

The logo for NHKA Racing Series features the letters 'NHKA' in a large, bold, blue font with a white outline. Below 'NHKA', the words 'RACING SERIES' are written in a smaller, orange, sans-serif font. The background of the logo is a blurred image of a red and white racing track.

WORLD FORMULA  
BOX STOCK ENGINE  
PROGRAM



### **2019 Updates**

In 2019, blue printing of World Formula engines is no longer allowed. All engines are required to be sealed with the blue NHKA box stock seal to compete in NHKA races. Any engine with an earlier seal, must be inspected to verify all parts are unmodified, and have the new seal installed.

David "Archie" Archambault is now the Authorized Builder and Inspector for the NHKA World Formula Box Stock Engine Program.

Spark plug choice is no longer open. Champion RG4HC (part 557039) is now required.

## Overall Program Description

**Overview:** The ultimate goal of this box stock program is to ensure the future health and growth of the class and the club by preserving fair, affordable, competitive, fun racing. The World Formula engine package has proven to be fast, low maintenance and reliable in its box stock configuration. However, wherever there's a perceived advantage, racers will go there. And if there's a perception that more money equals more of that advantage, racers will spend and spend. It's the oldest story in motorsports and never has a happy ending for the racers or the club. So, before things fully start down that path, we are blocking the way by requiring that all World Formula engines be box stock for the 2019 season.

### Box Stock Defined:

- New engines sealed by an NHKA Authorized Dealer.
- No removal of any parts unless specified by these rules.
- Only unmodified stock OEM parts and gaskets.
- No pre-measuring/grading/cherry picking of parts.
- No machining, modification or blueprinting of any kind.

**NHKA Authorized Engine Builder and Inspector:** David "Archie" Archambault brings more than 30 years of experience and a spotless reputation to the job of ensuring all World Formula engines are box stock. He will also provide NHKA racers with repair, rebuild, inspection, sealing and engine sales.

**Archie's Kart Shop**  
David "Archie" Archambault  
1635 Old Concord Road  
Henniker, NH 03242  
603-289-1029

**NHKA Authorized Dealers:** Along with Archie, only NHKA Authorized Dealers are allowed to seal and sell new World Formula engines, or seal the engines they repair or rebuild. That work must be performed in-house/on-site (i.e., not sent to an outside engine builder) using only unmodified, ungraded, stock OEM parts. The NHKA has provided these Authorized Dealers with blue numbered/barcoded seals that are registered to their shop.

**Apex Kartsports**  
George Vorrilas  
146 Park Street  
No. Reading, MA 01864  
[apexkart.com](http://apexkart.com)  
978-479-7974

**CFMotorsports**  
Mike Camarra  
7 Renker Drive  
So. Easton, MA 02375  
[cfmotorsports.com](http://cfmotorsports.com)  
508-588-2355

**DRT Racing**  
Tyler Guilbeault  
17 Park Avenue  
Hudson, NH 03051  
[drt-racing.com](http://drt-racing.com)  
603-489-5049

**Prospeed Kartsports**  
Roger Hargens  
79 Ossipee Mountain Road  
Center Ossipee, NH 03814  
[prospeedkartsports.com](http://prospeedkartsports.com)  
508-341-3845

**RJT Karting**  
Ryan Ouellette  
Farmington, NH  
[rjtkarting.com](http://rjtkarting.com)  
603-833-0690

Dealers are only authorized to install the new NHKA seals on new engines, or to replace another NHKA seal. Any NHKA Authorized Dealer found to have sealed an illegal engine, or in any other way attempting to circumvent the box stock rule or sealing program, will be terminated from the program, and all engines with their seals will be subject to re-inspection.

**If You're Buying a New Engine:** All new engines from NHKA Authorized Dealers will come box stock with the new NHKA seal.

**If Your Engine has No Seal or an Old Seal:** New or used engines purchased without a seal from a private party or unauthorized dealer must be inspected and sealed by Archie before they are allowed to race. This is also the case if your engine has a seal other than the blue NHKA box stock seal. The cost of this inspection is \$90. Any parts found not to be box stock must be replaced at your expense for it to be sealed

**If You Work on Your Own Engine:** First off, way to rock it like an old school karter! When you're done, get your engine to Archie to be inspected and sealed (\$90.)

**Enforcement:** Starting in 2019, no engine will be allowed to enter the track without a blue NHKA box stock seal. All engines will be subject to seizure at any time to be sent to Archie for inspection. A loaner engine will be provided by the club to the driver until the inspection is completed. The cost of the inspection and shipping of the engine to the inspector will be at the club's expense.

If modified or illegal parts are found, or there is evidence of seal tampering, you will be disqualified from that race, forfeit all season championship points awarded up to that race, and the engine will be barred from competition until it is returned to box stock condition, re-inspected and sealed by Archie at your expense. So don't even think about it!

It is up to you to arrange with Archie to either retrieve your engine in person, or have it shipped to you at your expense. You must return the loaner engine to the Race Director at or before the next event. If raced, it must be fully cleaned (exterior as well as clutch and carb inside and out) and in race-ready condition or you will be subject to a \$150 Inconsiderate Jerk Fee.

**Updates:** In response to observations and feedback, these rules may be updated at anytime to ensure fairness and the best possible racing experience. We will make every effort to enforce these rules and make updates in a timely and diplomatic fashion.

**Deliberate and Active Compliance:** Competitors are expected to be deliberate and active in complying with these rules. An unintentional violation may still be considered a violation when effort to adhere to the rule is not clearly evident. For example: A racer has a part that is not in direct violation of a spec but for whatever reason is not in clear conformance. He chooses to run that part rather than a new stock part, and it gets flagged during an inspection. While the legality of the part might be in question, that question is answered by the fact that the driver deliberately chose not to run a clearly legal new stock part, thus will be subject to disqualification.

## Components Outside the Seal - Information for Competitors

**Unaltered Stock Parts Only:** Unless specifically noted in these specs, all engine parts must be Briggs & Stratton stock parts made for the World Formula package. Parts are listed in "Version [REV.B]" of Briggs and Stratton's "*Formula Racing Performance Catalog & Reference Guide*," available by [clicking here](#).

**No Alteration of Parts:** No modification or machining of parts for any reason, including to bring them to minimum/maximum manufacturer tolerances. Any part that shows evidence of alteration - even if within manufacturer tolerances - will be grounds for disqualification.

**Inspection Method:** All parts are subject to comparison with a known stock part, and/or measured to confirm conformity to Briggs & Stratton manufacturing tolerances. Parts are to be measured with dial indicators, micrometers and/or calipers; all tolerances  $\pm .001$ " due to calibration variance.

**Shrouds and Covers:** All shrouds and covers must be stock and mounted in the stock location. Cylinder shield may be slightly bent or drilled around spark plug hole to allow clearance for a head temperature lead and/or coil ground lead.

**Header:** Stock header only (part 557045). Any or no exhaust gasket is allowed. Sealer on header is allowed. Safety wiring of header nuts is optional. Bottom bracing must be bolted to head. Wrapping or coating the pipe is allowed. Welded repairs and addition of exhaust gas temperature sensor are allowed.

**Silencer:** RLV silencer 4110 is required. No loose, rattling, altered or removed baffles. External coating is allowed. Springs attaching silencer to header must be safety wired.

**Electric Starter:** Starter motor assembly (part 557068) must be stock and mounted in the stock location. Battery, wiring, button and hardware to make electric starter operational are optional and open. Starter support bracket is optional (part 557119). Pull start assembly must be present, complete and operational.

**Rev Limiter:** Stock PVL ignition coil with integrated rev limiter only (part 557125 "magneto armature"). Rev limit is 7100 rpm  $\pm$  50 rpm.

**Inspection Method:** Rev limiter may be checked at any point during an event with a suitable memory-capable tachometer attached to the plug lead. Engine will be accelerated on stand, measurement taken at point of rev limiter engagement, that point of engagement must be within 100 rpm when re-checked with the same instrument. Each competitor is allowed one courtesy check of their rev limiter with the instrument to be used at that event.

**Spark Plug:** Champion RG4HC only (part 557039). Indexing washers allowed. Removal of factory sealing washer is not allowed unless using head temp sensor ring.

**Fuel Pump:** Must be either Briggs part 808656 or Mikuni single outlet (Mikuni part 994483). Must be mounted in stock location and pulsed from intake manifold. Fuel filter optional and open.

**Air Filter:** Stock green air filter only (part 698973). Must be attached directly to carburetor; no extensions or adapters allowed. Non-air-channeling water-repellant cover is optional in wet conditions.

**Carburetor:** Stock Walbro PZ carburetor only (part 557006). No alterations of any kind allowed. Stock measurement of venturi: .979"-.984" vertical, .719"-.728" horizontal. Stock mounting boot is required (part 557130 "Carburetor Spacer"). Choke assembly must be present, complete and operational.

**Slide & Needle:** Unaltered stock slide and stock needle marked "CDB" only.

**Jets:** Jets and needle are the only parts that may be changed in carb. Jet selection limited to those available in kit 557012: Pilot jets 36, 38, 40; Main jets 90, 93, 96, 98, 100, 102. No drilling of jets allowed. Float height may be adjusted.

**Clutch:** Must be Briggs specified Premier Titan (part 557023) or Premier Stinger (part 555727), or Hilliard Inferno Flame clutch with or without Bully Conversion Kit for drive gear mounting. Must be engine mounted. No Jackshafts allowed. No alteration of drum or shoes allowed, except for cleaning or to flip for inboard or outboard mounting. Internal springs may be changed to adjust clutch engagement; only springs made for selected clutch by the clutch manufacture are allowed. Only #219 or #35 sprocket/chain are allowed. Gear ratio is open.

**Fuel:** 93 octane pump gas or race fuel required. While race fuel offers no on-track advantage, it has no additives or ethanol so it burns cleaner and isn't as prone to clogging carburetor jets.

**Oil:** Any crankcase oil is allowed but must pass the burn test and/or the Sniffer test. (TIFF Industries Sniffer is recommend.) No additives allowed.

**Inspection Method:** Fuel may be checked by any means as part of post-race tech. When done with a Digitron gas meter, the meter is zeroed in a sample of source gasoline, +/-5 points deviation from zero is allowed. Each competitor is allowed one courtesy check of fuel in their tank with the method to be used at the event.

**Tires and Wheels:** Both Light and Heavy classes must run MG Red tires of these dimensions: 10 x 4.60 - 5 fronts, 11 x 7.10 - 5 rears. Rear wheels must be 210 mm or 8.25" wide max. MG rain tires only.

**No Tire Softener or Prep:** Absolutely no tire softener or tire prep of any kind allowed. Anyone caught with any at an event will be immediately disqualified from that event.

**Inspection Method:** Tires may be checked at any point during an event with a durometer.

**Data Systems:** Data systems are open and optional. RPM, head temperature and exhaust gas temperature sensors only.