

NHKA

RACING SERIES

WORLD FORMULA BOX STOCK ENGINE PROGRAM



2018 Updates

In 2018, we are introducing new engine seals and procedures to return all World Formula engines to box stock for the first event of the 2019 season.

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 by the start of the 2019 season. Period.

Box Stock Defined:

- New engines sealed by an NHKA Authorized Dealer when removed from box.
- 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 Builders/Inspectors: CPG and NEKC will continue to be our primary resources for enforcement inspections. They will also continue to provide NHKA racers with repair, rebuild, inspection and sealing.

CPG Motorsports

Dale Gross
63 River Street
Middleton, MA 01949
cpgmotorsports.com
(978) 815-0237

New England Kart Center (NEKC)

Aaron and Kyle Roof
431 Atherton Hill Road
Spofford, NH 03462
nekart.net
(603) 762-1519

NHKA Authorized Dealers: Along with CPG and NEKC, only NHKA Authorized Dealers are allowed to seal and sell new World Formula engines, or perform repairs and rebuilds then reseal those engines. That work must be performed in-house/on-site (i.e., not sent out to an engine builder) using only unmodified, ungraded, stock OEM parts. The NHKA has provided these Authorized Dealers with numbered/barcoded seals that are registered to their shop.

Apex Kartsports

George Vorrilas
146 Park Street
No. Reading, MA 01864
apexkart.com
978-479-7974

CFMotorsports

Mike Camarra
7 Renker Drive
So. Easton, MA 02375
cfmotorsports.com
508-588-2355

DRT Racing

Tom Clark
17 Park Avenue
Hudson, NH 03051
drt-racing.com
603-489-5049

Prospeed Kartsports

Roger Hargens
79 Ossipee Mountain Road
Center Ossipee, NH 03814
prospeedkartsports.com
508-341-3845

RJT Karting

Ryan Ouellette
Farmington, NH
rjtkarting.com
603-833-0690

Dealers are only authorized to install the new NHKA seals on new engines as they are removed from the box, or to replace another NHKA seal. During 2018 only, they will have silver interim NHKA seals to replace any CPG or NEKC seals they needed to remove. These interim seals will also be registered to the shop.

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 permanently terminated from the program, and all engines with their seals will be subject to re-inspection.

If You're Buying a New Engine: In 2018, all new engines from NHKA Authorized Dealers will come box stock with the new NHKA seal.

If Your Engine has No Seal: New or used engines purchased without a seal from a private party or unauthorized dealer must be inspected and sealed by CPG, NEKC or an NHKA Official before they are raced. Any parts found not to be box stock must be replaced at your expense for the new NHKA seal to be installed

If You Work on Your Own Engine: First off, way to rock it like an old school karter! Just get your engine to CPG or NEKC for inspection (\$90.) If it is box stock, you'll get the new NHKA seal. If it has been blueprinted you'll get the silver interim NHKA seal and need to return it to box stock, get it inspected again and resealed for 2019.

If Your Engine has a CPG or NEKC Seal: Any engine that has an original CPG or NEKC seal may race it as is in 2018. If it needs work that requires breaking that seal, you have two options:

- a) Have the engine rebuilt with box stock parts (as needed) so you're good to go for 2019.
- b) Have the repair made, but leave the engine otherwise as is. If either CPG or NEKC does the work, they will reseal it with their own seal. If an NHKA Authorized Dealer makes the repair, they will reseal it with a silver interim NHKA seal that is good only for the remainder of the 2018 season.

Enforcement: In 2018, no engine is allowed to enter the track without a seal. All engines, regardless of seal, are subject to seizure at any time to be sent to CPG, NEKC or an NHKA Official 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 currently illegal parts (i.e., outside of the specified manufacturing tolerances) or evidence of seal tampering are found, you will be disqualified, forfeit all championship points awarded up to that point of the season, and the engine will be barred from competition until it is returned to box stock, reinspected and sealed with the new NHKA seal, at your expense. So don't even think about messing with it!

In 2018 only, if modified parts are found that are within the specified tolerances (i.e., blueprinted), you will retain the win and have the option to...

- a) have the engine resealed as is with the silver interim NHKA seal which is good only for the remainder of 2018.
- b) have the engine returned to box stock, at your expense, and sealed with the new NHKA seal. This will make the engine legal for 2019 and beyond.

It is up to you to arrange with the inspector 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 and in race-ready condition or you will be subject to a \$150 Inconsiderate Jerk Fee.

In 2019, the new NHKA seal will be required to enter the track. All engines without the new seal will be barred from competition until returned to box stock with a seal.

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, and is now 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](#).

Measurements: Measurements are listed only as reference of Briggs & Stratton stock part manufacturing tolerances.

No Alteration of Parts: No modification or machining of parts to bring them to stated minimum/maximum manufacturer tolerances (or for any reason) unless specifically noted in these specs. Any part that shows evidence of alteration – even if within listed 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 that these rules specifically allow to be altered are to be measured with dial indicators, micrometers and/or calipers; all tolerances +\-.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 +/- 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 is 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: Any commercially available, 10 mm-thread spark plug is allowed. 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 Bully Conversion Kit to adapt for drive gear mounting. Must be engine mounted. No Jackshafts allowed. No alteration of drum or shoes allowed, except 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: 11 - 7.10 x 5 rears and 10 - 4.60 x 5 fronts. Rear wheels must be 7' wide. Choice of rain tires is open.

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.