



November 16, 2015

## J/111 Steering System Inspection Reminder

To: J/111 Owners – USA Built Boats

Your steering system is the most important system on board your boat. As with all mechanical systems used in the harsh marine environment, proper inspection and maintenance is required for long life and years of proper service. Systems which have not been maintained and lubricated properly may show signs of early wear and perform less than satisfactory. It is important to remind owners that annual inspection of the critical steering system parts and routine maintenance guidelines are followed at a minimum.

A general diagram of the J/111 system was provided with the J/111 Owner Manual. We have included a more detailed version of this drawing here and a complete Best Practices – Wheel Steering Systems article to help you understand key components and to remind you how to maintain and inspect wheel steering systems. In addition you may source this helpful information online at [www.jowners.org](http://www.jowners.org).

The following is a list of important items that relate specifically to the US built J/111 and should become part of your regular inspection.

1. **Steering cable tension adjustment/inspection.** See attached best practices article for proper procedures and check this on a regular basis and before every offshore passage.
2. **Top of rudder clearance with hull** - The clearance between the top of the rudder blade and the bottom of the hull should be NO LESS than 4mm. This clearance is engineered to be maintained by the locking collar mounted immediately below the upper rudder bearing on the rudder post at the black aluminum top cap. This clearance should be inspected regularly and prior to offshore passages. Any visual signs of chafe at the hull or bottom paint is cause for concern. Lock collar condition and status of this gap should be checked and adjusted accordingly. Locking collars are located on the rudder post as shown in the diagram and need to be checked regularly for condition.
3. **Aftermarket Autopilot Installations** – The tiller arm for the J/111 rudder post sleeve is Edson part number 926AL10610 with 3.00” bore and this is designed to be secured to the rudder post sleeve above the standard radial drive. DO NOT mount an autopilot ram directly to the Edson radial drive.
4. **Secure top cap to rudder post** - Early rudder post top caps (Hulls #1-33) required through-bolts to be added in the field in order to positively attach the cap to the post and prevent the potential for the post to drop out of the cap if the epoxy bond between them were to fail. A technical bulletin dated 7-14-2011 was issued for this (attached here) to all affected owners and dealers at that time. All US built J/111s since Hull #34 are equipped by the factory with this bolt included. Owners of hulls through #33 should re-confirm that this bolt is indeed installed.

5. **Wiggle Test** – with the boat out of the water and blocked, move the bottom of the rudder to check for any unusual movement in the system. Check for movement at the top and bottom bearing, the middle sleeve, and try to push rudder up into the hull, etc... If there are any signs of movement beyond normal rudder bearing tolerances or insufficient hull clearance then the source should be identified, inspected and repaired immediately. Consultation with the dealer and factory may be required.
6. **Inspection of lower & middle rudder post sleeves & both lock collars** - salt water can have a corrosive effect on all metallic components over time. If any components of the steering system begin to exhibit signs of corrosion then action should be taken to correct the issue including replacement as necessary. Do not ignore signs. Replacement parts are available from J/111 steering system suppliers. (supplier contact list below).
7. **Top bearing bolt torque check** - the top rudder bearing bolts should be checked for tightness before and after every season and on a regular schedule.

### Recognizing Signs of Trouble:

If any signs of trouble in the steering system exist, this should trigger immediate investigation and proper repair prior to continued use. Here are some examples:

- **Worn off bottom paint** - radial score marks on the hull centered at rudder post indicates rudder and hull interference and the potential that lower locking collar is not adjusted properly.
- **Movement of rudder with wheel break engaged** - (back and forth wiggle test) - this may indicate corrosion or bond failure of the mid-aluminum sleeve with the rudder stock.
- **Movement at top bearing flange** - this indicates loose flange bolts.
- Unusual feeling, grinding, clunking or unusual sounds, difficulty or friction in the helm underway.
- Unusual or irregular autopilot behavior or adjustments while underway.

### Replacement Parts & Contacts:

For wheel, steerer, chain/wire cables, sheaves, radial drive, optional autopilot tiller arm:

**Edson International**, New Bedford, MA (508)-995-9711 [www.edsonintl.com](http://www.edsonintl.com),

For rudder bearings, sleeves, emergency tiller, gaiter seal:

**Competition Composites, Inc.**, Ottawa, Ontario, Canada: (613) 599 6951

[www.fastcomposites.ca/site/marine/](http://www.fastcomposites.ca/site/marine/)

Lock collars, steering assembly, rudder, etc.:

**CCFC – J/111 USA Builder – Bristol, RI** (401) 254-4342

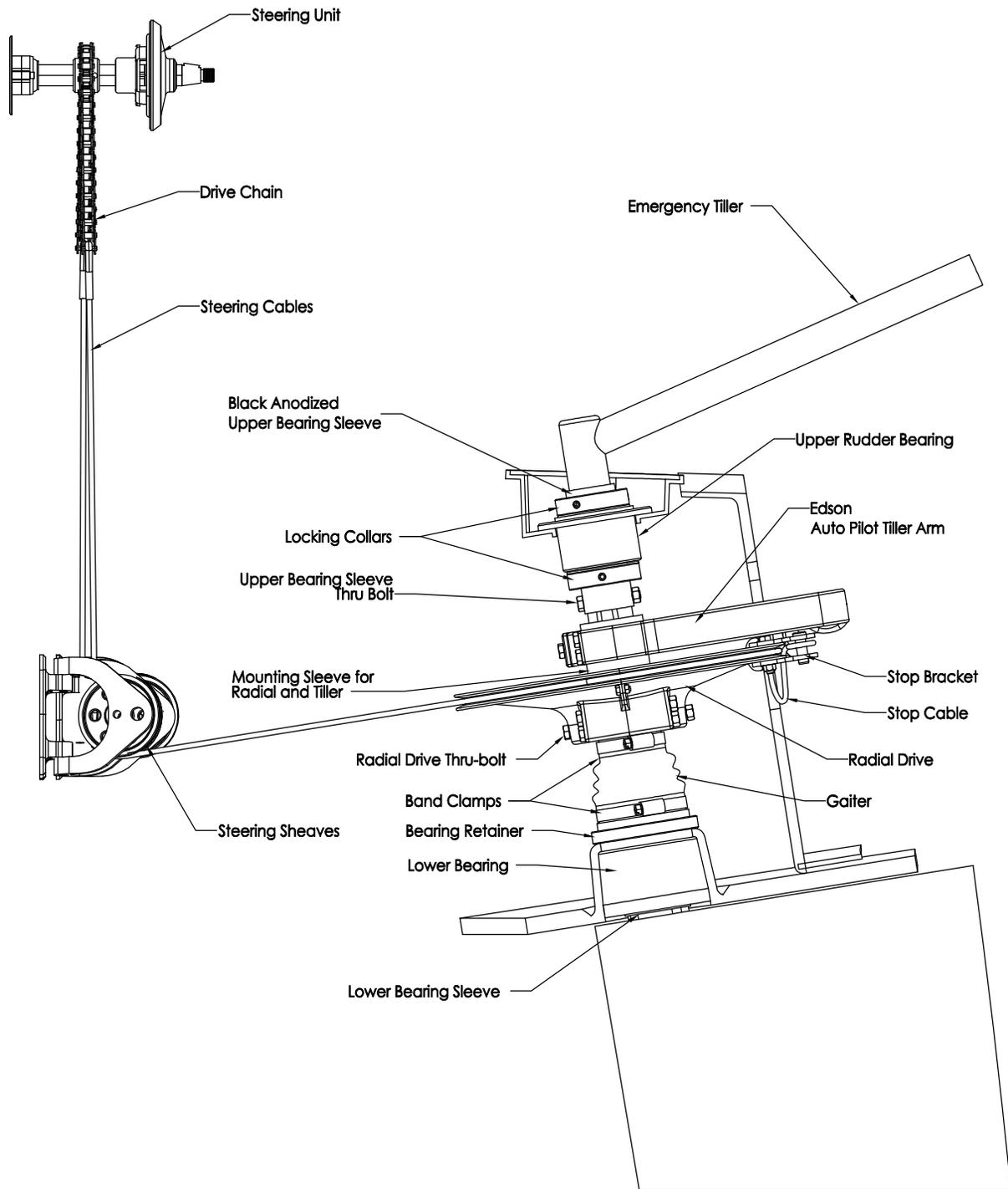
Engineering

**Team Foxy, LLC.**, John Fox, Sebastian, FL (772) 713 4782

All other inquiries:

**J/Boats, Inc.**, Newport, RI 401-846-8410 [www.jboats.com](http://www.jboats.com)

# J/111 US Steering System Hardware





July 14, 2011

## J/111 TECHNICAL BULLETIN

**To: J Boats Dealers**  
**J/111 hulls #1 – 33**

### **Re: Installing Retaining Bolt in J/111 Upper Rudder Post Sleeve.**

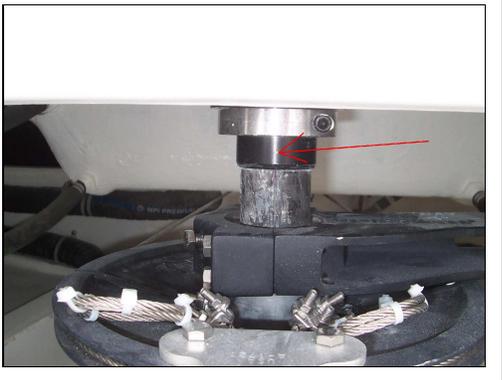
A steering problem in the Marblehead-Halifax race has drawn our attention to a potential issue that could develop with the top sleeve on the rudder post. A Jefa, hard-coated, black aluminum sleeve is epoxied to the top of the carbon rudder post, and is held in place in the boat by the upper rudder bearing and a lock collar. On the boat in question, the aluminum sleeve worked loose of the rudder post (epoxy bond issue), and the rudder slid down a few inches, loosening the steering cables and causing the chain to jump the sprocket. The quadrant kept the rudder from dropping any lower and the gaiter kept the water out.

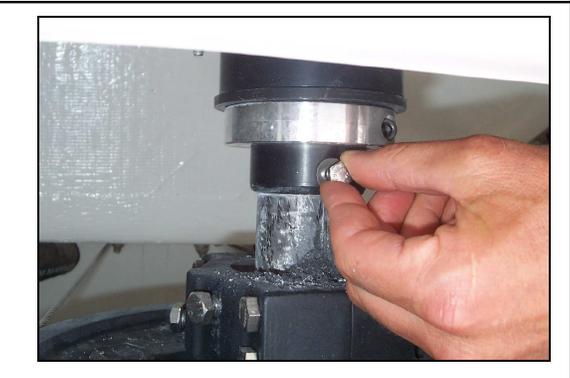
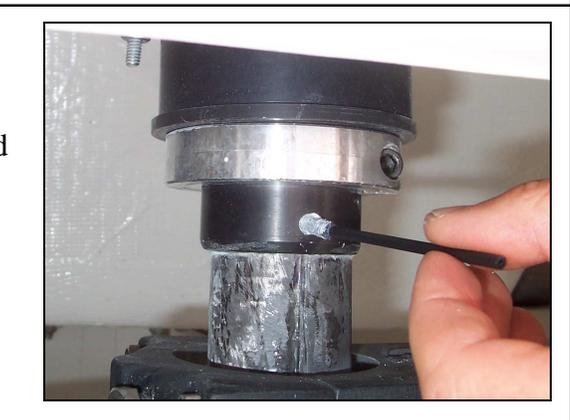
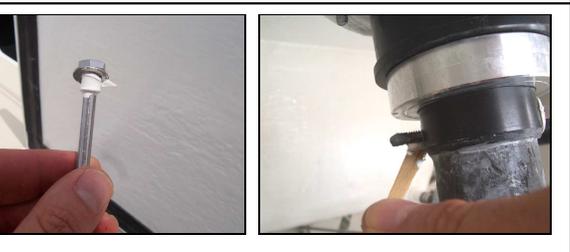
After researching the issue, CCF/J Boats have developed a simple fix to be sure this cannot happen. A bolt is installed through the upper aluminum sleeve and the rudder post as a positive means of retaining the post in the sleeve. This will be a standard feature on new J/111's in production, and we recommend installing the bolt on boats in the field. One labor hour is allotted for the procedure, as outlined below. Please contact CCF or J Boats with any questions.

#### **Tools Needed:**

- Portable drill with 1/8" bit for pilot hole, and 1/4" bit for bolt. (A long 1/4" bit could be helpful).
- (1) 1/4-20 x 3" bolt, (2) 1/4" flat washers, (1) 1/4-20 lock nut
- Tef-Gel or Duralac
- Sealant (such as 3M 4000 or 4200), paper towels
- (2) 7/16" wrenches, or sockets for tightening the bolt/nut.
- A portable vacuum could be helpful

#### **Steps:**

<b>Mark for the Bolt</b>	<p>Center the rudder and lock the wheel in place.</p> <p>Looking through the aft cockpit hatch, mark the black aluminum sleeve on the rudder post about half-way down from the collar on centerline.</p>	 A close-up photograph of the rudder post assembly. A black aluminum sleeve is mounted on a carbon fiber rudder post. A red arrow points to the sleeve. The assembly is surrounded by steering cables and other mechanical components.
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<p><b>Drill for the Bolt</b></p>	<p>Drill a 1/8" pilot hole to be sure the alignment is correct through the sleeve and the post.</p> <p>Follow with a 1/4" hole for the bolt.</p> <p>Depending on the size/shape of your drill, it may be helpful to use a long 1/4" drill bit.</p>	
<p><b>Dry fit the bolt</b></p>	<p>Be sure the bolt will go through cleanly.</p>	
<p><b>Apply Tef-Gel or Duralac</b></p>	<p>Since we're putting a stainless bolt through aluminum and carbon fiber, we suggest using Tef-Gel or Duralac on the exposed aluminum at either end of the hole to prevent corrosion.</p>	
<p><b>Install the bolt with sealant</b></p>	<p>A little sealant on the bolt at either end is also a good idea. Then tighten the bolt/nut with wrenches or a socket. Do not overtighten – just snug is fine.</p>	
<p><b>Finish and Clean</b></p>	<p>A portable vacuum is a great help for cleaning the area.</p>	