

Kohler CH270 Super Stock Technical Regulations for the 2018 Season.

Description: Kohler CH270 single cylinder, two valves, four cycle engine.

Combustion chamber volume: 26 cubic centimeters minimum with cylinder head installed with piston at TDC, using prescribed procedure. Refer note 1.

Bore and stroke: 70.04 mm bore and 54.10 mm stroke.

Cylinder head requirements: Production Kohler CH270 cylinder head must be used. Porting and/or grinding to the intake and exhaust ports permitted. No addition of material in the ports or combustion chamber allowed. Must maintain stock spark plug size, location and orientation. Must maintain stock valve location and orientation. Valve orientation is perpendicular to deck mounting face. Valve spring clearance for increase lift permitted. Must use Kohler production head gasket and head bolts. Repair to valve cover screw in cylinder head allowed.

Fuel Pump: Any type pulse pump allowed. Pulse may be taken from crankcase or intake manifold. Fuel filters are non- tech.

Valve train: Unaltered CH270 production rocker arms, rocker studs, ball and adjusters must be used. Push rods and push rod guide plate, retainers, springs, keepers are non-tech items. Steel valves only. No titanium components allowed. Intake valve head diameter 27.07 mm maximum, exhaust valve head diameter 25.07 mm maximum. CH270 production flat tappets only. Multi angel cutting to valves and valve seats allowed. Lash caps are allowed. Stock breather system to be used and drained to a separate catch can/bottle.

Carburetor requirements: Only Kohler CH440 Huayi or Ruixing carburetor with a rear throttle bore diameter of 27.07 mm NO-GO and venturi diameter of 21.07 mm NO-GO. Choke plate and shaft may be removed and choke lever hole in body plugged. No blueprinting or machining allowed to body. Fuel jets, air jets and nozzle non tech. Any air filter is required. Filter may not be configured as an air ram. Filter cup/adaptor is non-tech. Maximum length of intake manifold adapter between cylinder head intake port and carburetor throttle bore flange is 24 mm. ID shape or size of carb adapter is non- tech. Fuel filter is non-tech but recommended.

Ignition system: Unaltered production CH270 ignition module required including spark plug connector/boot. Must have Kohler part number identified on the coil body. Ignition timing, spark plug and flywheel key are non- tech.

Flywheel: Unaltered ARC billet aluminum flywheel p/n 6626 must be used. Weight is 3.5 lbs +/- 0.25 lbs. Any damage to the flywheel can result is a flywheel failure and possible injury. Damaged flywheels must be replaced and not used.

Piston requirements: Kohler production CH270 piston, piston rings (3), wrist pin and clips are mandatory.

Connecting rod requirements: 3.303 +/- .005 inch length. Must be manufactured of aluminum and fit Kohler production CH270 piston, piston pin and crankshaft. Recommend ARC billet aluminum p/n 6270 or equivalent.

Crankshaft requirements: Production CH270 crankshaft is required. Machining, polishing, addition of material or any other alteration of the crankshaft is prohibited.

Camshaft requirements: After-market camshafts allowed. ACR components must be removed.

Valve Lift

- a. Maximum valve lift is checked from the top of the valve spring retainer.
- b. Valve Lift: With the lash set at zero, the movement of the valve spring retainers may not exceed the following: Intake and exhaust: .275 inches maximum.

Block requirements: Production CH270 block must be used. Removal of the governor shaft and internal governor assembly components is permitted. Governor shaft holes may be plugged or used for pulse pump fitting location. Removal of the oil sentry is permitted and wire lead hole plugged. Welding to the block shall be for damage repair only. No ceramic bearings allowed.

Exhaust Manifold and Muffler: Any one-piece manifold with RLV B-91 muffler required. Large or small outer hole screen opening allowed. All 4 baffles must remain unaltered and the hole size unchanged. Exhaust gases may only exit through the muffler baffles. Muffler must be mounted on the header in a way that does not allow exhaust to leak at this joint. Muffler must be clamped to the manifold and safety wired. Muffler must be removable. Exhaust manifold length and size are non-tech. Exhaust stud may be used. Exhaust protection is recommended such as wrapping with a non-asbestos approved insulation material or sleeve attached to header and/or muffler

Starter: Recoil starter may be used. If recoil is removed then the recoil drive cup must be removed and a non rotating flywheel screen/cover plate installed. Center hole may be cut out for electric starter.

Fuel: Must use E0 pump up to 94 octane gasoline only sold at normal roadside fuel stations. Must maintain natural color. Fuel pumped from storage containers/barrels is not allowed. NO racing gas allowed. No additives of any kind are allowed (any derivatives of nitro or oxidizers are illegal). NO adding of methanol or any other liquid fuel (must remain as it came from the pump) water testing and lab testing may be done. Penalty for illegal fuel is a non-droppable disqualification. Refer RA 2008 rule 1.4 for penalty. Test method will use Digitron test meter set at -75 in cyclohexane. Fuel must read zero or below on meter. Base fuel used to zero meter will be E0 premium up to 94 octane

fuel from the Fleet Farm filling station in Plymouth WI. Recommend having your fuel checked prior the start of the event.

Additional requirements:

1. External surfaces of cylinder heads and blocks may be machined to remove excess material from mounting bosses, cast-in brackets, etc. that are no longer in use.
2. Blower housing, covers and baffles to be CH270 model only.
3. Production gaskets must be used. Use of gasket sealants is acceptable.
4. Use of Helicoil or threaded inserts for shrouds, valve cover, oil drain, oil fill holes, blower housing, and exhaust pipe attachment studs or bolts is permitted.

Note 1: Combustion chamber measurement to be taken at the end of the event when the engine has cooled down to a reasonable temperature. It is recommended to use ATF (automatic transmission fluid) diluted 20% to 30% with mineral spirits to help eliminate air entrapment during the measurement procedure. Spark plug test plug to be used.

Engine to be removed from the kart unaltered and attached to engine mounting plate with cylinder head pointing upward. Rotate piston past TDC. Add 26 cc of measurement fluid. Rotate piston back past TDC. No fluid can exit spark plug test plug.

CH2760 Super Stock class Weight: 360 lbs

Clutches: no axle clutches allowed. Any dry type clutch allowed. Chain/belt guard is recommended.

Tires: Bridgestone YDS only. See RA 2018 rules 1.10, 1.11, & 1.12 for details. Only untreated tires are allowed.

Engines are subject to tech inspection at any time by the RA Race Director. Refusal of inspection from tech official will be immediate disqualification of points for the entire season, and may result in a suspension.

Driver safety equipment and karts must comply with the Road America Karting Club 2016 rules and specifications. Must pass inspection before allowed to enter the race track.