

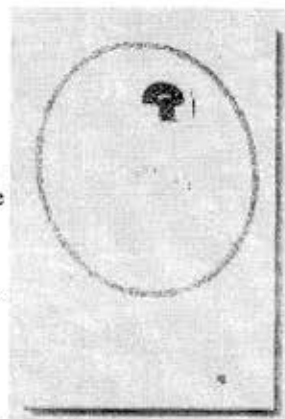
How to Check the Steering System

by Will Keene

Right now is a great time to inspect your steering system. Don't wait until the spring, or until Murphy's Law strikes, to check the condition of the steering system. A sailboat without its steering is like an out-of-control houseboat. Now, during the off-season, is a good time to check it out properly.

It's not difficult to inspect a steering system. It takes an hour or so to do a thorough job. Mechanical aptitude is not the number-one credential. The most important tool you need are your eyes: If it doesn't look right, many times it isn't, and if you're not sure, call in the manufacturer of your steering system. If you don't have the time to do the inspection yourself, have the boatyard do it, or ask a sailing buddy to help you in exchange for helping him or her. Generally, it's easy and straightforward. In fact, many people find that the most difficult part of the job is cleaning out the sail lockers in order to access the steering. But, hey, it's a good time to see if your emergency tiller is still there and to make sure it still fits.

Here is a 11-point checklist that will lead you through the process. While it was created by Edson, it will work for most brands and types of steering. (Numbers in parenthesis are Edson part numbers.)



Steering system inspection checklist

1. Steering wheel/shaft

- Remove steering wheel for room to work.
- Inspect wheel, key and snap ring.
- Replace key if loose in keyway. (No. 684-250W)
- Replace snap ring if there are signs of corrosion. (No. 960-A-660)
- Remove compass and cylinder (follow manufacturer's recommendations)
- Replace compass bolts if corroded. (3 1/2" - No. 817-3.5, 1" - No. 817-1)

2. Engine controls

- Inspect handles, levers, shafts, bushings.
- Upgrade plastic handles to stainless; (Throttle - No. 963SB-55, Clutch - No. 963PT-55.
- Replace Delrin bushings if deteriorated or stiff. (No. 960-A-125)
- Inspect engine cables.
- Replace cables if deteriorating or stiff. (No. 734-33, No. 735-64)

3. Wheel brake

- Inspect brake. Tighten to determine if working properly. Visually inspect pads. Clean grease off of knurling.
- Replace pads if worn or ineffective. (Brake Kit - No. 316-689)
- Upgrade plastic knob to stainless (No. 960-A-91ST)

4. Steering chain/sprocket

- Inspect chain for proper lubrication and free movement.
- Replace if dry, corroded, or does not roll. (No. 886)
- Inspect sprocket for broken, worn or bent teeth.
- Replace sprocket if broken or bent. (No. 855-211)

5. Steering shaft bearings

- Inspect** condition of bearings by turning shaft and checking for play or resistance while chain is disconnected.
- Replace** bearings if stiff or excessive play. (No. 314-335)

6. Steering cables

- Oil** tissue and run along wire.
- Inspect** steering cable for signs of wear such as meat hooks or kinks.
- Replace** wires if there are any signs of wear. (No. 885)
- Check** cable tension; cable should deflect 1 inch per foot.
- Tighten** cables at the quadrant; take-up eyes if loose.
- Inspect** conduit (if used) for worn areas or tight bends.
- Replace** if worn through (No. 797-250.)
- Lubricate** conduit with Teflon grease if dry. (No. 827-3)

7. Cable sheaves/idler

- Inspect** idler plate and sheaves for corrosion or wear from misaligned cables. Look for metal dust under sheave.
- Inspect** sheave pins for excessive wear.
- Replace** idler, sheaves or pins if corroded or worn (see data sheet).

8. Steering cable alignment

- Check** that cables are centered in the groove of the sheaves and quadrant.
 - Adjust** sheave placement to insure a fair wire lead.
- (Correct cable alignment within the sheave system is required to insure longevity of the system.)

9. Quadrant / radial wheel

- Inspect** quadrant or radial for signs of wear or corrosion.
- Inspect** for cable wear along wire groove.
- Inspect** connection at rudder post for tightness.
- Inspect** rudder stop (Is it hitting supports on both sides?).
- Replace** quadrant if weakened by corrosion (see data sheet).
- Replace** rubber bumper on stop if missing. (No. 960-A-53)
- Tighten** all bolts clamping quadrant on rudder post.
- Align** quadrant or sheaves for fair wire runs.

10. Overall Inspection

- Tighten** all fasteners including pedestal bolts, wire rope, clamps and quadrant rudder post connections.
- Inspect** pedestal base for water leakage.
- Seal** with bedding compound if leaking.

11. Lubrication

- Lubricate** shaft roller bearings with Teflon grease. (No. 827-3)
 - Lubricate** cable conduit with Teflon grease.
 - Oil** wire rope, chain and sheave pins with No. 30 motor oil.
- (For longevity of the steering system, proper lubrication is required.)