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2014 Rule Change Proposal

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Note: Proposals must be submitted to the Inboard Office by December 1, 2013 to be considered.

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Check all that apply:

General Safety Rule
General Racing Rule
Stock Class Technical Rule * x
Modified Class Technical Rule *

Affected Class(es): Jersey Speed Skiff

Rule number: **Rule 54 - JERSEY SPEED SKIFF CLASS; Section 54.2**

Page number of rule: Page 46 & 49

Affected Rule: Section 54.2

The only engines permitted shall be one (1) 283 C.I.D. or one (1) 305 C.I.D. Chevrolet automotive or marine engine.

Proposed rule: Change Section 54.2 to read:

The only engines permitted shall be one (1) 283 C.I.D. or one (1) 305 C.I.D. or one (1) 350 C.I.D. Chevrolet automotive or marine engine.

And add new section 54.5 as follows:

54.5 350 C.I.D Engine - All parts inside the engine must remain completely stock as furnished by the original engine manufacturer except as follows:

54.5.1 Block - The engine block shall be a cast iron 350 Chevrolet V-8 with a maximum over bore of .035 inches (4.035"). The stroke shall be 3.48 inches and the minimum deck height shall be .057" measured with a compressed head gasket from the top surface of the gasket to the top of the pistons. The block may be align bored, decked, bored, honed, squared and de-burred at the engine builders' discretion. The flywheel must be an automatic or standard transmission type or optional use of an aluminum flywheel. Any type or style of valve covers, timing chain cover or

motor mounts/supports may be used. The use of sleeves for the purpose of making repairs only, shall be limited to (3) cylinders. Crankcase breathers may vent the engine in any manner. Valley trays under the intake manifold are permitted.

54.5.2 Oil Pan - Any oil pan, mechanical oil pump driven off the distributor and pickup may be modified in any manner provided the engine remains a wet sump system and that all oil lines and hoses remain inside the pan. The oil pan shall mean from the mounting surface of the block for the pan, down. There must not be any modifications to the main bearing caps for attaching of windage trays, etc., other than extended studs.

54.5.3 Crankshaft - The crankshaft shall be a cast iron or forged steel replacement part, item must be dimensionally identical and overall weight equal to or heavier than stock (50.0 lbs.), with no knife edging, grooving, cross drilling, or enlargement of oil passages permitted. Chamfering of oil holes is permitted. Crankshafts may be chromed, reconditioned and balanced provided no alterations are made to the standard stroke of 3.48”.

54.5.4 Pistons - Pistons must be original GM style forged or cast aluminum replacement or reproductions and are not to be machined in any way other than for clearancing of wrist pins or balancing (Wrist pin bosses or back side of piston tops only).

Piston tops MAY NOT be altered or machined for deck clearance and must maintain minimum of .245" from top of first ring land to top of piston. Pistons shall have flat tops, four (4) valve recesses of original cc depth. Full floating wrist pins may be used. Wrist pins must retain stock dimensions and weight. Any full complement of rings may be used provided no alteration is done to the ring grooves in pistons, and the compression rings will be limited to one (1) ring per groove (no spacers). Compression Rings MUST be gapped type with no overlap what so ever. Pistons must be aligned properly and may not be rotated 180 degrees in the cylinder. Pistons tops may not be coated.

54.5.5 Connecting Rods - Any large journal magnetic steel type connecting rods may be used that meets Std length dimensions 5.7 inches and is equal to or heavier than stock with Cap and bolt included. No titanium OR aluminum rods permitted. Flashing removal, shot-peening and polishing rods is permitted as long as rod has not been altered or lightened in any way (one rod must remain untouched on the small end and one rod must remain untouched on the large end throughout the balancing procedure). Any stock replacement rod bolt and nut that fits without machining or drilling may be used. Any replacement rod and/or main bearings may be used.

54.5.6 Camshaft - Any aftermarket cam manufacture may be used providing it meets the OEM profile under these class rules **for GM part #3736097 or #3736098**. Stock or stock replacement solid valve lifters are permitted. Only stock or roller type timing chain and gears are permitted. It shall be permissible to advance or retard the camshaft from its stock position. NO machining other than for the indexing of the camshaft alignment pin and for the mounting bolts is permitted on the timing gears.

54.5.7 Cylinder Heads - All cylinder heads must be either GM casting # 333882 or 3932141. The minimum combustion chamber volume shall be 72cc per chamber. The intake and exhaust passages, as well as the combustion chamber, shall not be ground, polished or enlarged by any means. The intake Port Volume will be 165cc +2/- 5cc, The Exhaust Port Volume: 65cc +2/- 5cc. Cylinder heads may be machined for valves seals, screw-in or pinned rocker arm studs, for marine conversions and on contacting surfaces for the attachment to the block. Use of head gaskets is mandatory. No change is permitted in the valve area, angle of valve seat and the valves will remain in stock shape and size. Three angle valve seats are permitted in the head as follows: 1 approach; 1 seat; 1 bottoming. No angle is to be wider than .125". Valve seat width and no seat shall be less than .062" (to remove trick valve jobs and promote longer valve seat life). The rocker arm ratio is to remain 1.5 to 1. Rocker arms, rocker balls, pushrods, retainers, and keepers must be stock Chevrolet or steel replacement parts sold over the counter for the automotive trade. Rocker arms and rocker balls may either be stock Chevrolet or replacement parts sold over the counter, or roller rockers may be used provided they maintain the stock rocker ratio (1.5:1) and a stud mounting configuration no larger than 7/16". The use of shaft style roller rockers are prohibited. The use of poly-locks and guide plates is permitted. Valves must be stock Chevrolet, GM, or any OEM type valve (stainless permitted). The intake valve diameter shall be 1.94" Straight 11/32" Stem size and exhaust 1.50" Straight 11/32" Stem size. Swirl polished valves are permitted (due to limited availability of reliable stock units) as long as the stem remains 11/32" throughout its length. Shims and any single winding 1.250" OD sized valve spring and dampener is permitted, providing no change or machining is required for their use. Only log type, aluminum, water cooled exhaust manifolds can be used and all gases and water must be mixed no farther than eight inches (8") from the exhaust manifold outlet and must pass through the transom.

*Only the following non GM cylinder heads are legal as stock replacements:
World Castings # 043600; or DART # 10021070 .*

54.5.8 Intake Manifold- must be an aluminum Edelbrock Torker II part #P/N5001 (for small block Chevrolet). The dimensions of the runners shall be 1.100 by 1.75 inches maximum at the cylinder head gasket face and .925 inches by 2.500 inches maximum adjacent to the plenum area. No grinding, polishing, or enlargement of the inlet or outlet ports or runner areas is permitted. Milling or changes to the shape for the attachment of the carburetor or adapter/wedge is not allowed. Blocking off the heat and water passages is permitted in the intake manifold or with gaskets only. Machining for a steam vent in the intake manifold's normally casted closed rear water plate that leads directly to the head shall be permissible. A carburetor wedge or adapter to compensate for the engine angle may be used only if the total overall height does not exceed three (3) inches. This includes any gaskets or throttle linkage plates mounted between the intake manifold and the carburetor. The intake manifold must not be painted, dyed, anodized or in any other way finished.

54.5.9 Carburetor - The carburetor shall be limited to one (1) mass production American make, having no more than four (4) venturis. The throttle plate shall have holes no larger than 1.750 inches in diameter. Any type air scoop or velocity stack may be used provided the air intake opening does not face forward. This condition pertains to whether the device is attached to the carburetor or engine hatch cover. No forward facing air deflectors allowed for air intake. Any fuel filter and mechanical or electrical fuel pump, with or without regulator may be used. (*Fuel—see General Technical 40.18.12*).

54.5.10 Distributor - Any electric or single fire distributor that fits the 283/305 C.I.D. Chevrolet engine without adaptation is permitted. Magneto or crank triggered ignition, multi-spark discharge ignitions or remote controlled ignitions systems from inside the cockpit are prohibited. Tach drive distributors are permitted. Removal of the vacuum advance, altering the mechanical advance curve and fastening of the breaker plate, shall be allowed. Spark plugs, plug wires, distributor cap and ignition coil must be an OEM or stock replacement parts on the open market. Any single fire discharge ignition may be used as an alternate ignition providing it is operated on 12 volts.

54.5.11 Cool Cans- All devices to cool and reduce fuel temperature are strictly prohibited.

54.5.12 Inspections - In the event that a new record is established, the entire engine must be completely dismantled to determine stock status and 6 point minimum inspection for the hull. At any race other than the Nationals and/or Divisionals, the race committee can have any boat or any number of boats inspected and may use the 7 point inspection procedure for the engine and the 6 point inspection procedure for the hull. Not to preclude a more detailed inspection for both.

54.5.13 Jersey Speed Skiff Inspection Procedure, 350 CID. Chevy engine:

This procedure will speed up inspections at the race site. Equipment needed for Inspectors:

One 6" or 8" degree wheel attached to a distributor rotor.

One dial indicator with 0.500" travel.

One 4"x4"x3/16" steel plate with hole to attach to head bolt.

One piece of wire for pointer.

54.5.14 Procedure to be used for Jersey Speed Skiff Camshaft:

Rotate engine in normal direction until the lifter is on the heel of the camshaft lobe. Set dial indicator on valve spring retainer. Preload dial indicator and set dial indicator back to zero.

Adjust valve lash until dial indicator reads 0.001. Set dial back to zero. Rotate engine in normal direction until dial indicator reads 0.050 on the opening ramp. Set pointer to zero on degree wheel and start procedure as listed.

Camshaft: GM part #3736097 or #3736098

<i>Exhaust Lobe</i>		<i>Intake Lobe</i>	
<i>Lift</i>	<i>Degrees</i>	<i>Lift</i>	<i>Degrees</i>
.050	0	.050	0
.100	8	.100	7
.200	19	.200	18
.300	32	.300	31
.400	62	.394	61
.300	92	.300	88
.200	105	.200	101
.100	116	.100	112
.050	122	.050	118

Maximum lift of exhaust valve must not exceed 0.400 with zero lash

Maximum lift of intake valve must not exceed 0.396 with zero lash

54.5.15 7 Point Minimum Inspection Procedure for 350 cu. in. engine (Not to preclude single item inspection or a more detailed inspection).

- Carburetor throttle plate max size 1.750
- Distributor, See Rule 2(j) or 3(j)
- Intake manifold and cylinder heads must not be polished or ground.
- Cylinder head volume 72cc min. and a combined deck height .057" measured with compressed head gaskets.
- Valve sizes: Intake 1.94" / Exhaust 1.50 each with straight 11/32" stem size
- Bore 4.035 max. - Stroke 3.48
- Profile camshaft to GM part #3736097 or #3736098

Reason for change:

To provide a foreseeable long term update to the Jersey Speed Skiff class power-plant, that is presently racing with outdated engine components. This rule change will provide an alternate engine package for a “Low Cost” power plant, while maintaining the overall power output slightly below present performance levels.

Nearly all rule specific and stock parts for the 283 & 305 are no longer available or are increasingly hard to find, each requiring special BULK orders for the manufactures to even consider production. Rule changes in these engines packages will only slightly offset the high costs for parts, and special orders will still always be required. This practice can no longer be considered realistic for any of our members, especially when acting alone or with limited funds.

This Rule Change proposal will bring the JSS Skiff class to a much more current engine configuration, with all original manufactured and rule specific parts readily available from nearly every vendor. With minor changes, even a manufactured “crate engine” will be a realistic option for budget minded teams. These changes are also performance restrictive by DESIGN and will help limit the incentive to push the “gray” areas within the 283/305 engine rules.

It should be well noted that the majority of all Recreational and Racing Skiffs operating outside APBA are nearly all SBC-350 powered, and most have shown acceptable long term operational stability, while maintaining their performance levels at or below our present APBA operating speeds. This rule also falls close in similarity and design to the 350 rules found in the “SE” class, the H-350, the other (2) JSS sanctioning bodies, and in nearly all active River Skiffs. Presently the 350 configuration outside of APBA, is the most popular engine displacement in a Jersey Speed Skiff by far. With this rule in place, it can only help to acquire active and future racing skiff owner and their boats to this class. Should the 350 power plant require minor increases in its power plant to further equalize it performance relative to the 283/305 engines, than very minor increases in the Cams overall lift and duration will be all that is required.