

# 2022 TO 2023 NHRA RULE AMENDMENTS

(THESE RULE AMENDMENTS COVER RULE CHANGES MADE TO THE LAST DIGITAL RELEASE OF THE 2022 NHRA RULEBOOK)

# 2023 RULE CHANGES BECOME EFFECTIVE JANUARY 1, 2023

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#### INTRODUCTION, NHRA DIVISIONAL TECHNICAL SERVICES REPRESENTATIVES (Page iii) (10/3/2022)

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# INTRODUCTION, HOW TO USE THIS RULEBOOK (Added between seond and third paragraph) (Page xvii) (10/3/2022)

The NHRA Rulebook provides guidelines and minimum standards for the construction and operation of vehicles used in NHRA Championship Drag Racing and at member-track events. It is the responsibility of the participant to be familiar with the contents of this Rulebook and to comply with its requirements. Do not leave it up to track officials to catch all potential rule compliance problems. That responsibility rests first and foremost with YOU — the participant.

Additional safety equipment or safety-enhancing equipment is always permitted and the levels of safety equipment stated in this Rulebook are minimum prescribed levels for a particular type of competition and do not prohibit the individual racer from using additional safety equipment. Participants are encouraged to investigate the utility of additional safety devices for your type of competition. In disputed cases, whether an item of equipment is safety-enhancing or performance- enhancing will be determined by NHRA in NHRA's sole and absolute discretion.

All safety equipment must be operational if installed regardless of if the equipment is part of or in addition to the minimum required safety equipment per category.

On the other hand, as to performance equipment, it is the general rule that unless optional performance equipment or performance-related modification is specifically permitted by this Rulebook, it is prohibited. All model, engine, or equipment changes or modifications not specifically addressed in this Rulebook must be submitted in writing to NHRA for consideration prior to competition. Approval will be granted or denied in NHRA's sole and absolute discretion. The applicant will be notified of approval or rejection in writing from NHRA headquarters in Glendora, Calif.

# SECTION 2: RACE PROCEDURES, WIGHING OF VEHICLE/FUEL CHECK, (Page 12) (10/3/2022)

It is always the responsibility of the racer to stop at the scales and fuel check to confirm with tech officials whether their car needs to be weighed or its fuel needs tested. Under no circumstances may a competitor reject scaling his or her vehicle or fuel check. Any competitor who runs quicker than any of his or her previous runs during the event in Top Fuel, Funny Car, Pro Stock, Pro Stock Motorcycle, Top Alcohol Dragster, Top Alcohol Funny Car, Pro Mod, Comp, Factory Stock Showdown, Super Stock, or Stock and fails to report to post-run inspection (scales or fuel check) will be disqualified from the event. The event will be charged against the competitor's points events with a zero (0) point counting toward the driver's claimed races. Any object that is not found on the vehicle during the run is required to be removed from the vehicle before scaling.

# SECTION 4A: SUPER PRO, PRO SPORTSMAN, ENGINE: 1, NITROUS OXIDE (Page 3) (10/3/2022)

Commercially available nitrous oxide permitted, including supercharged and turbocharged engines. Nitrous bottle(s) in driver compartment must be equipped with a relief valve and vented outside of driver's compartment. 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 highpressure steel-braided or NHRA-accepted hoses. Commercially available, thermostatically controlled, blanket-type warmer accepted. The use of a torch or any other external heating of bottle is prohibited and will result in disqualification from the event. Any subsequent violations of this rule will result in additional penalties in NHRA's sole and absolute discretion.

# SECTION 4A: E.T. MOTORCYCLE, ENGINE: 1, NITROUS OXIDE (Page 13) (10/3/2022)

Commercially available nitrous oxide permitted. Bottles 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 steel-braided or NHRA-accepted hoses. Commercially available, thermostatically controlled, blanket-type warmer accepted. The use of a torch or any other external heating of bottle is prohibited and will result in disgualification from the event. Any subsequent violations of this rule will result in additional penalties in NHRA's sole and absolute discretion.

# SECTION 4A: E.T. SNOWMOBILE, ENGINE: 1, NITROUS OXIDE (Page 16) (10/3/2022)

Commercially available nitrous oxide permitted. Bottles 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 steel-braided or NHRA-accepted hoses. Commercially available, thermostatically controlled, blanket-type warmer accepted. The use of a torch or any other external heating of bottle is prohibited and will result in disqualification from the event. Any subsequent violations of this rule will result in additional penalties in NHRA's sole and absolute discretion.

# SECTION 6: NHRA PRO MOD DRAG RACING SERIES, ENGINE: 1, NITROUS OXIDE (Page 3) (10/3/2022)

Prohibited on supercharged and turbocharged entries. No bottle may be turned on until after burnout is completed. No inline valves accepted as bottle shutoff in staging lanes. Push systems accepted. A Hobbs switch is mandatory and must be installed so that the nitrous system may only be activated when there is sufficient fuel pressure. Nitrous system must be activated by a wide-open throttle switch. All nitrous bottles must be stamped as meeting minimum DOT-1800 pound rating. Maximum of two bottles, fifteen pounds per bottle. Commercially available, thermostatically controlled, blanket-type warmer accepted. The use of a torch or any other external heating of bottle is prohibited and will result in disqualification from the event. Any subsequent violations of this rule will result in additional penalties in NHRA's sole and absolute discretion.

# SECTION 12A: SUPER STOCK, BRAKES & SUSPENSION: 3, STEERING, (Page 6) (10/3/2022)

Aftermarket OEM replacement gear box permitted. SS/AH rack & pinion steering permitted. General Regulations 3:3.

# SECTION 14: TOP ALCOHOL DRAGSTER (Page 1) (10/3/2022) DESIGNATION

TAD, preceded by car number. Reserved for supercharged, methanol-burning and injected nitromethane/methanol-burning dragsters built specifically for drag racing competition. Cars are weighed at conclusion of run, including driver.

# CLASS WEIGHT<mark>S</mark> BREAKS

Non-supercharged single engine, nitromethane: 5.00 or more pounds per cubic inch weight break; minimum displacement 410 cubic inches; maximum displacement 456 cubic inches; 2,125 pounds minimum weight. 100 percent nitromethane permitted at events contested at Bandimere Speedway in Denver. 100 percent nitromethane permitted at events contested at 3,500 feet of altitude or more. Maximum nitromethane content 95 percent at all other events. All fuels other than nitromethane and methanol prohibited. Supercharged, single engine, with Roots-type supercharger, methanol: maximum displacement 528 cubic inches; minimum weight 1,975 pounds. Supercharged, single engine, with screw-type supercharger, methanol: maximum displacement 466 cubic inches; minimum weight 2,050 pounds. Competitors may continue to use larger engines by adding 5 pounds for each additional cubic inch to the stated minimum weight. Any competitor who causes an oildown while participating at an NHRA Camping World event will be subject to fines and penalties as outlined in Section 2 - Oildown Penalties.

# **REQUIREMENTS & SPECIFICATIONS**

# ENGINE:1

# CYLINDER HEADS

Aftermarket billet heads permitted. Maximum two valves per cylinder; maximum two spark plugs per cylinder.

# ENGINE

Any internal-combustion reciprocating, single-camshaft, automotive-type engine permitted. Maximum bore center spacing 4.840 inches. Dry-sump oil system permitted. OEM production line overhead cam engines permitted. Engine must be equipped with a lower-engine-ballistic/restraint device meeting SFI Spec 7.1. The lower-engine-ballistic/restraint device must be specific for the oil pan and pump configuration being used and must fit according to the requirements of SFI Spec 7.1 and be used as appropriately designed for the specific application. A positive method (flange, lip, etc.) must be attached to the intake manifold or engine block to retain both the front and rear manifold to block gaskets in the event the engine crankcase/lifter valley become over-pressurized. The flange/lip must extend past the surface of the gasket and be contoured to closely fit the block and manifold surfaces to prevent the gasket(s) from extruding. All large (valve covers, intake manifolds, superchargers, headers, heads, blocks, etc.) and all moving engine components are restricted to aluminum, steel, iron, titanium, magnesium, or other conventional alloys; carbon fiber, Kevlar, ceramics, composites, beryllium, or other extraordinary materials prohibited. Metal, fiberglass, or carbon fiber injector hats and/or injector scoops are permitted.

Any modifications or alterations to engine blocks, cylinder heads, and engine components are deemed to be a change in design and therefore prohibited. This includes any redesign, reconfiguration, and/or modification to existing components. Refer any development, redesign, reconfiguration, and/or modification questions to the NHRA Technical Department to determine whether permitted or prohibited.

All permitted engine combinations must adhere to the following criteria:

1. Maintain interchangeability of existing parts (i.e., cranks, cams, manifolds, valve covers, rocker assemblies, etc.)

2. Maintain general combustion-chamber configuration (e.g., Hemi, canted valve). Fuel injection directly into cylinder prohibited

3. Maintain original cylinder orientation in reference to centerline of crankshaft

4. Retain cylinder head, timing cover, intake manifold, exhaust manifold, valvecover bolt pattern; additional bolts/studs/ dowels may be used

5. Retain as cast/forged minimum block wall and web/rib thickness

A current list of alcohol head specifications can be found on NHRARacer.com.

# EXHAUST SYSTEM

Competition exhaust permitted. Exhaust must be directed to rear, away from driver and fuel tank.

# FUEL SYSTEM

Fuel lines must be isolated from driver compartment by a subfloor or housing where engine is located in rear and fuel tank is in front of driver. Pressurized fuel tanks prohibited. Fuel tanks must be mounted above bottom framerail. Fuel cells permitted. Maximum two fuel pumps. **EFI prohibited.** The use of propylene oxide and/or nitrous oxide is prohibited. Minimum temperature of fuel in the staging lanes to the completion of the run and subsequent NHRA fuel check is 50 degrees F. A failure to pass the minimum fuel-temperature check in the staging lanes prior to a run will result in the forfeiture of that run, and the racer must

return to the racer's pit. A failure to pass the minimum fuel-temperature check after a run will cause that run to be disqualified. Insulated fuel tanks permitted. Insulation is permitted on the main fuel line only from the fuel tank to the fuel pump. Temporary one-piece flexible blanket-type material, maximum 1 inch thick, that wraps one time around the outside of the body panels in the vicinity of the fuel tank permitted. The wrap must be quick release and require no additional work on the body or any tools to remove and be no more than 12 inches longer than the fuel tank. Any temporary insulation must be removed prior to and without delaying the starting of the engine. Fuel gauge lines in the driver's compartment must be steel or steel braided with steel fittings. Flexible gauge lines in the driver's compartment must be hydrostatically pressure tested at 750 psi for 30 seconds and labeled. Label must be impervious to fuel and brake cleaner. See General Regulations 1:5 and 1:6. Note: Non-supercharged single engine, nitromethane dragsters must follow all of the rules in the Fuel System section.

#### INJECTOR SCOOP

Maximum injector scoop opening of 1 square foot, with top of opening no higher than 24 inches above the top of roll cage. Scoop may not extend more than 18 inches forward of the center of the forward engine cylinder, may not extend more than 12 inches behind the center of the rear engine cylinder, and may not exceed 24 inches in width.

# OIL LINES

All flexible-pressure oil lines, excluding return lines and any line 30psi or lower in pressure, must use a factory-crimped connection and be pressure-tested and labeled. All testing must be hydrostatic for minimum 30 seconds at 750psi. Label must indicate date, PSI, and tester ID. Labeling must be impervious to fuel and brake clean. Quick disconnect, plastic, and nylon lines are prohibited. The lines must be tested and tagged to indicate that they have been tested within two years. Test and tag services are available at national events. All of the lines must be routed in such a way that they are not directly in line with cylinder head gaskets at the front, rear, or side of the cylinder heads.

# **OIL-RETENTION DEVICE**

Engine oil-retention pan mandatory. Minimum material, .050-inch aluminum or .040-inch carbon fiber/Kevlar. Pan must extend forward a minimum of one inch from the front face of the lower pulley and may not extend rearward more than 6 inches beyond the rear-end housing. Pan may be no wider than outside edge of the bottom framerails and must extend to the top of the upper framerails. Pan must be either a one-piece design or constructed as to be sealed as a retention device to retain oil. Must have minimum four-inch-high bulkheads for oil retention during acceleration and deceleration. Front bulkhead must be forward a minimum one inch of the lower blower pulley, and rear bulkhead must be behind the rear of the bellhousing. Bulkheads must be "coved" toward oil pan to assist oil in staying within the confines of the bulkheads. A nonflammable, oil-absorbent liner

mandatory inside of retention device. Minimum number of slots or holes in the walls to clear frame, steering, or lines permitted.

# SUPERCHARGER

Roots-type maximum size: 14-71, 22 1/4-inch case length, 11 1/4- inch case width,19-inch rotor length; maximum rotor diameter: 5.840 inches including fixed stripping. The case must be one piece with removable front and rear bearing end plates; rotor must be contained within one-piece case. Helix is restricted to a maximum rotor spiral of 6.5 degrees per inch of rotor length. Manifold burst panel meeting SFI Spec 23.1 plus restraint system meeting SFI Spec 14.2 mandatory. The rotors must be driven from the front (both the external drive and the internal gearing). The entire inlet opening must be on/in the upper surface only. Any inlet/outlet cavity in front of the rotors is restricted to maximum 2.150 inches, measuring from the face of bearing plate to the back of the cavity. Billet cases prohibited permitted. The maximum length from the front of the supercharger drive pulley to the leading edge of the rotor is 15 inches. The use of spacers, modified cases, offset drive pulleys, or attaching methods to move the supercharger rearward in excess of the specified amount is prohibited. All manifold configurations and supercharger modifications and locations must be accepted prior to competition. Variable multispeed supercharger devices prohibited. Supercharger must be in conventional location above the intake manifold and cylinder heads, and supercharger restraint device may not be modified. Placement of any object/device below the upper mating surface of the supercharger intended to alter air flow characteristics is prohibited (e.g. inserts/shoes, dividers, etc.).

Screw-type superchargers must meet SFI Spec 34.1, PSI brand limited to 206D model ("D" rotor) supercharger, PSI brand 210C ("C" rotor) prohibited, and be reinspected by the manufacturer every three years. Manifold burst panel meeting SFI Spec 23.1 (in addition to panel in supercharger) plus restraint system meeting SFI Spec 14.21 mandatory. Billet cases prohibited. Supercharger restraint straps must be covered with a fire-resistant material. The blower restraint straps and fuel lines must be installed such that when the restraint straps are fully extended no load is placed on any of the fuel lines.

Maximum overdrive limits are 2.28 PSI and <u>1.70 1.50</u> Roots. Variable multispeed supercharger devices prohibited. Turbocharger(s) prohibited. See General Regulations 1:10, 1:11.

# THROTTLE

Throttle-actuating method on rear-engine cars must be protected where it passes blower drive. 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. Dual throttle springs, one on each end of all injector throttle shafts that extend through both ends of the injector body, mandatory. A mechanical device for controlling engine rpm during burnouts may be attached to the injector or throttle linkage but may not be driver-controlled. See General Regulations 1:12.

# VALVE COVERS

Cast or fabricated metal valve covers using all attachment bolt holes mandatory. Valve-cover restraints meeting SFI Spec 14.4 mandatory on all nonsupercharged, nitromethane-burning engines. Valve-cover gaskets, O-rings, etc. must be completely bonded/glued to either the valve cover or cylinder head sealing surface. Vent tube adapters on the valve covers must either be fully welded to the valve covers or incorporate a gasket or O-ring that is bonded/glued to either the adapter or the valve cover. Valve covers must be fastened to the cylinder heads with studs and nuts in lieu of bolts where possible. Spark-plug tubes that penetrate the valve cover in the event the spark plug is discharged.

# VENT TUBE BREATHERS

NHRA-accepted catch can/vent tube system mandatory. Twist-on/quickdisconnect fittings between the vent tube hoses and the valve cover vent tube adapters must incorporate a secondary locking device such as a hasp pin, ball lock pin, etc. Tape is not a satisfactory primary or secondary locking device. Double clamps are required on each end of all hoses used in the vent system, including the dry-sump vents. Double O rings required at each breather hose to valve cover attachment. Minimum 1 1/4-inch inside diameter hoses are required from each valve cover to the catch can inlets and/ or framerails and from each framerail outlet to both catch can inlets. Minimum catch can(s) capacity is 6.75 gallons. Catch cans must have adequate internal baffling. Minimum catch can inlet configuration is two 1 1/8-inch inside diameter (or equivalent area) tubes. Minimum catch can outlet/discharge configuration is two 1 1/8-inch inside diameter openings(or equivalent area). NHRA-accepted vent tubes/hoses are mandatory for all connections; see NHRARacer.com for a list of accepted vent tubes/hoses. Vent tubes must be unobstructed from the interior of the valve cover to the interior of the catch can; i.e., no orifices, reduced areas, filler materials, etc. Pan/crankcase vacuum systems, of any description, are prohibited. See General Regulations 1:13.

# **DRIVETRAIN: 2**

# CLUTCH, FLYWHEEL, FLYWHEEL SHIELD

Flywheel and clutch meeting SFI Spec 1.3 or 1.4 and flywheel shield meeting SFI Spec 6.2 mandatory on all cars. Three discs maximum on supercharged, methanol-burning cars. Four discs maximum on injected nitromethane cars. Maximum depth of flywheel shield: 9.4 inches (inside). Clutch must be manually operated by driver's foot: Electronics, pneumatics, hydraulics, or any other device may in no way affect the clutch system. Throwout bearing must release all fingers, levers, stages, etc. simultaneously. Staged or variable release clutches of any description prohibited. Clutch/bellhousing exhaust filter mandatory. See General Regulations 2:3, 2:5, 2:6, 2:8.

#### DRIVELINE

Anti-blowback device mandatory. See General Regulations 2:1.

#### REAR END

Aftermarket full-floating or live axle assembly mandatory. Maximum (numeric) gear ratio 4.58 for big-block, screw-supercharger-equipped cars; 4.72 for big-block, Roots-supercharger-equipped cars; 4.90 for small-block car regardless of supercharger. Minimum (numeric) gear ratio, 2.90 for non-supercharged, nitromethane-burning cars. See General Regulations 2:11.

#### TRANSMISSION

Transmission prohibited in non-supercharged, nitromethane burning class. OEM or OEM-modified transmissions prohibited in all classes. Aftermarket planetary transmission permitted in supercharged classes, limited to two units (three speeds). Lockup converters prohibited. Overdrive transmission prohibited. Final drive ratio must be 1:1. Clutch hold-down device recommended on all cars. Reverser mandatory. Automated shifters and/or timer-type shifting devices prohibited; each individual shift must be a function of the driver. Air shifter bottles must be stamped as meeting DOT-1800 pound rating and permanently mounted (hose clamps or tie wraps prohibited).

For the supercharged-methanol combinations only, the use of a transmission consisting of an aftermarket torgue converter and an aftermarket planetary transmission (three-speed maximum) with an electric-only transbrake is permitted. The unit must be NHRA-accepted. Contact NHRA Technical Services for accepted list. Manipulation of transmission or converter pressure or volume other than at the starting line is prohibited. Pressure manipulation control must be disarmed upon the release of the transbrake or any other device used when launching the vehicle. The use of a delay box/device is prohibited. Automated control of the converter or transmission from acquired or recorded data is strictly prohibited. All wires and lines going to and from the transmission or converter must be clearly identified and labeled for tech inspection purposes. An aftermarket SFI 29.1 flexplate (with no starter ring gear) or a solid-steel converter driveplate, an SFI 6.1, 6.2, or 6.3 flywheel shield, and an aftermarket SFI 4.1 one-piece transmission shield (covering the transmission units and the reverser) are required. Iterative transmission staging devices prohibited. Manipulation of transmission or converter pressure or volume other than at the starting line is prohibited. Pressure or volume manipulation control must be disarmed upon the release of the transbrake or any other device used when launching the vehicle. Automated control of the converter or transmission from acquired or recorded data is strictly prohibited. All wires and lines going to and from the transmission or converter must be clearly identified and labeled for tech inspection purposes.

#### TRANSMISSION SHIELD

A one-piece ballistic shield covering all units mandatory. Must meet SFI Spec 4.1. See General Regulations 2:13.

#### **BRAKES & SUSPENSION: 3**

#### BRAKES

Automated brakes prohibited: Application and release of brakes must be a function of the driver. Dual spots or equivalent oval pucks mandatory; minimum two rear-wheel hydraulic disc brakes. Carbon-fiber brake rotors used in conjunction with carbon-fiber specific brake pads mandatory; all other materials prohibited. Hand brake, if used, must be located inside body or driver compartment. Steel brake lines mandatory. NHRA accepted fireproof brake line covering mandatory on all flexible connection lines. A current list of NHRA-accepted fireproof brake line coverings is available on NHRARacer.com. Brake lines passing engine or blower drive must be shielded. Handbrake handle must be constructed of minimum 5/16-inch-thick by 1-inch-wide aluminum, steel, or titanium. Lightening of hand-brake handle (i.e., holes, machining, etc.) prohibited. See General Regulations 3:1.

#### STEERING

Commercially available quick-disconnect steering wheel meeting SFI Spec 42.1 or removable (via quick-release pins) steering box crossmember mandatory. Use of a pinned steering crossmember in lieu of an SFI quick-disconnect steering wheel prohibited on front-engine cars. A device must be used to prevent a long steering shaft from injuring driver in case of frontal impact. Plating of steering components prohibited on all cars. See General Regulations 3:3.

#### SUSPENSION

Front suspension optional. Plating of front suspension components prohibited on all cars. See General Regulations 3:4.

#### WHEELIE BARS

Mandatory; must be functional. Maximum height 4 inches measured from racing surface to bottom of wheel. Wheels must be nonmetallic. See General Regulations 3:6.

#### FRAME: 4

#### BALLAST

Permitted. Maximum total ballast (welded or bolted), 250 pounds. See General Regulations 4:2.

#### HELMET SHROUD/DEFLECTOR PLATE

All vehicles in Top Alcohol Dragster must have a rear roll-cage shroud. A one-, two-, or three-piece shroud is acceptable. The shroud must be constructed of

minimum .075-inch Grade 2 ASTM-B-265 titanium or .090-inch 4130 steel and must be shaped to conform to the roll cage. The shroud must be attached to each of the side bars with a minimum of three 5/16- inch Grade 8 bolts and bosses per side, to the top with one 5/16-inch Grade 8 bolt and boss, and to the rear bars with a minimum of two 5/16-inch Grade 8 bolts and bosses per side. Bolt heads must be 1/2-inch hex-style head. Tabs with bolt and nut, where the nut is welded to the tab, may be used in place of the bosses.



NHRA-accepted helmet shrouds must be made as a one-piece shroud, a twopiece shroud, where each half must overlap; or a three-piece shroud, that includes two side shields and the center section. All shrouds must fully encapsulate the rear braces and the secondary roll-cage hoop on the sides and top; when viewed from the rear, the shroud must cover the complete visible rollcage structure. On the bottom, the entire shroud must extend fully down to the centerline of the shoulder hoop; on the top and sides, the entire shroud must extend fully forward to at least the centerline of the side bars.

When the shroud is fabricated as a two-piece unit, the components must overlap a minimum of 3/4-inch per side.

On a three-piece shroud, the center/rear section of the shroud may stand off from/behind the side pieces by no more than  $\frac{3}{4}$  inches at any point and must overlap each side a minimum of 1 1/2 inches. The side shrouds must extend to the centerline of the rear hoops.

The shroud must be installed flush with or be filled/sealed to the upper roll-cage bars and shoulder hoop so that protective equipment cannot catch between the shroud and the roll-cage components. Absolutely no components may be mounted to the helmet shroud or deflector plate above the top of the shoulder hoop.

A deflector plate, minimum 1/8-inch 6061 T6 aluminum or 1/16- inch steel or titanium, must be installed between roll cage and engine. The deflector plate must extend from 1 inch above top blower pulley to 1 inch below bottom pulley and be a minimum 10 inches wide from shoulder bar to highest point. On any enclosed engine/driver configuration, a full bulkhead must be installed to completely seal driver from the engine. Minimum attachment for any plate is four 5/16-inch Grade 8 bolts. Bolt heads must be 1/2- inch hex-style head. See General Regulations 4:3.

All deflector plates must be stamped by manufacturer of the bulkhead to certify that the proper material was used. The stamp must be in a location for easy inspection.

# **GROUND CLEARANCE**

Minimum 3 inches from front of car to 12 inches behind centerline of front axle, 2 inches for remainder of car, except oil pan.

# PARACHUTE

Dual parachutes mandatory. Beginning January 1, 2022, all spring-loaded pilot chutes which are attached to the main parachutes must be made of a bright color material, not black, to be visible on the racing surface if detached from the main chute when deployed. Two separate shroud line mounting points mandatory with sleeved 1/2-inch-minimum grade 8 steel bolts with self-locking nuts or with nuts welded onto parachute brackets. Shroud line mounting brackets must be constructed of minimum 3/16-inch 4130 steel. Two NHRA-accepted parachute tethers are required and must be routed through each shroud line end loop and

be attached using the rear end mounting bolts on each side. The mounting attachments on each end of both tethers must attach to either separate rear end mounting bolts or opposite ends of a single bolt (one under the head of the bolt and the other under the nut). NHRA-accepted parachute tethers: Amick Race Car Restraints PARA-101REV1, Future Fibres FF30MLB-P-MB, or Taylor Motorsports108. When Future Fibres FF30MLB-P-MB is used, only one tether is required and must be routed through each shroud line end loop and be attached using the rear end mounting bolt on each side. All tethers must be covered with a fire-resistant material. See REAR WINGS & SUPPORTS. See General Regulations 4:8.

# ROLL CAGE

Chassis must meet SFI Spec 2.1 (rear-engine cars), 10.1 (front-engine, driver in front of rear end) or SFI Spec 2.2 (front-engine, driver behind rear end). Chassis must be recertified yearly by NHRA 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. See General Regulations 4:4, 4:11, 10:6.

# **ROLL-CAGE PADDING**

Roll-cage padding meeting SFI Spec 45.1 mandatory where driver's helmet may come in contact with roll-cage components. Additional padding mounted on flat stock and fastened to the roll cage on both sides of the driver's helmet, mandatory. Additional padding must be NHRA-accepted (with manufacturer's name displayed), securely mounted using bolts or locking fasteners, and must include a flame-retardant covering. A current list of NHRA-accepted lateral head supports is available on NHRARacer.com. See General Regulations 4:11.

# SKID PLATES

Skid plates attached to motor plate or frame permitted. Must be at least 3 square inches in contact area, located below the bottom of the oil pan, and designed to come in contact with the ground before the framerail. Wheels are not permitted in lieu of skid plates.

# WHEELBASE & FRONT TREAD WIDTH

Minimum 150 inches; maximum 300 inches on long side. Maximum wheelbase variation from left to right: 2 inches. Minimum front tread width 26 inches.

# TIRES & WHEELS: 5

# TIRES

Tires must be specified for racing use by manufacturer. Maximum rear tire: 18 inches wide x 118 inches maximum circumference. Minimum rear tire circumference: 108 inches. Tires are to meet size requirements when installed and ready to run at manufacturer's recommended operating pressures. Minimum diameter of 13 inches on front tires for dragsters. See General Regulations 5:1.

#### WHEELS

Rear wheels meeting SFI Spec <u>15.1 15.3</u> mandatory; maximum width: 16 inches. Wire wheels prohibited. Rear-wheel discs or covers prohibited. Use of a liner mandatory on non-beadlock wheels. See General Regulations 5:2.

#### **INTERIOR: 6**

#### SEAT

Seats must be foamed with energy-absorbing material and formed to the driver's body. Minimum one-layer, flame-retardant material mandatory as seat upholstery. No magnesium permitted.

#### BODY: 7

#### FRONT AIRFOIL/WING

Positive locking device to prevent movement mandatory. Minimum fastener size on all front wings, canards, etc., 1/4-inch; ball lock pins prohibited.

#### BODY

Body and cowl must be metal, carbon fiber, or fiberglass. Driver compartment, frame structure, roll bars, and body must be designed to prevent driver's body or limbs from contact with track surface. Subflooring, inside but independent of body, mandatory where driver's legs rest on belly pan or chassis. Front overhang not to exceed 30 inches, measured from centerline of front spindle to forwardmost point of car.

Enclosed driver's compartment (canopy) prohibited. Ground effects of any description prohibited. Ground effects include but are not limited to rocker skirts, belly pans, sheet metal work under the body that produces a "tunnel" for the passage of air, etc. Air deflector plates located behind cockpit restricted to maximum 17 inches by 17 inches. Leading edges, fairing in or rounding off corners, etc. prohibited. Maximum 1.25-inch lip for stiffening permitted. Deflector plate may be located in front of or behind exhaust headers.

#### **FRONT-WHEEL FAIRINGS**

Prohibited.

#### WINDSCREEN

Mandatory. See General Regulations 7:7.

#### **REAR WINGS & SUPPORTS**

All rear wing supports must meet SFI Spec 2.1. Wing configuration limited to one only, with maximum three elements. Combined total area of rear wing (total of all stages and/or elements) is restricted to 550 square inches minimum, 1,500 square inches maximum. Trailing edge of rear wing may not extend more than 50

inches behind centerline of rear axle. Maximum height of any wing as measured vertically from the trailing edge of wing to ground is 90 inches. Strut mounting points may not be forward of motor plate. No part of wing to be within 6 inches of rear tire. Any adjustment or movement during run prohibited.

Pressurization of wing struts prohibited. Spill plates must be flat, vertical, and parallel. Maximum thickness, 3/8-inch. Spill plate lips of any kind, other than a 1/4- inch maximum wicker, prohibited. Spill plate must attach to wing or airfoil at right angle, radius at joint prohibited. Maximum spill-plate dimensions, 22 inches by 22 inches.

For all cars, an independent cable must be wrapped around each side of the main element of the rear wing and be connected to both parachute release cables such that if the main element separates from the support or if either end of the main element is broken off, both parachutes will automatically deploy. The cables must be wrapped around the main element on the outside of the support structure and be secured (i.e., taped, hardwired, etc.) to the main element to keep the cables from sliding on the wing. The outermost connections of this cable to the wing should be no more than 2 inches from each spill plate. Attachment to spill plate permitted.

# ELECTRICAL: 8

# **ELECTRICAL COMPONENTS**

Electrical and electronic components are restricted to ignition systems, data recorders, electrical gauges or indicators, automated fire extinguisher, and engine shutoff system components only. The use of electrical/electronic timers to control pneumatic fuel-system valves and/or electric fuel control solenoid valves is permitted. The fuel control system may use only movement of the throttle or clutch pedal, a transmission shift, electric/electronic timers, and/or an engine rpm switch to control the fuel-system valves and/or to start the timers that control the fuel-system valves.

#### EFI

Electronic Fuel Injection permitted. EFI entries must have an NHRA accepted ECU, software, and firmware. A current list of NHRA-accepted ECU's, software, and firmware can be found on NHRAracer.com See General Regulations 9:1, 9:11.

# IGNITION

Programmable ignition permitted. Only preset times, throttle position, engine rpm, other internal engine data (temperatures, flow rates, and pressures), and transmission shifts may be processed with regard to control of the ignition system. Any ignition system that incorporates any programmable multi-point rev limiter and/or any rate-of-acceleration rpm limiter in any form is prohibited. Any ignition system that incorporates vehicle performance data via measurement,

sensing, processing, inference, etc. to activate or deactivate any function or capability of the ignition system is prohibited. Any sensor or wiring that connects or transmits vehicle performance data directly, or indirectly, to the ignition system is prohibited. Ignition system components must be utilized in an unaltered manner consistent with the manufacturer's installation and instruction manuals unless otherwise approved. The use of any automated rpm-control device during the staging/launching process is permitted only in vehicles with a fully automatic transmission with a converter. See General Regulations 8:3.

#### **IGNITION SYSTEM**

All microprocessor ignition components prohibited. See General Regulations 8:3.

# MAGNETOS

Maximum two magnetos; two spark plugs per cylinder, not to exceed 44 amps per magneto. Magnetos limited to the following models: MSD Pro Mag Systems, 12 or 20 amp, 8109, 8139, 8149, 7908, 7910, 7915, 7916, 8150, 8160; MSD Pro Mag Systems, 44 amp, 8130, 8140; Mallory Super Mag Series 3, 4, 6, 7, 11.

# **SUPPORT GROUP: 9**

# **COMPUTER/DATA RECORDERS**

See General Regulations 9:1, 9:2.

# FIRE EXTINGUISHER SYSTEM

Fire extinguisher system meeting SFI Spec 17.1 mandatory when driver sits behind engine(s). Must be installed per manufacturer's specifications with all gauges clearly visible. When a fire extinguisher system is required, a manually activated extinguishing system mandatory. Manual system may additionally be activated pneumatically or thermally. See General Regulations 9:3.

# SHUTOFF DEVICE

Properly installed and operational Electrimotion Top Alcohol Dragster Shutoff Controller Kit (part number SB001TAD for blown applications, SB001AFD for injected nitro applications) and Electrimotion Shutoff Receiver (part number RF001) mandatory. The Electrimotion Top Alcohol Dragster Safety Shutoff Controller Kit must be properly installed per the manufacturer's instructions. Modification of or tampering with the Electrimotion Top Alcohol Dragster Safety Shutoff Controller Kit prohibited. The Electrimotion Crew Alert Box, part number CB001 and the Motorsports Safety Electronics Shutoff Device to illuminate a dash light for driver notification, disengage throttle and/or enable the shutoff device. Any other use of the Electrimotion Crew Chief Alert box or the Motorsports Safety Electronics Shutoff System is prohibited.

# TOW VEHICLES

Permitted. See General Regulations 9:12.

#### WARM-UPS

See General Regulations 9:5, 9:14.

#### DRIVER: 10

#### **ARM RESTRAINTS**

Mandatory. See General Regulations 10:3.

#### CREDENTIALS

Valid NHRA competition license mandatory. See General Regulations 10:4.

#### DRIVER RESTRAINT SYSTEM

All belts must be covered with a fire-resistant covering. Minimum 6-point driver restraint system meeting SFI Spec 16.1 mandatory. All shoulder, lap, and leg straps may be wrapped around a frame or chassis tube, provided the belt is properly aligned toward the direction of pull. When fastened with driver in position, absolutely no "folds" are permitted in any belt(s). Otherwise, all belts must be mounted to the chassis via mounting brackets that are bolted or welded to the chassis per the manufacturer's instructions. If the bracket is bolted through framerail or chassis tube, the hole in framerail or chassis tube must be bushed, with both ends of the bushing completely welded to the tube. Whether mounted directly to frame or to a tab welded to the frame, the mounting bracket attachment bolt must be in double shear and of shoulder bolt design so as to permit the bracket to pivot and align toward the direction of pull. Shoulder belts may utilize two individual straps, each with its own mount and mounting point; for a single strap, it must wrap a minimum of 540 degrees around the shoulder hoop.

# HEAD AND NECK RESTRAINT DEVICE/SYSTEM

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-approved head and neck restraint device/system, including connecting the helmet as required for full functionality of the device. The device/system must meet SFI Spec 38.1 and must display a valid SFI label. The 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.

#### HELMET

For all cars, a full-face Snell: SA2015, SA2020, FIA: 8860-2010, 8860-2015 or 8860-2018 helmet and shield mandatory (goggles prohibited). Eject Helmet Removal System (part number SDR 890-01-30) mandatory and must be installed per manufacturer instructions. A Stand 21 Lid Lifter head sock meeting SFI 3.3

may be used in lieu of the Eject Helmet Removal System. See General Regulations 10:7.

#### **PROTECTIVE EQUIPMENT**

Driver's suit meeting SFI Spec 3.2A/15, gloves 3.3/15, boots/shoes 3.3/15, and head sock 3.3 mandatory. Drivers of supercharged front-engine cars must use suit meeting SFI Spec 3.2A/20, gloves 3.3/20, 3.3/20, and head sock 3.3 mandatory. **Beginning August 1, 2022**, glove under-liners made of flame retardant material and socks meeting SFI 3.3 mandatory. **Additionally, beginning August 1, 2022**, when utilizing a two-piece driver's suit, long sleeve underwear shirt meeting SFI 3.3 and long underwear pants meeting SFI 3.3 are required. All clothing containing metal or plastic prohibited. Undergarments that are worn in addition to those mandated that are made of flammable materials (e.g. nylon, rayon, polyester, spandex, etc.) are prohibited. All metallic jewelry prohibited. **Beginning January 1, 2023, a one-piece driver's suit will be mandatory in addition to above requirements.** 

# SECTION 15: TOP ALCOHOL FUNNY CAR (Page 1) (10/3/2022)

Requirements and specifications for Top Alcohol Funny Car are the same as those for Top Alcohol Dragster – Section 14 – with the following exceptions

#### DESIGNATION

TAFC, preceded by car number.

Reserved for alcohol-burning and injected nitromethane/methanol-burning Funny Cars built specifically for drag racing competition. Cars are weighed at the conclusion of a run, including driver.

# **CLASS WEIGHTS**

Supercharged with Roots-type supercharger, methanol: 2,200 pounds minimum weight.

Supercharged with screw-type supercharger, methanol: 2,300 pounds minimum weight.

Non-supercharged single engine, nitromethane: 2,300 pounds minimum weight.

5.35 pounds per cubic inch; minimum displacement 410 cubic inches; maximum displacement 456 cubic inches;

<u>95 percent nitromethane permitted at events contested at 3,500 feet of altitude</u> or more. Maximum nitromethane content 90 percent at all other events. All fuels other than nitromethane and methanol prohibited. Any competitor who causes an oil down while participating at an NHRA Camping World event will be subject to fines and penalties as outlined in Section 2 - Oil down Penalties.

# **REQUIREMENTS & SPECIFICATIONS**

#### ENGINE: 1

#### CYLINDER HEADS

Aftermarket billet heads permitted. Maximum two valves per cylinder; maximum two spark plugs per cylinder. A current list of alcohol head specifications can be found on NHRARacer.com.

#### ENGINE

Maximum 528-cid for Screw-type-supercharger-equipped cars. Maximum 565-cid for Roots-type-supercharger-equipped cars. Maximum 456-cid for Nonsupercharged, nitromethane cars. Any internal-combustion reciprocating, singlecamshaft, automotive-type engine permitted. Maximum bore center spacing 4.840 inches. Dry-sump oil system permitted. Engine must be equipped with a lower-engine-ballistic/restraint device meeting SFI Spec 7.1. The lower-engineballistic/restraint device must be specific for the oil pan and pump configuration being used and must fit according to the requirements of SFI Spec 7.1 and be used as appropriately designed for the specific application. A positive method (flange, lip, etc.) must be attached to the intake manifold or engine block to retain both the front and rear manifold to block gaskets in the event the engine crankcase/lifter valley become over-pressurized. The flange/lip must extend past the surface of the gasket and be contoured to closely fit the block and manifold surfaces to prevent the gasket(s) from extruding. All large (valve covers, intake manifolds, superchargers, headers, heads, blocks, etc.) and all moving engine components are restricted to aluminum, steel, iron, titanium, magnesium, or other conventional alloys; carbon fiber, Kevlar, ceramics, composites, beryllium, or other extraordinary materials prohibited. Metal, fiberglass, or carbon fiber injector hats and/or injector scoops are permitted.

Any modifications or alterations to engine blocks, cylinder heads, and engine components are deemed to be a change in design and therefore prohibited. This includes any redesign, reconfiguration, and/or modification to existing components. Refer any development, redesign, reconfiguration, and/or modification questions to the NHRA Technical Department to determine whether permitted or prohibited.

All permitted engine combinations must adhere to the following criteria:

 Maintain interchangeability of existing parts (i.e., cranks, cams, manifolds, valve covers, rocker assemblies, etc.) 2. Maintain general combustion-chamber configuration (e.g.,Hemi, canted valve). Fuel injection directly into cylinder prohibited 3. Maintain original cylinder orientation in reference to centerline of crankshaft 4. Retain cylinder head, timing cover, intake manifold, exhaust manifold, valve-cover bolt pattern; additional bolts/studs/dowels may be used 5. Retain as cast/forged minimum block wall and web/rib Thickness

# EXHAUST

Double pipe insulated exhaust headers mandatory. Double tube must extend to start of bend at bottom of body.

# FUEL SYSTEM

Fuel cells recommended. EFI prohibited. Pressurized fuel tanks prohibited. Tanks must be vented outside of body lines to prevent fire from being drawn into tank through vent. Fuel tank vent, maximum 1-inch-diameter hole in front of body to vent fuel tank outside of body only. A failure to pass the minimum fuel temperature check in the staging lanes prior to a run will result in the forfeiture of that run, and the racer must return to the racer's pit. A failure to pass the minimum fuel-temperature check after a run will cause that run to be disqualified. Outside of the pit area, insulated fuel lines and tanks prohibited with the exception of a temporary one-piece flexible blanket-type material, maximum 1 inch thick, that wraps one time around the outside of the body panels in the vicinity of the fuel tank. The wrap must be guick release and require no additional work on the body or any tools to remove and be no more than 12 inches longer than the fuel tank. Any temporary insulation must be removed prior to and without delaying the starting of the engine. Fuel gauge lines in the driver's compartment must be steel or steel braided with steel fittings. Flexible gauge lines in the driver's compartment must be hydrostatically pressure tested at 750 psi for 30 seconds and labeled. Label must be impervious to fuel and brake cleaner. See General Regulations 1:5 and 1:6. Maximum two fuel pumps. The use of propylene oxide and/or nitrous oxide is prohibited. Insulated fuel lines and fuel tanks prohibited. Minimum temperature of fuel in the staging lanes to the completion of the run and subsequent NHRA fuel check is 50°F. See General Regulations 1:5.

# HEADERS

Double pipe insulated exhaust headers mandatory. Double tube must extend to start of bend at bottom of body. Minimum Funny Car header angle 32 degrees. Maximum header pipe O.D. 2.75 inches. O.D. and I.D. must remain constant beginning 8 inches below the header flange to the exit of the header.

# **INJECTOR SCOOP**

Injector scoop may not extend more than 18 inches forward of the center of the forward engine cylinder, may not extend more than 12 inches behind the center of the rear engine cylinder,

may not be higher than the top of the windshield, may not have more than 1 square foot of opening area, and may not be more than 24 inches wide.

# OIL LINES

All flexible-pressure oil lines, excluding return lines and any line 30psi or lower in pressure, must use a factory-crimped connection and be pressure-tested and labeled. All testing must be hydrostatic for minimum 30 seconds at 750psi. Label must indicate date, PSI, and tester ID. Labeling must be impervious to fuel and brake clean. Quick disconnect, plastic, and nylon lines are prohibited. The lines must be tested and tagged to indicate that they have been tested within two years. Test and tag services are available at national events. All of the lines must be routed in such a way that they are not directly in line with cylinder head gaskets at the front, rear, or side of the cylinder heads.

# **OIL-RETENTION DEVICE**

Engine oil-retention device mandatory. Minimum material, .050- inch aluminum or .040-inch carbon fiber/Kevlar. Pan must extend forward a minimum of one inch from the front face of the lower pulley and may not extend rearward past the crossmember under the pinion flange. Pan may be no wider than outside edge of the bottom framerails and must extend to the top of the upper framerails. Pan must be either a one-piece design or constructed as to be sealed as a retention device to retain oil. Must have minimum four-inch-high bulkheads for oil retention during acceleration and deceleration. Front bulkhead must be forward a minimum one inch of the lower pulley, and rear bulkhead must be behind the rear of the bellhousing. Bulkheads must be "coved" toward oil pan to assist oil in staying within the confines of the bulkheads. A nonflammable, oil-absorbent liner mandatory inside of retention device. Minimum number of slots or holes in the walls to clear frame, steering, or lines permitted.

# SUPERCHARGER

Maximum overdrive limits are 1.92 PSI and <u>1.70</u> <u>1.50</u> Roots. Placement of any object/device below the upper mating surface of the supercharger intended to alter air flow characteristics is prohibited (e.g. inserts/shoes, dividers, etc.).

Cars with a supercharger/intake manifold burst panel in the rear must have a .024-inch steel, or .032-inch aluminum ducting, or carbon fiber ducting lined with an NHRA- accepted flame-retardant covering or coating, 4-inch minimum diameter, installed to relieve burst pressure from the burst panel(s) vicinity through the firewall and out the side window. A NHRA approved burst panel deflector can be used in lieu of ducting.

**Roots-type superchargers** maximum size: 14-71, 22 1/4-inch case length, 11 1/4-inch case width,19-inch rotor length; maximum rotor diameter: 5.840 inches including fixed stripping. The case must be one piece with removable front and rear bearing end plates; rotor must be contained within one-piece case. Helix is restricted to a maximum rotor spiral of 6.5 degrees per inch of rotor length. Manifold burst panel meeting SFI Spec 23.1 plus restraint system meeting SFI Spec 14.2 mandatory. The rotors must be driven from the front (both the external drive and the internal gearing). The entire inlet opening must be on/in the upper surface only. Any inlet/outlet cavity in front of the rotors is restricted to maximum 2.150 inches, measuring from the face of bearing plate to the back of the cavity. Billet cases permitted. The maximum length from the front of the supercharger drive pulley to the leading edge of the rotor is 15 inches. The use of spacers, modified cases, offset drive pulleys, or attaching methods to move the supercharger rearward in excess of the specified amount is prohibited. All manifold configurations and supercharger modifications and locations must be accepted prior to competition. Variable multispeed supercharger devices prohibited. Supercharger must be in conventional location above the intake manifold and cylinder heads, and supercharger restraint device may not be modified.

Screw-type superchargers must meet SFI Spec 34.1 and be reinspected by the manufacturer every three years. Manifold burst panel meeting SFI Spec 23.1 (in addition to panel in supercharger) plus restraint system meeting SFI Spec 14.21 mandatory. Billet cases prohibited. Supercharger restraint straps must be covered with a fire-resistant material. The blower restraint straps and fuel lines must be installed such that when the restraint straps are fully extended no load is placed on any of the fuel lines. Variable multi-speed supercharger/intake manifold burst panel in the rear must have a .024-inch steel, or .032-inch aluminum ducting, or carbon fiber ducting lined with an NHRA-accepted flame-retardant covering or coating, 4-inch minimum diameter, installed to relieve burst pressure from the burst panel(s) vicinity through the firewall and out the side window. A NHRA approved burst panel deflector can be used in lieu of ducting. See General Regulations 1:10, 1:11.

# **THROTTLE**

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. Dual throttle springs, one on each end of all injector throttle shafts that extend through both ends of the injector body, mandatory. A mechanical device for controlling engine rpm during burnouts may be attached to the injector or throttle linkage but may not be driver-controlled. See General Regulations 1:12.

# VALVE COVERS

Cast or fabricated metal valve covers using all attachment bolt holes mandatory. Valve-cover restraints meeting SFI Spec 14.4 mandatory on all nonsupercharged, nitromethane-burning engines. Valve-cover gaskets, O-rings, etc. must be completely bonded/glued to either the valve cover or cylinder head sealing surface. Vent tube adapters on the valve covers must either be fully welded to the valve covers or incorporate a gasket or O-ring that is bonded/glued to either the adapter or the valve cover. Valve covers must be fastened to the cylinder heads with studs and nuts in lieu of bolts where possible. Spark-plug tubes that penetrate the valve covers must have a restraining device to contain the spark-plug tube in the valve cover in the event the spark plug is discharged.

# VENT TUBE BREATHERS

Catch can/vent tube system mandatory. Twist-on/quick-disconnect fittings between the vent tube hoses and the valve cover vent tube adapters must incorporate a secondary locking device such as a hasp pin; ball lock pin prohibited. Tape is not a satisfactory primary or secondary locking device. Double clamps are required on each end of all hoses used in the vent system, including the dry-sump vents. Minimum 1 1/4-inch inside diameter hoses are required from each valve cover to the catch can inlets and/or framerails and from each framerail outlet to both catch can inlets. Minimum catch can(s) capacity is a 1-gallon sump (i.e., below the bottom baffle) when the valve cover discharges are routed through the upper framerails; otherwise, a 2-gallon sump capacity is mandatory. Minimum catch can inlet and outlet/discharge configuration is two 1 1/8-inch inside diameter openings (or equivalent area). NHRA accepted vent tubes/hoses are mandatory for all connections; see NHRARacer.com for a list of accepted vent tubes/hoses. Vent tubes must be unobstructed from the interior of the valve cover to the interior of the catch can; i.e., no orifices, reduced areas, filler materials, etc. Pan/crankcase vacuum systems, of any description, are prohibited. See General Regulations 1:13.

# DRIVETRAIN: 2

# <u>CLUTCH, FLYWHEEL, FLYWHEEL SHIELD</u>

Flywheel and clutch meeting SFI Spec 1.3 or 1.4 and flywheel shield meeting SFI Spec 6.2 mandatory on all cars. Three discs maximum on supercharged, methanol-burning cars. Four discs maximum on injected nitromethane cars. Maximum depth of flywheel shield: 9.4 inches (inside). Clutch must be manually operated by driver's foot: Electronics, pneumatics, hydraulics, or any other device may in no way affect the clutch system. Throw-out bearing must release all fingers, levers, stages, etc. simultaneously. Staged or variable release clutches of any description prohibited. Clutch/bellhousing exhaust filter mandatory. See General Regulations 2:3, 2:5, 2:6, 2:8.

# **DRIVELINE**

Anti-blowback device mandatory. See General Regulations 2:1.

# **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 splicer sleeve in the area of the driver's legs. All covers must be securely mounted to frame, suitable crossmember, reverser, or third member.

# REAR END

Aftermarket full-floating or live axle assembly mandatory. Maximum (numeric) gear ratio 4.30 for screw-type supercharger- equipped cars, 4.58 for Roots-type-supercharger equipped cars. <u>Minimum (numeric) gear ratio, 2.90 for non-supercharged, nitromethane-burning cars.</u> See General Regulations 2:11.

#### TRANSMISSION

Transmission limited to two units (three forward speeds). Lockup converters prohibited. Iterative transmission staging devices prohibited. Manipulation of transmission or converter pressure or volume other than at the starting line is prohibited. Pressure or volume manipulation control must be disarmed upon the release of the transbrake or any other device used when launching the vehicle. Automated control of the converter or transmission from acquired or recorded data is strictly prohibited. All wires and lines going to and from the transmission or converter must be clearly identified and labeled for tech inspection purposes.

Transmission prohibited in non-supercharged, nitromethane burning class. OEM or OEM-modified transmissions prohibited in all classes. Aftermarket planetary transmission permitted in supercharged classes, limited to two units (three speeds). Lockup converters prohibited. Overdrive transmission prohibited. Final drive ratio must be 1:1. Clutch hold-down device recommended on all cars. Reverser mandatory. Automated shifters and/or timer-type shifting devices prohibited; each individual shift must be a function of the driver. Air shifter bottles must be stamped as meeting DOT-1800 pound rating and permanently mounted (hose clamps or tie wraps prohibited). For the supercharged-methanol combinations only, the use of a transmission consisting of an aftermarket torgue converter and an aftermarket planetary transmission (three-speed maximum) with an electric-only transbrake is permitted. The unit must be NHRA-accepted. Contact NHRA Technical Services for accepted list. Manipulation of transmission or converter pressure or volume other than at the starting line is prohibited. Pressure manipulation control must be disarmed upon the release of the transbrake or any other device used when launching the vehicle. The use of a delay box/device is prohibited. Automated control of the converter or transmission from acquired or recorded data is strictly prohibited. All wires and lines going to and from the transmission or converter must be clearly identified and labeled for tech inspection purposes. An aftermarket SFI 29.1 flexplate (with no starter ring gear) or a solid-steel converter driveplate, an SFI 6.1, 6.2, or 6.3 flywheel shield, and an aftermarket SFI 4.1 one-piece transmission shield (covering the transmission units and the reverser) are required.

# TRANSMISSION SHIELD

A one-piece ballistic shield covering all units mandatory. Must meet SFI Spec 4.1. See General Regulations 2:13.

#### **BRAKES & SUSPENSION: 3**

#### BRAKES

Four-wheel disc brakes with dual master cylinder mandatory. Carbon-fiber brake rotors used in conjunction with carbon-fiber specific brake pads (front and rear) mandatory; all other materials prohibited. NHRA-accepted fireproof brake line covering mandatory on all (front and rear) flexible connection lines. A current list of NHRA-accepted fireproof brake line coverings is available on NHRARacer.com. Hand brake, if used, must be located inside body or driver compartment. Steel brake lines mandatory. Hand-brake handle must be constructed of minimum 5/16-inch-thick by 1-inchwide aluminum, steel, or titanium. Lightening of hand-brake handle (i.e., holes, machining, etc.) prohibited.

#### STEERING

Commercially available quick-disconnect steering wheel meeting SFI Spec 42.1 or removable (via quick-release pins) steering box crossmember mandatory. Use of a pinned steering crossmember in lieu of an SFI quick-disconnect steering wheel prohibited. Plating of steering components prohibited on all cars.

#### SUSPENSION

Front suspension optional. Plating of front suspension components prohibited on all cars. See General Regulations 3:4.

#### WHEELIE BARS

<u>Mandatory; must be functional. Maximum height 4 inches measured from racing</u> surface to bottom of wheel. Wheels must be nonmetallic. See General <u>Regulations 3:6.</u>

#### FRAME: 4

# **BALLAST**

Permitted. Maximum total ballast (welded or bolted), 250 pounds. See General Regulations 4:2.

#### HELMET SHROUD/DEFLECTOR PLATE

All vehicles in Top Alcohol Funny Car must have a rear roll-cage shroud. A multipiece shroud is permitted. The shroud must be constructed of minimum .075-inch Grade 2 ASTM-B-265 titanium or .090-inch 4130 steel or be of NHRA-accepted composite construction and must be shaped to conform to the roll cage. The shroud must be attached to each of the side bars with a minimum of three 1/4-inch-minimum-diameter Grade 8 bolts and bosses per side, to the top with one 1/4-inch-minimum-diameter Grade 8 bolt and boss, and to the rear bars with a minimum of two 1/4-inch-minimum-diameter Grade 8 bolt and boss, and bosses per side. Tabs with bolt and nut, where the nut is welded to the tab, may be used in place of the bosses. Three-piece shields must be made with two side shields and a center section.

The shroud must be installed flush with or be filled/sealed to the upper roll-cage bars and shoulder hoop so that protective equipment cannot catch between the shroud and the roll-cage components. Absolutely no components may be mounted to the helmet shroud above the top of the shoulder hoop. Bolt heads must be 1/2-inch hex-style head.

# **GROUND CLEARANCE**

At any time, minimum 3 inches from front of car to 12 inches behind centerline of front axle, 2 inches for remainder of car, except oil pan and exhaust headers.

# PARACHUTE

Dual parachutes mandatory. Beginning January 1, 2022, Pilot chutes must be made of a bright color, not black, to be visible on the racing surface if detached from the main chute. Two separate shroud line mounting points mandatory with sleeved 1/2-inch-minimum Grade 8 steel bolts with self-locking nuts or with nuts welded onto parachute brackets. Shroud line mounting brackets must be constructed of minimum 3/16-inch 4130 steel. Two NHRA-accepted parachute tethers are required and must be routed through each shroud line end loop and be attached using the rear end mounting bolts on each side. The mounting attachments on each end of both tethers must attach to either separate rear end mounting bolts or opposite ends of a single bolt (one under the head of the bolt and the other under the nut). NHRA-accepted parachute tethers: Amick Race Car Restraints PARA-101REV1, Future Fibres FF30MLB-P-MB, or Taylor Motorsports 108. When Future Fibres FF30MLB-P-MB is used, only one tether is required and must be routed through each shroud line end loop and be attached using the rear end mounting bolt on each side. All tethers must be covered with a fire-resistant material. The parachute floor must be flat and may not extend more than 6 inches rearward or beyond the parachute pack, whichever is less. The measurement will be taken from the mounting point on the rear of the body. The use of a wicker prohibited. See General Regulations 4:8.

# ROLL CAGE

Chassis must meet SFI Spec 10.1. All wiring must be external of the framerails; routing of cables, hydraulic, or pneumatic lines inside the chassis is permitted. Chassis must be recertified yearly by NHRA and have serialized sticker affixed to frame before participation. See General Regulations 4:4, 4:11, 10:6.

# **ROLL-CAGE PADDING**

Roll-cage padding meeting SFI Spec 45.1 mandatory where driver's helmet may come in contact with roll-cage components. Additional padding mounted on flat stock and fastened to the roll cage on both sides of the driver's helmet, mandatory. Additional padding must be NHRA-accepted (with manufacturer's name displayed), securely mounted using bolts or locking fasteners, and must include a flame-retardant covering. A current list of NHRA-accepted lateral head supports is available on NHRARacer.com. See General Regulations 4:11.

## SKID PLATES

Skid plates attached to motor plate or frame permitted. Must be at least 3 square inches in contact area, located below the bottom of the oil pan, and designed to come in contact with the ground before the framerail. Wheels are not permitted in lieu of skid plates.

#### WHEELBASE

Minimum 100 inches; maximum 125 inches 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.

#### **TOW-STRAP HOOPS**

All cars must have tow-strap hoops on the lower front of the chassis. Hoops must be capable of accepting a 2-inch tow hook without lifting the body and not stressing the body when the car is being towed. Hoops must line up with the centerline of the car below the body-release rod and clearly marked on the body with an arrow pointing down.

#### TIRES & WHEELS: 5

#### **TIRES**

Tires must be specified for racing use by manufacturer. Maximum rear tire: 18 inches wide x 118 inches maximum circumference. Minimum rear tire circumference: 108 inches. Tires are to meet size requirements when installed and ready to run at manufacturer's recommended operating pressures. See General Regulations 5:1.

#### **WHEELS**

Must be completely isolated from driver compartment. Rear wheels meeting SFI Spec 15.3 mandatory; maximum width: 16 inches. Wire wheels prohibited. Rearwheel discs or covers prohibited. Use of a liner mandatory on non-beadlock wheels. See General Regulations 5:2.

#### **INTERIOR: 6**

#### SHEET METAL

Driver compartment interior, firewall, seat, etc. must be aluminum or steel. Magnesium or carbon fiber prohibited; carbon fiber injector "doghouse" permitted.

#### SEAT

Seats must be foamed with energy-absorbing material and formed to the driver's body. Minimum one-layer, flame-retardant material mandatory as seat upholstery. No magnesium permitted.

# BODY: 7

#### **AIRFOILS, WINGS**

Prohibited.

#### BODY

Any modification to body not expressly permitted in this Rulebook is prohibited. Any body that meets the Funny Car (Section <u>17 18</u>) body requirements in their entirety is acceptable for Top Alcohol Funny Car competition. These bodies must be run as they come from the NHRA-accepted molds. Any modification not expressly permitted in the Funny Car (Section <u>17 18</u>) body requirements is prohibited. <u>Otherwise</u>, <u>A</u>-all bodies must be 1969 or later model year NHRAaccepted sports car, coupe, or sedan body of a type originally mass-produced by automobile manufacturer (domestic or foreign). Must have originally measured 63 inches wide or more at centerline of front and rear axle. Maximum body and/or roof width cannot exceed stock dimensions. Duplications of production bodies of fiberglass or carbon fiber permitted. Body may be lengthened or shortened. Front and rear contour of body must resemble same configuration and design for specific body used; holes for air passage prohibited.

Maximum body width variation from front to rear is 6 inches. Minimum body width is 60 inches when mounted. Bodies are measured at centerline of front and rear axles. Enclosing the wheel-wells or the use of wheel fairings is prohibited. Fender flares or lips (maximum 1 inch) not on original factory-produced bodies will not be considered in any width measurement. 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 of 18 inches measured directly from centerline of rear axle. Front overhang not to exceed 40 inches from centerline of front axle. Beltline moldings (if on stock vehicle), headlight and taillight housings or indentations must be incorporated into body. Headlights and taillights must be painted or decaled to simulate OEM appearance and configuration. Taillight area may be hinged (top only) for air venting, maximum 100 square inches per side; any other holes in rear of body prohibited. Hood scoops prohibited; injector must protrude through hood. Maximum dimensions of hood cowling, 26 inches wide by 5 inches high. Opening for blower hat must have a minimum 2.500-inch clearance between body and throttle linkage. Wicker permitted on front and sides of blower opening: maximum height 1 inch. Wicker must be installed 90 degrees to body.

Rocker panel extensions may not be more than 1 inch wide. Ground effects of any description prohibited. Ground effects include, but are not limited to, rocker skirts, belly pans, sheetmetal work under the body that produces a "tunnel" for the passage of air, rub bar/splitter cannot extend beyond the inside body line, etc. All bodies run in competition must be run as they come from the respective molds. Final determination on all body modifications rests with NHRA Technical Services Department. Bodies must be removable from a rear-release mechanism that must be accessible in the taillight panel area. The rear-release mechanism may be of any mechanical design. The mechanism must be unobstructed and easily visible and not located within 3 inches of any other opening. Release handle must be of a T-handle design with a minimum measurement of 3 inches in length. Contact NHRA Technical Services Department for acceptable design, operation, and installation.

Body (hood) burst panel, minimum 288 square inches, mandatory on all screwsupercharger-equipped cars. Body burst panel must be secured with plastic screws and two NHRA-accepted body burst panel tethers, with separate body pads for each of the two tethers bolted with a plate on both sides of panel. NHRA accepted body burst panel tethers: Amick Race Car Restraints part number JF-101. Any new body designs or concepts must receive approval from NHRA prior to competition. Plans, drawings, pictures, etc. must be submitted to the NHRA Technical Department for approval. Body specifications may vary for certain exhibition vehicles; prior NHRA approval necessary. Underside of body, including any roof area and all the composite components such as timer boxes, etc., must be covered with SFI Spec 54.1 flame-retardant covering or coating. Must be applied according to the manufacturer's specifications and recommendations, and must be applied externally. All bolts and fasteners on body, windows, etc. must have button heads toward outside of body. All stiffeners must be placed on the inside of the body, whether on windows, spoiler, etc. Mounting trees for body may not be adjustable. The framing must be a permanent fixture, with no adjustments. Any method used to allow the body to move (e.g., springs, dampers, etc.) during the run is prohibited.

#### ESCAPE HATCH

A working escape hatch must be installed in top of body to permit easy driver exit, see-through types prohibited. Minimum size, 18 inches x 17 inches. Roof hatch must be permanently attached, and hinged at front. Must have release mechanism operable from both inside and outside of car.

#### FENDERS

Four stock-type fenders mandatory. Alterations to accommodate axle relocation permitted. Front fender bubbles may not exceed 2 1/2 inches as measured from flat portion of fender line to top of bubble.

# FIREWALL



Must be aluminum or steel; magnesium prohibited. V-shaped firewall (see diagram) constructed of a Minimum .040-inch aluminum permitted; otherwise, portion of the firewall between skin of the body and the chassis can be no higher than 12 inches, as measured from the bottom of the rocker panel to the bottom of the 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. Laminated safety glass or fire-resistant plastics such as Lexan or Plex 70 mandatory. See General Regulations 7:4.

# GRILLE

Must be equipped with a simulated grille of same configuration and design for specific body used; holes for air passage prohibited.

# **REAR BUMPER**

Must be equipped with rear bumper consisting of a minimum vertical surface of 3 inches; maximum permitted 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. Maximum 1- inch lip permitted on rear bumper as a stiffener; not included in overall measurement.

#### SPOILERS SPILL PLATES/WICKERS

Permitted front and rear. Rear spoiler spill plates cannot be "built in" to body. Rear deck relocation cannot extend more than one-third of the as-produced replica body's rear window. Side surfaces of elevated decks must be completely covered by spoiler spill plates. Must have two (2) spill plates, one above each rear guarter panel. Minimum 380 square inches of surface area. Maximum 5" above roof line. Must run parallel to each other along entire surface, no less than 50" apart and no more than 54" apart. 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 guarter. Spill plates cannot be more than 5 inches above the roof line. Rearmost point of spill plate may not exceed 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) .5-inch maximum. Supercharged entries must use a minimum 1/2" tall wicker along the trailing edge of rear deck surface, between the spill plates. Nitromethane entries must use a **maximum** 2" wicker along the trailing edge of the rear deck surface between the spill plates. All wickers must

be perpendicular to the deck and span the entire width. 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 3 inches above the roof line, 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. Installation of vortex generators is permitted on the spoiler assembly only; 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. Wickers required on front wheel openings, minimum ½" wide, 1.5" maximum. Must run from front lower splitter up to within 1" of axle centerline on body. Cannot extend past axle centerline. Wicker may be used on rear wheel opening. Wheel opening wickers only allowed on front half of opening. 1" tall blower/injector opening wicker required. Any other wicker, spoiler, or wing not permitted.

#### WINDOW

Windshield mandatory. Side windows optional. If windows are used, they must be clear. Rear window and quarter windows (if stock equipped) must be defined by actual route line in body and painted (or decaled) to simulate glass. Side windows must have a minimum 6-inch-diameter opening adjacent to driver. See General Regulations 7:8.

# ELECTRICAL: 8

# ELECTRICAL COMPONENTS

Electrical and electronic components are restricted to ignition systems, data recorders, electrical gauges or indicators, automated fire extinguisher, and engine shutoff system components only. The use of electrical/electronic timers to control pneumatic fuel-system valves and/or electric fuel control solenoid valves is permitted. The fuel control system may use only movement of the throttle or clutch pedal, a transmission shift, electric/electronic timers, and/or an engine rpm switch to control the fuel-system valves and/or to start the timers that control the fuel-system valves.

#### <u>EFI</u>

Electronic Fuel Injection permitted. EFI entries must have an NHRA accepted ECU, software, and firmware. A current list of NHRA-accepted ECU's, software, and firmware can be found on NHRAracer.com See General Regulations 9:1, 9:11.

# **IGNITION**

Programmable ignition permitted. Only preset times, throttle position, engine rpm, other internal engine data (temperatures, flow rates, and pressures), and transmission shifts may be processed with regard to control of the ignition system. Any ignition system

that incorporates any programmable multi-point rev limiter and/or any rate-ofacceleration rpm limiter in any form is prohibited. Any ignition system that incorporates vehicle performance data via measurement, sensing, processing, inference, etc. to activate or deactivate any function or capability of the ignition system is prohibited. Any sensor or wiring that connects or transmits vehicle performance data directly, or indirectly, to the ignition system is prohibited. Ignition system components must be utilized in an unaltered manner consistent with the manufacturer's installation and instruction manuals unless otherwise approved. The use of any automated rpm-control device during the staging/launching process is permitted. See General Regulations 8:3.

# **IGNITION SYSTEM**

All microprocessor ignition components prohibited. See General Regulations 8:3.

# **MAGNETOS**

Maximum two magnetos; two spark plugs per cylinder, not to exceed 44 amps per magneto. Magnetos limited to the following models: MSD Pro Mag Systems, 12 or 20 amp, 8109, 8139, 8149, 7908, 7910, 7915, 7916, 8150, 8160; MSD Pro Mag Systems, 44 amp, 8130, 8140; Mallory Super Mag Series 3, 4, 6, 7, 11.

# COMPUTER/DATA RECORDERS

See General Regulations 9:1, 9:2.

# **SUPPORT GROUP: 9**

# FIRE EXTINGUISHER SYSTEM

Fire extinguishing system must meet SFI Spec 17.1. Minimum 20-pound NHRAaccepted fire extinguishing system mandatory. System must be divided so that a minimum of 15 pounds is directed into engine compartment by means of nozzled outlets placed in front of each bank of exhaust headers. Remaining 5 pounds 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. Fire bottle activation cables must be installed inside framerail where cables pass engine/bellhousing area. See General Regulations 9:3. Manually activated extinguishing system mandatory. Manual system may additionally be activated pneumatically or thermally.

# SHUTOFF DEVICE

Properly installed and operational Electrimotion Top Alcohol Funny Car Shutoff Controller Kit (part number SB001TAFC) and Electrimotion Shutoff Receiver (part number RF001) mandatory. The Electrimotion Top Alcohol Funny Car Safety Shutoff Controller Kit must be properly installed per the manufacturer's instructions. Modification of or tampering with the Electrimotion Top Alcohol Funny Car Safety Shutoff Controller Kit prohibited. The Electrimotion Crew Alert Box, part number CB001 and the Motorsports Safety Electronics Shutoff System part number MS1150, may be used in conjunction with the Shutoff Device to illuminate a dash light for driver notification, disengage throttle and/or enable the shutoff device. Any other use of the Electrimotion Crew Chief Alert box or the Motorsports Safety Electronics Shutoff System is prohibited.

#### TOW VEHICLES Permitted. See General Regulations 9:12.

WARM-UPS

See General Regulations 9:5, 9:14.

#### **CREDENTIALS**

Valid NHRA competition license mandatory. See General Regulations 10:4.

DRIVER: 10

#### **ARM RESTRAINTS**

Mandatory. See General Regulations 10:3.

# DRIVER RESTRAINT SYSTEM

All belts must be covered with a fire-resistant covering. Minimum 6-point driver restraint system meeting SFI Spec 16.1 mandatory. All shoulder, lap, and leg straps may be wrapped around a frame or chassis tube, provided the belt is properly aligned toward the direction of pull. When fastened with driver in position, absolutely no "folds" are permitted in any belt(s). Otherwise, all belts must be mounted to the chassis via mounting brackets that are bolted or welded to the chassis per the manufacturer's instructions. If the bracket is bolted through framerail or chassis tube, the hole in framerail or chassis tube must be bushed, with both ends of the bushing completely welded to the tube. Whether mounted directly to frame or to a tab welded to the frame, the mounting bracket attachment bolt must be in double shear and of shoulder bolt design so as to permit the bracket to pivot and align toward the direction of pull. Shoulder belts may utilize two individual straps, each with its own mount and mounting point; for a single strap, it must wrap a minimum of 540 degrees around the shoulder hoop. Mounting points must be covered with either sheet metal or an acceptable fireresistant material. See General Regulations 10:5.

# FRESH AIR SYSTEM

Fresh- air breathing system mandatory. System must be manufactured and installed by the original helmet manufacturer or with written authorization of the original helmet manufacturer. Helmet must meet applicable SFI and/or Snell Specs with fresh air system installed. Compressed air only. Air must be supplied by constant pressure (see General Regulations 9:8).

# HEAD AND NECK RESTRAINT DEVICE/SYSTEM

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-approved head and neck restraint device/ system, including connecting the helmet as required

for full functionality of the device. The device/system must meet SFI Spec 38.1 and must display a valid SFI label. The 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.

#### HELMET

For all cars, a full-face Snell: SA2015, SA2020, FIA: 8860-2010, 8860-2015 or 8860-2018 helmet and shield mandatory (goggles prohibited). Eject Helmet Removal System (part number SDR 890-01-30) mandatory and must be installed per manufacturer instructions. A Stand 21 Lid Lifter head sock meeting SFI 3.3 may be used in lieu of the Eject Helmet Removal System. See General Regulations 10:7.

# **PROTECTIVE EQUIPMENT**

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. **Beginning August 1, 2022**, glove under-liners made of flame retardant material and socks meeting SFI 3.3 mandatory. **Additionally, beginning August 1, 2022**, when utilizing a two-piece driver's suit, long sleeve underwear shirt meeting SFI 3.3 and long underwear pants meeting SFI 3.3 are required. All clothing containing metal or plastic prohibited. Undergarments that are worn in addition to those mandated that are made of flammable materials (e.g. nylon, rayon, polyester, spandex, etc.) are prohibited. All metallic jewelry prohibited. **Beginning January 1, 2023, a one-piece driver's suit will be mandatory in addition to above requirements.** See General Regulations 10:10.

# SECTION 16: PRO STOCK MOTORCYCLE, BRAKES & SUSPENSION, BRAKES (Page 3) (10/3/2022)

Hydraulic type, front and rear, mandatory. Braided steel brake lines mandatory. Brake lines must be routed and mounted to ensure no contact with moving parts. Aluminum brake rotors prohibited. Automated brakes prohibited; application and release of brakes must be a function of the rider. Two rotor front brakes permitted; all rotor thickness tolerance +/- .010-inch from accepted 3/16-inch thickness. Minimum size: 10-inch diameter, 3/16-inch thickness for single rotor; 8-inch diameter, 3/16-inch thickness for dual rotor. Rear brake rotor minimum 10inch diameter, 3/16-inch thick with single rotor front brake; 8 1/2-inch diameter, 3/16-inch thick with dual rotor front brake. <u>Maximum hole size .500" with all holes</u> <u>countersunk. No two holes closer than 1.25" center to center.</u> Fork brace mandatory on all single rotor motorcycles. All brake systems must be NHRAaccepted aftermarket. Scalloping, notching, etc. of brake rotors prohibited; i.e., brake rotors must maintain a constant minimum outside diameter. See General Regulations 3:1.

# SECTION 19: TOP FUEL DRAGSTER, FRAME: 4, ROLL CAGE (Page 9) (10/3/2022)

Chassis must meet SFI Spec 2.3T (rear-engine cars). Chassis must be recertified yearly by NHRA and have serialized sticker affixed to <u>frame the front</u> <u>half, main cockpit, back half, and wing stand</u> before participation. Cars without crossmember above driver's legs must have a strap or device to prevent legs from protruding outside chassis. Routing of cables, electrical wiring, and hydraulic or pneumatic lines inside the chassis is permitted. See General Regulations 4:4, 4:11, 10:6.

#### SECTION 21: GENERAL REGULATIONS, 4:8 PARACHUTES, Page 20 (10/3/2022)

If outlined in Class Requirements, it is mandatory to have a braking parachute produced by a recognized drag racing parachute manufacturer. Dual parachutes required for all cars running 200 mph or more or if required by Class Requirements. Tech inspectors may observe the proper operation of the parachute(s) and inspect for worn or frayed shroud lines, ripped or dirty canopies, and worn or ragged pilot chutes. Parachute cable housings should be mounted solidly to frame tube or other suitable member no farther back than 1 inch from the release handle. If automated push-button release system is used, driver must also be able to use handle to manually release the parachute(s). The release housing must be attached within 12 inches of the parachute pack and in a manner that will allow the inner cable to release the parachute. When supercharged or using nitromethane as a fuel, it is mandatory that the parachute pack and unpacked shroud lines be protected with fire-resistant material from the mounting point to the pack. Parachutes must have their own independent mounting with sleeved 3/8-inch minimum steel bolts or steel pins required for all applications unless otherwise stated in Class Requirements. The use of ball-lock pins for parachute mounting prohibited. Applications using two parachutes are required to have separate mounting points for each parachute system. Shroud line(s) mounting brackets must be constructed of minimum .090-inch steel unless otherwise stated in Class Requirements. Safety pins must be red flagged and removed prior to burnout. SAFETY PINS MUST BE RED FLAGGED AND **REMOVED PRIOR TO BURNOUT.** 

# SECTION 21: GENERAL REGULATIONS, 9:15 CAMERAS, (Page 42) (10/3/2022)

Images from any camera permitted under this section are permitted to be used (1) for competition/analytical purposes, and (2) for social media only as permitted in Section 1, 1.9.1 Pilot Team Social Media Rules. Unless otherwise permitted in writing by NHRA, each vehicle/driver is permitted only one camera at the starting line, and one camera in/on the vehicle. Camera glasses that have been approved by NHRA Tech Department may be used as the in-vehicle camera. All aspects of in/onvehicle cameras are subject to the approval of the NHRA Tech Department which approval will be granted or denied in NHRA's discretion. Use of

unapproved cameras/mounting subjects the racer/team to all available penalties. Intentionally directing any competition camera at the racer or vehicle in the other lane is prohibited. Except as permitted by the then-current social media rules, images or audio/video from a competition camera are not permitted to be transmitted in any means or manner. Incident video may never be transmitted under any circumstances. No video monitors permitted in or on any vehicle. Cameras/ video may not be used in any way to determine track position in real time. In/on-car competition cameras must be securely attached to the vehicle with appropriate fasteners (except for camera glasses). Suction cups, wire ties, hose clamps and the like are not acceptable methods of attachment. If any camera is approved to be mounted externally on any vehicle, all mounting brackets, associated fasteners, hardware, etc. from the camera to the vehicle attachment point must be metal, and no plastic or nonmetallic components are permitted. A metal tether is required for each camera assembly and must be anchored to the vehicle. Attachment of any camera to the driver, the driver's helmet, or the steering wheel/handle bars is prohibited, unless approved by the NHRA Technical Department (includes any future image or data-capturing technology). Additionally, no camera may be mounted anywhere above the shoulder hoop outside of a "funny car" style or "dragster" style cage, or anywhere the driver can come in contact with it during an accident. Mounting of a camera inside a "funny car" style or "dragster" style cage is prohibited. All on-car cameras must be approved by an NHRA Technical Inspector prior to use.