



POWRi Division - II Engine Rules

Engine Size Limits (No clean-Up): All engines must be inline, normally aspirated, internal combustion, four cycles, reciprocating piston type, incorporating a maximum of four (4) cylinders. Engines must be a production engine from a passenger car and reasonably available in the United States. These engines are allowed a maximum displacement of (146.457 CID) and have no more than four (4) valves per cylinder. All production passenger car engines must use the OEM block, OEM cylinder head, and OEM crankshaft combination from the same manufacturer.

The OEM block may be machined or strengthened for longevity. Blocking and/or opening lubrication and coolant passages will be allowed. The crankshaft may be balanced, and oil passages may be chamfered. Lightening, chamfering or "knife edging" the crankshaft counterweights beyond minimal material removal for balancing is NOT permitted. NO grinding on the crankshaft journals of any kind. Connecting rods, rod bolts, pistons, pins, and piston rings may be replaced with aftermarket products. Titanium products are NOT allowed.

The OEM cylinder head may be machined or strengthened for longevity. Porting of the cylinder head including intake matching is NOT ALLOWED. Cylinder head ports must remain stock as cast. Machining, grinding, sanding, or etching of the intake and/or exhaust ports is STRICTLY PROHIBITED. Camshafts, valve springs, valve spring retainers, keepers, followers or rockers may be replaced with aftermarket products. All timing components such as cam gears, sprockets, timing chains, and timing belts may be replaced with aftermarket products. Titanium products are NOT allowed except for valve spring retainers.

Fuel Injection: Constant Flow Mechanical or EFI with plenum or individual runner intake. Any programmable ignition/fuel injection systems are allowed, but must be readily available and have supported software. No carburetors.

Oil System: Wet Sump or Dry Sump

VVT, VTEC, i-VCT, Etc.: Can be utilized (not allowed on motorcycle engines)

Engine Management Systems may use the following sensors: MAP (manifold absolute pressure), TPS (throttle position sensor), Crank, Cam, Water temp., Oil temp., Oil Pressure, Oxygen sensor, Fuel Pressure, IAC (idle air control), MAT (manifold air temp.), and EGT. The use of Wheel Speed Sensors with management systems is prohibited.

Traction Control is illegal: Any timing curve is OK, may be switchable with the MSD 6214 Midget Ignition System. Counter Balance Shafts can be deleted. No Glycol based coolant.

Notes: We are aware that there are many “built up” Ford Focus engines out there. While we do not expect Focus engine owners to “fix/replace” any possible changes that have been done to the engine, we do remind that the Focus/SCREAM engine MUST remain in stock 2.0L displacement, and use stock head that came with the original Zetec/Focus engine. No head swapping.

The use of starters and de-clutching devices: Is optional on driveshaft driven cars but are mandatory on chain driven cars. When a declutching device is utilized by a driveshaft driven car, a neutral position in the final drive is required.

POWRi Division II Motorcycle Engine Rules

All chain driven cars must utilize a production motorcycle engine no newer than the 2014 Model Year (see note for exceptions). These engines are allowed a maximum displacement of 1003cc. Engines must be four (4) cylinder and inline. All production motorcycle engines must have a clutch in place and it must be operational. The clutch basket and clutch spring tension can be changed. The transmission must be in the stock configuration. The engine must be able to be turned over in and shifted through all gears.

Production motorcycle engines must use original manufacturer’s OEM engine crankcase, cylinder jugs and/or engine block, OEM cylinder head, OEM camshafts with stock duration and lift, OEM pistons, OEM crankshaft and OEM valves. The same combination that was standard out of the factory when new must be used.

Connecting rods, and valve springs, valve spring retainers and keepers may be replaced with aftermarket products, however valves, valve springs, valve spring retainers, keepers, and connecting rods made of titanium are NOT allowed.

Lightening the engine block or cylinder head is limited to removing material for the express purpose of fitting the engine into the chassis. Lightening of the crankshaft beyond minimal material removal for balancing is NOT permitted.

Welding on the cylinder head is NOT permitted. Porting of the cylinder head including intake matching is NOT permitted. Machining, grinding, sanding, or etching of any kind of the intake or exhaust ports is STRICTLY PROHIBITED. No altering of the shape and/or size of the intake and exhaust ports from original manufacturer specifications.

No titanium connecting rods, titanium valves or titanium valve springs unless originally supplied from the original manufacturer.

Any type of Variable Valve Timing cannot be utilized on motorcycle engines.

Chain driven cars must use one of the following ECU/ignition systems:

1. Stock production OEM ignition and ECU system as supplied by the engine's original manufacturer
2. Stock OEM ignition and ECU system with Guhl programming, otherwise known as "reflashing."
3. Dynojet Power Commander V Ignition and Fuel Injection Module
4. Odum Specialties IG Controller (Optional Throttle Positioning Sensor is allowed)

The use of electronic logic processors of any type to control any function of the race car suspension and/or any system for gathering continuous data from any function of the suspension are strictly prohibited. The use of electronic logic processors to record continuous data from the race car are limited to functions of approved ignition systems and wireless systems housed in a single unit, independent of any other device, and unable to transmit to or from any other device while on-track. (Examples of approved devices include onboard cameras, lap timers, etc)

Traction Control is illegal: No Glycol based coolant.

Any engines found to be outside of the prescribed rules in this section and sub sections, will result in disqualification from the entire event and forfeit all points and monies earned for the event only.

Equalization: As the POWRi II division grows, it will attempt to equalize competition, we reserve the right to adjust the rules with at least a 2 race notice. When the current rules have been shown to favor a particular interpretation, or a certain make of engine, we will work to adjust the rules in as inexpensive way as possible, within a reasonable amount of time.

Any engines not covered by the preceding specifications must be submitted, in writing, for approval prior to entering competition.

Fuel: Pure methanol with no additives (top lube is ok) is required for all driveshaft driven cars. Methanol or gasoline is allowed for chain driven cars. No additives are allowed (top lube ok), including but not limited to, acetone, nitromethane, nitropropane, nitrous oxide, propylene oxide or any other oxygenating agents.

All fuel is subject to testing at any time. Any fuel that does not conform to POWRi II standards, as administered at the track, will be considered illegal. The use of illegal fuel will result in disqualification from the entire event. No monies or points will be given to the driver or car owner. A three (3) race suspension of the offending car owner will be enforced.

Fuel tanks: Must be carried on the centerline of the chassis and must be mounted behind the driver. For driveshaft driven cars a conventional midget style tail tank and bladder meeting SFI specification 28.2 is required. Maximum capacity for fuel tanks of this design is twenty-seven (27) gallons.

For chain driven cars fuel tank meeting SFI specification 28.1 is required. This tank must not protrude beyond the rear most cross member of the chassis. Maximum capacity for fuel tanks of this design is five (5) gallons. Cars utilizing this style tank must use a tail tank cover resembling a traditional midget style tail.

There will be no minimum capacity of the fuel tank. All fuel tanks must have a minimum of four mounts to the chassis. Fuel tanks may not be mounted to the chassis utilizing any portion of the access plates or the nut plates bonded into the fuel bladder. A protective cover may be used on the top of the tail tank providing it is no more than 9 inches in height, 12 inches in length and not wider than the top (head rest) of the tank.

Notes: It is highly recommended that all chain drive cars run a fuel tank with bladder system meeting SFI specification 28.2. **By 2017, all cars will be required to have the proper fuel tank and bladder system.**

Tires and Wheels

Hoosier tires are required on all four corners; right rear must be an SP 2, 3, or 4. Left rear must be a D-12 or harder.

Wheels: The rim diameter must be 12" or 13".

The front rim width shall not exceed 8".

The left rear rim width shall not exceed 8"

The right rear rim width shall not exceed 10"

Car and Driver Weight Rules

Driveshaft driven cars must weigh a minimum of **1,100 lbs.**, including water, oil, fuel with the driver seated in the car and race ready.

Chain driven cars must weigh a minimum of **950lbs.**, including water, oil, fuel, with the driver seated in the car and race ready.

Additional bolt on weight must be mounted and fastened to the frame and/or chassis in a secure manner. Weight must be mounted in an area between bottom frame rails, front and rear axles and no higher than mid rails at the cockpit. All weight must be mounted within the confines of the frame. **NO BALLAST/WEIGHT IS ALLOWED IN NERF BARS, BUMPERS, OR FRONT AXLE.**

The use of weight or ballast is NOT RECOMMENDED unless absolutely necessary to meet the minimum required weight.

Rear Drive Cars Only

Driveshaft driven cars: Are limited to a maximum of one (1) inch engine offset, (two inches overall), from the chassis centerline as measured at the centerline of the crankshaft. Engine inclination is limited to forty-five degrees from vertical as measured from the vertical centerline of the cylinder bore.

Cars utilizing a chain driven rear axle: Must have the engine sit directly in front of the driver. The engine may be offset a maximum of six (6) inches as measured from the center of the engine to the center of the chassis.

V type engines are not permitted.

Only inline four (4) cylinder engines are permitted.

Only chain driven or driveshaft driven cars are allowed.

Torque tube type drivelines: Must use only one u-joint. The torque tube must be bolted directly to the face of the rear axle center section without any interruptions; the torque tube must be one solid piece. Torque tube hoop and/or strap is recommended.

Chain driven cars must have the final drive come from the original counter shaft.

Metal chain guards are required for chain driven cars: Chains must be located within the frame rails. Chain guards must be designed in a manner to completely shield and protect the driver and fuel tank from the chain. The chain guard must be made out of stainless, mild steel, or aluminum (.125 minimum for aluminum).

Chain guards must extend from the firewall to the rear of the sprocket on top and from the top of the chain to the floor pan. The guard must also extend from the firewall to the back of the seat on the side of the driver. Chain guards must be designed so as to not allow chains to damage or puncture the fuel tank in the event they become loose from the sprocket or engine.

Radius rods may not be attached within the confines of the cockpit.

The driver must be seated behind the engine.

Wheelbase:

Minimum 64"

Maximum 76"