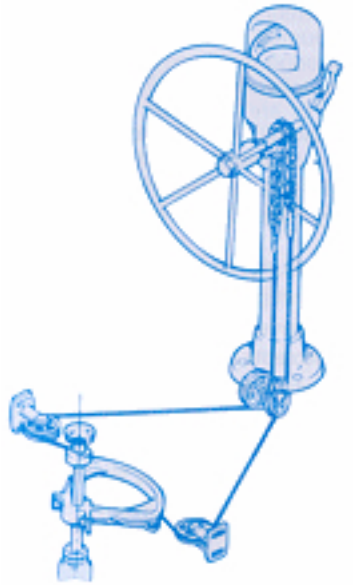

Checking the Wheel Steering System

You may not have it on your mind at this time of year, but inspecting your boat's steering system is truly a prudent thing to do.
Right now is a great time to inspect your steering system. Sure your boat is in the water and, hopefully, you're using as often as possible, but that's one of the reasons why you want to inspect this important aspect of your boat's equipment. Don't wait until the fall, 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 animal.
It's not difficult to inspect a steering system. It takes an hour or so to do a thorough job. And 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, you can always call the manufacturer of your steering system. If you don't have the time to do the inspection yourself, have a boatyard or dock worker do it for you, or ask a sailing buddy to help you in exchange for helping him or her.

Generally, inspecting your boat's steering system is 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 also a good time to see if your emergency tiller is still there and to make sure it still fits.

I'm including an 11-point checklist below that will steer you through the process. While it was created by Edson, it will work for most brands and types of steering. (The numbers I've included in parentheses are Edson part numbers.)

By making use of a simple checklist to inspect the various parts of your boat's steering system, you can eliminate any overlooked aspects.
Steering System 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)

Once you get to the quadrant, you'll want to check it closely for signs of wear and tear, and corrosion, and you'll want to ensure that the cables or belts fit snugly and that their attachment points are secure.
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.)

After you've read the above list, I recommend that you print it out and take it with you to your boat.
Will Keene is president of The Edson Corp. He adds that if the manufacturer of your steering system is no longer in business, contact Edson, at (508) 995-9711 or by fax at (800) 338-5021 for assistance and direction.