

PIERCE YACHT COMPANY, INC.

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BALMAR 60 SERIES ALTERNATOR ALIGNMENT

Alternator belt failure seems to have several causes, with alternator alignment and tension being the most common, however rust on the crankshaft / drive sheave is not uncommon in older boats. Hopefully the following will be of help.

First one should have a means of measuring. For several years we have used and supplied our customers with a 15" long piece of ¼" thick, 1" wide, piece of aluminum bar stock available at most hardware stores. It is necessary to be able to see what the eye cannot.

The belt travels around three sheaves, two of which are fixed and cannot be changed, so it is the alternator that has to be aligned to the other two. For the older engines there has been enough slack or play in the engine alternator mounting boss to do a reasonable job by twisting the alternator side to side, up or down to achieve alignment. With newer engines and the sliding aft alternator mount this becomes more difficult. As you view the attached pictures the following procedure becomes more apparent. Hope the following will be of some help.

Note: What is referred to as a "Jam Bolt" may or may not be what it was designed to do, but it effectively does the job to a point, but is easily overpowered by the "Pivot Bolt" without washers or a spacer behind the front pivot mount.

The procedure:

1. Use the "alignment tool" to predetermine the change and amount of change that has to be made to achieve alignment.
2. Holding the "Spacer" by its flats loosen the "Jam Bolt", then loosen the "Pivot Bolt" and "Adjustment Arm Bolt" enough to move the Alternator Fore or Aft enough to achieve approximate alignment.
3. Determine how many and what size washers are needed to achieve the corrected position when all three bolts are tightened. (Do not tighten yet !) Using thinner washers will make it easier to get a closer alignment.
Be aware that the "Jam Bolt" in the aft alternator mount goes through a split sleeve that expands to hold the aligned position with no "Play" in the aft mount, however, without washers at the front mount you can easily over power the jam and pull the alternator aft out of alignment as you tighten the "Pivot Bolt".
4. Place a cloth rag under the alternator to catch the washers you will drop while inserting them between the Engine Mount and the front Alternator Mount, and between the Adjustment Arm and the top of the alternator.
5. After inserting the predetermined number of washers lightly tighten the "Pivot Bolt", then tighten the "Adjustment Bolt" to achieve correct belt tension, then fully tighten the "Pivot Bolt", then the "Jam Bolt"
6. Check alignment with the Alignment Tool by holding it tight to the alternator sheave and measuring the distance between the tool and the belt at each position "A" to "B" then "A" to "C" and add or subtract washers to achieve alignment as close as possible.
7. Check belt tension every time you check the oil and adjust as necessary.

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