on all entries. Steel brake lines mandatory. See General Regulations.

### **FUEL SYSTEM**

Fuel tank must be equipped with positive-locking cap. Fuel cells recommended. Fuel tanks must be vented outside of body lines.

### **GROUND CLEARANCE**

Minimum 3" front of car to 12" behind center line of front axle, 2" inches on remainder of car, except oil pan and exhaust headers.

### **TIRES**

Tires specifically built for racing required. All tires must have manufacturer, model and size information clearly designated if used in competition.

### **WHEELS**

All drivers' wheels must meet SFI 15.1 with liners or beadlocks. Maximum width 16". Wheels and tires must be completely isolated from driver's compartment. Wire wheels not permitted. Rear wheel discs or covers prohibited.

### **WHEELBASE**

Minimum 100", maximum 125". Rear tread width cannot be outside of body line or more than 3" inside body line. Front tread width must be so that tire is located no more than 6" inside body line. Measurements will be taken from outside edge of tire to inside edge of body. Maximum wheel base variation from left to right: 2" with long side 125" maximum.

### **WHEELIE BARS**

Permitted. Wheels must be IHRA accepted.

### **WEIGHT**

Minimum weight 2,100 lbs.

### **ENGINE**

Automobile-type engine required; one only, any location. Electronic or electronically controlled fuel injection prohibited. All combinations must employ a device that will retain the spark plug tubes in case of a failure. Any new engine design must be approved by IHRA competition department prior to competition.

### **EXHAUST**

Double pipe insulated exhaust headers mandatory. Double tube must extend to start of tube at bottom of body. Exhaust must be directed upward minimum 3 degrees.

### **FUEL**

Alcohol/Methanol only. The use of upper cylinder lubricants is prohibited. See General Regulations.

## **IGNITION**

All systems and related components must be IHRA approved and must not be modified from factory specifications. MSD 8971 and 8973 permitted. Maximum of two 8 pole magnetos and two standard automotive spark plugs per cylinder with output of 44 amps or less. The use of micro processor or battery dependent ignition systems is prohibited. All functions related to the ignition, its components and the transmission and its components must be approved, prior to competition. See General Regulations.

## **INJECTOR SCOOP**

All scoops must be IHRA approved. The top of scoop may not be higher than the top of windshield.

## **NITROUS OXIDE**

Prohibited.

## **OIL LINES**

All oil pressure lines must pass a minimum pressure test and be clearly labeled as passing the testing process. If the filter or dry sump tank are not mounted directly to the engine, 1 inch of free travel is mandatory on all lines.

## **OIL RETENTION DEVICE**

Aluminum catch can mandatory on all entries. The units must incorporate a minimum of 4" high bulkheads for oil retention. All units must extend up the outside of the frame to the top frame rail on the sides and both in front and behind the motorplate. If the rear portion is multi-piece, the side panels must affix inside the lower unit to direct oil back into the catch pan.

## **OVERDRIVE LIMITATION**

Roots type - 70 percent maximum Screw type (PSI) -1.92 percent maximum. Supercharger: The maximum length from the front of the supercharger drive pulley to the leading edge of the rotor is 15 inches. Offset drive pulleys may not be used to add to the number listed above. All manifold configurations and supercharger locations must be accepted prior use of spacers, modified cases or attaching methods to move the supercharger rearward in excess of the specified amount is prohibited. A belt guard shielding both fuel and oil lines is mandatory. Electronic fuel injection, nitrous oxide, intercoolers and variable speed devices are prohibited. All screw superchargers (PSI) may not be modified in any way except by the manufacturer. See General Regulations. The maximum height of the injection system may not exceed the height of the roof. The injector scoop may not be more than 16 inches forward of the center of the front cylinder or 10 inches behind center of rear cylinder. All scoops must be IHRA accepted.

## **VALVE COVERS**

Cast or billet metal valve covers using all attachment points mandatory. Steel reinforced valve cover gaskets mandatory.

## **VENT TUBES**

Two positive locking vent tubes mandatory connected to frame and an IHRA accepted overflow tank. Minimum capacity is 4 quarts if routed through the framerrail prior to tank. An 8 quart minimum tank is mandatory on all other entries. All hose connections must be double clamped. All entries must utilize a secondary attachment method for the hardware that connects the valve covers to the vent tubes. All tubing material must be flame resistant and be IHRA accepted prior to use.

## **CLUTCH**

SFI 1.3 or 1.4 mandatory. Clutch management systems prohibited. See General Regulations.

## **DRIVELINE COVER**

Each end of drive shaft must have cover of minimum 1/16" steel or 1/8" aluminum. Rear cover must surround the coupler. Front cover must surround the drive shaft from the back of the reverser to the end of the splicer sleeve in the area of the driver's legs. All covers must be securely mounted to frame, suitable cross member, reverser or third-member.

## **FLYWHEEL SHIELD**

Flywheel shield must meet SFI Spec.6.2 with current certification. Four 3/4" bolts (2 above and 2 below crankshaft centerline) must be used to attach bellhousing to motorplate. (Blow back tubes may not be used in place of the four bolts.) See SFI 6.2 spec for motorplate requirements. See General Regulations.

## **REAR END**

Full-floating or live axle rear-end assembly mandatory. Stud bolt minimum 5/8". See General Regulations.

## **TRANSMISSION AND TRANSMISSION SHIELD**

Aftermarket planetary transmissions with reverse mandatory. Automated or electronic shifters prohibited. Automatic transmissions prohibited. Multi-functional single button shifters are prohibited. If a pneumatic shifter is used, each shift must be activated by its own individual control button. Routing of lines must be IHRA approved. Transmission shield must meet SFI Spec. 4.1. See General Regulations. Aftermarket planetary converter drive units accepted. Billet torque converters mandatory. SFI 6.2 bellhousing mandatory. Lock up converters or overdrive units prohibited. All components and their proposed use must be IHRA accepted prior to competition. Transmission brake release must be a function of the drivers left foot.

## **DRIVER RESTRAINT SYSTEM**

Must be equipped with a driver restraint system meeting SFI 16.1 within 2 year expiration from date of manufacture. Flame retardant covering mandatory. See General Regulations.

## **ENGINE CONTAINMENT SYSTEM**

Engine must be equipped with IHRA accepted engine containment system. All systems must include the oil pump and related components. Oil pump covers are mandatory. All non-AN lines must utilize 2 band clamps per connection.

## **FIRE EXTINGUISHER SYSTEM**

Mandatory. All systems must contain a minimum of 20 lbs. of Halon or equivalent (if a different chemical is used), with system divided so that a minimum of 15 lbs. is directed into engine compartment by means of nozzled outlets placed in front of each bank of exhaust headers. Remaining 5 lbs. or more should be dispersed in driver compartment by means of an atomizing nozzle placed at driver's feet. Must be installed per manufacturer's specifications. Must be equipped with "fire windows" measuring no greater than 25 square inches on either side of firewall in vicinity of valve covers to warn driver of fire. Best results are obtained from laminated safety glass or fire-resistant plastics such as Lexan MR 4000. Safety pins must be red flagged.

## **HELMET**

SA-2000 or newer or SFI 31.2A mandatory.

## **HEAD AND NECK RESTRAINT**

SFI 38.1 mandatory.

## **MASTER CUTOFF**

Master electrical cutoff switch required marked "push-off".

## **PARACHUTE**

Dual parachutes required with two separate shroud-line mounting points using sleeved 1/2" Grade 8 bolts required. Safety pins must be red flagged.

## **PROTECTIVE CLOTHING**

Drivers suit meeting SFI Spec. 3-2A/20 with boots and gloves meeting SFI Spec. 3-2A/15 mandatory. Arm restraints and neck collar meeting SFI Spec. 3.3 mandatory.

## **ROLL BAR PADDING**

Additional roll bar padding mandatory anywhere the drivers head may contact the cage. SFI 45.1 may be used in the others areas as well.

## **SUPERCHARGER RESTRAINT**

SFI 14.2 or 14.21 minimum.

## **UPHOLSTERY**

Flame retardant seat cover mandatory.

## **COMPUTER**

See General Regulations.

## **CREDENTIALS**

Valid Competition License required.

## **ELECTRONICS / DATA ACQUISITION**

No sensors may be used to monitor track position, track or tire temperature or ride height other than shock travel. Sensors are prohibited from use on wheels or wheelie bars or on any other moving part other than the drive shaft.

# *Pro Modified*

This class is limited to full-bodied vehicles. It is mandatory to submit a scaled complete body design to IHRA Tech Dept. prior to construction. A complete scaled body design must be approved prior to competition. All body, front end and wing designs must be accepted prior to competition.

## **REQUIREMENTS & SPECIFICATIONS**

### **WEIGHT MINIMUM**

Nitrous entries 2,375 lbs. Supercharged entries 2,650 lbs. Small Block Turbo" 2,300 lbs. Accepted Nostalgia body styles may deduct 25 lbs from minimum weight. (Example. 53 Studebaker 55, 57 Chevy and Buick, 38 Chevy and 41 Willys.) Turbo charged entries use respective Supercharged weight.

### **BELLY PAN**

Permitted. Must extend beyond leading edge of engine and accessories and incorporate a 1 inch lip on the front edge of all units.

## **BODY**

One piece or funny car bodies prohibited. Front overhang not to exceed 45" forward of front spindle. If front end overhang for the selected body is less than the maximum of 45 inches, an IHRA accepted extension may be added to reach the maximum length. All models must be accepted prior to competition and must be within all ground clearance parameters. Light weight aftermarket replica body components permitted as long as same appearance is retained for body being used. No holes permitted in back of body. Two hinged openings with total maximum of 120 sq. in. accepted. Rocker panel extensions and fender flares (lips) may not be in excess of 1 inch. They must not extend beyond the forward half of the wheel opening. New car plans must be submitted to IHRA Technical Director for design approval prior to body construction, along with three photos of body prior to painting. If a particular body style is creating conditions that are detrimental to the variety of the eliminator, adjustments may be made at any time, at the discretion of the IHRA competition department.

## **DOORS**

Must be functional from inside and outside. Exact duplicates in fiberglass or carbon fiber permitted. All entries must incorporate a metal deflector between the fenders and the leading edge of the doors,

## **FIREWALL**

Magnesium prohibited. Must be steel or titanium (.024 minimum thickness)

## **FLOOR**

Replacing stock floors with .024" steel or .032" aluminum allowed. Replaced floors must be stock in appearance and location. Driver's-side floor pan must be .024" steel and must be welded in place extending from firewall to back of driver's seat. Magnesium interior panels prohibited. Carbon fiber or composite materials are prohibited from being utilized in any portion of the flooring in the driver's compartment. (exceptions are: wheel tubs, suspension covers, or any panel behind the driver).

## **HOOD & HOOD SCOOP**

Permitted, one opening only. May not extend more than 14" above height of hood surface measured from base of hood scoop. Must be finished and painted to follow body paint scheme. A minimum of four fasteners must be used on the leading edge of all removable hoods. Burst panel on top of hood scoop permitted.

## **TAIL LIGHT**

Functional tail light mandatory.

## **WINDSHIELD AND WINDOWS**

Must be retained but may be replaced with 1/8 inch thick plexiglass- lexan or other shatterproof material permitted. The side windows on all entries must have a minimum 4" diameter opening adjacent to the driver.

## **SPOILER/WING**

Rear wing or spoiler may not be higher than the roof unless OEM was higher. All designs must be IHRA accepted prior to competition.

## **BALLAST**

250 lbs maximum. Shot bags must be contained in a weight box. Any car found with unsecured or illegal ballast following a run will be disqualified from the event at discretion of IHRA Technical Department.

## **BATTERY**

Maximum two batteries. Must be securely fastened. See General Regulations.

## **BRAKES**

Four wheel brakes mandatory with dual master cylinder mounted above frame rails on all entries. Steel brake lines mandatory. See General Regulations.

## **CHASSIS**

All cars must meet SFI 25.1E or 25.2 with current certification prior to competition.

## **FUEL SYSTEM**

No part of the fuel system may be mounted on firewall. After market fuel cell recommended. Fuel cells must be vented to the outside of the body and equipped with a flash shield to isolate drivers compartment. All fuel cells must have positive-locking caps. Front mounted fuel systems must be mounted between frame rails and protected by 1 1/4" x .065 CM tubing to protect from front impact. Maximum two cells or tanks. On-board cooling or recirculating systems prohibited. All fuel systems must have ground wire connected to chassis.

## **GROUND CLEARANCE**

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

## **SUSPENSION**

Full automobile aftermarket systems required. Minimum, one hydraulic shock absorber per wheel. Fabricated units permitted with approval of Technical Director. Rigid mounted suspensions prohibited. Minimum travel 1" per wheel. Lockup shocks prohibited.

## **TIRES**

Automotive type specifically designed for racing. Location cannot be outside of body line. All tires must have manufacturer, model and size information clearly designated if used in competition.

## **WHEELIE BARS**

Maximum 104" as measured from centerline of rear-end housing to center of wheelie bar wheel.

## **WHEELS**

SFI 15.1 or 15.3 bead locks mandatory on all entries. Maximum width 16".

## **WHEEL BASE**

Minimum 100"-Maximum 115". Trucks (full size): 140"; S-10, Dakota, Ranger: 125". Maximum variation is 2 inches.

## **ENGINE**

All engine combinations must be IHRA approved and have manufacturer part numbers present. Any internal combustion engine allowed with any modifications, except as noted. Cubic inches limited to 527 for super charged entries (No tolerance). Nitrous Oxide assisted entries are limited to 870 cubic inches with a maximum bore center of 5.300. Engine set back no more than 10 percent of wheel base as measured from front spark plug to front spindle. All engines and cylinder head combinations must be IHRA approved prior to competition. Maximum of 1 spark plug per cylinder on supercharged and turbocharged combinations. Crankshaft centerline must intersect cylinder bore centerlines and be symmetrical. Specifications may be adjusted if an unfair advantage exists. Maximum bore center on billet hemi combinations is 4.900 and 5.00 on all other combinations. Turbo Combinations are limited to 650 cubic inches with a maximum bore center of 5.00 inches. Supercharged Wedge engines-billet heads allowed. Supercharged Hemi engines-billet heads allowed. Maximum supercharged valve size intake: 2.400, exhaust: 1.900. Engine specifications may be adjusted if an unfair advantage exists.

## **EXHAUST SYSTEM**

Competition type exhaust systems required. Exhaust gases must be directed out of the car body, rearward, away from driver and fuel system.

## **FUEL**

Nitromethane prohibited.

## **INTAKE MANIFOLD**

An IHRA accepted burst panel is mandatory on all entries.

## **IGNITION**

All systems and related components must be IHRA approved and must not be modified from factory specifications. Magneto systems are limited to a single 44 amp maximum output, single plug system. The use of microprocessor or battery dependent ignition systems is prohibited on Supercharged entries. All functions related to the ignition, its components and the transmission and its components must be approved, prior to competition. The use of MSD #7531 unit is permitted on Nitrous Assisted entries.

## **INDUCTION**

Any number and type of carburetors may be used. Injectors acceptable on any car.

## **NITROUS OXIDE**

Maximum of two bottles. 15 lbs. maximum per bottle. No bottle may be turned on until after burnout is complete. No in-line valves accepted as bottle shut off in staging lanes. Push systems accepted. Nitrous system must be activated by a wide open throttle switch. All nitrous bottles must be within a 5 year expiration date and have the pressure rating clearly stamped on the bottle. See general Regulations.

## **OIL LINES**

All oil pressure lines must pass a minimum pressure test and be clearly labeled as passing the testing process.

## **STARTER**

All entries must be self starting with an onboard starter and battery.

## **SUPERCHARGER**

14-71 high helix mandatory if roots type is selected. Screw type (PS) units may be utilized by certain organizations, however they must be operated within the manufacturers specifications and may not be modified in any way. The maximum length from the front of the supercharger drive pulley to the leading edge of the rotor is 15 inches. Offset drive pulleys may not be used to add to the number listed above. All manifold configurations and supercharger locations must be accepted prior to competition. The use of spacers, modified cases or attaching methods to move the supercharger rearward in excess of the specified amount is prohibited. A belt guard shielding both fuel and oil lines is mandatory. Electronic fuel injection, nitrous oxide, intercoolers and variable speed devices are prohibited. See General Regulations. The maximum height of the injection system may not exceed the height of the roof. The injector scoop may not be more than 16 inches forward of the center of the front cylinder or 10 inches behind center of rear cylinder. All scoops must be IHRA accepted.

## **SUPERCHARGER CASE**

OEM or accepted aftermarket manufacturer's case mandatory. The top opening may not exceed 11 inches in length and 5 inches in width or beyond manufacturers specifications.

## **TURBO CHARGER**

91 mm twin turbos maximum.

## **OVERDRIVE LIMITATIONS**

Roots type - 70 percent maximum. Screw type (PSI) -1.92 percent maximum.

## **VENT TUBES**

All tubing material must be flame resistant and be IHRA accepted prior to use.

## **CLUTCH**

SFI Spec. 1.5 Clutch release and bearing engagement / disengagement must be manually operated by driver's foot. The use of electronics, pneumatics, hydraulics or any other device is prohibited from affecting clutch operation. Lock up units prohibited. All levers in the clutch assembly must be attached to the pressure ring. 3 Disc maximum on all entries.

## **DRIVELINE**

Full 360 degree drive shaft tube required over yoke, extended from transmission tail shaft a minimum length of 9 inches, minimum thickness of tube housing is .050 cm. Two piece accepted with minimum 6 3/8" grade 8 bolts.

## **FLYWHEEL SHIELD**

SFI 6.3 with current certification. Four 1/2" bolts (2 above and 2 below crankshaft centerline) must be used to attach bellhousing to motorplate. (Blow back tubes can not be used in place of the four bolts.) See SFI 6.3 spec for motorplate requirements. See General Regulations.

## **REAR END**

Automotive type required. Aftermarket axles required with 5/8 inch stud bolts and axle retention device. Full floating or live axle assembly is mandatory on all entries.

## **TRANSMISSION**

All transmissions must have neutral position and be covered by a one piece SFI 4.1 shield. Automated shifters, electronic timed shifters, automatic transmissions are accepted. Routing of pneumatic shifter lines must be IHRA approved prior to competition. Aftermarket planetary converter drive units accepted. Billet torque converters mandatory. SFI 6.3 bellhousing mandatory. Lock up converters or overdrive units prohibited. All components and their proposed use must be IHRA accepted prior to competition. Transmission brake release must be a function of the drivers left foot.

## **SUPERCHARGED ENTRIES**

Overdrive or underdrive units are prohibited in any part of drivetrain. Two forward shifts maximum (split-shifting prohibited). 3 speed transmission with two planetaries maximum. A 1 to 1 relationship mandatory in 3rd gear.

## **DRIVER RESTRAINT SYSTEM**

Must be equipped with a driver restraint system meeting SFI 16.1 at a minimum within 2 year expiration from date of manufacture. See General Regulations.

## **ENGINE CONTAINMENT SYSTEM**

Engine must be equipped with IHRA approved engine containment system. The system must include the oil pump and related components. If restraint is not 2" minimum above ground, a shield firmly attached to frame rails must be used.

## **FIRE SYSTEM**

Mandatory. Must contain a minimum of 20 lbs of Halon or equivalent (if a different suppressive chemical is used), with one nozzle inside driver's compartment directed on driver's feet and two or more nozzles on front of engine and fuel cell.

## **HELMET**

SN-2000 or newer of SFI 31.2A or 41.2A mandatory.

## **HEAD AND NECK RESTRAINT**

SFI 38.1 mandatory.

## **MASTER CUTOFF**

Master electrical cutoff switch required, marked "push-off".

## **PARACHUTES**

Dual Parachutes required. Separate shroud-line mounting points required with 1/2" sleeved grade 8 bolts.

## **PROTECTIVE CLOTHING**

A driver's suit meeting SFI 3.2A/15, gloves meeting SFI 3.3/15, shoes meeting SFI 3.3/5 and neck collar meeting 3.3 mandatory on nitrous assist vehicles. A driver's suit meeting 3.2A/20, gloves and boots meeting SFI 3.3/20 and neck collar meeting SFI 3.3 mandatory on supercharged entries.

## **ROLL BAR PADDING**

SFI Spec. 45.1 mandatory.

## **SUPERCHARGER RESTRAINT**

SFI 14.2 or 14.21 minimum mandatory.



## **UPHOLSTERY**

Flame retardant seat pad mandatory if metallic seat is used.

## **WINDOW NET**

SFI 27.1 window net mandatory. See General Regulations.

## **CREDENTIALS**

A valid Competition License required.

## **ELECTRONICS / DATA ACQUISITION**

No sensors may be used to monitor track position, track or tire temperature or ride height other than shock travel. Sensors are prohibited from use on wheels or wheelie bars or on any other moving part other than the drive shaft.

## **STARTING LINE ENGINE CONTROL DEVICES**

Electronic, mechanical or pneumatic limiters is permitted on all entries. All functions must be accepted prior to competition.

# *Jet-Powered Dragster and Funny Car*

## **REQUIREMENTS AND SPECIFICATIONS**

### **AFTERBURNER-TAILPIPE**

For butts, seams must be on bottom; overlap seam placement will be at the discretion of the technical inspector. Dump valve on afterburner manifold mandatory; valve to be actuated with primary chute lever (to prevent shutoff smoke).

### **AIR INTAKE**

All air intakes must be totally and securely screened (1/8-inch minimum, 3/8-inch maximum or equivalent). Such screening must be securely attached to the engine.

### **CATCH CAN**

Fuel-overflow catch tanks of sufficient capacity to accommodate excess fuel on shutdown and adequate tank venting (approximately 1 quart) required on all vehicles. Use of hose clamps or tie wraps prohibited.

### **CONTROL CABLES**

Manual afterburner control valve cable, minimum 3/16-inch. Electronic control accepted. Fuel control cable must be minimum 3/16-inch. Must have secondary shutoff on main fuel line. Emergency shutoff on burner shutoff line mandatory. Emergency shutoff on manually controlled afterburner system mandatory. See PARACHUTES for additional details.

### **ENGINE**

Maximum of one thrust-driven engine permitted. Engine attitude must have down thrust; minimum -1 degree angle. No internal modifications permitted. All engines must be run within manufacturer's maximum allowable limits. Engine make, type, and model must be IHRA-accepted. Current engines are J-33, J-34, J-60 (JT-12), J85-5 (CJ-610), and Rolls Royce Viper 522 and 622. Any other engines must be accepted prior to running.

### **FILTER**

Filter on hot streak inlet mandatory.

### **FUEL**

Approved jet-type fuel only (Jet A, Jet-1, kerosene, diesel). Only diesel fuel additives permitted. Separate water and methanol injection systems permitted. Racing gasoline permitted for starting purposes only.

### **FUEL TANK**

Maximum 30 gallons. Must be securely mounted to frame, with appropriate baffling (welding or equivalent). If pressurized, tank must be round. Mechanism to release fuel-tank pressure mandatory. If electrical device, switch must be "normally open" type.

### **INSTRUMENTS**

All instruments, gauges, and metering devices must be fully functional. The following instruments must be visible from the cockpit of each vehicle: tachometer (percent of rpm); exhaust-gas-temperature gauge (EGT); oil-pressure gauge/light (taken off pump outlet housing).

### **BRAKES**

Caliper-type disc brakes required on all four wheels. Two separate hydraulic systems required; may be front/rear or double system.

### **SUSPENSION**

Functional front and rear suspension optional. Rear shocks, if used, must be installed in such a manner as to retain integrity of suspension in case of failure.

## **GROUND CLEARANCE**

Minimum 3 inches from front of car to 12 inches behind centerline of front axle, 4 inches for remainder of car.

## **PARACHUTES**

Dual parachutes mandatory. Primary parachute must be on a control system that will shut off engine when parachute is released. Secondary parachute must be used as an independent backup system with engine-shutdown capabilities (secondary fuel shutoff bypass valve on main fuel line to work with secondary parachute). Must have at least two ways to positively shut off jet engine. Parachute mount must be substantially bolted and/or welded in place. Minimum parachute connection spool diameter: 1 inch. Funny Cars required to have a minimum 10-foot bridle cord to attach pilot parachute. Chutes and shroud lines must be mounted in such a position as to be protected from tailpipe heat. All unpacked shroud lines must be covered with 1/16-inch leather or IHRA-accepted material (silver tape prohibited). Steel, aluminum, or carbon-fiber parachute tubes only. Parachute packs prohibited.

## **ROLL CAGE**

Dragster chassis must meet SFI Spec 2.3K; Funny Car chassis must meet SFI Spec 2.2B, 2.3K, or 10.1D. Plating of chassis prohibited; painting permitted. Chassis must be inspected every two years and have serialized sticker affixed to frame before participation. Roll-cage padding meeting SFI Spec 45.1 mandatory anywhere driver's helmet may come in contact with roll-cage components.

## **WEIGHT**

Minimum 1,250 pounds; maximum 2,500 pounds, All weights include driver and fuel.

## **WHEELBASE, DRAGSTER**

Minimum 180 inches; maximum 300 inches.

## **WHEELBASE, FUNNY CAR**

Minimum 125 inches; maximum 135 inches.

## **TIRES**

Tires to be automotive type represented by manufacturer for racing use. Minimum front-wheel diameter on jet Funny Cars, 14 inches.

## **SHEET METAL**

All sheet metal within driver compartment must be aluminum or steel; magnesium prohibited.

## **BODY, FUNNY CAR**

Driver must be isolated from engine compartment and fuel system with minimum 3/16-inch Lexan. Firewall must provide a bulkhead between the engine or fuel tank and driver compartment. All openings must be sealed with metal. Minimum .032-inch 6061 T6 aluminum or .024-inch steel; use of magnesium prohibited. Must have at least one way to easily and quickly exit the car with the body down (roof hatch or removable windshield), with release operable from inside and outside of vehicle. Exit from car with body down must be demonstrated during the inspection process.

## **FIRE-EXTINGUISHER SYSTEM**

Funny Cars: minimum 10-pound, IHRA-accepted fire-extinguisher system. Enclosed cockpit dragsters: minimum 5-pound, IHRA-accepted fire-extinguisher system. See General Regulations 9:3 for IHRA-accepted fire-extinguishing agents.

## **ARM RESTRAINTS**

Mandatory.

## **CREDENTIALS**

Valid jet license mandatory.

## **DRIVER LOCATION**

Driver must be sealed off from intake by firewall of at least shoulder height. If located next to compressor section, driver must be totally isolated from compressor by 3/8-inch 7075-T6 aluminum shield. J-85 Funny Cars must be additionally equipped with a minimum 360-degree .050-inch stainless-steel shield encompassing combustion can. Driver insulation must be used to protect driver from engine heat.

## **DRIVER RESTRAINT SYSTEM**

Three-inch driver restraint system meeting SFI Spec 16.1, including crotch strap, mandatory. Restraint system must be updated at two-year intervals from date of manufacture.

## **HELMET**

Full Face Helmet meeting Snell SA 2000 or newer mandatory.

## **NECK COLLAR**

Full 360-degree neck collar meeting SFI Spec 3.3 mandatory.

## **PROTECTIVE CLOTHING**

Drivers of dragsters must wear a suit meeting SFI Spec 3.2A/15; drivers of Funny Cars must wear a suit meeting SFI Spec 3.2A/20. All drivers must wear SFI 3.3/5 gloves and SFI 3.3/5 boots/shoes.

# Jet Truck

**THIS SUPPLEMENT ACCOMMODATES SPECIALIZED JET-POWERED TRUCKS AND IS A SUPPLEMENT TO THE CURRENT IHRA EXHIBITION JET PROGRAM. PARTICIPANTS IN THIS PROGRAM MUST CONSULT THE CURRENT IHRA JET RULES AND GENERAL REGULATIONS AS LISTED IN THE CURRENT IHRA RULEBOOK FOR ANY ADDITIONAL APPLICABLE INFORMATION. IF ANY COMBINATION OF JET OR MONSTER TRUCKS ARE USED FOR A SIDE BY SIDE EXHIBITION THEY ARE RESTRICTED TO A DISTANCE OF 1/8 MILE.**

## **REQUIREMENTS & SPECIFICATIONS**

### **AFTERBURNER-TAILPIPE**

For butts, seams must be on bottom; overlap seam placement will be at the discretion of the technical inspector. Dump valve on afterburner manifold mandatory; valve to be actuated with primary chute lever (to prevent shutoff smoke).

### **AIR INTAKE**

All air intakes must be securely screened (1/8-inch minimum, 1/4-inch maximum or equivalent). Such screening must be securely attached to the engine.

### **CATCH CAN**

Fuel-overflow catch tanks of sufficient capacity to accommodate excess fuel on shutdown and adequate tank venting (approximately 1 quart) required on all vehicles. Use of hose clamps and/or tie wraps prohibited.

### **CONTROL CABLES**

Manual afterburner control valve cable, minimum 1/4-inch. Fuel control cable must be minimum 3/16-inch. Must have secondary shutoff on main fuel line. Emergency shutoff on afterburner mandatory. See PARACHUTES for additional details.

### **ENGINE(S)**

Engine(s) attitude must have down thrust; minimum -1 degree angle required. Front engine mounts must be expandable (TRUNION) type, allowing at least 3/16-inch, 360-degree lateral expansion. Permitted engines are J-34, J-46, J-60 (JT-12), J85-5 (CJ-610), J-79, Rolls Royce Viper 522. Maximum 3 engines allowed, except J-79, restricted to one engine only.

### **FUEL FILTER**

A suitable fuel filter must be installed on the inlet side of the hot streak valve.

### **FUEL**

Approved jet-type fuel only (Jet A, Jet A-1, kerosene, diesel). Only diesel fuel additives permitted. Separate water and methanol injection systems allowed. Racing gasoline permitted for starting purposes only.

### **FUEL TANK**

Must be securely mounted to frame with appropriate baffling (welded or equivalent). If pressurized, tank must be round. Mechanism to release fuel-tank pressure mandatory. If electrical device, switch must be "normally open" type.

### **INSTRUMENTS**

All instruments, gauges, and metering devices must be fully functional. The following instruments must be visible from the cockpit of each vehicle: tachometer (percent of rpm); exhaust-gas-temperature gauge (EGT); oil-pressure gauge/light (taken from pump-outlet housing).

### **BRAKES**

Caliper-type disc brakes required on all four wheels. Two separate hydraulic systems required; may be front/rear or double system. All brake systems must be steel-vented rotor type.

### **SUSPENSION**

Functional suspension optional. Rear upper-shock eyes must be pinned or otherwise secured. Rear shocks must be installed in such a manner as to retain integrity of suspension in case of failure.

### **GROUND CLEARANCE**

Minimum 3 inches from front of vehicle to 12 inches behind front axle centerline, which must be maintained at all times.

### **BUMPERS**

Vehicle must be equipped with a satisfactory bumper/nerf bar device so designed to prevent front tire from becoming first point of impact with guardwall at a 45-degree angle.

### **PARACHUTES**

Minimum of two (2) braking parachutes required. Primary parachute must be on a control system that will shut off engine when parachute is released. Secondary parachute must be used as an independent backup system with engine-shutdown capabilities (secondary fuel-shutoff bypass valve on main fuel line to work with secondary parachute). Must have at least two ways to positively shut off jet engine.

Parachute mount must be substantially bolted and/or welded in place. Minimum chute connection spool diameter: 1.50 inches. Parachutes and shroud lines must be mounted in such a position as to offer protection from tailpipe heat. Parachute attachment lines must be covered with 1/16-inch leather or IHRA-accepted material (silver tape prohibited). Steel, aluminum, or carbon-fiber parachute tubes only. Parachute packs prohibited.

### **ROLL CAGE**

Cage structure must be designed to protect driver from any angle, 360 degrees . Material used in construction must be a minimum of 1 5/8-inch x .095-inch chromoly tubing welded to frame. All vehicles must successfully pass inspection every two (2) years and have a serialized chassis sticker affixed to frame before participation. Vehicle may be re-inspected at any IHRA divisional event, National Open, national event, or by individual appointment with IHRA. Prior arrangements must be made with the national technical director, division tech director. Drivers are instructed to bring all required safety apparel and have vehicle in ready-to-run condition.

### **WEIGHT**

Maximum 7,500 pounds. All weights excluding driver and fuel. Certified weight certificate required.

### **WHEELBASE**

Minimum 120 inches; maximum 300 inches.

### **TIRES**

Tires specifically built or modified for racing only must be used front and rear. Maximum height of any tire is 45 inches. *RECAPS NOT PERMITTED*. Visible cord damage in sidewall requires tire change. All casings must be of new manufacture.

### **WHEELS**

Full floating hubs required on rear wheels.

### **SHEET METAL**

All sheet metal within driver compartment must be aluminum or steel; magnesium prohibited.

### **BODY**

Must be a replica of a commercial truck or emergency vehicle to qualify for this program.

### **FIRE EXTINGUISHING SYSTEM**

Must be equipped with an onboard fire extinguishing system of at least 10-pound capacity installed to provide protection for the driver. Extinguishing agents must be IHRA-accepted.

### **CREDENTIALS**

Valid jet truck license mandatory. Licensing is on an individual basis through the Technical Services Department

### **DRIVER LOCATION**

Driver must be located in front of engine and sealed off from intake and fuel system by firewall of at least shoulder height. One seat for driver permitted. Secondary seat not permitted. Passengers not permitted at any time. Must have at least one method to exit from vehicle (door, roof hatch, or removable windshield) with release operable from inside and outside of the vehicle.

### **DRIVER RESTRAINT SYSTEM**

Three-inch driver restraint system meeting SFI 16.1, including crotch strap, mandatory. Restraint system must be updated at two-year intervals from date of manufacture.

### **HELMET**

Full Face Helmet meeting Snell SA2000 or newer mandatory.

### **NECK COLLAR**

Full 360-degree collar meeting SFI Spec 3.3 mandatory.

### **PROTECTIVE CLOTHING**

Drivers must wear a suit meeting SFI Spec 3.2A/15. All drivers must wear SFI 3.3/5 gloves and SFI 3.3/5 boots/shoes.

## *Monster Trucks*

**THIS PROGRAM UTILIZES THE MINIMUM SAFETY SPECIFICATIONS PROVIDED BY THE UNITED STATES HOT ROD ASSOCIATION (USHRA). PARTICIPANTS IN THIS PROGRAM MUST CONSULT THE CURRENT USHRA RULBOOK AVAILABLE FROM THE FOLLOWING LINK ON MONSTERJAMONLINE.COM.**

<http://www.feldmotorsportsonline.com/images/USHRARulebook.pdf>

**IF ANY COMBINATION OF MONSTER OR JET TRUCKS ARE USED FOR A SIDE BY SIDE EXHIBITION THEY ARE RESTRICTED TO A DISTANCE OF 1/8 MILE.**

# *Jet Powered Motorcycle and Quad*

## **REQUIREMENTS AND SPECIFICATIONS**

### **AFTERBURNER-TAILPIPE**

For butts, seams must be on bottom; overlap seam placement will be at the discretion of the technical inspector. Dump valve on afterburner manifold mandatory; valve to be actuated with primary chute lever (to prevent shutoff smoke).

### **AIR INTAKE**

All air intakes must be totally and securely screened (1/8-inch minimum, 3/8-inch maximum or equivalent). Such screening must be securely attached to the engine.

### **CATCH CAN**

Fuel-overflow catch tanks of sufficient capacity to accommodate excess fuel on shutdown and adequate tank venting (approximately 1 quart) required on all vehicles. Use of hose clamps or tie wraps prohibited.

### **CONTROL CABLES**

Manual afterburner control valve cable, minimum 3/16-inch. Electronic control accepted. Fuel control cable must be minimum 3/16-inch. Must have secondary shutoff on main fuel line. Emergency shutoff on burner shutoff line mandatory. Emergency shutoff on manually controlled afterburner system mandatory. ALL riders must incorporate the use of a tether shutoff Switch.

### **ENGINE**

Maximum of one thrust-driven engine permitted. Engine attitude must have down thrust; minimum -1 degree angle. No internal modifications permitted. All engines must be run within manufacturer's maximum allowable limits. Engine make, type, and model must be IHRA-accepted. Current engines are GE T-58-3 and Teledyne (Drone) J402-CA-702 Any other engines must be accepted prior to running.

### **FILTER**

Filter on hot streak inlet mandatory.

### **FUEL**

Approved jet-type fuel only (Jet A, Jet-1, kerosene, diesel). Only diesel fuel additives permitted. Separate water and methanol injection systems permitted. Racing gasoline permitted for starting purposes only.

### **FUEL TANK**

Maximum 10 gallons. Must be securely mounted to frame, with appropriate baffling (welding or equivalent). If pressurized, tank must be round. Mechanism to release fuel-tank pressure mandatory. If electrical device, switch must be "normally open" type.

### **INSTRUMENTS**

All instruments, gauges, and metering devices must be fully functional. The following instruments must be visible from the riding position of each vehicle: tachometer (percent of rpm); exhaust-gas-temperature gauge (EGT); oil-pressure gauge/light (taken off pump outlet housing).

### **BRAKES**

Caliper-type disc brakes required on all wheels. Two separate hydraulic systems required; may be front/rear or double system.

### **SUSPENSION**

Optional. Rear shocks, if used, must be installed in such a manner as to retain integrity of suspension in case of failure.

### **GROUND CLEARANCE**

Minimum 3 inches from front of vehicle to rear.

### **TIRES**

Tires to be automotive type represented by manufacturer for racing use. Minimum front-wheel diameter on jet Funny Cars, 14 inches.

### **CREDENTIALS**

Valid jet license mandatory. Licensing is on an individual basis through the Technical Services Department.

### **HELMET**

Helmet meeting Snell SA2000 or newer, mandatory.

### **NECK COLLAR**

Full 360-degree neck collar meeting SFI Spec 3.3 mandatory.

## **PROTECTIVE CLOTHING**

Full all-leathers or SFI Spec 40.1/2 suit, leather boots that completely cover the ankle with toe-area reinforcement, and full-finger leather gloves are mandatory. Gloves must be Kevlar-lined or equipped with slide buttons and have knuckle armor and palm reinforcement. Suits may be one-piece design or joined with a zipper at the waist. Reinforcement and/or armor in the knee, elbow, shoulder, and knuckle areas required.

## **WEIGHT**

Motorcycle – 1,200 lbs., Quad - 1,200 lbs Maximum All weights include rider and fuel.

# *Exhibition Wheelstander*

## **REQUIREMENTS AND SPECIFICATIONS**

### **COOLANT SYSTEM/OVERFLOW**

Operational coolant system containing a maximum of 15 gallons of water permitted. Tank or vent must be behind rear axle. Vent must terminate in a minimum 1-quart catch can. Vent into exhaust permitted.

### **ENGINE(S)**

Internal-combustion engine(s) required. Harmonic balancer meeting SFI Spec 18.1 required.

### **EXHAUST SYSTEM**

Exhaust must be directed to rear of vehicle away from driver and fuel tank.

### **FIRE SHOW**

Driver/owner must submit to IHRA a complete work schematic diagram and description with photos of any onboard fire show, pyrotechnic display, or olfactory display. All such shows must be IHRA-accepted. Upon acceptance, any change or alterations to the as-submitted diagrams or operation of show must be accepted by IHRA before implementation. All liquids used in such displays must be located outside of driver's compartment and installed in accepted vessels. All propellants or other fluids under pressure must be in DOT-approved vessels. Flame show igniters must be installed in a protected manner and accepted by IHRA. Steel or steelbraided line is required throughout the system. Any substance/fluid must be clearly defined and stated along with Material Substance Data Sheet (MSDS) on file with IHRA. *Prohibited Items:* Explosives, fireworks, rockets, dynamite, flares, solid fuel, hydrazine, nitroglycerin, blasting caps, gun powder, poisonous or carcinogenic substances, propane, or any compound used to create smoke.

### **FUEL**

Gasoline, racing gasoline, alcohol, gasohol, diesel, ethanol, natural gas, and propane permitted. Nitromethane permitted on unblown engines only.

### **FUEL SYSTEM**

Fuel tank must be isolated from driver by a firewall constructed of a minimum of .024- inch steel or .032-inch aluminum. Steel-braided fuel lines required. Fuel lines must be located outside driver compartment. Fuel tanks/cells must be within confines of the body. A quick-action fuel-shutoff valve within easy reach of driver and located in the main fuel line between tank and induction system required.

### **MOTORPLATE**

Mandatory (unless equipped with block side mounts). Must be constructed of 1/4-inch aluminum or 1/8-inch steel. A 1/4-inch steel plate required for manual-transmission vehicles.

### **NITROUS OXIDE**

Permitted on blown and unblown engines. Nitrous bottle(s) in driver compartment must be equipped with a relief valve and vented to the outside of vehicle. Bottle(s) must be stamped with a DOT-1800 pound rating and permanently mounted (no hose clamps or tie wraps). Hoses from bottle(s) to solenoid must be high-pressure steelbraided or IHRA-accepted hoses. Any external heating of bottles prohibited.

### **SUPERCHARGER, TURBOCHARGER**

Permitted on gasoline-, racing gasoline- and alcohol-burning vehicles. Supercharger restraint system meeting SFI Spec 14.1 mandatory on Roots-type supercharger when alcohol is used as a fuel.

### **VALVE COVERS**

Cast or fabricated valve covers using all attachment bolt holes, mandatory on supercharged, methanol-burning vehicles.

### **CLUTCH, FLYWHEEL, FLYWHEEL SHIELD**

Flywheel and clutch meeting SFI Spec 1.1, 1.2, 1.3, or 1.4 mandatory. Flywheel shield meeting SFI Spec 6.1 required on vehicles using 1.1 clutch. SFI Spec 6.2 or 6.3 mandatory on all vehicles using SFI Spec 1.2 clutch with more than 2 discs or SFI Spec 1.3 or 1.4 clutches with 2 discs maximum. Supercharged or turbocharged cars and all cars using nitrous oxide require an SFI Spec 6.2 or 6.3 shield.

### **REAR END**

Aftermarket or full floating axles mandatory.

## **TRANSMISSION, AUTOMATIC**

Transmission shield meeting SFI Spec 4.1 mandatory. Automatic-transmission flexplate meeting SFI Spec 29.1 and flexplate shield meeting SFI Spec 30.1 mandatory. Shifter must be equipped with a spring-loaded reverse lockout device. Functional neutral safety switch mandatory.

## **TRANSMISSION, AFTERMARKET PLANETARY**

Transmission shield meeting SFI Spec 4.1 mandatory.

## **V-DRIVE**

Homemade cast-iron V-drives must be covered with 1/8-inch steel or 1/4-inch aluminum shield securely mounted. Must be full width of V-drive.

## **BRAKES**

Two (2) separate brake systems must be employed, one for stopping and one for guidance. Vented-disc type only. Front brakes optional. Master cylinder must have 1.5 times the stopping and steering volume of wheel cylinders. Vented discs from or intended for a full-size vehicle required.

## **STEERING**

Quick-disconnect adapter for removable steering wheel must meet SFI Spec 42.1.

## **SUSPENSION, FRONT**

Optional. Minimum specification for tube axle is 1 5/8 inches diameter.

## **SUSPENSION, REAR**

Optional.

## **BALLAST**

Permitted. Maximum 500 pounds. No liquid or loose ballast allowed. Removable weight must be secured to chassis by two (2) 1/2-inch bolts per 100 pounds.

## **PARACHUTES**

Mandatory.

## **ROLL CAGE**

Mandatory. All cage structures must be designed to protect driver from any angle 360 degrees. Minimum requirements are 1 5/8-inch x .118-inch wall mild steel or 1 5/8-inch x .083-inch chromoly tubing. Framerrails must be minimum 2-inch x 3-inch x .120-inch wall thickness rectangular tubing or .083-inch chromoly round tubing. Any vehicle that was originally constructed with front and rear subframes must have connector to tie subframe material. Cab forward vehicles must have additional tubes across front of cage. Minimum two (2), in addition to front crossmember in this area. All cages must be inspected and have a serialized chassis sticker affixed before vehicle may be operated at any IHRA member track.

## **SKID PLATES**

Optional. If wheels are used, minimum requirement, 3,500 pounds, FAA-rated 6-inch diameter.

## **WEIGHT**

Maximum: 4,000 pounds.

## **WHEELBASE**

Minimum: 90 inches.

## **TIRES**

Front tires must be automotive type listed by manufacturer for racing purposes or have a minimum four-ply rating.

## **WHEELS**

Must be automotive-type OEM or aftermarket wheels.

## **SEAT**

Aftermarket race-type seat required. Must be properly braced, framed, and supported. Aluminum, fiberglass, carbon fiber, or double-layer poly type permitted.

## **SHEET METAL**

Driver compartment must be aluminum, steel, or fiberglass. Magnesium prohibited.

## **UPHOLSTERY**

Optional.

**VISIBILITY**

Forward visibility is mandatory during all operations of vehicle. Both lanes visible to driver during a wheels-up operation. All vehicles must provide a minimum of one opening for a driver unassisted exit and entry from vehicle. Center steering permitted. Lift-up bodies must have clearly marked outside actuated latches on front of body. Tinted windows permitted; must not inhibit driver's view. All bodies must be accepted by IHRA. Body change or transfer requires reinspection by an IHRA-authorized representative.

**FIREWALL**

Mandatory. Minimum requirement: .024-inch steel or .032-inch aluminum. Must fully isolate the driver from engine. Firewall must extend from top of driver's compartment to bottom of frame or bellypan and side to side in driver's compartment. If no windshield is used, firewall must be a minimum 28 inches wide.

**BATTERIES**

Must be located outside of driver's compartment and securely mounted.

**MASTER CUTOFF**

Mandatory. Must disconnect all electrical functions.

**FIRE EXTINGUISHER**

All vehicles must be equipped with a 10-pound onboard fire extinguishing system installed to provide protection for driver and a second nozzle in engine compartment.

**DRIVING LIMITS**

All wheels-up runs of two vehicles must be made in one lane only for each vehicle. Crossing centerline permitted on single run only. Maximum downtrack distance wheels up is 200 feet past finish line. Wheels-up runs toward starting line permitted; must not go past eighth-mile mark.

**COMPETITION**

Wheelstanders permitted to run side by side with other wheelstanders. Competition with any other type vehicle is prohibited.

**VEHICLE CHANGES**

Any changes in the as-originally-inspected condition of the vehicle may require a reinspection. Contact IHRA Technical Services Department.

**WARM-UPS**

An IHRA-licensed wheelstand driver must be in the driver position anytime vehicle is running.

**CREDENTIALS**

Exhibition Wheelstander license mandatory.

**DRIVER**

Driver and vehicle are licensed as a unit. Each driver must have all licensed vehicles listed on license in order to operate any vehicle.

**DRIVER RESTRAINT SYSTEM**

Three-inch driver restraint system meeting SFI Spec 16.1 mandatory. Restraint system must be updated at two-year intervals from date of manufacture.

**HELMET**

Helmet meeting Snell 2000 or newer mandatory.

**PROTECTIVE CLOTHING**

Driver's suit meeting SFI Spec 3.2A/15, gloves meeting SFI Spec 3.3/1, and SFI shoes optional. Drivers of front-engine blown or any car using nitromethane must wear SFI Spec 3.3/5 gloves and shoes.

**LICENSING**

Contact IHRA Technical Services Department for all forms and rules.

**SPECIAL VEHICLES**

Any vehicle that fails to comply with parameters of these regulations but falls within the general outline and intent of this program may be considered on an individual basis. Applicants are urged to contact the IHRA Technical Services Department before construction of any vehicle.



# Nitro Harley-Davidson

## REQUIREMENTS & SPECIFICATIONS

### ENGINE

Must keep design feature of Harley-Davidson engines (pushrod, 45-degree to 90-degree V-Twin). Carbureted, fuel-injected, or supercharged engines with a maximum displacement of 200 cid. An SFI-accepted engine restraint system mandatory.

### CYLINDER HEAD

Aftermarket pushrod heads (including 4-valve) permitted.

### FUEL

All fuels other than nitromethane and methanol prohibited.

### SUPERCHARGER

Superchargers must have rubber manifold connections or some form of pressure release valve. Supercharger blankets mandatory.

### VENT TUBES

Crankcase and all tanks containing fluids must have vent tubes routed to catch can or have a non-spill breather system on motorcycle.

### CHAIN GUARD

Mandatory on all motorcycles. Chain guard must be .060-inch steel or 1/8-inch aluminum and must be securely mounted in three places. Chain guard must cover the width and at least the top run of the chain, from centerline to centerline of sprockets.

### CLUTCH

Any type clutch, including multi-stage setup, permitted. Clutch must have a protective guard made of .060-inch steel or 1/8-inch aluminum.

### TRANSMISSION

Any transmission or high-gear-only system may be used.

### BRAKES

Hydraulic type, front and rear, mandatory. Steel-braided brake lines mandatory. Brake lines must be routed and mounted to ensure no contact with moving parts. Two-rotor front brakes permitted. Minimum size: 11-inch diameter, 3/16-inch thickness for single rotor; 9-inch diameter, 1/8-inch thick with dual rotor brakes.

### CONTROLS

Handlebar controls must be located in safe, workable position. Foot pegs and foot controls must be located in safe, workable position and must be mounted in an accepted manner. Rider must be able to shut off fuel without removing hands from handlebars. A secondary shut off device must be attached to rider in the event of a premature exit from motorcycle. This device must control the fuel valve. Dual cable push-pull throttle assembly is mandatory. Lanyard for secondary shut off must be run through eyelet, allowing the lanyard to be pulled in any direction to force shut off.

### SUSPENSION

Front suspension minimum size: 32mm. Minimum travel: 2 inches. Steering dampener mandatory. Rear suspension permitted. Fork stops required; must limit the turning arc to 28 degrees.

### WHEELIE BARS

Wheelie bars mandatory. Minimum length, from centerline of rear axle to centerline of wheelie-bar axle: 84 inches; maximum, 120 inches. Must be securely cross-braced.

### FRAME

Aftermarket frames permitted. All frame components, except braces, brackets, and gussets, must be manufactured from minimum 1 1/8-inch x .065-inch 4130 chromoly tubing. All welding must be done by approved heliarc process. Rake angle must be at least 40 degrees. All butt welds must have visible reinforcement. Plating of frame prohibited. Painting permitted. Frames constructed before 1999 and approved for competition may use 1-inch x .58-inch tubing.

### GROUND CLEARANCE

Minimum of 2 inches with rider of bike with 10psi in rear tire (includes exhaust and kickstand).

### WHEELBASE

Minimum 85 inches.

### TIRES

Must be specified for racing use by manufacturer. Any rear-tire size permitted.

## **WHEELS**

Rear-wheel minimum: 15-inch diameter; maximum, 18-inch diameter. Front-wheel minimum: 16-inch diameter; maximum, 19-inch diameter.

## **SEAT**

Seat, tail section, and rear fender may be incorporated as one unit and must include a step to prevent rider sliding backward.

## **BODY**

No body parts are necessary, except rear fender that must cover the width of the tire and extend past the rear axle.

## **FAIRINGS**

Permitted. Must be solidly mounted to frame tubes.

## **CHARGING SYSTEM**

Permitted.

## **CONTROL SWITCHES**

Must be mounted and constructed in an accepted manner. Must have an emergency fuel and ignition kill switch.

## **IGNITION**

Any ignition system permitted.

## **STARTING SYSTEM**

Must be electric external starter. Battery top covers required. No rollers. No push starts. Jackstands mandatory for starting.

## **COMPUTERS/DATA RECORDERS**

Can be used for information gathering only. Throttle operation, shifting, clutch actuation, etc. are to be solely under the control of the rider.

## **CREDENTIALS**

Valid competition license mandatory.

## **HELMET**

Full-face helmet meeting SN 2000 or newer mandatory.

## **PROTECTIVE CLOTHING**

Full all-leathers or SFI Spec 40.1/2 suit, leather boots that completely cover the ankle with toe-area reinforcement, and full-finger leather gloves are mandatory. Gloves must be Kevlar-lined or equipped with slide buttons and have knuckle armor and palm reinforcement. Suits may be one-piece design or joined with a zipper at the waist. Reinforcement and/or armor in the knee, elbow, shoulder, and knuckle areas required. Spine/back protector and ballistic chest protector mandatory.

# *Exhibition Fuel Motorcycle*

## **REQUIREMENTS & SPECIFICATIONS**

### **ENGINE**

Must be of a type specifically designed and manufactured for motorcycle use. Maximum two engines, size unlimited, with any internal modifications permitted. Engines must be self-starting. Push, tow, or roller starts prohibited. An SFI Spec 46.1 engine restraint system mandatory.

### **FUEL**

Nitromethane, alcohol, racing gasoline, gasohol, diesel, natural gas, or propane permitted. Nitrous oxide permitted on normally aspirated, alcohol, or gasoline burning engines only.

### **FUEL SYSTEM**

Steel-braided fuel lines mandatory. Dual cable positive-return throttle mandatory. All motorcycles must be equipped with a preloaded fuel shutoff connected by a lanyard between the rider and the trigger.

### **SUPERCHARGER**

Supercharger must be equipped with a supercharger restraint system. Manifold burst panel or rubber manifold connection mandatory on all supercharger installations. Nitrous oxide prohibited with any supercharger.

### **TURBOCHARGER**

Permitted. Nitrous oxide permitted with turbocharger only when gasoline is used as a fuel.

## **CHAIN GUARDS**

Mandatory on all motorcycles. Chain guard must be .060-inch steel or 1/8-inch aluminum and must be securely mounted in three places. Chain guard must cover the width and at least the top run of chain/belt, from centerline to centerline of the sprockets.

## **CLUTCH**

Any type clutch permitted. Cast material prohibited in stress bearing areas. Clutch must have a protective guard made of .060-inch steel or 1/8-inch aluminum that covers the unit 360 degrees.

## **BRAKES**

Hydraulic type, front and rear, mandatory. Steel-braided brake lines mandatory. Brake lines must be routed and mounted to ensure no contact with moving parts. Minimum size: front, dual discs, 9-inch diameter by 1/8-inch thickness (single caliper permitted if 11-inch diameter by 1/4-inch thickness; rear, 9-inch diameter by 1/4-inch thickness). Piston diameter must meet OEM minimums for brand of bike.

## **FRONT SUSPENSION**

Hydraulic-tube-type only; minimum tube diameter is 34mm. Minimum travel: 2 inches. Steering dampener mandatory.

## **WHEELIE BARS**

Wheelie bars mandatory. Length may not exceed the wheelbase of the motorcycle. Wheels must be nonmetallic.

## **FRAME**

Minimum tubing dimension: 1 inch by .058-inch; 4130 chromoly mandatory. All butt welds must have visible reinforcement. All welding on chromoly must be by approved heliarc (TIG) process.

## **GROUND CLEARANCE**

Minimum of 2 inches with rider on bike.

## **TIRES**

Must be specified for racing use by manufacturer. Any rear tire size permitted, as long as does not exceed rim width by more than two inches. Minimum front tire width: 3 inches.

## **WHEELS**

Bead-lock rear wheel mandatory. Rear-wheel minimum: 15-inch minimum diameter; maximum: 18-inch diameter. Front-wheel minimum: 16-inch diameter; maximum: 19-inch diameter.

## **FAIRINGS/FENDERS**

Front fairings must be solidly mounted to frame tubes. Rear fenders must cover width of tire extended past rear axle.

## **CREDENTIALS**

Valid Exhibition Fuel license mandatory.

## **HELMET**

Full-face helmet meeting Snell 2000 or newer mandatory.

## **PROTECTIVE CLOTHING**

Full all-leathers of SFI Spec 40.1/2 suit, leather boots that completely cover the ankle with toe-area reinforcement, and full-finger leather gloves mandatory. Gloves must be Kevlar-lined or equipped with slide buttons. Suits may be one-piece design or joined with a zipper at the waist. Reinforcement and/or armor in the knee, elbow, shoulder, and knuckle areas recommended. Spine/back protector and ballistic chest protector mandatory on nitrous motorcycles.

# *Pro Stock*

This class is a qualified 16 car field. 2,425 lbs. minimum weight, including driver; limited to a maximum of 827 cubic inches on hemi combinations and 840 on wedge entries,

## **REQUIREMENTS & SPECIFICATIONS**

### **BELLY PAN**

Permitted. Must extend beyond leading edge of engine and accessories and incorporate a 1 inch lip on the front edge of all units.

### **BODY**

Must be 2003 or later model year factory produced 2 door coupes and sedans. Sports cars, sedan deliveries and trucks prohibited. Original OEM body shell or IHRA accepted composite replacement mandatory. Chopping, channeling, sectioning, or other alterations to contour, length or width are prohibited. All composite replacement parts must be IHRA accepted and exact duplicates of OEM

components and may not be modified. The front end may be lengthened in the cowl area to facilitate body relocation and wheelbase modifications. All entries must pass the IHRA body template test prior to competition. The maximum front-end overhang on all entries is 45 inches.

### **BUMPERS**

Stock or composite duplicates required front and rear, may be molded into body. Must be original size and shape.

DOORS: Must be functional from inside and outside. Exact duplicates in fiberglass or carbon fiber permitted. All entries must incorporate a metal deflector between the fenders and the leading edge of the doors.

### **FIREWALL**

Moving stock firewall rearward for engine installation permitted. Replacing stock unit with one of .024" steel or .032" aluminum allowed; Magnesium prohibited.

### **FLOOR**

Replacing stock floors with .024" steel or .032" aluminum allowed. Replaced floors must be stock in appearance and location. Driver's side floor pan must be steel and must extend from firewall to rear of driver's seat and must be welded in place. Chassis, frame and driveline must be below floor. Rear floor may not be higher than 8" above door sill. Belly pan permitted between the center frame rails extending from the rear to the front cross member or to the bellhousing. All pans must be designed to facilitate fluid retention. If belly pan is utilized, the drip pan or secondary oil retention blanket is not required.

### **GRILLE**

Must be full stock production for body used and visible from front. May have covering over back of grille to prevent air passage. Any factory accessory package must be accepted by IHRA, i.e., spoilers, air dams, etc.

### **HOOD & HOOD SCOOP**

One opening only. The highest point of the hood scoop may not exceed 15" in overall height above the original hood surface, measured from the leading edge of the scoop. Must be finished and painted to follow body paint scheme. Hood must be stock size with no bubbles. Cowl section may be molded to hood. A minimum of four fasteners must be used on the leading edge of all lift-off hoods. Sensors, lines, or wires, etc. are prohibited from being in hood scoop.

### **STREET EQUIPMENT**

Complete stock seal beam head light lenses or accepted replica and stock tail light lenses in original factory location required. Any other street equipment which does not affect external appearance may be removed. Side marker lights optional. Operational tail light required. SPOILERS: Rear spoilers must measure between 14" to 17", measured from the body line at spoiler transition point to the tip and may have no less than 0 degrees from horizontal. May not be molded into deck lid. All spoilers to be painted to match paint scheme. Rear of chute pack cannot be forward of rear tip of spoiler. Roof-mounted spoilers prohibited. Air foils prohibited. Any front spoiler used must have been factory available for body used. Spoiler outside of deck lid opening may not exceed 8" wide. Spill plates may be no more than 6" high and 26" long. Spill plate may not be molded to the quarter panel. A straight edge will be placed on the spoiler, perpendicular to the centerline of the car and level to the ground. Distance between level and lowest part of spoiler can be no more than 2". A wickerbill must be attached across the entire trailing edge of the spoiler. It must be constructed and attached in a way that will prevent air from passing under or through the unit. It must be 90 degrees from top of horizontal plane and a minimum of 1/4" high and a maximum of 1/2" high.

### **WHEEL WELLS**

Rear, must be separate for each tire.

### **WINDSHIELD, WINDOWS**

Full windows required, .125 polycarbonate materials, such as Lexan MR 4000, allowed. Must match original contour and shape, and mount in stock location. No bubbles in side windows for tire clearance. Windows must be closed, need not be operative. Cutting and/or notching windshield permitted if covered by hood scoop. See General Regulations.

### **BATTERY**

Maximum 2 batteries. Must be securely fastened. See General Regulations - Battery. Must have external master electrical shutoff marked "push-off".

### **BALLAST**

250 lbs. maximum. Shot bags must be contained in weight box. Ballast attached on or in front of the forward cross member is limited to 40 lbs. maximum, including bracket. The bracket may not exceed 12" in length, measured from the cross member, attached with a minimum of (4) 1/2" bolts. The maximum distance from the front of the bracket to the front of the motorplate is 36". Any car found with unsecured or illegal ballast following a run will be disqualified from the event at discretion of Technical Department.

### **BRAKES**

Four wheel brakes mandatory with dual master cylinder mounted above frame rails on all entries. Steel brake lines mandatory.

### **CHASSIS**

Must be SFI 25.1E Spec. with current certification tag prior to competition.

## **DRIVER**

Must be in stock location. Drivers seat to be no less than 24" from center of rear axle to set back (where shoulder harness passes through).

## **ENGINE SETBACK**

Maximum setback is 80.125 as measured from the center of the rear axle to the back of the engine block. Modifications to the block that would permit additional setback are prohibited.

## **FUEL SYSTEM**

One SFI 28.1 front-mounted fuel cell mandatory, with pressure cap be vented outside of body. Trunk mounted fuel system prohibited. Fuel circulating systems that are not part of the fuel system are prohibited. All fuel cells must be mounted between frame rails and protected by 1-1/4" x .065 chrome-moly tubing.

## **GROUND CLEARANCE**

Minimum 3" from front of car to 12" behind centerline of front axle, 2" for remainder of car.

## **RADIATOR**

Full size automotive radiator in front location with one water pump mandatory. Remote mounted water pump permitted.

## **STEERING**

Stock-type steering in conventional location required. Minimum steering wheel outside diameter is 12". SFI 42.1 disconnect is mandatory.

## **SUSPENSION**

Full automobile production systems required. Minimum, one hydraulic shock absorber per wheel. Fabricated units permitted. Lightening of stock components prohibited. Rigid mounted suspensions or straight front axles prohibited.

## **WHEELS/TIRES**

Slicks permitted. Must be automotive type designed for racing. All tires must have manufacturer, model and size information clearly designated if used in competition. Clearance from outside of front tire to inside of fender at widest point not to exceed 4". Rear clearance 3" from outside of tire to inset of fender at widest point. Inner liners accepted. SFI 15.1 bead-lock rear wheels mandatory. Maximum width 16".

## **WHEELBASE**

Front wheels may be moved a maximum of 5" forward to accommodate the extended front end body. All entries must be 105" maximum with 1" offset if desired.

## **WHEELIE BARS**

Permitted. Wheels on Wheelie bars must be non-metallic. Maximum length of wheelie bar 80" from center of housing to center of wheelie bar wheel.

## **CARBURETION**

Limited to any two 4-bbl. American automotive carburetors available to the general public with any internal modifications. Carburetors may be split. EFI systems prohibited. Billet carburetors prohibited.

**CYLINDER HEADS:** Cylinder heads must be configured after OEM or IHRA approved pattern, contain OEM or aftermarket factory casting number & logo, and must be available to the general public. Heads must be aluminum or cast iron. No billet materials, magnesium or other materials allowed. Maximum 2 valves, and one spark plug per cylinder. ALL HEADS MUST BE IHRA APPROVED PRIOR TO COMPETITION.

## **ENGINE**

Internal combustion, reciprocating, naturally aspirated, single camshaft, 90 degree V-8 automotive-type mandatory. IHRA approval mandatory. Crankshaft centerline must intersect cylinder bore centerlines and be symmetrical. Limited to 827ci hemi and 840 ci on wedge entries no tolerance. Block must be IHRA accepted and must be available to the general public. Blocks may be aluminum or cast iron. No magnesium or other materials allowed. One distributor maximum. Maximum 5" bore spacing. Every engine must have an individual Serial No. given by engine builder. The Serial No. must be located in a clearly visible place on the cylinder heads and block. All moving engine components must be accepted prior to utilization. It is the responsibility of the engine builder to provide the IHRA Technical Department with a materials list for all moving engine components as part of the inspection process. Additionally, the use of beryllium, carbon fiber/kevlar, ceramic, or composites are prohibited from use on these components. The rod and main bearing assemblies must be of conventional sleeve design.

## **ENGINE (QUALIFYING)**

All qualifying engines must remain with the respective car for the duration of the event. When a car enters competition with a given engine, that engine cannot be placed in another car to qualify for that event. A replacement engine may be used, only if the engine has not been used by another competitor at the same event.

## **EXHAUST SYSTEM**

Open exhaust with headers mandatory.

## **FUEL**

All entries must utilize VP C-23 on all qualifying attempts as well as in eliminations. The use of propylene oxide, nitrous oxide, nitromethane, or other additives is prohibited.

## **IGNITION**

Aftermarket electronic ignition boxes may not be modified from factory specifications. See General Regulations. If digital ignition system has internal programmable retard functions, all of the external wires that have the ability to activate similar functions must be clearly disconnected and removed from the wiring harness. (Ex. MSD 7530, 7530T and 75301 (pink, tan, violet and white wires).

## **OIL LINES**

All oil pressure lines must pass a minimum pressure test and be clearly labeled as passing the testing process.

## **CLUTCH**

SFI Spec. 1.1 or 1.2. Clutch release and bearing engagement / disengagement must be manually operated by driver's foot. The use of electronics, pneumatics, hydraulics or any other device is prohibited from affecting clutch operation. Lock up units prohibited. All levers in the clutch assembly must be attached to the pressure ring. A 7.5 minimum or 8 inch maximum 3 disc clutch is permitted in a 6.1 bellhousing. Measurement is obtained from clutch disc diameter. If larger diameter is utilized, a 6.3 bellhousing is mandatory.

## **DRIVELINE**

Full 360 degree drive shaft tube required over yoke, extended from transmission tail shaft a minimum length of 9 inches, minimum thickness of tube housing is .050 cm. Two piece accepted with minimum 6 3/8" grade 8 bolts.

FLYWHEEL SHIELD: SFI 6.1 or 6.3 with current certification. See SFI 6.1 or 6.3 for motorplate requirements.

REAR END: Automotive type required. After market axles required with 5/8" stud bolts and axle retention device. Welded spider gears prohibited. Full floating or live axle assembly is optional.

## **TRANSMISSION**

Planetary type transmission mandatory. All entries must utilize a one-piece transmission shield (blanket). Automated shifters, electronic timed shifters, automatic transmissions and converters are prohibited. Multi-functional single button shifters prohibited. If a pneumatic shifter is used, each shift must be activated by its own individual control button. Routing of pneumatic shifter lines must be IHRA approved prior to competition. All pneumatic shifter lines act independently and not a result of or activate other air or electric systems on the entry.

## **DRIVER RESTRAINT SYSTEM**

Must be equipped with a driver restraint system meeting SFI Spec. 16.1 with two year expiration from date of manufacture.

## **ENGINE CONTAINMENT SYSTEM (diaper)**

Engine must be equipped with IHRA accepted engine containment system. All systems must cover the oil pump and related components.

## **FIRE EXTINGUISHER SYSTEM**

Five pound fire extinguisher system mandatory. Minimum 1 nozzle on driver's side in front of driver's feet, 1 nozzle in front of engine. Safety pins must be red flagged.

## **HELMET**

SN-2000 or newer or 31.2A or 41.2A mandatory. Use of open face helmet prohibited. Eject Helmet Removal Systems part # SDR 890-01-30 mandatory and must be installed as per manufacturers instructions.

## **HEAD AND NECK RESTRAINT**

SFI 38.1 mandatory.

## **MASTER CUTOFF**

Master electrical cutoff switch required marked "push-off".

## **PARACHUTES**

Two required with separate mounting points using 1/2" sleeved bolts. Safety pins must be red flagged.

## **PROTECTIVE CLOTHING**

(Minimum requirements) A driver's suit meeting SFI Spec. 3.2A/5, gloves meeting SFI 3.3/5, shoes meeting SFI 3.3/5 and neck collar meeting SFI 3.3 mandatory.

## **ROLL CAGE PADDING**

Mandatory, meeting SFI 45.1.

## **UPHOLSTERY**

All seats must have minimum 24 inch high seat backs. Seat frame of chromoly tubing must be installed as a permanent part of the chassis. "Wrap around" type seat or fiberglass one-piece bucket accepted. Dash board exterior appearance must be retained: replicas of original allowed. Gauges may be painted in or simulated. Head liner optional; area must be painted if headliner is not used.

## **WINDOW NET**

SFI 27.1 mandatory. See General Regulations.

## **CREDENTIALS**

Valid competition license required.

## **ELECTRONICS/DATA ACQUISITION**

No sensors may be used to monitor track position, track or tire temperature or ride height other than shock travel. Sensors are prohibited from use on wheels or wheelie bars or on any other moving part other than the drive shaft.

# ***ELECTRIC-POWERED VEHICLE***

## **7.50 1/4 (4.50 1/8) seconds & slower**

**Requirements and specifications for Electric-Powered Vehicle are the same as those for E.T. bracket vehicles with the following exceptions.**

### **MOTOR**

Electric motor(s) only permitted. Maximum height of electric-motor output-shaft centerline: 36 inches on OEM trucks, 24 inches on all others. Vehicles with exposed motors must have a shield of .024-inch steel, .032-inch aluminum, or .120-inch Lexan.

### **FUEL SYSTEM**

All conversion vehicles must remove fuel tanks and fuel system, including vapor storage equipment, from vehicle.

### **CLUTCH, FLYWHEEL, FLYWHEEL SHIELD**

Flywheel and clutch meeting SFI Spec 1.1 or 1.2 (two-disc maximum) mandatory on any car running 11.49 (\*7.35) or quicker. Flywheel shield meeting SFI Spec 6.1, 6.2, 6.3, or 9.1 mandatory on all cars running 11.49 (\*7.35) or quicker. Exposed-motor electric-powered vehicles with open-frame, vented, or brush replacement window motors must install a motor shield, minimum .024-inch steel or .032-inch aluminum, 360 degrees to provide protection from flying commutator bars, molten copper, plasma, etc. in event of motor overload. A motor plate, minimum 1/4-inch steel or 1/2-inch aluminum, may be used to adapt traction motor to conventional transmission.

### **DRIVELINE**

Driveline loop mandatory on any non-OEM vehicle running 16.00 seconds or quicker.

### **REAR END**

Chain-drive vehicles must be equipped with a chain guard constructed with minimum .125-inch steel or .250-inch aluminum covering width and top run of chain to centerline of sprockets.

### **SUSPENSION, STOCK-BODIED VEHICLES**

OEM three-wheeled vehicles permitted.

### **DEFLECTOR PLATE, OPEN-BODIED VEHICLES**

Each vehicle must have protection for driver from traction motor overload. Must protect driver from motor plasma, flying commutator bars, molten copper, bursting batteries, and spraying electrolyte.

### **WHEELBASE**

Minimum 90 inches, unless car has original motor or is a conversion electric-powered vehicle with motor in original (internal combustion) location. For vehicles with a wheelbase shorter than 90 inches but greater than 40 inches, vehicle cannot exceed 50 mph at any point on the racetrack.

### **BATTERIES**

Must be securely mounted and outside driver compartment. 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. Battery may not be located above the top of rear or drive tires in open-wheeled cars, nor outside body lines in bodied car, except for OEM-production-line electric-powered vehicles. Battery(s) must be completely sealed from driver compartment. All open-bodied vehicles must use ABSORBED GLASS MAT, STARVED ELECTROLYTE, or SEALED VENTED NICAD batteries for power source. Traction-motor and/or high-current wiring may not be located in driver's compartment. Instrumentation wiring permitted. All traction motor 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 the nominal pack voltage. Current rating must be lower than a short-circuit current that pack can produce without damage. Battery sub-packs must be individually fused.

## RECHARGING

Batteries may be recharged in pits or other designated areas only. All vehicles must be connected to AC power-supply (earth) ground when charging. All battery chargers must be equipped with an output fuse rated for 600 volts and a current capacity at least 125 percent of maximum charger DC output.

## IGNITION

All vehicles must have a visible indication of a "live" car, except OEM. An externally activated switch or switch control must be installed on the outside of the vehicle and clearly marked to indicate OFF position. A RED triangle must be clearly visible whenever power system is turned ON. This may be a light or a mechanical indicator. Traction battery pack must be physically disconnected when switch is in the OFF position.

## MASTER CUTOFF

All vehicles except OEM must incorporate a master electrical disconnect switch that must disable all electrical functions. Switch must disconnect traction-motor battery-pack section of the circuit, and if the switch is a push-pull design, push motion must be "off" function.

### Battery in rack/box or with cleats

<u>Bolt size</u>	<u>Battery weight</u>
#8	15
#10	19
1/4	35
5/16	57
3/8	83
7/16	114
1/2	152
9/16	195
5/8	243

### Battery on flat plate with strap only

<u>Bolt size</u>	<u>Battery weight</u>
#8	6
#10	7.5
1/4	14
5/16	23
3/8	34
7/16	46
1/2	61
9/16	78
5/8	96

## WIRING

All high-voltage wiring must be located and secured to prevent contact by driver and/or spectators. Any wiring with voltage higher than 24 volts must be completely covered.

# *ELECTRIC-POWERED MOTORCYCLE*

## 7.50 1/4 (4.50 1/8 ) seconds & slower

Requirements and specifications for Electric-Powered Motorcycle are the same as those for E.T. Motorcycle - and Electric-Powered Vehicle - with the following exceptions:

### MOTOR

Electric motor(s) only permitted.

### BATTERIES

Wet (free-liquid) battery prohibited.

### MASTER CUTOFF

All electric motorcycles must be equipped with a switch, attached to rider with a lanyard, capable of shutting off all power to electric traction motor.