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CONVERTING AN F-27 FIXED MAST TO A ROTATING MAST

This conversion is possible, but it will increase the load on the aft beams, and thus any aft beam warranty will be voided.

This is due to the rotating mast having only a single stay to each float, compared to the fixed mast being stayed to both float and main hull, which spreads the load between float and main hull. Loads on leeward float remain the same, with the aft beam taking about half the load of the forward beam. However, the rotating mast could generate up to a 50% higher load on the windward aft beam and it was not designed for this.

The aft beams on the F-24, F-28 and F-31 are of identical strength to the forward beams and can take the extra loads generated by their rotating masts. The F-9A/F-31 also didn't need any change when it went to a rotating rig, as both forward and aft beams were always the same strength, to prevent any chance of a mix up in production, of what are identical beams. The back beam was thus always stronger than it needed to be with a fixed rig and any F-9A/F-31 fixed mast boat can be converted to a rotating mast without any concern. In contrast, the F-27 aft beams are obviously different, so they could be of a lower strength without any danger of a mix up in production.

However, due to some other compensating factors, and high beam safety factors, the risk in converting an F-27 is low, and many have done it without any problems. However, the owner must be prepared to accept the extra risk as his responsibility, just as if one had added a turbo charger to a car's engine, which would also void any warranty, as the engine or some parts in the drive train may not be up to the greater load.

If the conversion is made, the aft beams should be regularly checked for any signs of stress, which usually first shows up by cracks developing in the join/glue seams. In this regard, as demonstrated in beam break testing, beams give considerable warning that they are failing by lots of cracking noises, usually followed by major distortions and splitting glue seams. Even after you get to the really big noises the beams still seem to hold together for a continued high load remarkably well. So there will usually be plenty of warning of any problem - just monitor the glue lines, which one should do anyway on all beams.

No drawings or guidelines exist for converting to a rotating mast, but the F-28 system can be copied or used on an F-27. Main difference will be in side stay length.

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