

MODIFIED ENGINE

BIG BLOCK-BIG SMALL BLOCK (OVER 358 CD) ENGINE SPECIFICATIONS

(Afton Motorsports Park allows various engine combinations. This is a guideline for the more popular).

ENGINE:

1. Any cast iron block.
2. Only normally aspirated engines are permitted.
3. Maximum displacement of 467 cu.
4. No reverse rotation engines.

CARBURETOR:

1. 1 – 4 barrel carb.

INTAKE MANIFOLD:

1. Optional as to design or manufacturer, but the manifold must allow for the mounting of only one 4 barrel carburetor.

CYLINDER HEADS:

1. Any 2 valve per cylinder head.
2. Optional as to design or manufacturer but must be made of cast aluminum or cast iron only.
3. Valve sizes are optional.
4. Any form of porting is permitted.
5. Titanium valves and retainers are permitted.
6. No hollow stem valves or liquid cooled valves are permitted.
7. Only 2 valves per cylinder are permitted.
8. Only one spark plug per cylinder.

CAMSHAFT:

1. Optional as to design or manufacturer but camshaft must be in block in stock location.
2. No overhead cams are permitted.

PISTONS / RAMS / CRANKSHAFT:

1. Any 3 ring piston, any steel rod/crankshaft – no titanium.

IGNITION:

1. Any kind of ignition is permitted, as long as it is mechanically driven in the stock position.
2. No crank trigger ignition systems are permitted.
3. Only one ignition coil and one ignition box (amplifier) are permitted on the car.
4. Only one spark plug per cylinder is permitted.

5. Traction control devices are not permitted. Traction control devices that use the brakes are also illegal.
6. Ignition boxes must remain as manufactured with no internal or external alterations. NOTE: Ignition boxes may be swapped or confiscated by Speedway at any time.

LUBRICATION SYSTEM:

1. Conventional or dry sump may be used.

FUEL:

1. Only racing fuel or pump gas is permitted – small block under .360 C.I. can run alcohol.
2. No nitrous or any other additives are permitted.
3. All fuels are subject to random testing at each track.
4. No electric fuel pumps are permitted.

358 MODIFIED ENGINE SPECIFICATIONS

ENGINE:

1. This class is reserved for North American passenger car V-8 engines with cast iron blocks and iron cylinder heads. An option for Brodix aluminum cylinder heads is available.
2. All engines must maintain stock bore and stroke combinations
 - Engine Maximum Overbore C.I.
 - Chevy 350 C.I 4.00” bore x 3.480” stroke. +.070 = 363
 - Chry. 360 C.I 4.00” bore x 3.578” stroke. +.020 = 364
 - Chry. 340 C.I 4.04” bore x 3.313” stroke. +.060 = 350
 - Ford 351 C.I 4.00” bore x 3.500” stroke. +.060 = 363
3. Engines may not pump more than specified cubic inch.
4. Normally aspirated engines only are permitted. No reverse rotation engines.

BLOCKS:

1. Stock OEM and cast iron performance blocks such as Chrysler (R) Block, Chevy Bow-Tie, Ford-SVO, and DART are permitted. NO Aluminum blocks.

CYLINDER HEADS:

1. **NO SB2 HEADS**

CRANKSHAFT:

1. Any steel or cast iron crank is permitted providing it maintains stock stroke as manufactured for the engine block used.

RODS:

1. OEM stock production or aftermarket solid steel rods are permitted
2. No titanium or aluminum! Maximum rod length will be 6”.
3. Engines with longer than 6” rods must meet stock OEM specs.

PISTONS:

1. Any make 3 ring flat top aluminum pistons only.

VIBRATION DAMPENERS:

1. May be any stock OEM or aftermarket steel or cast-iron only.
2. No fluid or friction dampeners permitted.
3. Must be one piece construction only.
4. No bolts or snap-ring assemblies.
5. Safety snap rings are permitted.
6. Rubber-lined is permitted.

CAMSHAFT:

1. Optional as to design or manufacturer but camshaft must be in block in stock location.
2. No gear or belt drives are permitted.
3. No overhead cams are permitted.
4. Roller and or shaft rockers are permitted.
5. Stud girdles are permitted.
6. Lifters must retain stock diameters, angles and positions. Re-bushing for wear is permitted.
7. No lash caps permitted

INTAKE MANIFOLD:

1. Any American production cast aluminum single plane manifold that allows for the mounting of one 4 bbl. carburetor.
2. Part and casting numbers must remain visible and may not be removed by grinding or other.
3. Manifold may be ported as seen fit, but no material may be added.

CARBURETOR:

1. One 650 or 750 cfm carburetor. Holley HP series allowed.
2. The carburetor must maintain stock venturi and throttle bore dimensions.
3. The carburetor must remain stock in all respects including location.
4. Booster height must remain stock (no cutting or polishing).
5. No visible modifications without disassembly.
6. Go/no-go gauge measurements valid on hot or cold carburetor.
7. Carburetor maximum height measured from bottom of carburetor base to machined horizontal gasket surface of block will be 7” in both front and rear of block.

8. Carburetor modifications permitted are listed below. Any other modification not mentioned is not legal.
 - Holes drilled in the throttle plates for proper idling.
 - Drilling, tapping and plugging of unused vacuum ports.
 - Welding of throttle shaft to linkage arm.
 - Drilling of idle or high speed air correction jets.
 - Milling of center carburetor body metering block surface maximum of .015” on each side.
 - Removal of choke plate and shaft.
 - The jets may be changed as needed.

IGNITION:

1. Ignition boxes must be mounted under hood, not in cockpit. They must be easily removed for inspection! NOTE: Speedway Management reserves the right to exchange or confiscate ignition boxes at any time.
2. Traction control devices are not permitted. Traction control devices that use the brakes are also illegal. Violators will be suspended from competition for up to one year. Length of suspension to be determined by Speedway management.
3. Ignition boxes must remain as manufactured with no internal or external alterations. No crank trigger ignition systems permitted! Ignition must be mechanically driven in the stock position.
4. One ignition coil and one ignition box (amplifier) permitted on the car. Only one spark plug per cylinder is permitted.
5. Wiring must remain as designed by box manufacturer.

LUBRICATION SYSTEM:

1. Dry sump system permitted.
2. Oil may be in a steel pan only.
3. Oil pan must have 1” inspection hole for connecting rod verification on left side of pan. You will be asked to remove oil pan if no inspection hole is present!
4. No external oil pumps permitted. NO vacuum pumps!
5. No Accu-sumps are permitted.
6. Oil coolers are permitted.

FUEL:

1. Only race fuel, pump gas or alcohol permitted.
2. No nitrous or any other additives are permitted.
3. All fuels subject to random testing at the track.
4. Fuel pumps must remain in and be driven as stock OEM equipment.
5. No electric pumps are permitted.