
PRO SERIES CLASS ENGINES

- 1) Custom manufactured motors must meet the following regulations: American made engines only. No V-6 engines. No aluminum or other soft metal blocks or heads allowed. No stroking or destroking permitted. Maximum stroke 3.500 crankshafts are allowed. Normal engine balancing will be the only modification to this piece allowed. Cylinder blocks must be stock productions with standard external measurements in all respects. Blocks can be dressed. Lifter bores may be rebored. The maximum allowable compression ratio will be 11.0. The following maximum cubic inches will be allowed:

Chrysler (Dodge & Plymouth)	360 ci + .040
Ford	351 ci + .040
General Motors	350 ci + .040

- 2) Cars may interchange manufacturer's body models and engines.
- 3) All cast iron cylinder heads must have stock valve size for casting used. Twenty three degree valve angle heads only. Port matching up to 1/2 inch into runner is allowed. Heads with 1.94 intake and 1.5 exhaust valves are allowed angle milling and porting/polishing. The only exceptions to this are noted below. Specifications as follows:

General Motors maximum intake diameter 1.94"; maximum exhaust diameter 1.50"

Chrysler 340 ci motors maximum intake diameter 2.02"; maximum exhaust diameter 1.60"

Chrysler 360 ci motors maximum intake diameter 1.88"; maximum exhaust diameter 1.60"

Ford Winsor motors maximum intake diameter 1.94"; maximum exhaust 1.54"

ONLY THE HEADS LISTED BELOW ARE ALLOWED AND MUST BE CAST IRON:

General Motors casting #'s 041, 186, 291, 370, 441, 461, 462, & 492. (The 492 casting must be G.M. part #3958603 with 1.94" intake & 1.50" exhaust.)

GM Vortec heads

General Motors Vortec Bowtie head part #

World Products Inc. S/R Torquer 042660-551.

Ford Winsor motors may use Ford Motorsports casting

-#GT40-M6049-L302

Cast iron World Products, Bow Tie and Dart Sportsman heads with a stock 2.02" valves and a 23° valve angle are allowed and may not have porting and/or polishing performed upon it. Normal port matching is allowed. Aluminum heads are not allowed. Any cylinder head not listed must be approved by the management of Beech Ridge Motor Speedway before being used.

- 4) All cylinder heads must have stock dimension valves for the casting used. No titanium valves allowed. Valve stem length, diameter and keeper groove locations must be stock. Stock type retainers must be used. Only heads with 1.94" valves are allowed angle milling, port matching, and/or polishing. No gear drive assembly allowed. Polylock nuts, and push-rod guide plates are allowed. Roller rocker arms are optional. Screw-in or pinned studs are allowed.
- 5) Any steel or aluminum one piece intake manifold is allowed. No fabricated intakes. Maximum depth of intake allowed is 4 5/8". Port matching only up to 1/2" into the runner. No additional polishing or grinding to the intake manifold is allowed.
- 6) Carburetors must meet specifications for either one stock Holly 4776 or one Holly HP80540-1 600 C.F.M. four barrel, or one Holly 4412 or one Holly HP80583-1 500 C.F.M. two barrel. No alterations are allowed except for the removal of the choke plate and tower. Epoxies or other devices to alter the air flow in the manifold are not allowed. Two .070 thick gaskets are allowed and a maximum 1" spacer is allowed. Polishing, grinding or drilling holes in the body of the carburetor is not permitted. Choke horn may be removed with a square cut - no taper or bevel may be cut into the body of the carburetor. Boosters may not be changed but may be aligned. Size and shape must not be altered. Height must remain standard. Passageways from the metering block may be enlarged to a suggested size of 0.156". Venturi area must not be altered in any manner. Casting ring must not be removed. Base plate must not be altered in shape or size. Stock butterflies must not be thin or tapered. Idle holes may be drilled in butterflies. Screw ends may be cut even with shafts, but screw heads must remain standard. Throttle shaft must remain standard and must not be thinned or cut in any manner. Power valves,

metering blocks and floats may be altered. Throttle linkage may be changed. Any reworking of a carburetor other than as noted above will result in disqualification.

- 7) Any camshaft is allowed. Mushroom type lifters are not allowed. Roller lifters are not allowed. Solid lifters are allowed.

*GM P/N 19171528 replacement valve spring retainer is allowed

* GM replacement valve springs and seats equivalent to Competition Cam P/N 4705-16 are allowed.

* Ignition- or rev-limiting devices are not allowed.

CRATE MOTOR OPTION:

GM Fastburn 385 (P/N 12496769), Fastburn 400 (P/N 88958604); This is a factory sealed crate engine package, complete from intake manifold, stamped steel valve covers with racing style breathers, and 8 quart dual kick-out circle track racing oil pan. The Fast Burn 400 engine has a 1053 forged steel crankshaft, aluminum heads with 2.00"/1.55" valves, hydraulic roller lifters, HEI distributor, and normal rotation iron water pump included. (400 HP at 5500 RPM - Torque 400 @ 4500 RPM) The base engine is a Fast Burn 350ci 385 horsepower, with the following part numbers (P/N):

P/N 10105123 4-bolt iron block - Must Remain Stock

P/N 140885331053 steel crankshaft - Must Remain Stock

P/N 10108688 PM rod - Must Remain Stock

P/N 10159436 High silicon aluminum piston - Must Remain Stock,

NO "Eyebrowing" the pistons for clearance

P/N 10185071 Camshaft with hydraulic roller lifters - The camshaft may be changed (to any roller cam, rocker arm and lifter)

P/N 12464298 Aluminum head - Must Remain Stock. Heads may be cut .010 for clean-up. Minimum 60cc.

P/N 12496822 High rise single plane intake manifold, P/N 12366573 Aluminum dual plane (no EGR) or P/N

12496820 Aluminum dual plane (w/EGR) - Must Remain Stock. Competitors competing with the original Fastburn 385 (intake manifold P/N 12366573 or P/N 12496820) may update to Fastburn 400 (P/N 12496822) if no changes (except for the camshaft, rocker arms and lifters) have been made.

P/N 25534354 8-quart oil pan or Moroso P/N 21319 pan is permitted with matching p/u assembly and utilized in factory form without modifications.

* The track's listed carburetor rule may be applied or the use of the Holly HP805411 650 CFM carburetor is also permitted. Carburetor spacer adapter plate must have ¼" threaded vacuum port to accommodate tech testing.

The track's listed gear rule does not apply.

The maximum gear for crate engines is 5.27 or less.

Cars using crate motors meeting the above specifications may weigh 2725 lbs.

- 8) Any "Flat Top" piston with a minimum of two valve reliefs will be allowed. Floating of the wrist pin is optional. Normal engine balancing only. No part of piston shall extend past the top of the block or deck.
- 9) Aluminum or titanium rods are not allowed. Steel rods only. No grinding lightening or polishing of any kind allowed. Normal engine balancing only allowed. The installation of aftermarket rod bolts and nuts will be allowed.
- 10) Engine must be positioned within the chassis per the following specifications:
- a) Cross (lateral) location centerline of engine crankshaft shall be located within one inch of the center of the front clip horns. The front and rear clips shall be located within a one inch offset of the frame rails.
 - b) Engine height - centerline of crankshaft harmonic balancer (or equivalent) must be located a minimum of ten inches above the ground plane.
 - c) Front-to-rear (longitudinal) location - maximum of two inches from centerline of forward-most spark plug to determine line projected between the front ball joints of suspension.
- 11) Flywheel scattershield must be used with single disc clutch when a full flywheel is used.
- 12) Stock battery powered ignition system, either breaker or electronic with any type coil allowed. H.P. transistorized ignitions or trigger activated systems are not allowed. Aftermarket distributors are

allowed. MSD ignition systems are allowed, using only the 6-series model box; Fast/Crane Cams ignition part# 6000-6700 and coil part# 730-0192 PS92N are allowed. Ignition boxes and coils must be mounted on the upper right side of the dash, and must be fully visible to inspectors.

- 13) No electric fuel pumps.
- 14) Oil capacities may be changed in any safe manner. A minimum of 3" oil pan clearance to the race track allowed.
- 15) Cars using dry sump systems are allowed to compete twice annually with a 50-lb. weight addition. Cars bypassing the dry sump system with an external oil pump for wet sump – and having removed the dry sump hoses and tank - are allowed to compete weekly without a weight penalty.

PRO SERIES BODY AND CHASSIS

- 1) No foreign cars, sports cars, pick-ups or convertibles allowed. All cars must have a minimum of 102" wheelbase.
- 2) Any body that has an original wheelbase of 102" or greater will be allowed. Dirt type or 2/10th noses are not allowed.
- 3) No altering of bodies allowed. No carbon fiber bodies, or parts thereof, are allowed. No body setback is allowed. All cars must use fiberglass or plastic/composite front fenders. Reworking or trimming of the front fenders is not allowed. Body must match stock metal body panels as to size and configuration. "Iceman" model bodies or any other extended rear quarter panel bodies are not allowed. "Downforce" bodies or replicas thereof are not allowed. All aftermarket bodies must meet 2005 or newer Five Star ABC templates for contours and measurements. Any body configuration must gain the approval from the Director of Competition in order to meet the speedway's body configuration intent. A B.R.M.S. template may be used and all body installations are subject to Tech Inspector's approval. All bodies must conform to the track's "referee" tool. Front noses should conform to the stock template and must maintain a minimum distance of 42" from center of the front spindles to the front of the vehicle. The molded lower lip on the nose must remain in tact. Reworking or trimming of the nose is not allowed. The front of the hood and the top flange of the front bumper cover must measure a minimum height of 22" from ground level. Spoilers must remain in the original location at the rear of the body shell. This is a Pro Series division which is supposed to resemble street cars... not slab sided, flared bottom pro stocks. A maximum 5" hood scoop is allowed. Cars must run full bumpers front and rear. Bumpers must be 16" from ground to center of bumper. All body panels must maintain 3" ground clearance with the driver in the driver's seat.
- 4) All glass, except windshield, must be removed. A full windshield may be replaced with a minimum 1/8" polycarbonate material such as Lexan. A minimum of two windshield braces are required. Rear windows, and quarter windows are allowed but must be made of the same material as the windshield. All installations are subject to the Tech Inspectors approval.
- 5) The maximum size allowable fuel cell is 22 gallons. U-shaped or non-standard shaped fuel cells are not allowed. A minimum of 8" ground clearance between the bottom of the fuel cell assembly and the race track itself is required. Cells must maintain the flapper/ball assembly. Fuel cell canisters must be made of at least 22 gauge steel. A safety loop to protect the rear of the cell must be in place. Any part of the fuel cell assembly must be no closer than 11" to the back of the rear end tubes. Aluminum seats are mandatory and must be welded or bolted solidly to the roll cage.
- 6) The interior area of the car must be completely enclosed in respect to the engine compartment, track surface, tires, and rear (fuel cell) compartment. The area immediately beneath the driver, floorboards, foot box, and the vertical panels surrounding the seat area (front and rear firewalls and transmission tunnel) MUST be constructed of minimum 22-gauge steel (.031) and be of welded construction. Other interior panels may be constructed of aluminum with a minimum of .040 thickness. Panel on "passenger" side of car may extend from the top of the transmission tunnel to a height of not less than 6" below the passenger window.
- 7) The center of the steering wheel must be padded.
- 8) Batteries must be securely fastened and safely covered.

- 9) Tubular steel frames are required. These frames must be full perimeter other than straight-rail chassis. All tubing must be 2" wide by 3" high, or 2 1/2" x 2 1/2" and at least .120 wall thickness. The front and rear clips may be .083". Round tubing frames are NOT allowed. Chrome moly is not allowed.
- 10) The frame width must be a minimum of 49 1/2" inside and an outside maximum of 60" measured at the uprights, plus or minus 1", and a minimum of 38" measured outside to outside of the rear frame rails.
The frame rail may go either over or under the rear-end housing. The top and bottom of the roll cage must remain centered on the drive line, plus or minus 1". The front and rear roll cage hoop must have a minimum height of 38" measured from the top of the frame to the top of the roll cage.
- 11) Tubular front sub-frames made of steel square tubing with a 10" perimeter and a minimum .083" wall thickness are allowed. Rack and pinion steering is allowed. Offset front spindles are NOT allowed. The front sub-frame must be of "stock" configuration and centered within the frame rails plus or minus 1". Coil-over spring assemblies are allowed.
- 12) A minimum 3" frame height is required as measured with the driver in the driver's seat and may be measured at any point around the frame and/or cross members and at any time during the meet. The car may not be aided, lifted or compressed in any way by external forces.
- 13) Modified exhaust headers may be used. Howe mufflers are required, and only the following muffler numbers may be used: 3015 & 3018. Howe Iron Lung headers are allowed. The mufflers may not be cut or altered in any manner, and must be installed with the proper direction of flow. Tail pipes must be angled at least 45 degrees toward the ground. Mufflers may not be modified from stock factory production: all baffles must remain in place, use a downspout if exiting the rear of the car, and must meet the speedway's intent for sound pitch and level.
- 14) Bodies must remain stock in physical outline. Bodies cannot be cut full of holes. The only cutting permitted is what is specifically stated in this rule book.
- 15) "Wings" are not allowed. Spoilers must be nonadjustable and may be no more than 6 1/2" in height as measured from the bottom front edge of the spoiler to the top and must not exceed 60" wide. Supports or bracing in front of the spoiler are not allowed. Spoilers must follow the contour of the rear of the trunk lid or body shell. No portion of the spoiler at its base may extend beyond the area where it connects with the body or trunk lid. The maximum allowable height of a spoiler is 41 1/2" when measured from the ground to the top of the spoiler.
- 16) Cars must measure a minimum of 47-inches overall height, as measured from the ground to a point in the center of the roof located ten inches back from the windshield. Additionally, cars must measure a minimum of 44-inches in height at the top center of the rear window. The rear window height at the top may not drop more than 1" from center to either side.
- 17) Sharp edges or projections which could possibly cut tires are not allowed.

WEIGHTS:

** Up to 66" max. tread width, perimeter or straight-rail chassis: 2725 lbs.

Cars are weighed race ready, full of fuel, and must have a maximum left side weight percentage of 57%. Weights are to be measured with the driver in the seat of the car. There will be an allowance for fuel consumption when the vehicle is weighed following a race.

PRO SERIES RUNNING GEAR

- 1) Adequate brakes are required and must be capable of dragging all four wheels.
- 2) *** Only rear-load quick-change rear-ends are allowed. Rear-ends may be locked. Pinion must remain centered within 1" of the frame rails.
- 3) *** All parts of rear suspension must be solid, one-piece construction with no moving parts, with one heim join at each end. J-bar trailing arms are not allowed. All mounts for trailing arms, third links and track bars must be solid. Only one spring per corner is allowed. Torsion type suspensions are not allowed.
- 4) Coil bound springs are not allowed.

- 5) Ratcheting or pull-down suspension devices of any kind are not permitted on the rear end or rear suspension of the car.
- 6) Automatic transmissions, direct type or quick-change transmissions are not allowed. Jerico 2-speed transmissions are allowed. 5-speed transmissions are not allowed. Transmissions must have a minimum of one reverse gear and two forward gears. Transmissions must weigh a minimum of 55 lbs. No added weight. Multi-disc clutches are allowed. Clutches must be a minimum of 5-1/2" in diameter.
- 7) The rear axle ratio must remain between 5.10 and 5.67 final drive ratio.
- 8) Crate motors are restricted to a min. 4.88 and a max. 5.27 rear end gearing final drive.
- 9) Safety hubs are mandatory on the right front wheel. Aluminum spindles are not allowed.
- 10) Any type of steel wheel is allowed. The maximum width of the wheel is 10 inches. Wheels must weigh a minimum of 16 lbs.
- 11) Only B.R.M.S. approved tires will be allowed. Tires must be mounted with the track's branded number facing outward.
- 12) Single-adjustable shocks only. Shocks may not have remote external adjustments. External canisters/reservoirs are not permitted. No more than 175 p.s.i. allowed. Titanium parts are not allowed. Only one shock per wheel is allowed and shock location is optional. Only plastic or rubber bump stops are permitted. Bump springs are not allowed.
- 13) Only brake bias adjustments are permitted from inside the cockpit of the car.
- 14) The centerline of the crankshaft harmonic balancer must be located a minimum of 10" and a maximum of 12" above the ground plane.

*** NOTICE ****

All Pro Series competitors should thoroughly read all other sections of this book, as many of those rules apply to this division.