

NEEDMORE SPEEDWAY 2017 CRATE LATE MODEL ENGINE RULES

Engine in car must match manufacturer of body used. Example: Ford Thunderbird must run Ford Engine: Camaro must use Chevy Engine: Dodge Intrepid must run Mopar Engine.

General Engine Rules Common to all Makes:

CARBURETOR

1. Any 750 with baseplate, Venturies, throttle shafts, and butterflies meeting factory specs. Checked with go no go gauges. Baseplate can be no more than .780 thick
2. May remove choke horn and butterfly.

INTAKE MANIFOLD

1. Any cast iron or aluminum intake.
2. No porting, polishing, squaring/gasket matching of ports. When using SPEC aluminum heads, you may gasket match intake port opening no more than ½" (.500") deep into runner. **NO MATCHING ON HEAD SIDE.**
3. May run 1" spacer plus two gaskets not to exceed 1.150 total thickness
4. Turtle OK not altered
6. Directional spacers OK.
7. All intakes must be from a recognized name brand intake manufacturer, ex Edelbrock, Brodix, Holley, Weiand, etc. **MUST** have manufacturers name and part number intact and unaltered. **NO** import manifolds allowed.

FUEL PUMP AND FUEL CELL

1. Stock mount fuel pumps or belt driven pumps ok.
2. No electric fuel pumps

WATER PUMP

1. Stock mount **ONLY.**
2. Electric fans OK.

IGNITION

1. Any battery operated.
2. No crank trigger ignition, & No Magnetos
3. **NO** Electronic Traction Control device!!
4. MSD Boxes may not be mounted in driver's cockpit. The trigger wiring Harness (ie. green and purple wires) must go straight from box thru firewall and follow along engine side of firewall, and be easily accessible for inspection. NS reserves the right to inspect MSD boxes at any time. If a traction control device is found it will be confiscated by NS and **SEVERE** penalties will levied against the infracting team found to be using ETC.

RADIATOR

1. Must be close to stock location, mounted in front the motor.

ENGINE BALANCING

1. Engine balancing permitted

HARMONIC BALANCER

1. Any Harmonic Balancer
2. Balancer may be pinned.

TIMING GEARS

1. Timing chain and gears ONLY
2. NO gear drives, or belt drives

STARTER

1. Must have operating starter.

CRATE ENGINE RULES:

<http://nesmithracing.com/weekly/drivers/rules/>

All Crate (602, 604,525) Engines will compete under Nesmith Late Model racing series rules.

Chevy Engine Rules

2. Chevrolet 350 cubic inch + .060.
3. Cast iron blocks ONLY. Factory production, GM Performance Parts, World Products, or Dart blocks as long as block remains same configuration of Stock Chevy blocks. NO lightening of any blocks allowed.
4. Must have stock oiling systems. No dry sump systems.
5. May have straps on stock main caps. After market steel caps-straight bolt or angle splayed caps OK.
6. No oversize valve lifter holes.
7. Oil coolers - OK
8. Accu sump OK - Pressurized accu sumps OK

CRANKSHAFT

1. Crank must be factory stock stroke.
2. Stock stroke for engine used. 3.48" Chevy
3. Balancing OK
4. Cross Drilling OK
5. No knife edge or winged cranks.
6. Any after market forged steel or cast production type crank stock stroke for engine used. No Billets. Minimum rod pin diameter 2.00 inch.
7. Crank weight 48 lbs. minimum Chevy engine.

CONNECTING RODS

- 1.Any forged steel Sportsman connecting rod with the following dimensions: 7/16 rod bolt, 5.7" Connecting rods not to exceed \$750 advertised retail cost. The rod must be easily identified.**
- 2. May polish beams.**
- 3. May use after market rod bolts.**
- 4. No Titanium Rods - No Carrillo Rods.**
- 5. No profiling of rods, no cnc machining of center of beam, no removing of manufacture name and rod size.**

PISTONS

- 1.Any flat top piston.**

HEADS

- 1.Chevy, OEM or Performance cast iron heads, or Brodix "SPEC" Aluminum head, only heads permitted.**
- 2.Milling heads accepted.**
- 3.Multi angle valve job permitted**
- 4.Maximum intake valve size 2.02", Maximum Exhaust valve size 1.6", Hollow Stem valves permitted.**
- 5.NO titanium valves permitted**
- 6.May use any valve spring, valve retainer, oversize valve stem, lash cap, any steel pushrod, screw in studs, guide plates, stud girdle, any stud mount roller rockers. Stud must go thru center of rockers.**
- 7.NO shaft mounted rocker systems**
- 8.NO porting, polishing, gasket matching, or coating on inside of head runners. No Epoxing in runners. No short side radiusing. Must be able to see and feel the defined raised lip of original bowl in the cylinder head, in all areas of the bowl, AND All bowl work must Remain concentric with the valve guide, and NO machined or grinding work more than .650" below the 45 degree valve seat. Any work done more than .650" below valve seat will be deemed port work NOT part of the valve job. Any completely smooth blends, of the bowl on the short side (even though you can see where the cutter stops) will be considered short siding, again must be able to see and feel the defined raised lip of the original bowl. Needmore Speedway has developed go no go gauges for the valve pockets to determine legality.**
- 9.NO altered or ground off casting numbers.**
- 10.Chevy Vortec head permitted casting No's. 12554290-10125320-12552520-13555690-10239906- & 062.**
Total intake runner volume not to exceed 173CC. Total runner volume Exhaust runner not to exceed 64CC.
- 11.Chevy Phasell cast iron bow tie head (new style), part number 1013492, casting number 140110034 allowed.**
Maximum runner volume on intake not to exceed 184CC.
- 12.New Chevy Vortec/Bowtie Head part #25534351 Ok. Maximum runner volume 186CC. Maximum**

Exhaust runner volume 69CC.

13. Dart Iron eagle 180 head permitted (part#'s 10110010, 10110010F, 10120010). 182cc Maximum intake runner volume, 77cc maximum exhaust volume. 2.02" Intake valve max, and 1.6" exhaust valve max. NO Machined cuts more than .700" below valve seat. NO Iron Eagle 200,215, or 200,215 Platinum heads allowed

CAMSHAFT

- 1.Any flat tappet cam
- 2.Stock diameter lifters ONLY .842", OEM size to make of engine, NO ceramic foot lifters allowed, all lifters must have a magnetic base.
- 3.NO roller cams or lifters
- 4.Cast iron stick ONLY, NO billet cams.

2017 Needmore Speedway FORD ENGINE RULES

HEADS

- 1.Sportsman M-6049-N351 or M6049-N352 heads allowed. NO after market heads. N351 head maximum intake runner volume 195CC, Exhaust runners 80CC maximum. N352 head maximum intake runner volume 188CC, and Maximum exhaust runner volume 77CC. Combustion chamber volume either head, 62CC. NO Tolerance. Maximum valve size 2.02" intake, & 1.65" exhaust. May use Brodix "SPEC" aluminum heads, Brodix Spec Head 50cc Minimum Combustion Chamber. Hollow Stem Valves Permitted any Head. No Angle Milling Ford Brodix Spec Head!!
- 2.Cylinder head must be unported. NO porting, polishing, gasket matching, or coating on inside of head runners. No Epoxing in runners. No short side radiusing. Must be able to see and feel the defined raised lip of original bowl in the cylinder head, in all areas of the bowl, AND All bowl work must Remain concentric with the valve guide, and NO machined or grinding work more than .650" below the 45 degree valve seat. Any Work done more than .650" below valve seat will be deemed port work NOT part of the valve job. Any completely smooth blends, of the bowl on the short side (even though you can see where the cutter stops) will be considered short siding, again must be able to see and feel the defined raised lip of the original bowl.
- 3.Stud mount rockers ONLY, stud must go through center of rocker arm. No shaft mount rockers.

BLOCK

- 1.M6010-D351, M351, or N351 are acceptable blocks. N351 block will cost the racer the least amount money on machine work, and would be preferred.
2. Dart Block Part #31384195, and 31385195 allowed. World Products Block part # 087150 and 087152 allowed.
3. No lightening of engine blocks allowed.

CRANKSHAFT

1. Any cast or forged steel (No Billets) crankshaft must have a stock stroke of 3.50", and weigh a minimum of 54lb. No knife edging or winging of cranks. Ford part #M-6303-G351 is a good place to start, The M-6303-G351 is to lite.
2. Ford may run after market crankshaft, but must meet all of above criteria.

OIL PUMP

1. Wet sump oil system, or may use an external single stage belt driven oil pump. Oil must be pumped from, and returned to oil pan.

CONNECTING RODS

1. Any forged steel sportsman rod, 6" maximum length, 7/16 rod bolts permitted. Connecting rods not to exceed \$750 advertised retail cost. Rod must be easily identified.
2. NO Billet rods, or Carilla rods.
3. May polish beams, No profiling or CNC machining in center of beams.
4. Manufacturer's name and Rod size must remain on rod.

PISTONS

1. Any flat top piston.

CAMSHAFT

1. Any flat tappet cam
2. Stock diameter lifters ONLY. .875", OEM size to make of engine, NO ceramic foot lifters allowed, all lifters must have a magnetic base.
3. NO roller cams or lifters
4. Cast iron stick ONLY, NO billet cams.

2017 Needmore Speedway MOPAR ENGINE RULES

BLOCKS

1. 360 Mopar production cast iron blocks permitted, also permitted is the Mopar performance cast iron "A" engine block or R3 block part #P4876792AB (59 degree valve tappet) or P4876672AB (48 degree valve tappet) is a good starting point World Product, or Dart Blocks allowed must remain the same configuration of stock Mopar blocks.
2. Block may ONLY have a Maximum cylinder bore of 4.030".
3. Wet sump oil system ONLY. No dry sumps.

CRANKSHAFT

1. Any Forged steel or cast cranks ONLY. No Billets. Mopar performance crankshafts part #P5007253A is a good start. Must have stock stroke 3.58", 50lb minimum weight. Minimum rod pin diameter 2.100". NO knife edging, or winging of crankshaft. Balancing permitted.

CONNECTING RODS

- 1.Any forged steel sportsman rod, 6" maximum length, 7/16 rod bolts permitted. Connecting rods not to exceed \$750 advertised retail cost. Rod must be easily identified.**
- 2.NO Billet rods, or NO Carillo rods.**
- 3.May polish beams, No profiling of cnc machining in center of beams.**
- 4.Manufacturer's name and Rod size must remain on rod.**

PISTONS

- 1.Any flat top piston permitted.**

CYLINDER HEADS

- 1.Mopar W2 cast iron cylinder head permitted part number P5249769 (59 degree block) 180cc max intake runner volume, & 78cc max exhaust runner volume. P5007445 (48 degree block) 190cc max intake runner volume, 78cc max exhaust runner volume, or P5007445AB 196cc max intake runner volume, 78cc max exhaust runner volume, and casting numbers must remain on head unaltered. 64cc minimum combustion chamber volume. NO TOLLERANCE. May use Brodix "SPEC" aluminum heads. 2.2.02" maximum intake valve diameter, and 1.60" maximum exhaust valve diameter. No Titanium valves, Steel or Stainless Steel valves ONLY. 11/32" minimum valve stem diameter. Multi angle valve job permitted. Hollow Stem Valves Permitted any cylinder head.**
- 2.No porting, polishing, gasket matching, or epoxying of runners. No short side radiusing. No bowl work more than .500" below 45 degree valve seat cut. Must be able to see and feel the defined raised lip of original bowl in the cylinder head, in all areas of the bowl, AND All bowl work must Remain concentric with the valve guide, and Any completely smooth blends, of the bowl on the short side (even though you can see where the cutter stops) will be considered short siding, again must be able to see and feel the defined raised lip of the original bowl. Milling of heads of accepted, (note combustion chamber limit above)**
- 3.May use any diameter valve spring. Any Valve retainer, 11/32" minimum valve stem diameter. Any Steel push rod. Steel Valve keepers ONLY. Mopar may run shaft mounted rocker system.**

CAMSHAFT

- 1.Any flat tappet cam**
- 2.Stock diameter lifters ONLY .904", OEM size to make of engine, NO ceramic foot lifters allowed, all lifters must have a magnetic base.**
- 3.NO roller cams or lifters**
- 4.Cast iron stick ONLY, NO billet cams.**