

2024 NHRA RULE AMENDMENTS

(THESE RULE AMENDMENTS COVER RULE CHANGES MADE TO THE INITIAL RELEASE OF THE 2024 RULEBOOK)

(UNLESS OTHERWISE NOTED, RULE CHANGES BECOME EFFECTIVE IMMEDIATELY)

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HAVE A TECH QUESTION (Page iii) (03/06/2024) HAVE A TECH QUESTION?

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SECTION 2: RACE PROCEDURES, REPLACEMENT VEHICLES (Page 5) (03/06/2024)

REPLACEMENT VEHICLES

- 1. The original vehicle is withdrawn from competition and cannot be reinstated.
- 2. A Replacement vehicle cannot have been utilized by any other contestant at the same event.
- 3. NHRA Technical Officials must be notified of any vehicle, body, or chassis change.
 - a. TF, FC, PS, PSM, and PM: Online tech card will need to be updated.
 - b. All remaining categories: A new tech card will be required.
- 4. Online tech card
 - a. MFDRS, PM, MMPS: Online tech card will need to be updated.
 - b. FSS, FX, LODRS: A new tech card will be required.
- 5. Driver must stay within original eliminator category and class entered (i.e., A/ED driver must remain in A/ED, G/SA to G/SA, etc.).
- 6. Checkout runs for replacement vehicles are not available.

TF, FC, and PS, TFH, and MMPS categories: Driver retains qualifying times and standings as posted while driving the original entered vehicle. Any number of replacement funny car bodies may be utilized at any time during an event (including eliminations). Only one replacement chassis or vehicle may be utilized at any time during an event (including eliminations).

PSM categories: Driver retains qualifying times and standings as posted while driving the original entered vehicle. Only one replacement chassis or vehicle may be utilized at any time during an event (including eliminations). If an engine platform/ combination change is made the following policy will be in place:

Engine platforms/combination changes will be determined by Make/Model: Driver will retain qualifying times and standings as posted while driving the original entered vehicle IF the replacement vehicle has the same engine platform/combination. The driver WILL NOT retain qualifying times and standings as posted while driving the original entered vehicle if the replacement vehicle does not have the same engine platform/combination as the original entered vehicle. One engine platform/combination change will be allowed during the season without penalty. In addition, a contestant in PSM may return to their original engine platform at a subsequent event the contestant attends, without penalty. Engine platform/combination changes will net be allowed during qualifying and eliminations an event once qualifying has started for the respective category. Any E.T.'s posted will be void for lane choice or other considerations, if an engine platform/combination change takes place prior to any subsequent round of eliminations (including 1st Round). Additional

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engine platform/ combination changes are allowed during the season.

Forty (40) points at the time of the change will be deducted from the competitors total for each additional engine platform/combination change. For PSM only, In the event of a rider changing teams, the point deduction would only apply if the new team changes engine platforms/combination after one change is made. Engine platform/combinations will be determined at NHRA's sole and absolute discretion.

PM: Driver retains qualifying times and standings as posted while driving the original entered vehicle. Only one replacement chassis or vehicle may be utilized at any time during an event (including eliminations). If an engine platform/ combination change is made the following policy will be in place:

Engine platforms/combination changes will be determined by Power Adder: Driver will retain qualifying times and standings as posted while driving the original entered vehicle **IF** the replacement vehicle has the same engine platform/combination. The driver WILL NOT retain qualifying times and standings as posted while driving the original entered vehicle if the replacement vehicle does not have the same engine platform/combination as the original entered vehicle. One engine platform/combination change will be allowed during the season without penalty. In addition, a contestant in PM may return their original power adder at the next subsequent event the contestant attends, without penalty. Engine platform/ combination changes will not be allowed during qualifying and eliminations. an event once qualifying has started for the respective category. Any E.T.'s posted will be void for lane choice or other considerations, if an engine platform/combination change takes place prior to any subsequent round of eliminations (including1st Round). Additional engine platform/combination changes are allowed during the season. Forty (40) 20 points at the time of the change will be deducted from the competitors total for each additional engine platform/combination change. In the event of a driver changing teams, the point deduction would only apply if the new team changes engine platforms/combination after one change is made. Engine platform/combinations will be determined at NHRA's sole and absolute discretion.

MMPS: Driver retains qualifying times and standings as posted while driving the original entered vehicle. Any number of replacement bodies may be utilized at any time during an event (including eliminations). Only one replacement chassis or vehicle may be utilized at any time during an event (including eliminations).

TAD and TAFC categories: All previous event times are voided for the vehicles and drivers involved. Changes must be made, and driver must requalify during the normal schedule, as posted for the event. No changes are permitted after qualifying has been completed. Only one replacement chassis

or vehicle may be utilized at any time during an event. If an engine platform/combination change is made the following policy will be in place:

Engine platforms/combination changes will be determined by Power Adder: Driver will retain qualifying times and standings as posted while driving the original entered vehicle IF the replacement vehicle has the same engine platform/combination. The driver WILL NOT retain qualifying times and standings as posted while driving the original entered vehicle if the replacement vehicle does not have the same engine platform/combination as the original entered vehicle. No engine platform/combination changes are permitted after qualifying has been completed. One engine platform/combination change will be allowed during the season without penalty. In addition, a contestant in TAD and TAFC may return to their original power adder at a subsequent event the contestant attends, without penalty. Engine platform/combination changes will not be allowed during an event once qualifying has started for the respective category. Additional engine platform/combination changes are allowed during the season. Twenty (20) points at the time of the change will be deducted from the competitor's total for each additional engine platform/combination change unless the driver changes teams. In the event a driver changes teams and the team changes engine platforms/combination but waives the event points, 20 points will not be deducted and the change in engine platforms/ combination will not count. Engine platform/combinations will be determined at NHRA's sole and absolute discretion.

FSS, and **FX** categories: Driver retains qualifying times and standings as posted while driving the original entered vehicle. Only one replacement chassis or vehicle may be utilized at any time during an event (including eliminations). If an engine platform/combination change is made the following policy will be in place:

Engine platforms/combination changes will be determined by Make/Model: Driver will retain qualifying times and standings as posted while driving the original entered vehicle **IF** the replacement vehicle has the same engine platform/combination. The driver **WILL NOT** retain qualifying times and standings as posted while driving the original entered vehicle if the replacement vehicle does not have the same engine platform/combination as the original entered vehicle. One engine platform/combination change will be allowed during the season without penalty. In addition, a contestant in FSS and FX may return to their original engine platform at a subsequent event the contestant attends. without penalty. Engine platform/ combination changes will not be allowed during an event qualifying and eliminations. Any E.T.'s posted will be void for lane choice or other considerations, if an engine platform/combination change takes place prior to any subsequent round of eliminations (including 1st Round). Additional engine platform/combination changes are allowed during the season. Forty (40) points at the time of the change will be deducted from the competitor's total for each additional engine platform/combination change.

Engine platform/combinations will be determined at NHRA's sole and absolute discretion.

Comp, SS, Stock, TD, and TS categories: All previous event times are voided for the vehicles and drivers involved. Changes must be made, and driver must re-qualify during the normal schedule, as posted for the event. No changes are permitted after qualifying has been completed. Teams are limited to one replacement vehicle action per event.

SC, **SG**, and **SST** categories: All previous event times are voided for the vehicles and drivers involved. Changes must be made prior to first round of eliminations. No changes are permitted after first round of eliminations has been completed. Teams are limited to one replacement vehicle action per event.

JDRL: In the NHRA Summit Racing Jr. Drag Racing League, one car may be shared by more than one driver. In such cases, it is the total responsibility of the participant to appear for races in a timely manner when called by race officials. A contestant cannot drive more than one Jr. Dragster in the same category at the same event. Each driver/car combination is considered a separate entry and any applicable fees must be paid for each entry.

The event director has the option of permitting driver or vehicle changes. Such changes must be made prior to eliminations.

- 1. All previous event times are void for vehicles and drivers involved.
- 2. Vehicle must pass a technical and safety inspection.
- Changes must be made and driver take time trials during the normal schedule, as posted, for the event. No changes are permitted once pre-event time trial or qualifying is completed.
- 4. Driver must stay within original category entered and have the proper credentials to drive the replacement vehicle.
- 5. Only one change permitted during the course of an event.
- 6. Vehicle changes for a postponed event are permitted with advance notification and approval of the event director. No such changes are allowed for races halted in progress and then completed on a subsequent date.

SECTION 4: JR. DRAG RACING LEAGUE, JR. DRAGSTER RULES AND REGULATIONS (Page 3) (03/06/2024)

The NHRA Summit Racing Jr. Drag Racing League is a multifaceted program designed to afford youth as young as 5 years old the opportunity to drive in the League and those 6 and older the opportunity to race against their peers in near replicas of the models that the Pros drive. NHRA Jr. drag racing is restricted to competition in half-scale sized dragsters and NHRA accepted roadsters over a maximum distance of an eighthmile. Competition is designed to be conducted on an e.t. dial-yourown format or a preset index on a heads-up breakout basis.

Actual class or age-group breaks may vary from track to track. Contact your local track to see if it participates in the program and if so, for information on class structure. Each track, in its discretion, may set its own age requirements for participation (for example, a track may allow only those 8 and older to participate).

Consistent with its endeavor to maintain simplicity and cost controls of the NHRA Summit Racing Jr. Drag Racing League, NHRA will continue to monitor elapsed times and speeds and may in time implement additional e.t. and speed limits.

SECTION 4: JR. DRAG RACING LEAGUE, ENGINE: 1, CAMSHAFT (Page 6) (01/23/2024)

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

SECTION 4: JR. DRAG RACING LEAGUE, ENGINE: 1, ENGINE (Page 6) (01/23/2024)

Novice, Intermediate, Advance, and Master classes restricted to a maximum of one rear-mounted — based on a five horsepower, single-cylinder, single-spark-plug, flathead-configured, four cycle engine or factory-sealed Briggs & Stratton 206 crate engine any OHV engine 212CC or smaller single cylinder— engine from a recognized OEM or NHRA-accepted aftermarket supplier. Must be NHRA accepted. NHRA accepted aftermarket block permitted. Must retain original five-horsepower engine block configuration. Porting, polishing, and relieving of block; boring of cylinder; machining of deck surface permitted. Aftermarket head permitted. Adding material to deck surface, installing a spacer between the block and cylinder head, or any other modification designed to increase the effective deck height of the cylinder prohibited. Briggs & Stratton 206 crate engine must maintain untampered hologram seal installed at the factory. No alterations or modifications to Briggs & Stratton 206 crate engine permitted except for installation of exhaust header and air filter.

JR ROADSTER: maximum engine height measured from the ground to top of cylinder head not to exceed 36"

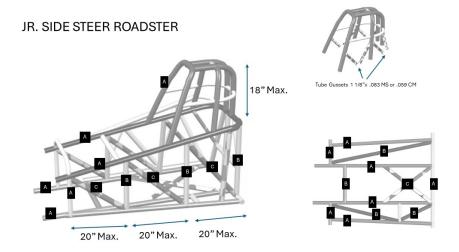
Accepted aftermarket engines for Novice, Intermediate, Advanced and Master classes: Metro Racing flathead, McGee Racing flathead, Tecumseh flathead, LPW Racing Products monster racing block, JR Race Car flathead, Pure Power Racing flathead, M-1 Machine racing block, SR71 Racing Block by Soltz Racing, Huddleston Performance Sniper, R&S Machine Terminator, TRS block, and Briggs & Stratton 206 factory-sealed engine (with a red, blue or black slide valve) any OHV engine 212CC or smaller single cylinder or an electric powered motor meeting the rules found in the Electric-Powered Jr. Dragster section of this rulebook. All accepted aftermarket flathead engines must not exceed 10 11/16

inches from base to deck. Any measurement that exceeds that limit is prohibited. See Trainee and Youth Class Designations for their engine requirements.

SECTION 4: JR. DRAG RACING LEAGUE, FRAME: 4, ROLL CAGE (Page 10) (03/06/2024)

(Paragraph 1 – The rest of ROLL CAGE rules remain the same as in the 2024 rulebook)

All new chassis must have manufacturer's name, serial number, and date of manufacture. Construction must conform to standard dragster configuration as outlined in illustration with minimum 5-point roll cage mandatory for dragsters and minimum 6-point roll cage mandatory for NHRA accepted roadsters. When driver is in driving position, roll cage must be at least 3 inches in front of helmet. Roll cage hoops, upper framerails, and lower framerails must be minimum 1 1/8-inch diameter by .083-inch wall thickness round mild steel or tubing. All side steer roadsters with 1 1/8-inch minimum diameter roll cage tubing are required (8) roll cage gussets to be installed from shoulder hoop to roll cage. Tube gussets minimum is 1 1/8-inch by .083-inch mild steel or .058 chromoly wall thickness or plate gussets of .120-inch thickness and must be a minimum of 3-inches long on the short side. Uprights must be minimum 7/8-inch by .083-inch. Diagonals must be minimum 3/4-inch by .083-inch. An upright (within 30 degrees of perpendicular to the lower framerail) is required on each side of the roll cage within six inches of the second roll-cage hoop; must be fully welded to both the upper and lower framerails. If the upright spacing at the top framerail exceeds 28 inches, then a 7/8-inch by .083-inch or 3/4-inch by .083-inch, depending on corresponding diagonal thickness, X must be used in lieu of a single diagonal. Within the driver compartment (from foot box to back of seat), the maximum distance between uprights is 20 inches. Foot box must incorporate a minimum 3/4-inch by .083-inch diagonal. Note: .058-inch chromoly may be used in place of .083-inch mild steel. Chromoly mandatory on any car running between 8.89 and 7.90.



SECTION 4: JR. DRAG RACING LEAGUE, FRAME: 4, WHEELBASE (Page 12) (03/06/2024)

Minimum wheelbase 85 inches; maximum 150 inches on long side. Maximum wheelbase variation from left to right, 2 inches. Outside rear tire to outside rear tire to outside rear tire maximum width to be 31 inches. Outside rear tire to outside rear tire maximum width not to exceed the overall width of the roadster rear wheel wells/body.

SECTION 4: JR. DRAG RACING LEAGUE, BODY: 7, BODY (Page 13) (03/06/2024)

Body and cowl must be constructed of aluminum, fiberglass, or carbon fiber and extend forward to foot-box bulkhead. Driver

compartment, frame structure, roll cage, and body must be designed to prevent driver's body or limbs from making contact

with wheels, tires, exhaust system, or track surface. Any portion of the body side panels that extend upward into the driver's line

of sight must be clear and permit an unobstructed horizontal view for a minimum of 180 degrees. Body may not cover top of engine, wheels, or tires. Front overhang not to exceed 15 inches, measured from centerline of front spindle to forwardmost point of car. Front wheel fairings and front wings that cover any part of the front wheel prohibited. Body must be NHRA accepted dragster/roadster style/design. TRD Supra roadster is approved for competition. Maximum body width not to exceed 35". Front overhang not to exceed 26 inches, measured from centerline of front spindle to forwardmost point of car. Altered, Funny Car, etc. body styles prohibited. Only OEM-style mirrors, mounted in the conventional fashion, permitted. Cover or canopy over cockpit prohibited.

CENTER STEER ROADSTER

TRD Supra Jr. roadster is approved for competition. Maximum body width not to exceed 35". Front overhang not to exceed 26 inches, measured from centerline of front spindle to forwardmost point of car. Driver compartment, frame structure, roll cage, and body must be designed to prevent driver's body or limbs from making contact with wheels, tires, exhaust system, or track surface. Any portion of the body side panels that extend upward into the driver's line of sight must be clear and permit an unobstructed horizontal view for a minimum of 180 degrees. Body may not cover top of engine, wheels, or tires. Only NHRA accepted body styles permitted Only OEM-style mirrors, mounted in the conventional fashion. permitted. Cover or canopy over cockpit prohibited. Outside rear tire to outside rear tire minimum width to be 31 inches. Outside rear tire to outside rear tire maximum width not to exceed the overall width of the TRD Supra roadster rear wheel wells/body. All center steer roadster roll cage and chassis construction must meet the minimum requirements for JR, chassis as listed in the Jr. Drag Racing League rules section of the NHRA rulebook. Roll cage height may not exceed 18 inches as measured from the top of shoulder hoop the top of the roll cage. The driver's area must have full floor constructed from .024 steel, .032

aluminum or carbon fiber and extend from the driver's seat to the bulkhead. Left and right-side vertical intrusion panels mandatory for the length of the driver's compartment constructed from .024 steel, .032 aluminum or carbon fiber. Primary support of rear axle mandatory. Secondary axle support must be within 12 inches of rear wheel hubs. Secondary axle support may not be required if primary support is within 12 inches of rear wheel hubs.

SIDE STEER ROADSTER

The Next Level C7 Corvette Jr. roadster is approved for competition. Maximum body width not to exceed 50". Front overhang not to exceed 26 inches, measured from centerline of front spindle to forwardmost point of car. Driver compartment, frame structure, roll cage, and body must be designed to prevent driver's body or limbs from making contact with wheels, tires, exhaust system, or track surface. Any portion of the body side panels that extend upward into the driver's line of sight must be clear and permit an unobstructed horizontal view for a minimum of 180 degrees. Body may not cover top of engine, wheels, or tires. Only NHRA accepted body styles permitted. Only OEM-style mirrors, mounted in the conventional fashion, permitted. Cover or canopy over cockpit prohibited. Minimum front tire track width 36 inches. Outside rear tire to outside rear tire minimum width 44 inches. Outside rear tire to outside rear tire maximum width not to exceed the overall width of the NHRA accepted C7 roadster rear wheel wells/body. All side steer roadster roll cage and chassis construction must meet the minimum requirements for JR, chassis as listed in the Jr, Drag Racing League rules section of the NHRA rulebook. Roll cage height may not exceed 18 inches as measured from the top of shoulder hoop to the top of the roll cage. The driver's area must have full floor constructed from .024 steel. .032 aluminum or carbon fiber and extend from the driver's seat to the bulkhead. Left and right-side vertical intrusion panels mandatory for the length of the driver's compartment constructed from .024 steel, .032 aluminum or carbon fiber. Primary support of rear axle mandatory. Secondary axle support must be within 12 inches of rear wheel hubs. Secondary axle support may not be required if primary support is within 12 inches of rear wheel hubs.

SECTION 4: JR. DRAG RACING LEAGUE, ELECTRIC-POWERED JR. DRAGSTER (Page 20) (01/19/2024) (03/06/2024)

Electric-Powered Jr. Dragster

Requirements and specifications for electric-powered Jr. Dragster vehicles are the same as those for the NHRA Summit Racing Jr. Drag Racing League with the following exceptions:

DESIGNATIONS

EPJD, preceded by competition number.

Competition is designed to be conducted on an e.t. dial-your-own format or a preset index on a heads-up breakout basis. Actual class or age-group breaks may vary from track to track. Contact your local track for information on class structure.

REQUIREMENTS & SPECIFICATIONS

A list of all electrical components along with their specification information utilized in the build of car must be kept and available to a tech inspector upon request. This documentation must contain documentation from the battery cell/pack producer specifying relevant safety data. A contingency plan must also be provided describing how to handle the battery pack in case of overheating and/or crash.-This documentation must include:

- Weight of battery pack and hold down bolt specifications
- Logbook documenting number of runs on battery system. dates, and times of each battery charging/balancing event along with high low and average voltage including cell number.
- Pictures of HV terminals under and around the car showing insulation
- Fuses used and blow curve chart (provided by fuse manufacturer or vehicle builder)

MOTOR: 1

MOTOR

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

FRAME: 4

DEFLECTOR PLATE

A deflector plate of minimum .125-inch steel must be installed between roll cage and battery pack extending from lower frame rail to the top of driver's helmet. Portion between lower and upper shoulder hoop must extend and attach to the body panel. Two-piece plate permitted with no gaps. Portion between shoulder hoop and top of helmet must be minimum 7 inches wide, may be narrowed or rounded above the helmet. Two-piece plate permitted with no air gap between the two. Carbon fiber, titanium and all other materials prohibited. IF using the .125-inch steel plate forward of the battery per the mounting requirements in the "Battery mounting section" The standard .0625-inch deflector plate can be used.

WEIGHT

Minimum weight less driver 225 pounds; weight greater than 400 pounds less driver with all batteries requires SFI chassis specification 2.7.

ELECTRICAL: 8

ONBOARD BATTERY MANAGEMENT SYSTEM (BMS) MANDATORY

Beginning July 1, 2024, The BMS system will become mandatory and the below listed functions must be incorporated in the BMS system. BMS is a battery management system connected to the battery cells and provides automatic charging and discharging control to maintain the battery system within the battery manufactures specifications. The onboard BMS system must at least be able to enable and disabling charging based on the battery manufacturers' specifications while monitoring the individual or parallel cell groups. It must also have the capability of derating or disabling vehicle based on pack voltage limit by either BMS and/or controller. The BMS must also have the proper pack and cell high/low voltage settings programmed per the battery manufacturer's specifications. BMS system must have the ability to balance individual cells.

There are 6 basic functions the BMS must be capable of doing:

- 1. Monitor individual cells or parallel cell group voltage.
- 2. Balance individual cells or parallel cell groups.
- 3. Control charger function, on/off.
- 4. Control load (motor) function, on/off.
- 5. <u>Control indicator light function, green for able to run/charge, good; red for stop functions, bad.</u>
- 6. Be pre-programmed and "locked out" of end user adjustability.

NHRA (National Hot Rod Association) approved vendors

www.Mleracecars.com for BMS part number BMSBasic
www.orionbms.com www.lonestarevperformance.com/ for BMS part number
Orion BMS 2

All potential vendors are encouraged to submit their BMS system to NHRA technical department for consideration.

BATTERY MOUNTING

All HV batteries must be securely mounted outside of and completely sealed from the driver compartment and located in a battery containment box. Batteries must be installed 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 appropriate for the size and weight of the battery (see chart). Battery containment box must be securely mounted between frame rails or enclosed in chromoly round tube frame minimum 1 1/8 x .058 chromoly tubing or if mounting battery on the rear behind the axle of the dragster it must be in a steel containment box constructed of .040-inch steel. Rear mounted battery box horizontal midline cannot be higher than the rear tires and must be centered directly behind the rear tires. Battery containment box must be constructed of Lexan (min. .120 inch) or aluminum (min. .050 inch) with a nonmetallic insulation lining or; steel (min .040") with a nonmetallic insulation lining. Bottom and sides battery containment box must be solid. If battery is

mounted directly behind driver, the forward side of the battery, facing the driver area, must be shielded with a steel plate (min. .125" inch) and must extend the entire inside width of the frame rails or minimum 1" beyond the width of the battery box. Be positioned no further than 1 inch forward of the battery and be tall enough to extend from the base of the battery box to at least 6 inches above the top of the battery. The battery box top must contain water access holes covering at least 25% of the surface area.

BATTERIES

Beginning January 1, 2024, all new and reconditioned batteries must have an inspection date (original date of manufacturer and/or inspection date) stamped on the battery by the inspecting manufacturer. The Battery may be comprised of one or more Battery Packs connected together with suitably protected cables/connectors/fuses between the packs. A battery pack may be comprised of multiple Battery Cells connected in series and parallel to form the total battery voltage and amperage required. Battery cells must be starved electrolyte having little to no free liquids in them whether they are Lead/Acid, Lithium Ion, or NiCad. No solid lithium metal battery cells permitted. The battery cell manufacturers maximum charged voltage and minimum sag voltage ratings must be kept in the vehicle logbook for reference. Mounting: Each battery pack must be secured with bolts and/or straps commensurate with its size and weight and installed to withstand a force four times (vertical) and eight times (horizontal) the battery pack's weight. (Contact NHRA for requirements) Battery packs may not be located directly above the top of rear or drive tires in open wheeled cars.

BATTERY CHARGING

Batteries may be recharged in pits or other designated areas only. Batteries must be charged outside of trailers or enclosed areas and must not be left unattended during the charging process. Batteries must be charged utilizing either the original unaltered OEM Charger, or an unaltered commercially available charging system, that will watch individual cell levels and have redundant ways to shut off the charging system in case of an overcharged condition. All battery cells should be balanced prior to charging. All battery chargers must be equipped with an output fuse rated above the maximum charger voltage capability and at least 125 percent of maximum charger DC output. Charging systems must connect earth ground potential to vehicle ground. The BMS system must be utilized during all system charging events. Cars must not be stored, during an event, at top of charge.

	ttery on Flat Surfac		
Bolt Size	Grade 1 Battery	Grade 5 Battery	Grade 8 Battery
#8		16	22
#10		20	28
1/4	14	36	50
5/16	23	58	82
3/8	34	86	121
7/16	46	117	166
1/2	61	157	222
9/16	78	201	284
5/8	97	250	353
	Battery in Rac	k or Box-Mounted	
Bolt Size	Grade 1 Battery	Grade 5 Battery	Grade 8 Battery
#8	15	39	55
#10	19	49	69
1/4	35	88	124
5/16	57	145	205
3/8	83	214	302
7/16	114	293	413
1/2	152	392	553
9/16	195	503	710
5/8	243	624	881

FUSING OF BATTERIES

All battery packs must have over-current protection. Circuit breaker(s) or fuse(s) permitted. Such protection devices must have a DC voltage rating equal to or greater than nominal pack voltage. The current rating must be lower than master disconnect contactor, cabling, and battery pack can carry without damage. Each battery pack must be individually fused and located on or in the battery pack. Fuses must not be wired in parallel. Fuses must be properly rated for application. Drive system (motor controller/inverter) must be fused either before or after the main contactor.

IGNITION

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

READY LIGHT AND HIGH VOLTAGE INDICATOR LIGHTS:

Mandatory – all cars must have an LED or LED's that can illuminate red/green. The red/green LED light must also be affixed to top of the roll cage. Green/Red light must be functional during charging, balancing, and driving. The light(s) must illuminate GREEN in color if BMS system is active and all systems are functioning properly (SAFE). The LED(s) light must illuminate RED in color if the IMD or any other monitoring system has triggered a fault (DANGER). Safety Indicator lights must remain illuminated after Master Cutoff Switch has been pushed off. A minimum of 1/2" LED required. LED lighting must be clearly visible at a minimum of 100 feet from vehicle in direct sunlight.

MASTER CUTOFF SWITCH

All vehicles must incorporate a master electrical disconnect switch that will disengage the contactor on the high voltage system, disabling the high voltage

for the drive system. The low voltage system must, at a minimum, continue to illuminate the high voltage safety indicator lights, BMS, VCU and IMD (if installed). Master Cutoff Switch must be on the deflector plate no more than three inches from the roll cage's top. Must be clearly labeled as to "off" position.

IMD

An IMD (Insulation Monitoring Device) is suggested. The IMD monitors the chassis for high voltage shorting. The IMD may be stand alone or part of the electronic subsystem. The IMD must be capable of commanding, either directly or indirectly through the Vehicle Control Unit (VCU) or other computer systems, the vehicle status lights to turn red if high voltage is present on the chassis. The IMD must stay powered even when the Master Battery Disconnect is deactivated (pushed off) to alert track officials of a potential high voltage short on the vehicle. The owner/driver is responsible for understanding the IMD system and for testing and demonstrating its functionality upon request.

VOLTAGE

Maximum permitted design voltage 144 Vdc nominal. Voltage verified through readings or display of BMS. Maximum fully charged battery-pack voltage of 150 Vdc.

CABLE TERMINATIONS and TERMINALS

- All areas of the driver's compartment from the deflector plate to the end of the pedal box area must be free of any high voltage wiring to provide safety personnel with a safe area to cut around the driver in the event of an accident.
- <u>Electrical cables and electrical equipment must be protected against mechanical failure, etc.).</u>
- Cables, connectors, and wiring utilized in the HV system must have an insulation rating at or above the maximum fully charged voltage of the HV battery system being used.
- All cable terminations and splices must be properly terminated and covered with insulation at least equal to that of the maximum fully charged voltage of the HV battery system being used to protect against accidental contact.
- · All traction wiring must be isolated from vehicle chassis.

SECTION 5H: ELECTRIC-POWERED VEHICLE, BODY: 7, TOW-STRAP HOOPS (Page 31) (03/20/2024)

All cars must have <u>permanently attached</u> 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 or stressing the body when the car is being towed. Hoops must be clearly marked on the body with an arrow pointing down.

SECTION 5H: ELECTRIC-POWERED VEHICLE, ELECTRICAL: 8, HIGH VOLTAGE (Page 32) (03/20/2024)

EV systems will fall into one of two categories up to 600V or 601V – 1000V max. All vehicles with a voltage rating up to 600V must utilize components rated at a minimum of 600V above the maximum pack voltage. Vehicles with a voltage rating between 601V through a 1000V must utilize components rated at a minimum of 1000V.

SECTION 5H: ELECTRIC-POWERED VEHICLE, ELECTRICAL: 8, BATTERY CONTAINER DIMENSIONS (Page 34) (01/30/2024)(03/20/2024)

- Original OEM Battery packs/boxes may be used if unaltered and utilizing original OEM battery pack/box components
- Purpose build battery box(es) dimensions must each be less than 5 cubic feet (8,640 cubic inches) in size.

ALL VEHICLES (WITH EXCEPTION OF DRAGSTERS AND OPENED BODIED VEHICLES)

- All battery cells must be completely sealed and isolated from the drivers compartment in a solid vented battery container.
- Battery container construction requirements
 - Must be made of Lexan (min .120") or; aluminum (min.032") with a nonmetallic insulation lining or steel (.024-inch) with a nonmetallic insulation lining
 - Water Access
 - Each sealed battery container must contain a water inlet attached at to the top of the container. Water inlets must be and located at on both the drivers and passenger side of the vehicle. The sealed box must also contain a water outlet ted on the which must be vented to the bottom or rear of the vehicle. Each water inlet and the water outlet must utilize the Pyrotech billet flapper valve part number FV350 (https://www.pyrotectstore.com) or an NHRA Accepted valve.
- Ventilation
 - All battery packs whether they are located underneath the floor, in front
 of the front firewall or behind a rear firewall must be vented from the top
 of the battery pack and vented to the bottom and outside of the vehicle
 away from the drivers compartment and rescue access.
 - All sealed boxes must be vented to the bottom or rear of the vehicle, must not be vented to either the driver or passenger side of the vehicle.
 - Ventilation tube must be a minimum of 2"diameter.
 - Vent must contain a one-way pressure relief valve or flap with a minimum opening size of 2".

DRAGSTERS/OPEN BODIED VEHICLES

• Batteries must be located behind the driver's compartment

- Driver deflector plate must be installed between driver and battery pack(s).
 See deflector plate under Frame:4
- Battery container construction requirements
 - Must be mounted between framerails and enclosed in a round tube frame, minimum 1 1/4-inch O.D. x .065-inch chromoly tubing
 - Must be made of Lexan (min .120") or; aluminum (min.032") with a nonmetallic insulation lining or steel (.024-inch) with a nonmetallic insulation lining
 - Bottom and sides must be solid
 - Top cover must contain water access holes covering approximately 30% of the surface area.

SECTION 5H: ELECTRIC-POWERED VEHICLE, ELECTRICAL: 8, BATTERY CHARGING (Page 35) (03/20/2024)

Batteries may be recharged in pits or other designated areas only. Batteries must be charged utilizing either the original unaltered OEM Charger, or an unaltered commercially available charging system, that will watch individual cell levels and have redundant ways to shut off the charging system in case of an overcharged condition. All battery chargers must be equipped with an output fuse rated above the maximum charger voltage capability and at least 125 percent of maximum charger DC output. Charging systems must connect earth ground potential to vehicle ground. The BMS system must be utilized during all system charging events. Cars must should not be stored, during an event, for extended periods of time at top of charge.

SECTION 5H: ELECTRIC-POWERED VEHICLE, DRIVER: 10, NECK COLLAR (Page 38) (03/20/2024)

Neck collar meeting SFI Spec 3.3 mandatory in all cars running 9.99 (*6.39) or quicker or cars exceeding 135 mph. A head and neck restraint device/system may be used in lieu of a neck collar. See General Regulations 10:8.

If SFI Spec 3.3 neck collar is required and driver opts to use head and neck restraint system instead, then SFI Spec 3.3 head sock or SFI Spec 3.3 skirted helmet mandatory.

Beginning January 1st, 2024, A head and neck restraint device/system meeting SFI 38.1 is mandatory for any vehicle running 150 mph or faster for 1/4 or 1/8 mile or running 7.49 (*4.49) E.T. or quicker or by Class Requirements. An SFI 38.1 head and neck restraint device can be used with, or without, a neck collar; when a neck collar is not used, an SFI 3.3 head sock or SFI Spec 3.3 skirted helmet is required.

SECTION 6: NHRA PRO MOD, DESIGNATIONS (Page 1) (12/22/2023)(01/23/2024)<mark>(03/06/2024)</mark>

PM, preceded by car number. Classes of competition within Pro Modified are for supercharged, methanol-burning, turbocharged methanol or gasoline-burning, or nitrous-assisted, gasoline-burning full-bodied cars.

Minimum weight at the conclusion of run, including driver:

Nitrous-assisted entries (910 cid) - 2,515 pounds
Nitrous-assisted entries (960 cid) - 2,565 pounds
Nitrous-assisted entries (961 cid and larger) - 2,615
Roots supercharged entries (526 cid) - 2,635 pounds
Centrifugal supercharged entries (526 cid) - 2,740 pounds
Screw Supercharged entries (526 cid) - 2,640 pounds
Turbocharged entries (526 cid) - 2,590 pounds

Nostalgia body styles (1937–1938 Chevy, 1941 Willys, 1949–50 Mercury, 1953 Studebaker, 1953–1962 Corvette, 1955–1957 Chevy and Buick and 1968–1972 Chevelle) may deduct 50 pounds from minimum weight.

Nostalgia body styles (1959 and older) may deduct 75 pounds from minimum weight. Nostalgia body styles (1969 1960-2000) may deduct 50 pounds from minimum weight. (1968-1972) Chevelle may deduct 30 pounds. (1967-1969) Firebird or Camaro may deduct 15 pounds.

NHRA reserves the right to amend rules as performance dictates. Any competitor who causes an oildown while participating at an NHRA Mission Foods event will be subject to fines and penalties as outlined in Section 2 – Oildown Penalties.

SECTION 6: NHRA PRO MOD, ENGINE: 1, CYLINDER HEADS (Page 2) (01/23/2024)

Hemi, canted-valve, or wedge heads permitted. Billet heads permitted. Maximum one spark plug per cylinder. Maximum two valves per cylinder. Supercharged valve sizes greater than: intake 2.400 inches; exhaust 1.900 inches, add 25 pounds. Turbocharged valve sizes greater than: intake 2.450 inches; exhaust 1.900 inches, add 25 pounds. Excluding Nitrous, any valve size greater than 2.521 add an additional 15 pounds for a total of 40 pounds added to combination weight. Supercharged intake valve sizes 2.400 to 2.521 add 25 lbs. Valve sizes greater than 2.521 add 40 lbs. Turbocharged intake valve sizes 2.450 to 2.521 add 25 lbs. Valve sizes greater than 2.521 add 40 lbs.

SECTION 11B: NHRA FACTORY STOCK SHOWDOWN, DESIGNATIONS (Page 15) (12/22/2023)(01/23/2024)

Designation: FSS

Reserved for 2008 and newer Chevrolet COPO, Dodge Drag Pak, and Ford Cobra Jet with the following factory production engine of the same make. Year of engine optional. Only those engines and/or bodies listed in this section are eligible for the NHRA Factory Stock Showdown.

Minimum weight for all pre-2019 Chevrolet COPO and Ford Cobra Jet combinations 3,450 pounds except for all Ford Cobra Jet combinations with 2.3L Eaton superchargers 3,275 pounds.

Minimum weight for the 2015 Drag Pak combination 3,500 pounds.

Minimum weight for 2021 Drag Pak combinations 3,525 pounds.

Minimum weight for 2019, 2020, 2022 and 2023 Chevrolet COPO combinations 3,550 3,525 pounds.

Minimum weight for the 2019 Ford Cobra Jet combinations 3525 pounds.

Maximum weight on all combinations 3,600 pounds.

Note: NHRA may make adjustments to (minimum weights, supercharger pulley ratios, etc.) at any time to control performance and maintain parity within the category.

Permitted Combinations:

All previously approved NHRA Factory Stock Showdown bodies are eligible to be used with the approved engine combinations listed below. Engine must be same make as body.

2017-2018 Camaro COPO 350

• 590 HP Supercharged 2.9L Whipple

2019, 2020, 2022-2023 Camaro COPO 350

- 630 HP Supercharged 2.65L Magnuson
 - Upper supercharger pulley size: (3.375)(3.625) inches
 - Supercharger rear jack shaft cog pulley 32 teeth
 - Supercharger rear cog pulley 34 teeth

2020 Camaro COPO 350

- 630 HP Supercharged 2.65L Magnuson
 - Upper supercharger pulley size: (3.375) inches
 - Supercharger rear jack shaft cog pulley 32 teeth
 - Supercharger rear cog pulley 34 teeth

2022-2023 Camaro COPO 350

- 630 HP Supercharged 2.65L Magnuson
 - Upper supercharger pulley size: (3.375) inches
 - Supercharger rear jack shaft cog pulley 32 teeth
 - Supercharger rear cog pulley 34 teeth

2015 Challenger Drag Pak 354

- 540 HP Supercharged 2.9L Whipple
 - Upper supercharger pulley size: (3.000) inches

2021 Challenger Drag Pak 354

- 630 HP Supercharged 3.0L Whipple
 - Upper supercharger pulley size: (3.750) inches
 - Lower engine pulley (8.000) inches

2010 Mustang Cobra Jet 330

• 435 HP Supercharged 2.3L Eaton

2012 Mustang Cobra Jet 330

450 HP Supercharged 2.3L Eaton

2016 Mustang Cobra Jet 302

• 575 HP Supercharged 2.9L Whipple

2019 Mustang Cobra Jet 327

- 610 HP Supercharged 3.0L Whipple
 - Upper supercharger pulley size: (3.500)(3.750) inches
 - Upper supercharger pulley size with iron block: (3.750)(3.875) inches
 - Lower engine pulley 6.938 inches

2019 Mustang Cobra Jet 351

- 570 HP Supercharged Whipple
- Upper supercharger pulley size: (3.500) inches

SECTION 13A: COMP, GAS DRAGSTER, CLASSES (Page 6) (12/20/2023)

- A/D: 3.40 to 3.99 pounds per cubic inch; 1,350-pound minimum; V-8 only
- A/DA: 3.40 to 3.99 pounds per cubic inch; 1,350-pound minimum; V-8 only, automatic transmission with converter only
- B/D: 4.00 to 4.49 pounds per cubic inch; 1,350-pound minimum; V-8 only
- B/DA: 4.00 to 4.99 pounds per cubic inch; 1,350-pound minimum; V-8 only, automatic transmission with converter only
- C/D: 4.50 or more pounds per cubic inch, with true wedge cylinder heads (with inline and parallel valves) only; 1,350-pound minimum; V-8 only
- C/DA: 4.50 or more pounds per cubic inch, with true wedge cylinder heads (with inline and parallel valves) only; 1,350-pound minimum; V-8 only, automatic transmission with converter only

- D/D: 5.00 or more pounds per cubic inch; V-6, V-4 engines only; 1,000-pound minimum
- D/DA: 5.00 or more pounds per cubic inch; 1,000-pound minimum; V-6, V-4 engines only, automatic transmission with converter only
- E/D: 4.50 or more pounds per cubic inch; inline or opposed 5- or 6-cylinder engines 4.40 or more pounds per cubic inch; inline or opposed 5- or 6-cylinder engines with stock production heads
- E/DA: 4.50 or more pounds per cubic inch; inline or opposed 5- or 6-cylinder engines, automatic transmission with converter only 4.40 or more pounds per cubic inch; inline or opposed 5- or 6-cylinder engines with stock production heads, automatic transmission with converter only
- F/D: 7.00 or more pounds per cubic inch; inline 4-cylinder,

2-valve engines only

7.50 or more pounds per cubic inch; for inline 4-valve,

4-cylinder engines only; 850-pound minimum

- F/DA: 7.00 or more pounds per cubic inch; inline 4-cylinder, 2-valve engines only, automatic transmission with converter only
 - 7.50 or more pounds per cubic inch; for inline 4-valve, 4-cylinder engines only, automatic transmission with converter only; 850-pound minimum
- G/D: 8.40 or more pounds per cubic inch; opposed 4-cylinder engines only, 155-cubic-inch maximum as produced; 850-pound minimum
- G/DA: 8.40 or more pounds per cubic inch; opposed 4-cylinder engines only, 155-cubic-inch maximum as produced; automatic transmission with converter only; 850-pound minimum
- H/D: 9.80 or more pounds per cubic inch; 1,800-pound minimum; turbocharged 6- or 8-cylinder, 2- and 4-valve engines only
- I/D: 11.50 or more pounds per cubic inch; 1,500-pound minimum; turbocharged, 4-cylinder, 2- and 4-valve engines only
- J/D: 5.50 or more pounds per cubic inch; inline or opposed 5or 6- cylinder, 4-valve engines only
- J/DA: 5.50 or more pounds per cubic inch; inline or opposed 5- or 6-cylinder, 4-valve engines only; automatic transmission with converter only
- K/D: 4.50 or more pounds per cubic inch; inline or opposed 5or 6-cylinder engines with with OEM generally available cylinder heads only 4.40 or more pounds per cubic inch; inline or opposed 5- or 6-cylinder engines with stock

production heads

K/DA: 4.50 or more pounds per cubic inch; inline or opposed 5- or 6-cylinder engines, with OEM generally available cylinder heads only, automatic transmission with converter only 4.40 or more pounds per cubic inch; inline or opposed 5- or 6-cylinder engines with stock production heads, automatic transmission with converter only.

L/D: 7.50 or more pounds per cubic inch; inline 4-cylinder, 4-valve engines only; 850-pound minimum

L/DA: 7.50 or more pounds per cubic inch; inline 4-cylinder, 4-valve engines only, automatic transmission with converter only; 850-pound minimum

SECTION 13J: FSS/SM (FACTORY STOCK SHOWDOWN CARS), DESIGNATIONS (Page 45) (03/20/2024)

FS/SM (Factory Stock Showdown Cars: FSS) Minimum weight 3575. All rules for FSS will apply. In addition, competitors will need to acquire a Competition eliminator license. All Comp race procedures will apply. FSS/SM not eligible for records, records must be set in Stock or Super Stock.

SECTION 13K: HOLLEY EFI FACTORY X, DESIGNATIONS (Page 45) (12/22/2023)

FX preceded by car number.

Reserved for Late Model Manufactured Automobiles with Factory production engine of the same make. Manufacturer engines and bodies not listed in this section may be submitted for acceptance in Factory X. Currently Accepted makes/models:

Chevrolet 2016 & up (6th Gen Camaro – COPO) – minimum weight 2,650 lbs.

Chevrolet 2014 - 2019 (Corvette) - minimum weight 2,650 lbs. Dodge 2015 & up (Challenger – Drag Pak) – minimum weight 2,650 lbs. Ford 2015 & up (Mustang – Cobra Jet) – minimum weight 2,650 lbs.

All minimum weights listed above include driver.

Note: NHRA may adjust (minimum weights, supercharger pulley ratios, etc.) at any time to control performance and maintain parity within the category.

Currently Accepted Combinations:

All accepted FACTORY X bodies are eligible to be used with the accepted engine combinations listed below. Engine must be same make as body.

2020 Camaro COPO 350

- 630 HP Supercharged 2.65L Magnuson
- Upper supercharger pulley size: (3.125)(3.375) inches
- Supercharger rear jack shaft cog pulley 32 teeth
- Supercharger rear cog pulley 34 teeth
- · Lower Engine Pulley (8.000) inches

2021 Challenger Drag Pak 354

- 630 HP Supercharged 3.0L Whipple
- Upper supercharger pulley size: (3.375)(3.500) inches
- Lower Engine Pulley (8.000) inches

2019 Mustang Cobra Jet 327

- 610 HP Supercharged 3.0L Whipple
- Upper supercharger pulley size: (3.750 Iron Block) (3.500 Alum Block) inches
- Lower engine pulley 6.938 inches.

Body, drivetrain, chassis, etc. may not be altered, modified, or relocated, except as outlined in Requirements & Specifications.

Minimum weight on the rear axle at conclusion of run: 1,300 pounds, including driver. Once an engine is used in a vehicle at an event, that engine cannot be used in another vehicle for the duration of the event. Engine shall consist of short block and heads which must be serialized or otherwise identified at each event.

SECTION 16: PRO STOCK MOTORCYCLE, ENGINE: 1, ELECTRONIC FUEL INJECTION SECTION (Page 2) (03/06/2024)

Electronic fuel injection permitted. All electronic-fuel-injection systems must be NHRA-accepted. Beginning April 26th, 2024 EFI entries must have an NHRA-accepted ECU, software, and firmware. Only one fuel injector allowed per each cylinder. All inputs/outputs, sensors, transducers, and wiring related to the fuel-injection system and ignition system must be NHRA-accepted and used in an unaltered manner. Contact the NHRA Technical Department for an approved list of sensors, inputs/outputs, and wiring. A current list of NHRA-accepted electronic-fuel-injection systems, firmware, and additional system clarification is available on NHRARacer.com.

SECTION 16: PRO STOCK MOTORCYCLE, RIDER: 10, PROTECTIVE EQUIPMENT (Page 6) (12/20/2023)

Beginning March 1st, 2024, full all-leathers or non-leather suits meeting SFI Spec 40.1/2 mandatory. leather boots that completely cover the ankle, and leather gloves are mandatory. Minimum leather suit thickness: 3oz. An additional layer of protection, consisting of a second layer of leather, separated by a layer of Kevlar (totaling 2 layers of leather and 1 layer of Kevlar) is mandatory in the following

areas: Shoulders, Elbows, Forearms, Hips, Butt, and Knees. CE Level 2-certified back protector mandatory. Leather riding boots mandatory. Boots must be a minimum of 7in tall, measured at the heel from the ground. Boots must have additional protection made of hard composite, plastic, or steel in the following areas: Toe Box, Forefoot area, and Ankle area. Sole of boots must be sewn on. Gloves Leather gloves are mandatory and must be Kevlar-lined or equipped with slide buttons. Suits may be one-piece design or joined with a metal 360-degree zipper at the waist. Beginning January 1st, 2024, all-leathers must have the manufactured date sewn into the suit, and will have an expiration period of 5 years, including the year on the tag. All jewelry prohibited, with the exception of a high temperature rated silicone wedding band. See General Regulations 10:10.

SECTION 18: FUNNY CAR, DRIVER: 10, FRESH AIR SYSTEM (Page 12) (01/23/2024)

A 3000 PSI, 112 cubic inches minimum capacity fresh air breathing system mandatory. Fresh air breathing system of at least 3000PSI, 112 cubic inch capacity required. System must be manufactured and installed by the original helmet manufacturer or with written authorization of the original helmet manufacturer. Helmet must meet applicable FIA, SFI and/or Snell specs with fresh air system installed. Compressed air only. Air must be supplied by constant pressure. Bottle must meet and be engraved as meeting, DOT-1800 pound minimum Spec. Bottle must be securely mounted (hose clamps and/or tie wraps prohibited). See General Regulations 9:8.

SECTION 19: TOP FUEL DRAGSTER, FRAME: 4, BALLAST (Page 7) (03/06/2024)

Permitted. Stackable or one-piece weight in front wing tube must be threaded and/or securely fastened to the tow point or front wing tube structure. When fastened to the tow point, the tow point must incorporate a cam-lock with 2 set screws securing the tow point to the front wing tube assembly. Unsecured ballast in the front wing tube is prohibited. Other means of ballast must be secured with minimum of two 1/2-inch or four 3/8-inch Grade 8 fasteners per 100 pounds and or be NHRA-accepted. See General Regulations 4:2.

SECTION 19: TOP FUEL DRAGSTER, DRIVER: 10, FRESH AIR SYSTEM (Page 15) (01/23/2024)

A 3000 PSI, 112 cubic inches minimum capacity fresh air breathing system mandatory. Fresh air breathing system of at least 3000PSI, 112 cubic inch capacity required. System must be manufactured and installed by the original helmet manufacturer or with written authorization of the original helmet manufacturer. Helmet must meet applicable FIA, SFI and/or Snell specs with fresh air system installed. Compressed air only. Air must be supplied by constant

pressure. Bottle must meet and be engraved as meeting, DOT-1800 pound minimum Spec. Bottle must be securely mounted (hose clamps and/or tie wraps prohibited). See General Regulations 9:8.

SECTION 21: GENERAL REGULATIONS, BRAKES & SUSPENSION: 3, BRAKES (Page 17) (03/06/2024)

Brakes on each car, regardless of class, must be in good working order with twowheel hydraulic brakes on rear wheels as a minimum requirement. Four-wheel hydraulic brakes are recommended, or as specified under Class Requirements. Lightening of backing plates, brake drums, and/or brake shoes/pads by cutting or trimming metal or friction material prohibited. Cooling or lightening holes may not be drilled in cast iron disc brake rotors. Aluminum rotors prohibited. If hand brake is used, brake handle must be inside car body or driver compartment. Brake lines must be steel, stainless steel, nickel-copper, or steel braided, or DOT-approved flexible. And May be routed outside inside the framerall frame rail or enclosed in a 16-inch length of 1/8-inch minimum wall thickness steel tubing securely mounted where line(s) pass the flywheel bellhousing area and not routed in the driveline tunnel. All brake lines must be attached to chassis as per OEM style; hoses must have mounting brackets; no tie wraps, tape, etc. All brake lines on any rear-engine car must be protected inside of tubing or be braided steel construction where they pass the engine. All pedals must be covered with nonskid material. Secondary braking systems are permitted. NHRA-accepted hand controls for the physically challenged permitted. Automated braking systems prohibited; application and release of brakes must be a direct function of the driver; electronics, pneumatics, or any other device may in no way affect or assist brake operation. NHRA-accepted mechanical ABS systems permitted in all classes; contact NHRA Technical Department headquarters. If brake system includes a differential pressure switch, line-loc installed on front brakes must have solenoid installed after the differential switch. All line-locs (electric or hydraulic) must be self-returning to normal brake operating mode.

SECTION 21: GENERAL REGULATIONS, DRIVER: 10, NECK COLLAR/HEAD AND NECK RESTRAINT DEVICE/SYSTEM (Page 46) (03/20/2024)

Neck collar must be commercially produced and designed for racing. Two different types of collars are commercially available: a full 360-degree "donut" type or a pull-together "horseshoe" type. Modification according to manufacturer's recommendations to fit helmet and driver's neck/shoulder spacing permitted. Must be worn as per manufacturer's recommendations. Must meet SFI Spec 3.3 as per class rules.

Neck collar meeting SFI Spec 3.3 mandatory in all open bodied cars and any car running 9.99 (*6.39) or quicker or cars exceeding 135 mph. A head and neck restraint device/ system may be used in lieu of a neck collar.

A head and neck restraint device/system meeting SFI 38.1 is mandatory for any vehicle running 200 mph or faster or running 7.49 (*4.49) or quicker or by Class Requirements.

Beginning January 1st, 2024, A head and neck restraint device/system meeting SFI 38.1 is mandatory for any vehicle running 150 mph or faster for 1/4 or 1/8 mile or running 7.49 (*4.49) E.T. or quicker or by Class Requirements. An SFI 38.1 head and neck restraint device can be used with, or without, a neck collar; when a neck collar is not used, an SFI 3.3 head sock or SFI Spec 3.3 skirted helmet is required.

When using a 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 the 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.

A head and neck restraint device/system may be used with or without a neck collar