

## All Motor – Milan Dragway

Any questions or concerns, please email [chriskask@milandragway.com](mailto:chriskask@milandragway.com)

### CLASS OVERVIEW

All Motor 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, All Motor 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 Milan Race /Tech Director.

### CLASS DESIGNATION = AM

### RACING FORMAT

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

### BASE WEIGHT

Base weight must be declared, based on actual/claimed cubic inches. Example: 450 CI would use 440 base + the cubic inch adder.  $450 = 2714 + (10 \text{ cubic inches} \times 2.55 \text{ lbs. per cubic inch} = 25.5 \text{ lbs adder}) = 2739 \text{ lbs base weight}$ . All Combinations are based upon closest cubic inches without going over. (ie 399" combinations are factored off the 380" base)

#### **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 multiplying 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. (Must use closest Base Weight without going over to your cubic inch before adding per inch lbs)

#### WEIGHT ADDITIONS/DEDUCTIONS

- DRCE and/or 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 **190** (refer to engine family configuration / bore space chart in Section Engine 1)
- Mopar big block wedge engines may deduct **125lbs.**
- Ford Modular Engine Combinations add 200lbs. to base weight.
- 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.
- Automatic Transmissions - deduct 25 lbs

#### BOP (Buick, Olds, Pontiac) Weight Deduction

GM (or aftermarket) Blocks with 4.840 or 4.900 Bore space are NOT eligible for the BOP weight deduction, regardless of part numbers or brand castings/markings. To receive the BOP weight deduction, the engine **MUST** have the following bore space:

Pontiac: 4.620"

Oldsmobile: 4.625"

Buick: 4.750"

The 5% add for Spread Bore blocks may not be used in conjunction with the BOP weight deduction to use a larger bore space engine. Bore Spacing will be measured externally using different features of the cylinder head / attachment. "If" bore spacing cannot be determined this way or it is disputed by the competitor, a cylinder head must be removed for final measurement/decision.

#### 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.

**CYLINDER HEADS**

Any aftermarket cast iron or aluminum cylinder heads are permitted. Cylinder heads must be overhead valve, two valves per cylinder maximum (Ford Modular engine combinations are permitted stock configuration 4 valves per cylinder), and single spark plug per cylinder design. **BILLET HEADS ARE PROHIBITED.** Mopar OEM or aftermarket Hemi heads run the 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 engines must maintain the factory OEM bore spacing 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.

**BOP Combinations**

- Non OEM port configuration heads: add 20% 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 bore spacing of cylinder bores and OEM port layout. 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.

**EXHAUST SYSTEM**

Any exhaust system permitted. All exhaust systems must be directed out of the 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. All fuel lines must originate and return to one fuel cell. A check valve mounted between pressure regulator and carburetor and/or fuel rails for fuel removal is mandatory. All Fuel Samples must be supplied through the Check Valve between pressure regulator and carburetor and/or fuel rail.

**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.

**FUEL**

Racing Gasoline only.

**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 of three forward speeds. Any automatic with more than three forward speeds will run under the transmission weight penalty. Any torque converter 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.

**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**

Coil over shocks, aftermarket upper and lower control arms and aftermarket front bolt-in K-members are permitted. Aftermarket "bolt-in" style front end kits/subframes may be used in the following: '62 -'67 Chevy Nova, '67-'81 GM F-body, '68-'79 Nova, '60 -'78 Ford vehicles. 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.

**FRAME: 4****CHASSIS**

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. OEM/Factory or aftermarket frame rail permitted.

**WHEELBASE**

All entries have a minimum wheelbase of 96 inches and 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 recommended. 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.

**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, .032 inch aluminum or Carbon fiber. The use of magnesium is prohibited. Transmission tunnel may be removable and must be made of either .024 inch thick steel, .032 inch thick aluminum\_or carbon fiber.

**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.

**ELECTRICAL: 8****BATTERY**

A maximum of two batteries is allowed.

**IGNITION**

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

**SUPPORT GROUP: 9****COMPUTER/DATA RECORDERS**

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

**BRACKET RACING AIDS**

The use of any bracket racings 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.

**Combination Declaration Form**

A combination declaration form is mandatory from all competitors in this category. Any false information on the declaration form or deception to the tech department will be deemed cheating and will result in an event disqualification, loss of points, a fine or more.



**Note:** It is ultimately the competitor's responsibility to familiarize themselves with the class requirements, Milan Dragway Rules 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 Milan Dragway Class Rules 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.