

# “LOCKING THROUGH”

## THE SCRIPT OUTLINE FOR A POWER POINT ADDENDUM TO THE USPS CRUISE PLANNING COURSE

BLUE COLOR EQUALS TITLE SLIDE

GREEN COLOR EQUALS PHOTO SLIDES

ORANGE COLOR EQUALS SLIDE NOTES

(1) LOCKING THROUGH

An Addendum for the USPS Cruise Planning Course

(2) FUNCTION OF A LOCK

To Raise or Lower a Vessel from One Body of Water to Another Which Have Different Heights.

(3) Gate Opens - Boat Enters Lock (going up)

When the gates are open, the boat proceeds into the lock chamber.

(4) Boat In Lock - Water Filling

When the boat or boats are secure against the lock wall, the gates are closed and the chamber is filled or drained.

(5) Gate Opens and Boat Leaves the Lock

After the lock chamber is filled or drained, the lock gates are opened and the vessel motors out.

(6) LOCKS MADE NAVIGATING ON WATERWAYS POSSIBLE  
For Transporting Commercial Goods

Panama Canal, Erie Canal, Welland Canal,  
St. Lawrence Seaway, Tenn-Tom Waterway  
Heartland Rivers (Chicago, IL to Mobile, AL)  
Rideau Waterway, Trent-Severn Waterway,  
ICW (Virginia Cut and Dismal Swamp)

(7) PRIORITY OF VESSELS TRANSITING LOCKS

- 1 Official Government Vessels
- 2 Passenger (cruise) Vessels
- 3 Commercial Vessels
- 4 Rafts (towboats & barges)
- 5 Pleasure Craft

(8) Official Government Vessels are a Priority # 1

Explorer a NOAA Oceanographic Survey vessel is entering the Hiram M. Chittenden Locks which connect Puget Sound to Lake Union and Lake Washington via the Lake Washington Ship Canal.

(9) Passenger Cruise Vessel is a Priority # 2  
The Kawartha Voyager

The passenger cruise ship Kawartha Voyager can lower and raise its entire bridge allowing it to go under low bridges on the Trent-Severn Waterway in Ontario, Canada.

10) A Commercial Vessel is a Priority # 3

A Freighter in the MacArthur Lock at Sault St. Marie, MI

(11) Rafts (towboats & barges) are a Priority # 4

Here a towboat is pushing six barges filled with wood pulp headed for a paper mill on the Tenn-Tom Waterway.

(12) Pleasure Craft are a Priority # 5

Pleasure Craft are rafted out 3 and 4 across in this Lock on the St. Lawrence Seaway. Money is passed from boat to boat to the vessel against the lock wall and then given to the Lock Hands.

(13) SIGNALING THE LOCKMASTER

VHF RADIO Channel 13, 14 or 16

Small Craft SIGNAL LINE

HORN SIGNAL  
(One Long & One Short Blast)

(Signaling the Lockmaster HORN SIGNAL continued)

(Army Corps of Engineer's Locks)

One Long Horn Blast to Enter the "Landward Lock" (closest to shore)  
And one Short Horn Blast From the Lockmaster to Leave It

Two Long Blasts to Enter the "Riverward Lock" (furthest from shore)  
and Two Short Horn Blasts from the Lockmaster to Leave It

LOCK SIGNAL LIGHTS:

RED (stop/wait) and GREEN (enter/go)

NOTE: When communicating with the Lock Master, you need to be able to tell the Lock Master whether you are Locking UP BOUND (Up Stream) or Locking DOWN BOUND (Down Stream).

(14) Small Craft Signal Line

Small Craft Signal Line pull chain is just under the street light on the right side of photo.

(15) Landward Lock - foreground Riverward Lock - with ship

Horn signal for Landward Lock is One LONG blast to enter and to exit.  
Horn signal for Riverward Lock is Two LONG blasts to enter and to exit

(16) Red/Green Signal Light At A Lock

This signal light is at Swift Rapids Lock on the Trent-Severn Waterway in Ontario, Canada.

(17) LOCKING GUIDELINES

The Lockmaster Is In Charge

(all instructions must be followed - by law)

All Fires Extinguished

(No Smoking Permitted)

All Engines Turned Off

Don't Tie/Cleat Your Lines

PFD's "Life Jackets" Required

(On All Army Corps of Engineer's Locks)

(18) METHODS OF SECURING YOUR BOAT IN A LOCK

Lines Dropped Over the Side of the Lock

Cables Attached at the Top & Bottom of Lock

Fixed Bollards at Top of Lock

(must have 2 lines twice the height of the lock + 15 ft.)

Floating Bollards Indented into Lock Sides

The Rule of: “Don’t Tie/Cleat Your Lines”

(have a sharp knife in readiness)

(19) Securing Boat To Lock Wall Rope From Top of Lock;  
Fixed Bollard (post); or Cable Attached to Top & Bottom

Slide shows three different types of securing boat to lock wall.

(20) Securing Boat To Lock Wall Wrap Line Around Cable  
And Hold Line At Bitter End

On cables affixed to the top and bottom of a lock, wrap your line around the cable and hold the line and bitter end as the boat moves either up or down the lock wall.

(21) Securing Boat To Lock Wall Floating Bollard Inset Into Lock Wall

Floating Bollards are inset into the lock wall and are usually two levels high.

(22) Securing Boat To Lock Wall Make One or Two Turns Around  
Bollard - do not cleat, use sharp knife if floating bollard jams.

Make one or two turns around the floating bollard. This is frequently done amidships on small pleasure craft. Do not cleat or tie the line as floating bollards have been known to jam. Keep a sharp knife handy just in case.

(23) EQUIPMENT NEEDED FOR LOCKING

Two Lines Twice The Height of the Lock + 15 ft.

(24) EQUIPMENT NEEDED FOR LOCKING

Two Lines Twice The Height of the Lock + 15 ft.

Two Shorter Lines - 15-20 ft to Wrap Around  
Lock Wall Cables or Floating Bollards

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Large Fenders For Both Sides of Your Boat

(26) EQUIPMENT NEEDED FOR LOCKING

Two Lines Twice The Height of the Lock + 15 ft.

Two Shorter Lines - 15-20 ft to Wrap Around  
Lock Wall Cables or Floating Bollards

Large Fenders For Both Sides of Your Boat

Two Boat Poles - One Fore & One Aft

(27) EQUIPMENT NEEDED FOR LOCKING

Two Lines Twice The Height of the Lock + 15 ft.

Two Shorter Lines - 15-20 ft to Wrap Around  
Lock Wall Cables or Floating Bollards

Large Fenders For Both Sides of Your Boat

Two Boat Poles - One Fore & One Aft

Good Leather Work Gloves (to hold slimy lock lines)

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Two Lines Twice The Height of the Lock + 15 ft.

Two Shorter Lines - 15-20 ft to Wrap Around  
Lock Wall Cables or Floating Bollards

Large Fenders For Both Sides of Your Boat

Two Boat Poles - One Fore & One Aft

Good Leather Work Gloves (to hold slimy lock lines)

A Very Sharp Knife (to cut a jammed line)

(29) EQUIPMENT NEEDED FOR LOCKING

Two Lines Twice The Height of the Lock + 15 ft.

Two Shorter Lines - 15-20 ft to Wrap Around  
Lock Wall Cables or Floating Bollards

Large Fenders For Both Sides of Your Boat

Two Boat Poles - One Fore & One Aft

Good Leather Work Gloves (to hold slimy lock lines)

A Very Sharp Knife (to cut a jammed line)

PFD's (life jackets for everyone aboard)

(30) LATERAL SYSTEM MAY CHANGE AFTER A LOCK

Remember the phrase "Red Right Returning -  
From the Sea or Going Upstream"

A Lock may Raise you to a Higher  
Level and/or Lower you to another; so  
the Lateral Buoy System May have Changed --  
Because You May have Switched From  
Going Upstream and/or Going Downstream!

(31) Check Lateral Buoy System When Leaving A Lock

At many small craft locks, there will be signs alerting boaters of a change in the Lateral System. To be on the safe side always check your charts.

(32) LOCKING PROCEDURE

Wait Until Lockmaster Opens The Gates  
And Signals You To Enter Lock

(33) LOCKING PROCEDURE

Wait Until Lockmaster Opens The Gates  
And Signals You To Enter Lock

Enter The Lock At Dead-Slow Speed

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Proceed To The Side Of The Lock Where  
The Lockmaster Tells You To Go

(35) LOCKING PROCEDURE

Wait Until Lockmaster Opens The Gates  
And Signals You To Enter Lock

Enter The Lock At Dead-Slow Speed

Proceed To The Side Of The Lock Where  
The Lockmaster Tells You To Go

Secure Your Boat Next To The Lock Wall

(36) LOCKING PROCEDURE

Wait Until Lockmaster Opens The Gates  
And Signals You To Enter Lock

Enter The Lock At Dead-Slow Speed

Proceed To The Side Of The Lock Where  
The Lockmaster Tells You To Go

Secure Your Boat Next To The Lock Wall

Shut Off All Engines / No Smoking or Flames

(37) LOCKING PROCEDURE

Wait Until Lockmaster Opens The Gates  
And Signals You To Enter Lock

Enter The Lock At Dead-Slow Speed

Proceed To The Side Of The Lock Where  
The Lockmaster Tells You To Go

Secure Your Boat Next To The Lock Wall

Shut Off All Engines / No Smoking or Flames

Hold Onto Your Lines Tightly & Fend Off

(38) LOCKING PROCEDURE

Wait Until Lockmaster Opens The Gates  
And Signals You To Enter Lock

Enter The Lock At Dead-Slow Speed

Proceed To The Side Of The Lock Where  
The Lockmaster Tells You To Go

Secure Your Boat Next To The Lock Wall

Shut Off All Engines / No Smoking or Flames

Hold Onto Your Lines Tightly & Fend Off

Leave The Lock Only When Told To Do So And Tell  
The Lockmaster When You Are Clear Of The Lock

(39) TYPICAL / NORMAL SIZE LOCKS

Most Older Locks are Between 3 & 15 feet in Height

Some will be Double or Gang Locks to Achieve Larger  
or Higher Water Level Differences

40) Lake Michigan Lock at The Chicago River

This is the Lock from Lake Michigan going into the Chicago River. The lock keeps the River from flowing into Lake Michigan

41) A Typical Small (height) Pleasure Craft Lock With Lines  
Dropped Down From Top Of The Lock

This is a lock on the Champlain Canal in New York. Lines are dropped down from the top of the lock into the water and become slimy. Good leather work gloves are needed to keep your hands clean.

(42) A Typical Double Lock Boat in Lower Chamber  
Going Upbound - Yellow Gates For Upper Chamber.

Double Locks are used on older canals like this one on the Seneca-Cayuga Canal in New York; also on the Rideau Waterway, and Trent-Severn Waterway in Canada.

(43) On Many Older Canals There Are Gang Locks

Gang Locks are usually 3 to 4 locks in a series to achieve the total difference between water levels. This lock is on the Chambly Canal in Quebec.

(44) HIGHER / DEEPER LOCKS

Newer Locks will Usually be Higher - Having a Greater Difference in Water Height Levels;and/or be Built to Accommodate Larger Commercial Vessels.

They May also Present a Greater Challenge to Pleasure Craft.

(45) The Jamie Whitten Lock At 84 ft. Is One Of The Newer Commercial Locks

The Jamie Whitten Lock is the Largest on the Tenn-Tom Waterway in Mississippi.

(46) Inside the Jamie Whitten Lock Going Upbound

Inside these large locks it can get very hot, very still and a bit claustrophobic.

(47) Carillon Lock - Ottawa R.

This is the Carillon Lock on the Ottawa River. Note the Vertical Gate which raises and lowers. This is the only gate of its type in North America.

(48) UNUSUAL LOCKS

“Ladder” or “Step-Locks”

(Rideau Waterway at Ottawa, Ontario, Canada)

Hydraulic “Lift Locks”

(Trent-Severn Waterway at both Peterborough & Kirkfield, Ontario, Canada)

“Marine Railway”

(Trent-Severn Waterway at Big Chute, Ontario, Canada)

(49) Ladder Lock - Ottawa Going Up

This is an aerial view of the Ladder Locks (eight locks in succession) from the Ottawa River into Ottawa and the Rideau Waterway in Ontario, Canada.

(50) Ladder Lock - Ottawa Looking Down

This photo was taken from a bridge looking down the locks towards the Ottawa River below.

(51) Peterborough Lift Lock - A Hydraulic Lift Lock On The Trent-Severn Waterway

The Peterborough Lift Lock has two chambers filled with water. One goes up while the other goes down. It was built in 1906 and was the first poured concrete structure in North America. It is located in Peterborough, Ontario and is 63 feet high.

(52) Peterborough Lift Lock - Right Chamber is going down  
Left Chamber is going up

A valve on the hydraulic system is turned and about 300 gallons of water are added to make the top chamber go down and the bottom chamber go up.

(53) Peterborough Lift Lock - The Locking Sequence is Nearly Completed; Travel Time Going Up / Down is Less Than 60 Seconds

It is a smooth, elevator like ride. The rule “never tie your lines” does not apply because the entire lock moves.

(54) Peterborough Lift Lock - The Chamber Doors Are Down  
And Both Chambers Ready For Locking Up.

The doors at the water levels are lowered to the lock floor allowing boats to enter or leave. After boats enter the chambers, the doors are raised and locked in place.

(55) The Kirkfield Lift Lock Also On The Trent-Severn

This hydraulic lift lock was constructed mostly of steel and while not as famous as the Peterborough lock is still quiet impressive because you can watch the boats in the opposite chamber. This lock is 47 feet high.

Unusual Locks continued.

- (56) Big Chute Marine Railway On The Trent-Severn Waterway in Ontario, Canada

The new Marine Railway at Big Chute is one of only 3 in the world (one is the old and smaller railway next to this one), the other is in Germany.

- (57) Big Chute Marine Railway Boats are Slung From Slings Held On Posts, Some of Which Are Raised Up From the Cradle Floor.

The slings or straps are much like those used on Travel Lifts in most marinas. The Railway Car can accommodate boats up to 100 feet in length and 23 feet in width and a 6 foot draft. Sailboats are double slung fore and aft in an “ X “ fashion.

- (58) Big Chute Marine Railway The Railway Car Travels Down Tracks Having Different Levels to Keep Boats Nearly Level.

Two sets of railroad tracks are used to keep boats level to prevent water from entering the engine manifolds.

- (59) Marine Railway at Big Chute It's Like Your Boat Is On a Roller Coaster Ride - Swaying A Bit From Side To Side

The Marine Railway at Big Chute travels about 500 feet, and down 53 feet from one body of water to the other.

- (60) LOCKING THROUGH

Take Your Time  
And  
You'll Do Fine

??? QUESTIONS ???

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