alan johnson performance engineering

AJPE / Venolia Deep Cycle Rod Installation Instructions

Basic Proper Clearances & Checks:

- Rod Bearings: using micrometers or Plastigauge, confirm you have a minimum of .0025" bearing clearance.
  Note: most current Blown Alky & Top Fuel engines typ. run aprox .0035-.0055" rod bearing clearance.

- Check rod bearing Pins to confirm they do not protrude through the bearing shell + touch the crank journal.

- Check rod bolt Washers have the ID chamfer facing toward the head of the rod bolt *(not the con rod)*.

- Rod Side Clearance: using micrometers or Feeler gauges, confirm that you have a minimum of .035" up to a max of .100" rod side clearance per pair of rods.

Note: about .050" to .060" rod side clearance is typical, but actual clearances are subject to engine builder's personal preference.

- Wrist Pin Clearance: we recommend .0008" to .001" wrist pin clearance, again subject to engine builder's preference.

- Block / Camshaft / Oil Pan Clearance: a minimum of 1/16" clearance must be maintained between the connecting rods and engine block, camshaft & oil pan.

Rod Torque Setting / Rod Bolt Stretch:

- Each pair of rod bolts should first be "snugged" up evenly,
  Then alternating from bolt to bolt, torque each rod successively
  to 25 ft lbs, then to 50 ft lbs. and finally torque to 95 ft lbs.

- Rod Bolt Stretch = .007"

General Maintenance:

- Make sure to clean all threads on bolts, rods & rod cap serrations before final assembly.

- Lubricate rod bolts with clean 50wt engine oil only. Do not use Assembly lube, Moly or Peanut Butter!

- Oil Dilution/Contamination: Engines using Methanol and / or Nitro-methane fuel must avoid fuel contamination / dilution of oil due to richness of fuel mixture.
  We recommend changing the oil every 1-3 runs, depending upon your operating conditions.

- Oil pan Baffling & Capacity: Oil pans must be baffled so that the oil pick up is always submerged during both acceleration & deceleration!
  Also please confirm that your engine has enough oil volume
  to ensure that it does not run out of oil pressure before the end of the run!