

BIG DIAMOND RACEWAY

2010 MODIFIED ENGINE RULES

1/29/09

PREFACE:

In an effort to both control costs, and keep competition fair BD Raceway, LLC has adapted the 10.5:1 Brodix Spec Head and our previous steel head 9:1 combinations as the engines of choice at Big Diamond Raceway. In 2009, these engines may go thru a vigorous inspection during the season. An outside tech group may be brought into randomly check engines and may require the heads to be pulled to check for engine spec. infractions.

GENERAL ENGINE RULES

1. All engines must maintain stock bore and stroke combinations

Engine Maximum Overbore C.I. Engines may not pump over specified cubic inch.

Chev 350 C.I. 4.00" bore x 3.480" stroke + .070 = 363 C.I.

Chry. 360 C.I. 4.00" bore x 3.578" stroke + .020 = 364 C.I.

Chry. 340 C.I. 4.04" bore x 3.313" stroke + .060 = 350 C.I.

Ford 351 C.I. 4.00" bore x 3.500" stroke + .060 = 363 C.I.

2. Normally aspirated engines only are permitted. NO reverse rotation engines.

3. **BLOCKS** – This class is reserved for North American passenger car V-8 engines with iron blocks. OEM production engine blocks under 360 cubic inches but no less than 340 cubic inches. Aftermarket iron blocks, such as; Dart Iron Eagle or 'Little M', Merlin, Bow-Tie etc., copies are permitted but must be equivalent to its stock counterpart. OEM deck height and cam location are required on all blocks. **No aluminum blocks!**

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

5. **RODS** – Any factory production or aftermarket cast iron or forged solid steel connecting rod. No aluminum, titanium, polished or billet. 6" maximum rod length except for Chrysler which may be 6.125". No machine work may be done to connecting rods except for shot peening, and normal balancing and resizing procedures.

NO titanium or aluminum!

6. **PISTONS** – Any make 3 ring flat top aluminum pistons ONLY.

7. **CAMSHAFT** – Optional as to design but camshaft must be in block in stock location. No overhead camshafts permitted.

8. **INTAKE MANIFOLD** – Any American production cast aluminum single plane manifold that allows for the mounting of one 4 bbl. carburetor. Manifold may be ported as seen fit but no material may be added.

9. **CARBURETOR** – A **Holley 750 CFM , Part # 0-80535-1 is permitted.** No external modifications visible looking into the venturi and bores. Must remain stock venturi, throttle bore, and booster dimensions. No cutting or polishing and must remain stock appearing in all respects. You may remove the choke horn. Go/no-go gauge measurements valid on hot or cold carburetors. **Or One (1) Holley 650 CFM, Part # 4777, Model # 4150**, with primary venturi 1-1/4", secondary venturi 1-5/16". Throttle bore 1-11/16"

10. **OIL SYSTEM** - No dry sump oil system and no external oil pump or oil system allowed.

11. **Fuel** – Gasoline or methanol permitted. No oxygenated fuels, top lubes, performance enhancement additives or any other kind of additive permitted. The base fuel for our testing will be track fuel.

12. **Ignition** – All ignition wires, and all ignition boxes, **may not pass through or be located in the drivers area.** The only exception is a single power wire. No ignition wires may be grouped in with any other wire of any kind, and may not be covered by tape or any other kind of wire loom! All ignition wires must be clearly visible and routed in a way that is easy to follow. The white and any other unused wire must be clipped as close as possible to the box. **Adjustable timing control or any other remote or manual timing control will not be allowed.**
Positively No traction control devices.

13. No electric or cam driven fuel pumps allowed.

14. **Weight** – 10.5:1 Brodix Spec. Head = 2350 lbs.
9:1 Steel Head = 2350 lbs
Sportsman Combo running w/ mods = 2350 lbs
Any other combination may have substantial weight added per tech and mgmt.

10.5:1 BRODIX SPEC. HEADS

- No work allowed on Brodix aluminum cylinder heads. Head must remain as manufactured with the following accepted: A justifiable and reasonable enlargement of valve seat concentric to the valve guide as the result of a valve job is permitted
- Heads will be supplied with CNC bowl blend, and CNC combustion chamber.
- No grinding or blending of CNC work is permitted.
- No grinding or polishing permitted of any kind permitted anywhere on the casting.
- No use of any substance that may change or alter the shape finish or size of ports or combustion chamber is permitted.
- A maximum valve size of 2.080 intake and 1.600 exhaust will be permitted for all spec heads.
- No Titanium valves are permitted.
- Titanium retainers are permitted.
- Valve seats and guides are to remain as manufactured and in their cast positions.
- Valve stem angles are to remain as manufactured. The original seat center locations as provided by Brodix may not be altered. Any valve job permitted on steel seat concentric to the guide, provided aluminum is not altered.
- No tapering or re-shaping of valve guides will be permitted
- Maximum compression ratio may not exceed 10.5:1.
- Only 11/32" valve stem diameter permitted.
- Spec cylinder head serial numbers must remain on the head and may not be defaced or altered.
- No welding or epoxy modifications are permitted to the original head castings.
- Angle milling maximum 1.0 degree. No work allowed on Brodix aluminum cylinder heads. Head must remain as manufactured with the following accepted: A justifiable and reasonable enlargement of valve seat concentric to the valve guide as the result of a valve job is permitted
- Only Brodix may repair heads.

Heads may be purchased and repaired thru Big Diamond and repaired thru BD Raceway,LLC. All Brodix spec heads are the same and there is no penalty using Grandview's or DIRT versions at Big Diamond Raceway. The DIRT version heads do have an additional stamp; however, our same generic versions of spec. heads are legal at DIRT 358 events (per Cory Reed of DIRT).

9:1 STEEL HEAD ENGINES

- Flat top or dish pistons only. No dome. No offset pins. Three ring grooves. Tops of the pistons may be cut for proper compression ratio but must remain flat or dished.

- 9:1 maximum compression ratio. Maximum reading on the “whistler” 9:4.
- Only cast iron OEM stock production cylinder heads, manufactured by the type of engine block used. No after market heads are allowed.

Examples:

Chevrolet: Any OEM stock production iron cylinder heads, or chevy bowtie iron heads. **No raised runner or Dart heads allowed.**

Ford: Any OEM stock production iron cylinder head or SVO Ford cast iron heads are allowed. **No Boss Ford or Boss Ford type raised runners allowed.**

Chrysler: Any OEM production iron cylinder head or MOPAR D.C. W2 type heads are allowed. **No hemi heads allowed.**

- Ports may be matched to intake manifold but must not exceed ½” depth. Sandblasting, bead blasting, porting, polishing, and welding prohibited. Valve stem size and valve guide location must remain stock. Valve seat area may be opened or machined but not to exceed 1” in depth from the bottom of the valve seat. (1” in depth in the valve seat area does not allow you to machine over the hump into intake ramp machining should not be visible looking into the intake or exhaust ports perpendicular to the ports face.) Combustion chamber modifications accepted. Heads may be ground for large push rods. 3/8” thick exhaust port plate allowed. Valves must remain in stock location.
- No acid dipping or porting allowed. No use of any substance that may change or alter the shape finish or size of ports or combustion chamber is permitted.
- Titanium valves and Titanium retainers are permitted.
- Cylinder head serial numbers must remain on the head and may not be defaced or altered.
- No welding or epoxy modifications are permitted to the original head castings.

PENALTIES from DISQUALIFICATION:

Big Diamond Raceway is a fair racing facility. We will have minor and major infractions, decided at the discrepancy of head tech official and approved by track management.

MINOR INFRACTIONS:

An infraction **not** intentionally intended to cheat the track or other competitors. Examples are weight infractions, minor carburetor gauge infractions, etc...

- Will lose all money won for the evening.
- Will lose all points for the evening, but will receive average money won handicap points (therefore you will not benefit from disqualification).

MAJOR INFRACTIONS:

An infraction intentionally intended to cheat the track or other competitors, knowingly giving yourself an unfair advantage. Examples are traction control, tire softeners or hardners, illegal engine modifications (driver/owner are responsible for engine, know what you are getting from your builder), etc...

- Will lose all money won for the evening.
- Will lose all award points for the year.
- Will lose all average money handicap points, and will be given feature win handicap money for the night. The following week you will begin as a newcomer with handicapping money from the disqualification.
- Fine may be imposed.
- Part may be confiscated (if you do not give up part suspension may occur).

Please do not put us in a position to make a major infraction decision, it is an embarrassment to you and the track.