



NA 10.5

CLASS OVERVIEW

NA 10.5 is a heads-up class designed for naturally aspirated small block and big block engines. Small block engines have a maximum engine size of 470 inches. Big block engines have a maximum engine size of 700 inches. With no major engine limitations, NA 10.5 is one of the nation's premier naturally aspirated drag racing series classes for engine builders and racers alike. All entries have a minimum wheelbase of 96 inches and must compete on a true 10.5 racing slick.

Note: This set of class rules is presented to all competitors under the assumption that any modifications not specifically written within these rules shall be deemed illegal, unless the competitor has the expressed written consent from the NMCA Tech Director.

RACING FORMAT

This class will be an all run heads-up field, **NHRA Pro Style Ladder** on a .400 Pro Tree.

SMALL BLOCK BASE WEIGHT (max cubic inch 470)

300 = 2400 + Over 300 add 1.25 lbs. per cubic inch
340 = 2450 + Over 340 add 2.50 lbs. per cubic inch
360 = 2500 + Over 360 add 2.75 lbs. per cubic inch
380 = 2555 + Over 380 add 2.70 lbs. per cubic inch
400 = 2609 + Over 400 add 2.65 lbs. per cubic inch
420 = 2662 + Over 420 add 2.60 lbs. per cubic inch
440 = 2714 + Over 440 add 2.55 lbs. per cubic inch
460 = 2765 + Over 460 add 2.50 lbs. per cubic inch
470 = 2815

BIG BLOCK BASE WEIGHT (max cubic inch 700)

440 = 2860 + Over 440 add 2.60 lbs per cubic inch
460 = 2900 + Over 460 add 2.55 lbs per cubic inch
480 = 2940 + Over 480 add 2.50 lbs per cubic inch
500 = 2990 + Over 500 add 2.45 lbs. per cubic inch
520 = 3039 + Over 520 add 2.40 lbs. per cubic inch
540 = 3086 + Over 540 add 2.35 lbs. per cubic inch
560 = 3133 + Over 560 add 2.25 lbs. per cubic inch
580 = 3178 + Over 580 add 2.10 lbs. per cubic inch
600 = 3220 + Over 600 add 2.00 lbs. per cubic inch
620 = 3260 + Over 620 add 1.80 lbs. per cubic inch
640 = 3296 + Over 640 add 1.60 lbs. per cubic inch
700 = 3392

Big Block entries over 700 cubic inches will be assessed a 4lb per cubic inch weight penalty to the 700 cubic inch base weight.

Buick, Olds and Pontiac combinations must use big block base weight matrix.

How to figure your weight: Weight additions for the above categories are based on taking the engine cubic inch and multiply it by the indicated percentage and converting that number to pounds. IE: 400 cubic inch (base of 2609) with a category 2 head adds 15% = 60lbs. = a total car weight of 2669 lbs.

WEIGHT ADDITIONS/DEDUCTIONS

Spread bore small and big blocks must add 5% of engine size in pounds.

Two (2) Throttle Body combinations (with injectors in base of manifold) must add 5% of engine size in pounds.

Two (2) carburetor combinations or Two (2) throttle body (with injectors in the throttle body or with injectors in the top of the manifold) combinations must add 10% of engine size in pounds.

Multiple fuel injectors per cylinder must add 10% of engine size in pounds.

Pontiac, Buick, Olds, and AMC engines may deduct 225lbs. (refer to engine family configuration chart in Section Engine 1)

Mopar big block wedge engines may deduct 125lbs.

Any 4 or 5 forward speed automatic or clutch assisted transmission add 12.0% of engine size in pounds.

Any Ford/Chevy Big-Block Category 1 cylinder head combination, with more than +/- 2 degree OE valve angle, add 5% of engine size in pounds.

TIER WEIGHT BREAK LIST

If your vehicle is not listed, it must run at Base cubic inch weight.

TIER 1 – DEDUCT = 25 pounds

TIER 2 – DEDUCT = 50 pounds

TIER 3 – DEDUCT = 75 pounds

TIER 1

GM F Body	67-79
GM G Body	78-88
Chevy II/Nova	62-67
Dodge Valiant	59-62
Ford Falcon	60-65
Ford Maverick/ Mercury Comet	70-77
Lancer	61-62
Plymouth Barracuda	64-69
Corvette	68-82

TIER 2

Dodge E Body	70-74
GM A Body	68-77
Ford Mustang	64-73
Mercury Cougar	67-70
Chrysler A Body	63-76
Nova	68-79
Cutlass	61-63

TIER 3

Chevrolet BelAir	55-58
Chrysler B Body	66-75
GM B Body	58-76

GM A Body 64-67
Fairlane 62-69
Ford Torino/ Mercury Montego 68-74

REQUIREMENTS & SPECIFICATIONS

ENGINE: 1

BLOCK

Any aftermarket cast iron or cast aluminum block is permitted. Billet blocks are prohibited.

HARMONIC BALANCER

SFI Spec 18.1 balancer is required.

ENGINE MOUNTS & LOCATION

Engine/motor plates and mid-plates are permitted. Engine block and cylinder heads cannot be in contact with the firewall.

ENGINE COATINGS

The use of engine coatings is permitted.

CRANKSHAFT

Any aftermarket crankshafts are permitted.

CONNECTING RODS

Any aftermarket connecting rods are permitted.

PISTONS & PINS

Any aftermarket pistons and pins are permitted.

PISTONS RINGS

Any aftermarket piston rings are permitted.

CAMSHAFT DRIVE SYSTEM

Any camshaft drive system is permitted.

CAMSHAFT

Any camshaft is permitted.

LIFTERS/LASH ADJUSTERS

Any lifters/lash adjusters permitted.

CYLINDER HEADS

Any aftermarket cast iron or aluminum cylinder heads are permitted. Cylinder heads must be overhead valve, two valves per cylinder maximum, and single spark plug per cylinder design. BILLET HEADS ARE PROHIBITED. Mopar OEM or aftermarket Hemi heads run same as Chevy or Ford. All Pro Stock style cylinder heads no matter what year produced are Category 3 regardless of brand and are not available for an OEM manufacturer weight break. Pontiac, Buick, Olds, AMC and Mopar cylinder heads must maintain the factory OEM port layout in order to receive a base weight deduction.

Small Block Engines:

- Category 1 heads: run at may deduct 50 lbs from base weight.
- Category 2 heads: add 10% of engine size in pounds.
- Category 3 heads: add 25% of engine size in pounds.

Small Block Heads: (see weight add section)

- Category 1: Inline valve heads measuring 1.000 or less bottom of intake port to deck.
- Category 2: Inline valve heads measuring 1.001 + bottom of intake port to deck.
- Category 3: All non-inline valve heads. (canted and splayed valve)

Big Block Engines:

- Category 1 heads: run at base weight. (must remain at +/- 2 degree OE valve angle)
- Category 2 heads: add 5% of engine size in pounds.
- Category 3 heads: add 10% of engine size in pounds.

Big Block Ford & Chevy Heads: (see weight add section)

- Category 1: Heads measuring 1.000 or less bottom of intake port to deck (Any Category 1 non-OE Valve Angle combination refer to weight adder/deducts list)
- Category 2: Heads measuring 1.001 / 2.000 bottom of intake port to deck.
- Category 3: Heads measuring 2.001 + bottom of intake port to deck.

Note: All cylinder head intake port measurements will be measured after all work has been completed and in "race" form. The lowering of intake runner height to circumvent the port height weight penalties is prohibited.

ENGINE FAMILY CONFIGURATION CHART

The data below reflects the spacing of cylinder bores in the engine block cylinder bank. Motors in the same table row generally have a common origin and similar development. In some cases, crankshaft interchange may be possible among motors in the same row; major machining may be necessary.

This is also a useful indicator of potential intake manifold adaptation, not only among motors in the same row, but (with more extensive modification) between motors with very similar bore center distances. E.g.: Chrysler B/RB at 4.80" and Buick BB at 4.75" are very close.

Column 2 ("Ports") indicates the intake port layout pattern. "00-00" represents 2 pairs of ports on each cylinder bank, "0-0-0-0" is equally-spaced individual ports, and "0-00-0" is unique to early Buicks (resembles common exhaust port layout).

Motor	Ports	Year	ID	Displacement	Bore Ctr.
Ford "Modular" V8	0-0-0-0	1991-*		4.6, 5.4	3.9370"
Chrysler late hemi	0-0-0-0			5.7, 6.1	4.09"
Dodge hemi & poly	0-0-0-0	1953-58		241, 259, 270, 315, 325"	4.1875"
Buick	0-00-0	1962		215"	4.240"
	00-00	1965-70		300, 340, 350"	
Oldsmobile, Pontiac	00-00	1962-?		215"	

DeSoto hemi	0-0-0-0	1952-57		276, 291, 330, 341, 345"	4.3125"
Ford	0-0-0-0	1962-*	335, M	221, 260, 289, 302, 351, 400"	4.380"
Chevrolet	00-00	1955-*	SB	265, 283, 302, 327, 350, 400"	4.400"
Plymouth	0-0-0-0	1956-*	poly A	277, 301, 303, 318, 326"	4.460"
	00-00	1964-*	wedge LA	273, 318, 340, 360"	
Chrysler hemi & poly	0-0-0-0	1951-58		301, 331, 354, 392"	4.5625"
Pontiac	00-00	1955		316, 326, 347, 350, 370, 389, 400, 421, 428, 455"	4.620"
Oldsmobile	00-00	1964-*		330, 350, 400, 403, 425, 455"	4.625"
Ford	0-0-0-0	1958-71	FE	332, 352, 390, 406, 427, 428"	4.630"
AMC	00-00	1966-*		290, 304, 343, 360, 390, 401"	4.750"
Buick	00-00	1967-*	BB	400, 430, 455"	4.750"
Chrysler	00-00	1958-78	wedge B/RB	350, 361, 383, 400, 413, 426, 440"	4.800"
	0-0-0-0	1964-*	hemi RB	426"	
Chevrolet	00-00	1958-*	W & BB	348, 366, 396, 402, 409, 427, 454"	4.840"
Ford	0-0-0-0	1968-*	385, FF	370, 385, 429, 460"	4.900"
Cadillac	00-00	1967-*		425, 472, 500"	5.000"

INTAKE MANIFOLD

Any intake manifold permitted.

OILING SYSTEM

Any oiling system, vacuum pump and oil pan permitted.

COOLING SYSTEM

Any cooling system permitted.

EXHAUST SYSTEM

Any exhaust system permitted. All exhaust systems must be directed out of body and away from driver and fuel tank.

FUEL SYSTEM

Any electronic, mechanical or belt driven fuel pumps are allowed. Electronic fuel pumps must shut off with the master electric cut-off switch. Fuel cell must have a pressure cap and be vented to the outside of the body. Front mounted fuel cells must meet SFI Spec 28.1 and be mounted between the frame rails or enclosed in a round tube frame. A round tube frame must be constructed of a minimum of 1 ¼-inch O.D. x .065-inch chrome moly tubing. Artificial cooling or heating of fuel (i.e., cool cans, ice, Freon, etc.) prohibited. Circulating systems that are not part of the normal fuel pump system are prohibited.

EFI SYSTEM

Any aftermarket electronic or mechanical fuel injection may be used. Fuel injector size and or type are unlimited. One injector per cylinder permitted without weight adder. All 8 injectors must be mounted in the same location. Multiple injectors per cylinder permitted with weight adder (see add/deduct list). All unused injectors must be removed from the engine.

THROTTLE BODY

Any aftermarket throttle body/bodies permitted. Maximum of two throttle bodies permitted. Throttle bodies that do not mount to a conventional 4150/4500 flange (adapters prohibited) must run dual carburetor weight adder.

CARBURETOR

Any aftermarket carburetor permitted. Split or inline style carburetors prohibited. Carburetors that do not mount to a conventional 4150/4500 flange (adapters prohibited) must run dual carburetor weight adder.

THROTTLE LINKAGE

Throttle control must be operated by the driver's foot.

FUEL

NMCA specified *VP Racing Fuels* gasoline is the only acceptable fuel allowed. The NMCA reserves the right to check gasoline at any time during competition. Failure to pass fuel check is grounds for disallowance of the run during competition and disqualification from the event during eliminations.

DRIVETRAIN: 2

CLUTCH, FLYWHEEL & FLYWHEEL SHIELD

Flywheel and clutch meeting SFI Spec 1.2, 1.3, 1.4, or 1.5 is mandatory. Flywheel shield meeting SFI Spec 6.1, 6.2 or 6.3 is mandatory. Clutch must be manually operated by the driver's foot. Electronics, pneumatics, hydraulics, or any other device may in no way affect the clutch system. The throw-out bearing must release all fingers, levers, stages, etc. simultaneously. Staged or variable release clutches are prohibited.

MANUAL TRANSMISSION

OEM or aftermarket transmissions with a maximum of 5 forward speeds permitted. Clutch-less models permitted. Pneumatic, electric, hydraulic, etc. shifters permitted.

AUTOMATIC TRANSMISSION

Any OEM or aftermarket converter driven automatic transmission is permitted with a maximum three forward speeds. Any automatic with more than three forward speed will run under the transmission weight penalty. Any torque convertor is permitted. Trans-brakes are permitted. Pneumatic, electric, hydraulic, etc. shifters are permitted.

DRIVELINE

Any steel, aluminum or carbon fiber driveshaft meeting SFI 43.1 spec is required.

REAREND

Any automotive type rear-end is permitted.

BRAKES, STEERING & SUSPENSION: 3

BRAKES

Automated brakes are prohibited. The application and release of the brakes must be a function of the driver. Four wheel hydraulic disc brakes are mandatory. Steel brake lines are mandatory. Brake lines must be out of flywheel and driveline areas. Line-lock is permitted only on the front wheels. One line-lock

solenoid with one button is permitted. Any other electrical, pneumatic, hydraulic, etc. switch in braking system is prohibited. Dual master cylinder is mandatory and must be mounted above the lower frame rails.

STEERING

Any automotive type steering system permitted. If competitor is using a commercially available quick disconnect steering wheel, it is mandatory that it meet SFI Spec 42.1.

SHOCKS/STRUTS

Coil over shocks are permitted front and rear. Shocks must be stand-alone and may not be adjustable during run via electronic and/or other means. Electronic programmable shocks prohibited. Each vehicle must be equipped with one operating shock for each sprung wheel.

FRONT SUSPENSION

Aftermarket front K-members are permitted. Aftermarket "bolt-in" style control arm front end kits can be used as a direct replacement for all American production vehicles where the shock is attached to the upper control arm (from the factory) is permitted without a weight penalty. (Ex. '62 -'67 Chevy Nova & '60 -'65 Ford Falcon) Modifying the shock/strut tower is permitted.

REAR SUSPENSION

Stock type, ladder bar and 4-link style suspensions are permitted.

WHEELIE BARS

Wheelie bars are permitted with a maximum length of 80 inches. Wheelie Bar height must be set before burnout.

FRAME: 4

CHASSIS

Stock, unaltered frame rails required in front sub frame from suspension mounting points rearward, frame rails and sub frames forward of the suspension mounting points may be modified. Sub frames on uni-bodied cars may be joined under car. Aftermarket or custom designed (square or round tubing) rear frame rails permitted from the frame kick up point, aftermarket frame rails forward of the kick up point may be tied into the stock floor pan. Mini-tubs are permitted. All vehicles must have a chassis that meets the guidelines set by SFI for their respective speed and elapsed time. A valid NHRA serialized sticker is mandatory at an NHRA Member Track.

WHEELBASE

Entries must retain stock wheelbase dimensions of + or – 1 inch.

GROUND CLEARANCE

A minimum of 3 inches from the front of the vehicle to 12 inches behind front spindle centerline is mandatory. A minimum of 2 inches for the rest of the vehicle is mandatory (except for oil pan and exhaust headers).

TIRES & WHEELS: 5

TIRES

Maximum rear tire permitted is a 30.5-inch tall by 10.75-inch wide bias-ply slick.
Maximum allowed measured tread width at all times is 10.75-inches.
Maximum allowed measured circumference is 96.0 inches at a maximum 10 psi.
Tire width will be measured by a "go-no go" gauge after conclusion of run at scale area.
Tire tread may not extend outside of the fender.

WHEELS

Aftermarket racing wheels permitted.

INTERIOR: 6

UPHOLSTERY

Factory appearing type dash is mandatory. Carpeting is required from seats forward. Factory door panels or door panels made of aluminum or carbon fiber are required. Aftermarket steering column is permitted. Aftermarket pedals are permitted.

WINDOW NET

Window net meeting SFI Spec 27.1 is mandatory.

BODY: 7

BODY

All vehicles must maintain OEM appearances for their specific year, make, and model being used. All entries are required to have the OEM body shell intact from the firewall to the taillight panel. Lightweight body parts are restricted to the following: hood, fenders, bumpers, doors, and trunk-lid/deck-lid. Hood, trunk-lid/deck-lid, and doors must be hinged or be lift off models. Alterations or aerodynamic modifications are prohibited. Front overhang Extender permitted. Front-end overhang may not exceed 45 inches, with or without extender. Frontend overhang is measured from the centerline of the front spindles.

HOOD SCOOPS

Forward facing and factory OEM hood scoops are permitted.

GRILLE

All entries are required to have an OEM type grille. Covering in front of or behind the grille is permitted and must maintain a "professional appearance".

FIREWALL

A non OEM firewall will be allowed provided it is in the stock location and must be one piece of at least .024 or greater steel material fully attached in an in stock location.

FENDER SPLASH PANS

Fender splash pans may be altered.

WINDSHIELD & WINDOWS

All entries are permitted to use Lexan windows.

FLOOR

Driver's side floor pan must be steel and welded into place. The remainder of the floor section can be .024 inch steel or .032 inch aluminum. The use of magnesium and carbon fiber is prohibited. Transmission tunnel may be removable and must be made of either .024 inch thick steel or .032 inch thick aluminum.

WHEEL WELLS

All entries all permitted to use steel, aluminum, or carbon fiber wheel tubs.

WING/SPOILERS

All entries are permitted to use rear wing/spoilers. Wing/spoilers are allowed a maximum length of 26 inches. Any adjustments to the wing/spoiler during a run are prohibited.

STREET EQUIPMENT

OEM headlights and taillights for year/make/model of vehicle being used must be intact. Taillights must be operational.

APPEARANCE

All cars in competition must be painted or wrapped. Advertising graphics are permitted on the body. In order to be eligible for the NMCA official contingency program, all contingency sponsors' decals must be easily visible and located on the outside of the vehicle. Failure to do so can result in the driver **forfeiting** all claimed contingencies for that particular event. The NMCA requires that all entries run the following decals:

1. NMCA Windshield Banner: Decal needs to be located on the top of the windshield or just above the windshield located on the body.
2. NMCA Drag Racing Series: Decals (2) must be located on each side of vehicle. Either on the side windows or decals can be located on the body right beside the side windows.
3. Class Sponsor: Decal must be located on the passenger's side lower portion of the windshield.
4. VP Racing Fuels: Official Fuel decals (2) required. Must be located on each side of vehicle. (In a contingency decal manner)
5. Aerospace Winners Circle: Decals (2) must be prominently displayed on each side of vehicle. Failure to do so can result in the winning driver forfeiting his/hers Winner's Trophy & Payout.
6. Class & Competition Numbers: Numbers must be easily visible/legible and located on the front, back, and both side windows.

ELECTRICAL: 8

BATTERY

A maximum of two batteries is allowed.

IGNITION

Any battery operated ignition system and distributor drive system is permitted.

STARTER

All entries must be self-starting with an on-board starter.

MASTER CUTOFF SWITCH

A master cutoff switch is mandatory.

SUPPORT GROUP: 9

COMPUTER/DATA RECORDERS

Computer/data recorders are permitted and must stand alone and to be only used for information gathering purposes.

BRACKET RACING AIDS

The use of any bracket racing aids such as optical sensors, delay boxes, shutter boxes, throttle stops, etc. are prohibited. The use of any device (electrical or mechanical) that allows a driver to ascertain the position of their vehicle to the starting line is prohibited.

PRESSURIZED BOTTLES

A maximum of one pressurized container (excluding nitrous and fresh air systems) per vehicle is permitted. All pressurized bottles must meet D.O.T. 1800lb minimum specification.

TOW VEHICLES

The use of tow vehicles is permitted.

CREW MEMBERS

Each crew member must have the proper starting line credentials and must wear matching attire.

DRIVER: 10

DRIVER

The driver when in the vehicle, from the ready line until the vehicle is safely stopped on the return road, **is required to have all safety restraint systems (including the helmet) on and be securely fastened in the vehicle at all times**

CREDENTIALS

A Valid state or government issued driver's license beyond a learner/s permit level is mandatory for cars running 10.00 or slower. A valid NHRA competition license is mandatory for cars running 9.99 or quicker, at a NHRA Member Track. A valid NHRA or an IHRA competition license is mandatory at an IHRA Member Track.

Note: It is ultimately the competitor's responsibility to familiarize themselves with the NMCA class requirements as well as ***all NHRA safety requirements***. The competitor agrees they bear the ultimate responsibility when it comes to safety and how it complies with the NMCA and NHRA rule books. The competitor also agrees that no one else other than the competitor is in the best position to know about how their particular race car has been constructed and how to safely operate it.