YM - Week 6

2023-24

1

IRPCS – How's it going?

What do the rules say about keeping a lookout?

Rule 5: Look-out
'Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.'

2

IRPCS – How's it going?

Vessels are required to proceed at a Safe Speed.
What factors should be considered in determining a Safe Speed?

By all vessels:
(i) the state of visibility;
(ii) the traffic density including concentrations of fishing vessels or any other vessels;
(iii) the manoeuvrability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions;
(iv) at night the presence of background light such as from shore lights or from back scatter of her own lights;
(v) the state of wind, sea and current, and the proximity of navigational hazards;
(vi) the draught in relation to the available depth of water.

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IRPCS – How's it going?

How would you determine whether "danger of collision exists", visually and by using radar?

Visually – Vessel is on a constant bearing and the range decreases.

Radar – by the same method.

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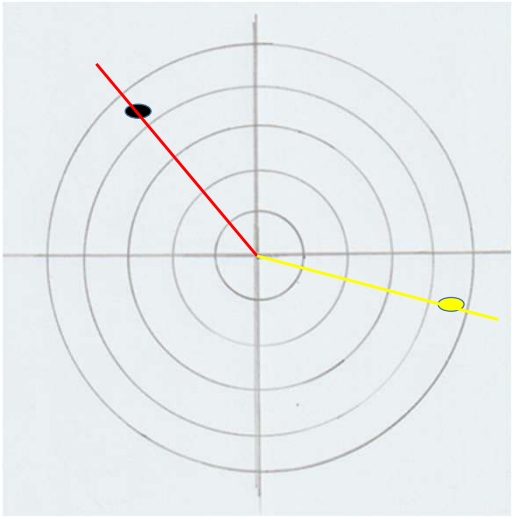
Radar – Danger of Collision

Head up
Rings at 1 nm intervals

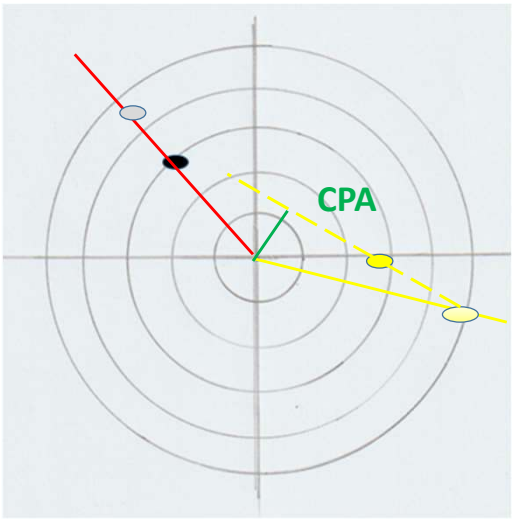


t = 0 min

6

Radar – Danger of Collision

Head up
Rings at 1 nm intervals



t = 6 min

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Logs and Sounders

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Logs

- Measure distance run through the water.
- Electronic or mechanical.
- Need to be calibrated.
- Transducer
  - Paddlewheel
  - Propeller
  - Ultrasonic

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Dutchman's Log

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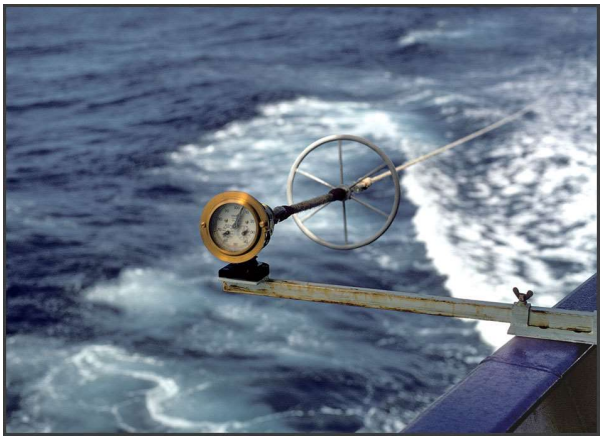
Walker Log



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Log and Paddlewheel

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Calibration

- Measured mile
  - Two runs in opposite directions
- GPS
  - Compare with SOG with no tide
- Under reading / over reading

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Sounders

- Electronic
  - Ultrasound wave used to find distance from transducer to seabed
  - Set from waterline, transducer or keel
  - Alarms for anchoring etc.
- Mechanical
  - Lead line

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For the Traditionalist!

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Sounders

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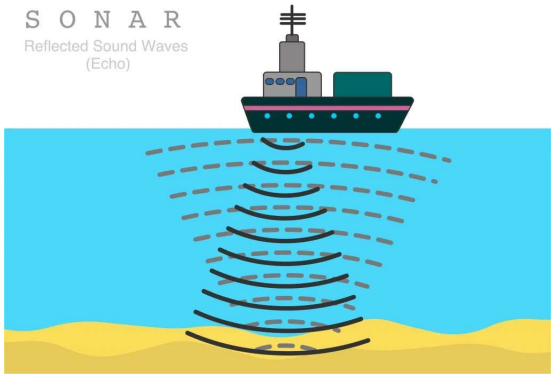
Depth measurement using sound

Speed of sound in sea water = $v_{(w)}$

Time between transmission and reception = t

Depth = ($v_{(w)}$ x t) ÷ 2



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Sounder / Fishfinder

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Calibration

- Sounders measure from the transducer to the sea bed.
- Some have programmable offsets to allow for depth to waterline or depth to keel.
  - Advantages / disadvantages of each?
- Calibrate using a lead line.
- When does the boat run aground?

'Er... when I said we've got 12.5, I meant volts, not metres...'

Cartoon credit: Claudia Myatt (PBO)

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Homework

- IRPCS Chapters 4 and 5 – next session week 8.
- Course Notes page 20 and pages 51 and 52
- Exercise "Electronic Aids to Navigation" (pp14 – 16). Questions 4,5,6,7,8,9,11,12,13. For return prior to week 8.

- Week 8 – If you have the Navionics App on a tablet or phone, please bring it in with you for this week. If you do not have the App, but would like to bring in a WiFi enabled laptop, you will be able to use the Chart Viewer from the Navionics Web Page.

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