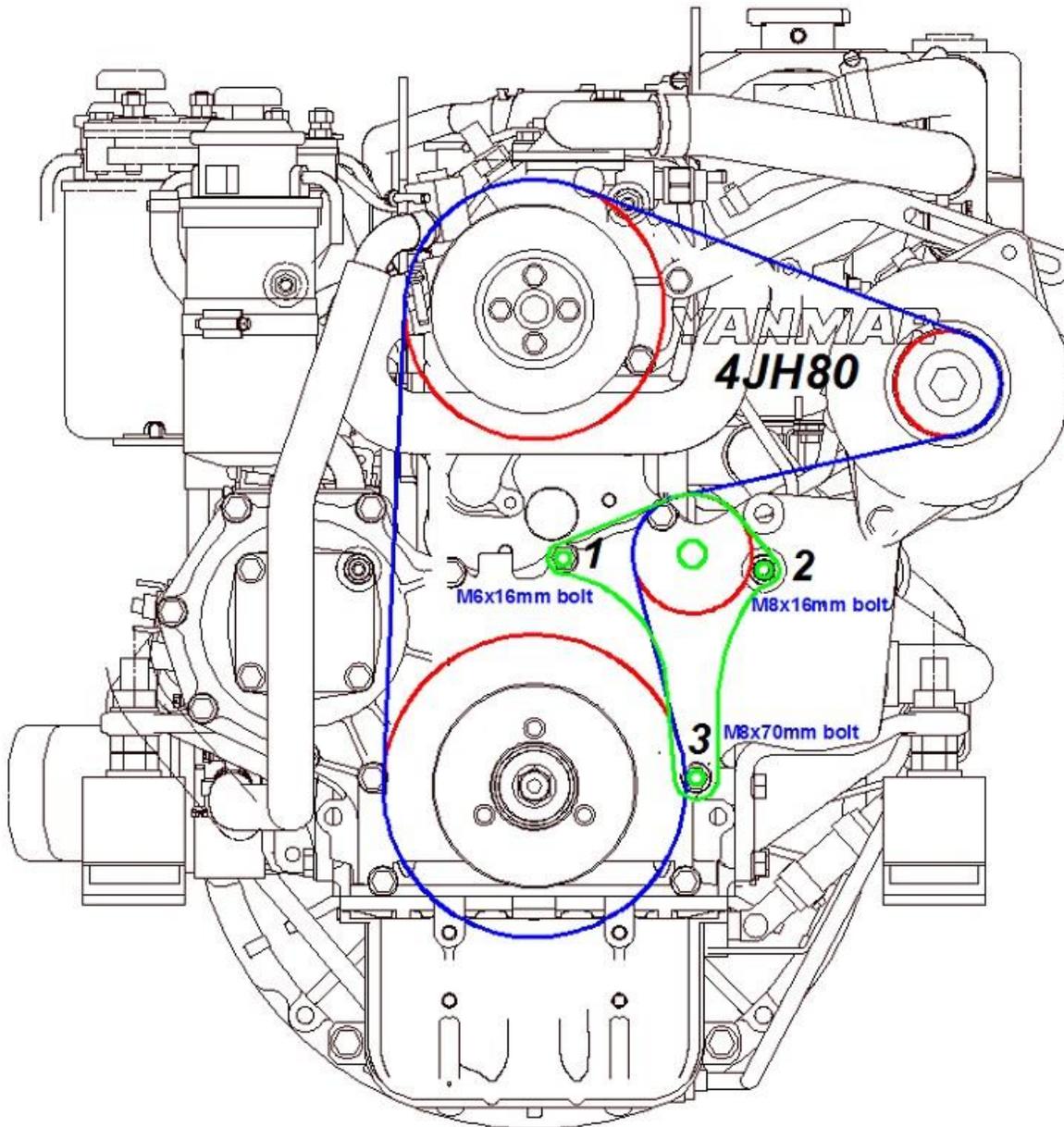


# Yanmar 4JH80 with Small Frame 3.15" Alternator and Serpentine Pulley Kit Installation Instructions



Follow the directions for best results. If any modifications are necessary, please consult the designer – MGDC systems. **Important points:** 1. That the pulleys all line up fore and aft. 2. That the idler pulley is perpendicular to the belt. This can be checked by using a straight edge against the crankshaft pulley and measuring the distance from the straight edge to the three corners of the plate to confirm that these three measurements are the same distance. 3. **During the trial assembly do not use the lock washers.** Be sure that all bolts thread in at least 6 turns before the head of the bolt meets the plate. 4. That the bolt head DOES meet the plate. If you get in excess of 7 turns and the bolt stops turning before meeting the plate you will need to cut the bolt on the threaded end, clean the end of the threads and try again.

1. **Install the idler plate with idler.**
  - a. Remove the front cover bolt in position “3” on the drawing above.
  - b. Mount the plate using a supplied 8mm x 70mm bolt into the position “3”.
  - c. Install a supplied 6mm x 16mm bolt into position “1”.
  - d. Install a supplied 8mm x 16mm bolt into position “2”. You may need to remove the crankshaft pulley to insert this bolt.
  - e. If all of the three bolts turn in threads for 6 rotations and the bolt heads meet the surface of the plate you can remove and reinstall with their lock washers.
  - f. Torque the 6mm bolt to 10 lb/ft and the two 8mm bolts to 20 lb/ft
2. **Install the new Crank Shaft pulley.** The new crank shaft pulley *fits over* the old crank shaft pulley. It is possible that the pulley will not easily slip into place. If this is a problem then there is too much paint in the centering hole of the crank shaft pulley and it must be scraped clean. After scraping the hole apply anti corrosion grease to the bare metal to prevent corrosion. The old pulley stays in place as it is part of the balancing of the crank shaft. Three 10mm x 25mm bolts come with the new pulley. During the first attempt of installing the bolts you should install the three bolts without the lock washers. Install them just barely snug. The bolt heads should contact the pulley surface, if not you will need to clean the threaded holes of rust using a 10mm-1.50 tap.
3. **Install the new water pump pulley.** The new water pump pulley *replaces* the old water pump pulley. There are four new 6mm x 16mm bolts to attach the new pulley. Without using the lock washers snug the bolts holding the water pump pulley in place. Using a metal ruler or straight edge hold it across the two edges of the crankshaft pulley and then the nearest edge of the water pump pulley. It should be within +/- 0.100” as measured fore and aft.
4. **Install the new alternator.** Install the new alternator in place of the old alternator.

At this point all things should be aligned, straight, and perpendicular.

5. **Install the lock washers to the water pump pulley bolts.** Torque the four 6 mm x 16 mm bolts to **10 ft/lb.**
6. **Install the lock washers to the crankshaft pulley bolts.** Torque the three 10mm x 25mm bolts to **35 ft/lb.**
7. Install the belt only tight enough to prevent belt slippage as evidenced by squealing. *Too much belt tension only wears bearings faster than necessary.*

Please do not hesitate to ask questions or make comments about the installation. Please include photos when submitting questions.

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