

## Rules for the APBA Stock Outboard class:

### 300 Super Stock Hydro (300SSH)

**NOTE:** This is an attempt to identify the rules only pertaining to this class. The General Safety and Racing rules, Stock Outboard Racing and Safety rules and Stock Outboard Technical Manual shall prevail in all situations not specifically covered in the following rules.

**Hulls:** Most current 20SSH, 25SSH or CSH type of boats should meet the specifications below:

- a. After plane length shall not be less than 5' 9" (69"). (measured from the trailing edge of the sponsons to the trailing edge of the bottom)
- b. A minimum depth measurement of 1-3/4" between the bottom of the hull and the bottom of the sponson at the trailing edge of the sponson.
- c. A minimum bottom width of the hull measured between the sponsons and air traps of 35".
- d. A minimum boat bottom length not to be less than 8' 9" (105"). Measured from the trailing edge of the bottom to the furthest most point forward along either bottom edge, beside the base of the air traps and sponsons.

A driver has the option to purchase a used hull, build one or buy a new one from a boat builder.

**Engines:** The Model 321/331 Yamato engine must be purchased from Ric Montoya (RPM Marine), Tom Johnston (Johnston Yamatos), Jerry Davids, their designee or their predecessors. Any engines purchased from Mike Ward (Yamato Race Engines Europe), must be drop shipped directly to one of the shops above. Before shipping or buyer pickup, the following will be ensured:

- a. The following wire and lead seals with his trademark are in place: Intake to crankcase and crankcase to block.
- b. All paperwork has been completed: Propeller agreement, EPA compliance, APBA membership card copied and all documents mailed to the APBA.
- c. A kill switch plug has been installed.
- d. The reed stops are within tolerance.
- e. New piston rings have been installed.
- f. The cylinders have been honed.
- g. The exhaust housing has been flattened.
- h. A mag plate lock has been installed.
- i. A 302/321 tuner pipe has been installed and shimmed as necessary.
- j. A 331-cylinder head has been milled to meet current specs.
- k. The gear foot meets all 300SSH measurements with the stock 16mm prop shaft.
- l. A 300SSH, stainless steel, two blade propeller is provided.

**Engine Specifications:** All current Yamato Model 302 – 321/331 specifications apply, except:

- a. On the 302, the 14mm cylinder head must meet a minimum thickness dimension of 1.440" and the minimum CC's are 27.5. The squish band depth shall not be less than 0.025".
- b. On the 321/331, the 18mm cylinder head must meet a minimum thickness dimension of 1.260" and the minimum CC's are 28. It is permissible to use inserts to allow the use of 14mm spark plugs as long as the minimum cc measurements are not affected. The squish band depth shall not be less than 0.025".
- c. The engines may not be bored oversize. Only standard OEM pistons and rings are permitted.
- e. Adding of metal to the fuel tank is permitted to increase volume and any fuel line or fuel filter is permitted. No fuel pumps are permitted.
- f. The 302 & 321/331 spray shield may have one hole on the starboard side for access to the carburetor. This hole may not be larger than 1-3/8". Painting of the shield is also permissible. On the 321/331, no portion of the inner factory baffle or air intake shall be modified in any manner.
- g. The OEM spark plug protector must remain as received from the manufacturer.
- h. Aftermarket spark plug wires are permitted.
- i. The water exit tube must be stock and in the stock configuration as received.
- j. Any additional engine parts that appear to have been altered may be compared to other engines by the inspector for validation if necessary. Any part deemed to be altered, will result in a technical disqualification.
- k. It is permissible to convert a Model 302 into a Model 321/331. When raced as a 321/331, all parts used to switch the models must be used. (Rubber sealed carb funnel, #170 jet, airbox spray shield, baffled tower & 18mm head.
- l. Aftermarket steering bars and thrust brackets are permitted.
- m. Gear foot minimum measurements: (See the Stock Outboard Technical manual for the Model 302 – 321/331 Yamato engine gear foot diagrams)
  - W = 2.225 min.
  - Z1 = 0.200 min.
  - Z2 = 0.195 min.
  - Z3 = 0.150 min.
  - Z4 = 0.150 min.
  - Bulge thickness = 0.225 min.
  - Skeg radius (leading and trailing) = 7/64 min.
  - Nose cone leading radius = 7/16 min.
  - Top of gear foot leading radius (above nose cone) = 7/64 min.
  - Top of gear foot trailing radius (above cone nut) = 15/64 min.
- n. It is permissible to remove the mag stop and drill holes in the cover plate under the magneto to allow water to exit.
- o. It is permissible to follow the Yamato engine enhanced drilling guide for the water inlet hole. This may or may not be necessary for this class due to the low engine height.
- p. A fuel pump vacuum fitting and fuel pump may be added to the 300SSH motors for marathon racing. When the motor is run in the 300SSH class the fuel pump and all extra fuel lines must be removed and the vacuum fitting plugged. The gas tank and gas cap must remain as furnished by the manufacturer. (No welded fittings). A PVC gas cap extension with the necessary fittings for fill and return can be used for marathon racing.

**Engine update:** As of 1/2/16, Model 302 engines may be refreshed only. No additional 302's will be added to the class.

**Engine & Propeller documentation:**

When purchasing a 300 engine from a Stock Outboard certified sealing center, the EPA Compliance document and the 300SSH Propeller Lease Agreement must be completed and sent to the Stock Outboard Chief Inspector (or his designee) by mail or email to be considered a bona fide entry in sanctioned competition.

When purchasing a 300 engine from another member, the 300SSH Sealed Engine Transfer of Ownership document must be completed and sent to the Stock Outboard Chief Inspector (or his designee) by mail or email to be considered a bona fide entry in sanctioned competition.

**Engine protest:** The cost of the shipping, resealing, gaskets and reassembly by an authorized repair center shall be borne by the loser.

**Weight:** Total as raced will be a minimum of 420 lbs. **Age:** Minimum is 14 years with no maximum.

**Speed:** It is the intent of this class to have a maximum speed of 60 mph. If the class exceeds this speed, restrictions will be set to reduce the speed as needed by the SORC.

**Prop shaft depth:** The class will have a limitation on where the engine's prop shaft may be mounted. The prop shaft location shall be the vertical distance between the center of the prop shaft at its aft end, and the planing surface. The measurement of the engine height shall be "as raced" with the engine turned straight (prop shaft in-line with the fore-aft centerline of the boat). This rule also applies to boats running in straightaway trials. The prop shaft depth will be not less than 1-3/8" below the planing surface as explained above.

**Engine tuck rule:** The engine may not be tucked more than 1/2". Since there is no gear foot center line as in the OMC A engine a common kick out checking tool will be used that can be attached to the prop shaft. Two measurements are required to determine the amount of tuck.

The two measuring points will be:

- 1) The trailing edge of the boat bottom (planing surface) to the top of the tool.
- 2) The boat bottom (planing surface) to the top of the tool measured 11 1/2" forward from the trailing edge. By subtracting those two measurements, the maximum allowable difference between these two measurements is 1/2".
- 3) An Inspector is also permitted to use a digital angle gauge if desired. The maximum tuck allowed will be 2.54 degrees by difference of the planing surface and the propeller shaft.
- 4) In situations where there is a tunnel built into the bottom of the boat, the measurement will be made by bridging the tunnel with a straight edge to show the lowest wetted surface of the bottom.
- 5) Also, the leading edge of the gear foot (nose cone) may not be closer than 5" to the trailing edge of the bottom of the boat.
- 6) Consequently, the procedures and/or tools used by the Inspector to measure this height restriction shall be deemed the procedures and/or tools for the day.

**Propellers:** All entries must race the APBA 300 Super Stock propellers (stamped with the number 302) provided with the engines. An engine owner only owns the rights to "a" propeller and not a specific propeller. If an engine has its seals removed, the propeller must be returned to the chief inspector. Once received, the propeller and

shipping cost will be refunded. At driver's meeting the day of the race all propellers in the pits (whether entered or not) will be turned in to the race inspector (or a person designated by the inspector). The race inspector (or designee) will place one propeller each in a bag or box to conceal it. A driver will then pull one new propeller from the bag or box. Once the propeller is pulled, there will be no trading or trade-ins. The propeller pulled must be the propeller raced. Any deviation thereof shall result in an immediate disqualification for all heats raced with the propeller in question. In the event a second day of racing is scheduled on the same day, the process must be repeated after the first day of racing. At championship and record races, this process must occur after each completed heat. Any participant who damages, alters or marks on the propeller(s) in order to later identify them will receive a technical disqualification and be required to return the propeller to the chief inspector for repair or replacement with all costs incurred by the participant. (See "300SSH Propeller Procedures" for more information.)

**Repair Centers:** The following gentlemen have accepted the responsibility of being an authorized repair center for the class:

- East Jerry Davids
- Midwest Tom Johnston
- Northwest Ric Montoya
- Southwest Roger Carr
- Northeast Alex Poliakoff

There will be only five authorized centers and the centers will be appointed each year by the Stock Outboard Chairman. They will provide all internal mechanical repairs and refresh for the sealed portions of the engine. It is not permissible for an engine to be certified by the same repair center more two consecutive times. Ric Montoya, Tom Johnston and Jerry Davids will be the first sealer of engines and may also inspect a previously raced 321/331 engine and detune the engine (if necessary) to make it legal for this class. Those costs will be determined by the repair center for labor and parts used. Once their work is completed, they will seal the engine and therefore approve it for racing after notifying the Chief Inspector that they have done so.

If any of the five-repair center member's wish to participate in this class, another repair center must be used for certification and initial sealing of the member's engine. Engine refresh may be done by a repair center member on their own engine as long as two unrelated current 300SSH owners are in attendance for verification during the entire process.

**National High Points:** All Stock Outboard rules apply.

**Hall of Champions:** Accomplishments in 300SSH can only be used twice for induction into the Hall of Champions.

**Records:** All Stock Outboard records will be approved for the class. All straightaway and competition records will be in the competition set up. Straightaway record events that have less than three entries must have three authorized 300 propellers to draw from. Those drivers establishing the first approved record will not receive APBA Hall of Champion bonus points if qualified for the HOC.

**Resale program:** If you wish to leave the class at any time, please call any of us below for assistance in selling your propeller and engine back to the Stock Outboard Racing Commission. It is our intent to try to keep an engine sealed and continue racing in the class by using your engine to help a new driver get started in our sport.

**Respectfully submitted by,**

**Jeff Brewster, Stock Outboard Chairman, February 14, 2021**

<u>Need help getting started?</u>	<u>Have questions?</u>	<u>Call or email us for answers!</u>
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