

## 1. History of Barging

- development of locks, Marco Polo, Leonardo da Vince, Commercial Renaissance
- Freycinet standards, standard lock size, Peniche
- competition from railroads, decline of Peniche, large barge efficiencies and shipping patterns
- beginnings of recreational barging

## 2. Waterways

- lowlands: Holland, Flanders, northern Germany
- “lock lands”: Wallonia, France, central and southern Germany
- narrow Canals: England
- frontier regions: Danube, Volga/Moscow
- potentials: Bug Canal

## 3. Primary recreational barge types:

- Dutch: turn of the century, iron/steel, regional styles, varying sizes, variety of conversions
- Peniche: one style, shoe horn sized, primarily live-aboard or commercialized pleasure
- others: motorboats, sailboats, platbodems.

## 4. Getting Underway:

- engine start procedures: oil, coolant, water running, 5 minute warm up
- traffic check; chart check
- protect the prop: push out or spring line start.
- lines coiled; “steering clear”.
- fenders up or down.

## 5. Using propeller torque

- how the prop “walks”.
- left hand or right hand turning props
- “tire in mud”
- using torque to stop...and to start.

- using torque to turn: measure the width, stop first.
- turning alternatives: back and forth; into the bank; against a bollard; center the line on board, portable fenders; use the wind.
- The role of bowthrusters and ballast
- “Big Mo”, effect of momentum: forward or sideways, accelerate out of a turn.

## 6. Lock procedures

- safety procedures: pancakes, feet and fingers away, don't stop the barge by hand or line; person-overboard procedures: neutral gear; never tie off; never overlap; emergency knife.
- lock lights.
- fenders: tires, ropes, wood blocks, vinyl; breakaway fender ties; positioning.
- entering a lock: commercial vs recreational, activating the lock, lock-emptying currents, wind while waiting, upstream currents while lock fills, room to maneuver, techniques to maneuver (holding in place and meeting an emerging vessel); positioning the boat to enter straight; “in gear” for control; crew and portable fenders.
- captain/crew coordination: hand signals; options from crew/decision by captain
- technique: spring line from bow, or bow and stern.
- assisting the lockkeeper
- types of locks: egg shaped, automatic, levers, cranks, push rods, twist rods, electric eye (space alien), garage door openers, confusing the computer.
- customs and courtesies: tipping the lockkeeper; the sacred hour; the discrete horn, universal language
- leaving the lock: watch your hips.
- big lock techniques: no visible lockkeeper, changing bollards, floating bollards, let big boys go first.

## 7. Mooring

- Fundamentals of tie downs: bow line, stern line, two springs.
- land anchors and pins
- tying to bollards. Techniques for tightening lines. Chafe protection.
- mooring on rivers and tidal areas.
- mooring line materials.

- anchoring techniques: windlass, setting the anchor, emergency use.
- nose in to lake shores

#### 8. Meeting and overtaking boats

- the “push-pull-push” effect
- meeting boats
- overtaking and being overtaken
- speed limits and bank erosion

#### 9. Engine and related systems

- adequate horsepower
- reputable brands
- testing
- maintenance: hoses, oil, transmission, coolant
- packing glands
- dry and wet exhaust
- keel cooling
- fuel: where to buy, red and white, tanks and ballast, diesel and bacteria, filters, keep tanks topped, rust, gauges
- fuel absorbent cloths

#### 10. Electrical systems

- 24 volt vs 12 volt
- 220 volt vs 110 volt
- batteries: types, aging, water, alternators, calculating usable amps, smart regulators, generators.
- monitors
- shorepower
- inverters

#### 11. Plumbing systems

- drinking water: where to get it, \$

- on demand pumps, pressure tanks, hand/foot pumps
- hot water: on demand; engine heat exchanger; cabin heat exchanger.
- filters and minerals
- heads and holding tanks, anti-siphon valves, vegetable oil, clorox, vinegar, seacocks
- gray water disposal; weekly cleaning
- coffee grounds

## 12. Heating systems

- electric space heaters: avoid overload
- diesel heaters: keep it simple
- forced air
- convection
- combination systems
- propane heaters
- engine heat exchanger systems
- solid fuel heaters

## 13. Galley systems

- propane cooking: national and proprietary bottles, heavier than air; valves; soap and water; pressure testing; alarms
- refrigerators: propane--critical venting; 24 volt/220 volt.
- diesel stoves

## 14. Preventive Maintenance

- hull: iron vs steel; 4mm, thickness testing; insurance surveys; pop rivets and welding; haulout techniques (caution on straps); bottom coats
- topsides: rust, waterlines, water pockets, screwdriver/wire brush/Owatrol/primer/paint
- brush in a bottle
- fighting mildew
- floor finishes
- exterior wood finishes: varnish, Cetol, polyurethanes

## 15. Rules of the Road

- red, right, returning...to the sea.
- blue flag rule
- dredgers
- ferries
- bridges
- sound signals
- signage

## 16. Miscellaneous

- flag etiquette
- transportation
- telephones: GSM, telephone cards
- cruising permits: "vignettes"
- licensing
- charts
- the barging community
- tunnels
- VHF

## 17. Cruising Costs

- food
- fuel
- transportation
- entertainment
- repairs
- winter moorage

## 18. How to Buy a Barge

- choosing what type to buy, setting a budget

- where to buy
- not too high...in the air or in the water
- critical items before you buy
- the role of the broker
- the role of the surveyor
- can I sell it again afterward?
- can I charter instead?
- Financing and insurance