



500 INCH PRO STOCK

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Class Prefix: Use "PRO" preceded by car number.

Vehicle Eligibility:

- Reserved for 2009 or later IHRA-accepted 2-door or 4-door coupe or sedan (domestic or foreign) production vehicles.

Engine/Body Flexibility:

- Any currently IHRA-approved engine may be used in any currently IHRA-approved body, regardless of manufacturer.

Modification Limits:

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

Minimum Weight Requirements (at conclusion of run):

- Total: 2,350 pounds (including driver).
- Rear axle: 1,100 pounds (including driver).

Engine Usage Rule:

- Once an engine is used in a vehicle at an event, it may not be reused in another vehicle during the same event.
- Engine includes short block and heads and must be serialized or otherwise identified at each event.

Cylinder Heads

- Hemi, canted-valve, or wedge cast heads permitted.
- Aftermarket heads allowed if OEM-approved and accepted by IHRA.
- Approved cylinder heads:
 - Hemi: P4876833, P5155936, P5153447
 - DRCE: 22530959 (I), 24502585 (II), 25534404 (III), 25534404F (IV)
 - Ford: M-6049-E460, M-6010-JC50, M-6010-JC51
- Post-2/1/1991 cast heads must include OEM part number and logo.

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- Any valve configuration and size permitted.
- Stock valve cover mounting surface and head height required.
- Raised ports allowed; port plates permitted (max 1.5" wide, not recessed deeper than width).
- Plates allowed on either intake or exhaust side, not both.
- Max 2 valves and 1 spark plug per cylinder.

Electronic Fuel Injection

- Must comply with IHRA Pro Stock EFI requirements.

Engine

- Internal combustion, naturally aspirated, single camshaft, 90° V8 (45° bank angle from centerline).
- Max displacement: 500 cid.
- Aftermarket blocks allowed with OEM approval and IHRA acceptance.
- Accepted blocks:
 - Hemi: P4876887, P5153454
 - DRCE: 24502572 (I), 25534402 (III)
 - Ford: M-6010-A500, M-601-JC50, M-601-JC51
- Max bore spacing: 4.900 inches.
- Max one distributor.
- Dry sump systems must use an overflow tank (min. 8" x 3.5" with 1" top vent and internal baffle).
- Only aluminum, steel, iron, titanium, magnesium, or conventional alloys allowed.
- Prohibited materials: Carbon fiber, Kevlar, ceramics, composites, beryllium, exotic materials.
- Minimum component weights:
 - Piston: 460g
 - Wrist pin: 135g
 - Rod: 480g
 - Intake valve: 90g
 - Exhaust valve: 80g
- Intake/exhaust pushrods and springs must be steel.
- Limited use of roller bearings (cam, thrust, lifters, rocker tips only).
- Sleeve-type rod and main bearings mandatory.

Engine Setback

- Rear of engine block must be between 81.5"–84.5" from rear axle centerline.
- Machining block for increased setback prohibited.

Fuel

- IHRA-specified VP Racing Fuels gasoline only.

- Must match baseline dielectric constant; additives prohibited.

Fuel System

- IHRA-accepted 1.5-gallon fuel cell required (e.g., Jaz #220-015-0, 220-115-01, 220-315-01).
- Fuel cell must be:
 - Mounted in front of radiator.
 - Between framerails.
 - Enclosed in round tube frame (min. 1.25" OD x .065" chromoly/Docol R8).
 - Frame must be cross-braced.
- Max distance from front motor plate to 1.25" tube: 38.5".
- Must include pressure cap and be vented.
- Extra tanks, artificial cooling/heating, or circulating systems prohibited.

Oil-Retention Device

- IHRA-approved lower engine containment device or belly pan required.
- Pan must:
 - Be made of accepted composite material.
 - Have vertical walls (min. 4" high) and coved front/rear walls (min. 0.5").
 - Extend from in front of front motor plate to behind rear motor plate.
 - Attach at 3 points per side.
 - Include flame-resistant oil-absorbent liner.

Radiator

- One automotive radiator required in front.
- One water pump required (remote mount and external plumbing allowed).
- Pump and fan may be electric.

Throttle

- Must be mechanically controlled by driver's foot only.
- No electronic, pneumatic, or hydraulic assistance allowed.

Clutch, Flywheel, Flywheel Shield

- Flywheel and clutch must meet SFI Specs 1.1, 1.2, 1.3, or 1.4.
- Flywheel shield (SFI Spec 6.2 or 6.3) mandatory for cars using SFI 1.3 or 1.4 clutches.
- Maximum of 3 clutch discs; minimum disc diameter: 6 inches.
- Clutch must be manually operated by driver's foot.
- No electronic, pneumatic, hydraulic, or automated influence on clutch system.
- Multi-stage, variable release, or lockup clutches prohibited.

- Throwout bearing must release all mechanisms simultaneously.
- Flywheel shield cannot be:
 - Welded into the car or used as a crossmember.
 - Welded to frame/body braces.

Driveline

- Driveshaft must comply with SFI Spec 43.1.
- Front-wheel-drive cars must be converted to rear-wheel drive.
- 360° driveshaft loops required within 6 inches of U-joints at both ends.
- Driveshaft must be enclosed in a 360° tube (covering front U-joint and extending at least 12 inches rearward).
- Tube material: minimum .050-inch chromoly, Docol R8, or titanium.
- Driveshaft tube must be secured to chassis at minimum 4 points using:
 - Welds, 1/4-inch push/pull pins, or 5/16 SAE bolts.

Rear End

- Aftermarket axles required.
- Full-floating or live axle systems allowed.
- Minimum 40 spline axles required.

Transmission

- Aftermarket planetary or clutchless transmission allowed.
- Maximum 5 forward speeds + reverse.
- Automatic transmissions prohibited.
- No automated/timer-type shifting (pneumatic, electric, hydraulic, or electronic).
- Each shift must be manually executed by the driver.

Brakes & Suspension

Brakes

- Brakes must be manually applied and released by driver.
- 4-wheel hydraulic disc brakes required.
- Carbon-fiber rotors and pads (front and rear) mandatory.
- All other rotor/pad materials prohibited.
- Brake lines must be kept clear of flywheel and driveline.
- Line-lock permitted on front wheels only; must be driver-activated.
- No other automated/electronic components allowed in the brake system.

Steering

- Must use stock-type steering in standard location.
- Quick-disconnect steering wheel (SFI Spec 42.1) required.

- Steering wheel must be at least 11 inches in diameter (O.D.).
- Maximum 2 buttons allowed on steering wheel.

Suspension

- Full production-based suspension system required.
- On IHRA-accepted 4-link systems:
 - Quick-pins must be tethered to prevent track debris.
- One damper/inerter or damper/inerter hybrid required per wheel (max of 4).
- Fabricated dampers permitted.
- Rigid-mounted suspensions and straight front axles prohibited.
- Active suspension systems of any kind prohibited, including:
 - Real-time data-based adjustments.
 - Magnetically controlled systems.
- Electrically controlled/hydraulic shocks/struts permitted if:
 - Settings are pre-set before run.
 - Only 1 shielded 3-wire cable connects shock/strut to controller.
 - No other electrical connections allowed.
 - Travel sensors may connect to data recorder only.
 - Serial port connections prohibited past ready line.
 - All wiring must be visible and traceable.
 - Controller boxes must be IHRA-accepted.
- Maximum 3 air lines per shock/strut allowed.

Wheelie Bars

- Permitted.
- Wheels must be non-metallic.
- Max length: 66 inches from rear axle center to wheel center.

BALLAST

- Ballast is permitted.
- Max 30 lbs mounted on/in front of forward crossmember (including bracket).
- Bracket:
 - Max length: 12 inches from crossmember front.
 - Max width: not wider than lower frametrails.
- Max 25 lbs allowed on single-tube-frame-design fuel-cell tube.
- If using support bars (min ½" x .049" tubing), max ballast is 40 lbs.
- Support bars may be welded or bolted.
- Must be IHRA-accepted design.

- Max distance from front motor plate to front of bracket: 36 inches.
- Bracket construction options:
 - Min 1 ¼" x .058" wall chromoly or Docol R8 tubing + 4 SAE Grade 8 bolts (3/8" diameter).
 - Or min ¼" 6061 T6 aluminum plate + 4 SAE Grade 8 bolts (½" diameter).
 - Or IHRA-accepted design.
- All other ballast (weight bars, pucks) require min ½-inch SAE Grade 8 bolts.
- Ballast height:
 - Not above top of wheel tubs (except Funny Car cage area).
 - In cage area: not above driver's shoulders.
- Disguised ballast prohibited (e.g., solid tubing welded above rear wheel tubs).

GROUND CLEARANCE

- Minimum 3 inches from front of car to 12 inches behind front axle centerline.
- Minimum 2 inches for remainder of car (excluding oil pan and headers).

HELMET SHROUD (Optional)

- If Funny Car-style helmet shroud is used:
 - Use ½-inch hex-head bolts (accessible with door open).
 - Inaccessible portions must use tongue-and-groove or similar for removal.

PARACHUTE

- Dual parachutes mandatory.
- Spring-loaded pilot chutes must be bright-colored (not black).
- Max 24 inches between outer edges of chutes.
- Chute packs must be unenclosed.
- Must use launcher system (air or spring).
- Pilot spring does not count as launcher, but is okay as secondary.
- Max 3.5 inches of parachute pack may extend under rear spoiler.
- Pneumatic parachutes:
 - Min 3/8-inch O.D. line.
 - No separate air supply from other pneumatics.
- Shroud-line mounting bolts must have bushing.
- Lower mounts must be bolted, upper may be pinned.

ROLL CAGE

- Chassis must meet SFI Spec 25.1, certified yearly by IHRA with serialized sticker.
- Pre-2022 cars must meet under-seat pan requirement:
 - Use .090" min sheet 4130 steel, either above or in place of diagonals.
 - If replacing diagonals, pan must be fully perimeter-welded.
 - Minimum $\frac{3}{4}$ " of SFI 45.2 foam required under driver.
 - Rub tubes or frame extensions must go at least $\frac{1}{2}$ " below lowest point of seat pan.
- If rub tubes are used: must be 1" x .058" 4130 or Docol R8, welded to rocker/inner frame rail.
- Leg contact protection:
 - Use .032" aluminum, .024" steel, or carbon fiber panels.
 - Must be installed on interior side of tubing, including driver-side X brace.
 - Not to be attached to rocker bar, windshield/roof bar, or main hoop.
- Cars built after Jan 1, 2020:
 - Must have roof-area panels extending from driver-side roof bar to vehicle centerline.
 - Tabs must be 1/8 inch below roll cage roof tubes.
 - Panels in cage area must be removable for inspection.
- Cars built before Jan 1, 2020:
 - Same panel rule applies, but may use bands or welded-in tabs.
 - Panels in cage area must be removable.

ROLL-CAGE PADDING

- SFI Spec 45.1 padding mandatory where driver helmet may contact cage.
- Additional padding required on both sides of helmet:
 - Must be on flat stock and securely mounted with bolts/locking fasteners.
 - Must have flame-retardant cover.

WHEELBASE

- Max: 105 inches.
- Min: 104 inches.
- Max variation (left to right): 1 inch.

TIRES & WHEELS**TIRES**

- **Must use Goodyear-only tires as specified by IHRA.**
- **Clearance:**
 - **Front: max 4 inches from outside of tire to inner fender.**
 - **Rear: max 5.5 inches at widest point.**
- **Max front tire height: 25 inches.**

WHEELS

- **Rear wheels must meet SFI Spec 15.1.**
 - **Maximum width : 18 inches**
 - **Inner bead: min 14 ¾ inches (+/- 1/8-inch).**
- **Must be unmodified and used per manufacturer specs unless IHRA-approved.**
- **No modification or lightening.**
- **Wheel discs or covers prohibited.**

Interior (IHRA)

- **Materials: Driver compartment must use aluminum, steel, or IHRA-accepted carbon fiber. Magnesium is not allowed.**
- **Transmission Tunnel: Must be fully enclosed in aluminum, steel, or carbon fiber.**
- **Trunk Separation: Must be separated from driver with a firewall.**
- **Upholstery:**
 - **Driver seat: Minimum 24" high, energy-absorbing foam, contoured to driver.**
 - **One-layer flame-retardant seat upholstery mandatory.**
 - **Passenger seat removal allowed.**
 - **Seat frame must be permanently mounted to chassis.**
 - **Dashboard appearance must be retained; fiberglass replica allowed.**
 - **Gauges may be painted or simulated; headliner must look finished.**
- **Window Net:**
 - **Must meet SFI Spec 27.1 (ribbon or mesh only; no solid).**
 - **Must be IHRA-accepted.**
 - **Release mechanism must have a red label visible externally.**

Body (IHRA)

- **Body Type:**
 - Sports cars, sedan deliveries, trucks prohibited.
 - IHRA-accepted composite body mandatory.
 - No chopping, channeling, or modification to shape/dimensions.
 - Only minor trimming for fitment allowed.
- **Front Overhang:** Max 45 inches.
- **Measurements:** Must follow IHRA Pro Stock Body Measurement Legend specs.
- **Inspection:** All cars must pass IHRA body template inspection.
- **Mounts:** Body mounts must be non-adjustable.
- **Carbon Fiber Parts:** Must have SFI 54.1 flame retardant coating.

Ground Effects & Splitters

- **Prohibited:** Rocker skirts, belly pans, tunnels, etc.
- **Splitter:**
 - Mandatory.
 - Made of aluminum, steel, or stainless steel (.050–.060-inch thick).
 - Flat, parallel, no additional lips/flanges.
 - Must be IHRA-accepted.
 - 3/8" front lip not counted in overhang.
 - Max 2.5" inner lip around front portion.
 - Max rocker panel support width: 3 inches.

Doors

- Must be functional, operable from inside and out.
- Must be IHRA-accepted.
- Sheet-metal deflector between fenders and door edges required.

Firewall & Floor

- **Firewall:**
 - Rearward relocation allowed.
 - Minimum .024" steel required for post-10/31/2006 builds.
- **Floor:**
 - Steel pans mandatory for both sides, welded in.
 - Remainder may use .024" steel, .032" aluminum, or IHRA-accepted carbon fiber.
 - Subfloors/belly pans prohibited except between frame rails (max 24" wide).
 - Magnesium is prohibited.

- Driveline tunnel may be raised behind seat.
- No magnesium interior panels.

Grille

- Simulated grille matching body design required.
- Only holes for air inlet tubes allowed.
- Refer to IHRA rules for air induction specifications.

Spoilers

- **Rear Spoiler:**
 - Mandatory; 14" long, IHRA-accepted only.
 - 90° carbon/aluminum/steel/stainless wicker required (min ¾" tall).
 - Non-adjustable; 90° maintained at all times.
 - Max spoiler/fill area: 23.5" total length.
 - Spill plate: 6" tall (+/- ½"), 1" above spoiler, max 2" behind spoiler, max 26" total.
 - Filler area allowed up to 6.5" if deck lid and quarter panel differ in contour.
 - Roof spoilers, air foils, and adjustments during run prohibited.

Street Equipment

- **Taillights:** Complete factory taillight assembly in original location required.
- **Headlights:** IHRA-approved design mandatory.
- **Taillight Functionality:** One functional taillight required.
- **No Painted Lights:** Headlights, taillights, etc., may not be painted on.
- **Optional:** Side marker lights.
- **Non-Appearance Equipment:** May be removed if it doesn't affect external look.

Wheelwells

- Rear wheelwells must be separate per tire.
- Max rear wheel tub height from ground: 40 inches.

Windows/Windshield

- **Material:**
 - Side/rear: Minimum 1/8" polycarbonate.
 - Windshield: Minimum 3/16" polycarbonate.
- **Fit & Mount:** Must match stock contour and be mounted in original location.
- **Condition:** Must be closed, clear (no tinting/coloring).
- **Decals:**
 - Manufacturer/model name on windshield (2.125"–4.5" tall).

- Side windows limited to name, number, builder, class, decals.
- No full window wraps; outer edge must stay visible.
- Paint scheme can't extend into windows.
- IHRA may approve/prohibit decals as needed

Electrical

- **Battery:**
 - Max 2 batteries.
 - Combined weight (wet, charged, including box): 100 lbs.
 - Must be installed in trunk.

Master Cutoff Switch

- Mandatory electrical power cutoff switch for automotive use or Modern Racing kit MR-1016/1010.
- Must be mounted on the rearmost part of the vehicle and easily accessible from outside.
- Push-off mechanism must be visible from the rear, red in color, with a 4" contrasting background.
- Must interrupt all electrical functions, including magneto ignition.
- Clearly label "OFF" position; if using push/pull type, push = off, pull = on.
- Rods or cables activating switch must be minimum 1/8" diameter.
- Keyed switches prohibited.
- A secondary switch within driver's reach is required to disable the main system.
- Fire suppression activation must also trigger master cutoff.

System Air Pressure Shutoff Switch

- Requires a 120 psi normally open air switch to prevent the car from starting below 120 psi.
- During a run, it must disable ignition if pressure falls below 120 psi.
- Switch must be in series with the ignition "run enable" wire.
- May optionally trigger fuel shutoff.
- Must not remove power from the Electrimotion Safety Device.

Computer/Data Recorders

- Data recorders permitted for information gathering only; must be standalone and IHRA-accepted.
- Digital dash displays and ride-height sensors allowed; ride-height sensors can only connect to the data recorder.

Event Data Recorder

- PRC Systems Event Data Recorder (EDR1.0 or EDR2.0) and Wire Assembly (WA1.0 or WA2.0) permitted.
- Must be installed per manufacturer instructions.

Fire Extinguisher System

- Manual fire suppression system is mandatory; may also be pneumatically or thermally activated.
- Must meet SFI Spec 17.1 and be IHRA-accepted.
- Minimum 5-pound system with two nozzles: one for driver side, one for engine.
- If mounted in front of firewall, use steel braided flexible lines.
- System must include pneumatic cylinder (min 5/8") to activate kill switch and engine shutoff when triggered.
- See IHRA General Regulations 9:3.

Pressurized Bottles

- Maximum one pressurized container per vehicle.

Shutoff Device

- Electrimotion Pro Stock Shutoff Controller Kit (RF001PS) is mandatory.
- Must be installed according to manufacturer instructions.
- Tampering or modification prohibited.
- May be used with:
 - Electrimotion Crew Alert Box (CB001)
 - Motorsports Safety Electronics Shutoff System (MS1150)
- These devices may:
 - Illuminate dash light
 - Disengage throttle
 - Enable shutoff system
- Other uses of these components prohibited.

Tow Vehicles

- Only golf carts or 3-/4-wheeled ATV-type tow vehicles allowed.
- Full-size tow vehicles prohibited.

IHRA Pro Stock – Safety and Driver Requirements

- Credentials
 - Current IHRA Pro Stock License is required.
- Driver
 - Driver must sit in stock location.
 - Driver's seat must be no less than 22 inches from the center of the rear axle to the seat back (point where shoulder harness passes through).
- Driver Restraint System

- Minimum seven-point driver restraint system required.
- Must meet SFI Spec 16.1 or 16.5.
- Must be updated every two years from the date of manufacture (Refer to General Regulations 10:5).
- **Head and Neck Restraint Device/System**
 - Required at all times from the ready line until vehicle is on the return road.
 - Must use an SFI-approved head and neck restraint device/system.
 - Must meet SFI Spec 38.1 and display a valid SFI label.
 - Must be connected and used as per the manufacturer's instructions (Refer to General Regulations 10:8).
- **Helmet**
 - Full-face helmet required, meeting one of the following standards:
 - Snell: M2015, M2020, SA2015, SA2020
 - FIA: 8860-2010, 8859-2015, 8859-2024, or 8860-2018
 - Shield is mandatory (goggles are prohibited).
 - Eject Helmet Removal System (PN: SDR 890-01-30) is mandatory and must be installed per manufacturer instructions.
 - Stand 21 Lid Lifter head sock (SFI 3.3) may be used instead of the Eject System (Refer to General Regulations 10:7).
- **Protective Equipment**
 - Suit (jacket and pants or one-piece) must meet SFI Spec 3.2A/15.
 - Gloves and shoes must meet SFI Spec 3.3/5.
 - SFI 3.3 head sock or SFI 3.3 skirted helmet required if no neck collar is used.
 - As of August 1, 2022:
 - Socks meeting SFI 3.3 are mandatory.
 - Two-piece suits must be accompanied by SFI 3.3 long sleeve underwear shirt and pants.
 - Clothing with metal or plastic components is prohibited.
 - No undergarments made from flammable materials (e.g., nylon, rayon, polyester, spandex).
 - Jewelry is prohibited, except for high-temperature rated silicone wedding bands.

- A one-piece suit or a two-piece suit with compliant undergarments is mandatory along with the other listed safety gear.