

# Dialing In Your Trawler

Suggestions on how to track and monitor the gear and systems on your boat. Tips and Ideas to make boating more fun and enjoyable



by Jeff Merrill, CPYB  
© 2024 all rights reserved

Racing sailboats led to this course

**Trawlerfest**

BOATSHOW • EDUCATION • RENDEZVOUS

**Wednesday May 15, 2024**

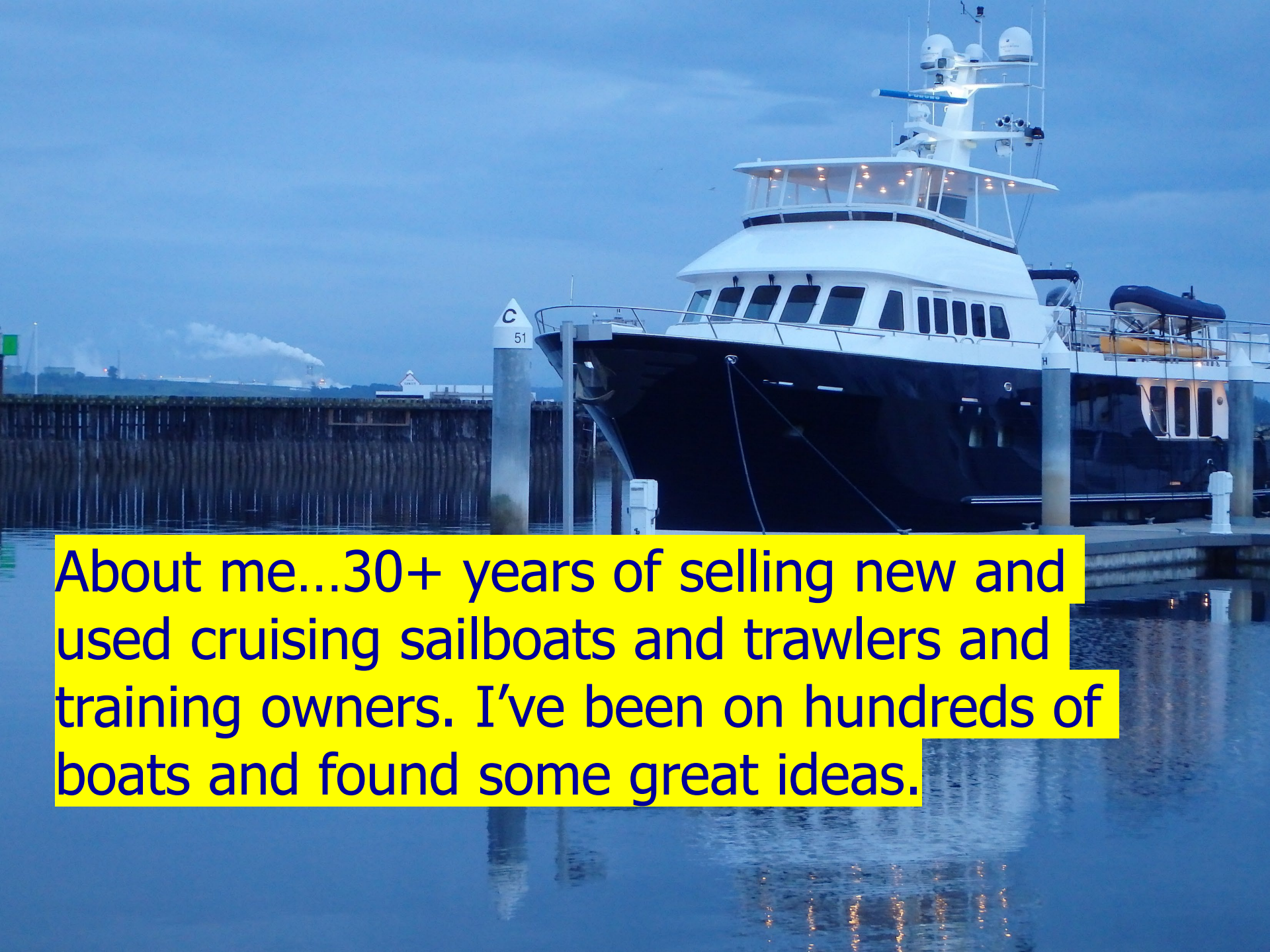


# Pilothouse – Gauge Reference

## My first power boat “AHA”

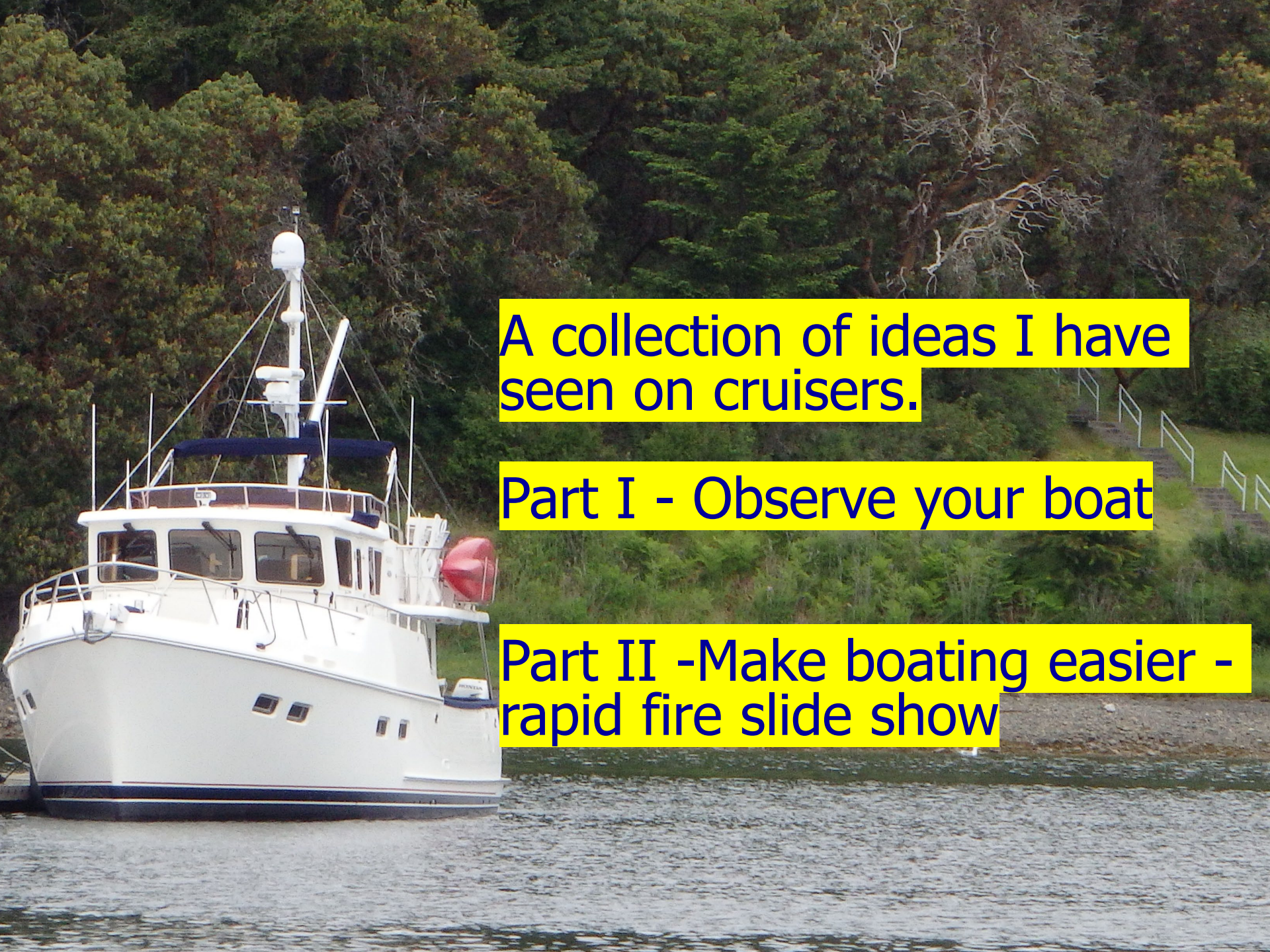






About me...30+ years of selling new and used cruising sailboats and trawlers and training owners. I've been on hundreds of boats and found some great ideas.





A collection of ideas I have seen on cruisers.

Part I - Observe your boat

Part II - Make boating easier - rapid fire slide show





ialing-In-Your-Trawler articles Jeff Merrill has written are available



**Handout\*** A list of the articles I have written for Ocean Navigator magazine



Of course, a compass

Mar/Apr 2020



Enabling your boat to talk

Nov/Dec 2019



Ship's Papers

Jul/Aug 2019

### Dialing-in-your-trawler articles - the series

There are over two dozen articles in the "Dialing-in-your-trawler" series so far.

Each article has been published in *Ocean Navigator* magazine.

You can read the articles on the *Ocean Navigator* website, "Power Voyaging" section

All articles are also archived on JMYS.com - | - Trawler Lifestyle section - | - Ocean Navigator

### Here is a summary of the article titles:

Dialing in your trawler

Engine Essentials

Anticipating Anchoring

Steering Straight

Wanderers Water

Dinghy Dynamics

Night Running

Sea Safety

In Charge - 12V DC

Keeping Current - 120V AC

Fuel to Burn

A Trip to the Engine Room - part 1

A Trip to the Engine Room - part 2

Spare Parts - part 1

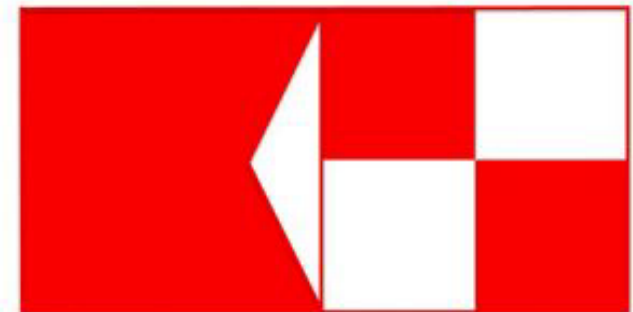
Where are you most vulnerable? - Spare Parts - part 2



# Expert Instruction From The Brands You Trust.

## Offshore Cruising: Preparing Craft & Crew

Preparation is key to successful cruising. Regardless of the size, make or model of your boat, understanding its critical systems and having a plan is crucial to keep your craft performing efficiently and safely. Join yacht broker, boatbuilder and TrawlerFest instructor Jeff Merrill in this exclusive online course designed to help you prepare yourself, your boat and your crew to get the most out of your offshore boating adventures.



**Boaters University**



YouTube videos



SKILL

TIP #2

# Learn something from every boat

Every vessel has a  
number of components  
that require attention and  
observation, we are all  
“in the same boat”



! Noticing details will help you monitor your systems and better understand your boat.

I will post this PowerPoint as a PDF and include the handouts on [www.JMYS.com](http://www.JMYS.com) within a week.

Please interrupt with questions

Sign up list for email notification.



# HANDOUTS

- Summary Dialing in Your Trawler articles
- USCG inspection Vessel Safety Check
- Maintenance Log - Main Engine
- SDMC / JMYS Maintenance Guideline

As a yacht broker I know that eventually you will sell your boat. You want a reliable vessel, and Buyers want maintenance records



Do you keep your maintenance log up to date?



Your Boat is "alive"

Like your body, it make senses that regular  
"CHECK-UPS" will keep your boat healthier





Unlike annual human medical exams, a trawler should have many inspections (hourly at first) to check systems





Be observant and pay attention

What can you do to keep track of things  
and make boating easier?



A photograph of a boat's dashboard area. A black laptop is open on the dashboard. To the left of the laptop is a white electronic device, possibly a depth sounder. Above the laptop is a black electronic device with a screen and buttons. To the right of the laptop is a black electronic device with a screen and buttons. Further right is a black electronic device with a screen and buttons. The dashboard is made of wood. There are windows in the background showing a marina with many boats. A yellow text box with the word "BASELINES" is overlaid on the image.

# BASELINES

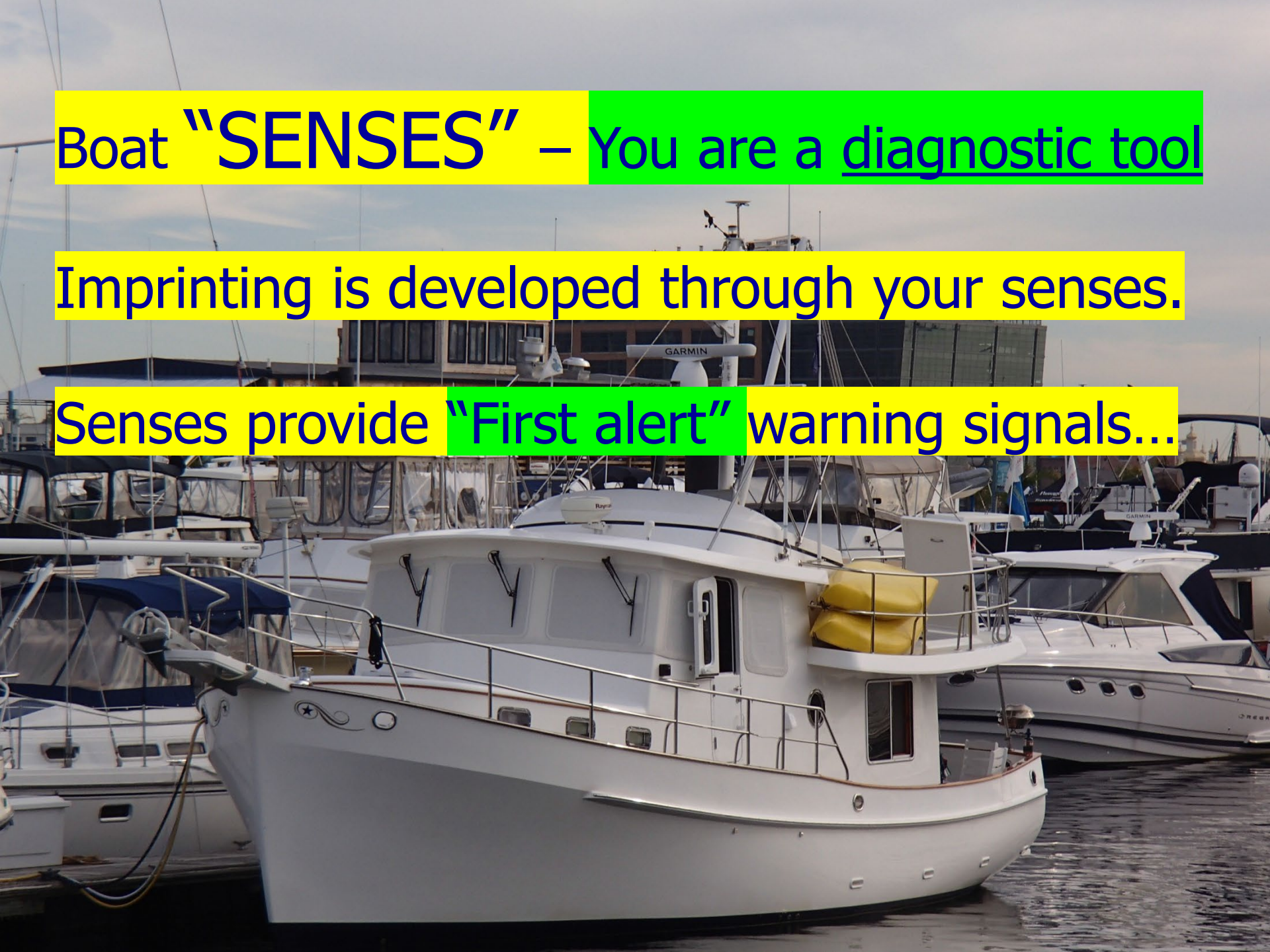
To track your boat you first have to establish baselines, and these initial impressions need to be cataloged so you can learn what the NORM is.



Boat "SENSES" – You are a diagnostic tool

Imprinting is developed through your senses.

Senses provide "First alert" warning signals...





A photograph of a boat on a body of water during sunset. The sun is low on the horizon, creating a warm orange glow. The sky is filled with clouds, and the water reflects the light. The boat is in the lower left, moving away from the viewer.

# Sight/Vision

- Keen an eye on things...
- Visual observation is the most common way to notice if something is amiss.



# Hearing/Sound

New noises to identify:

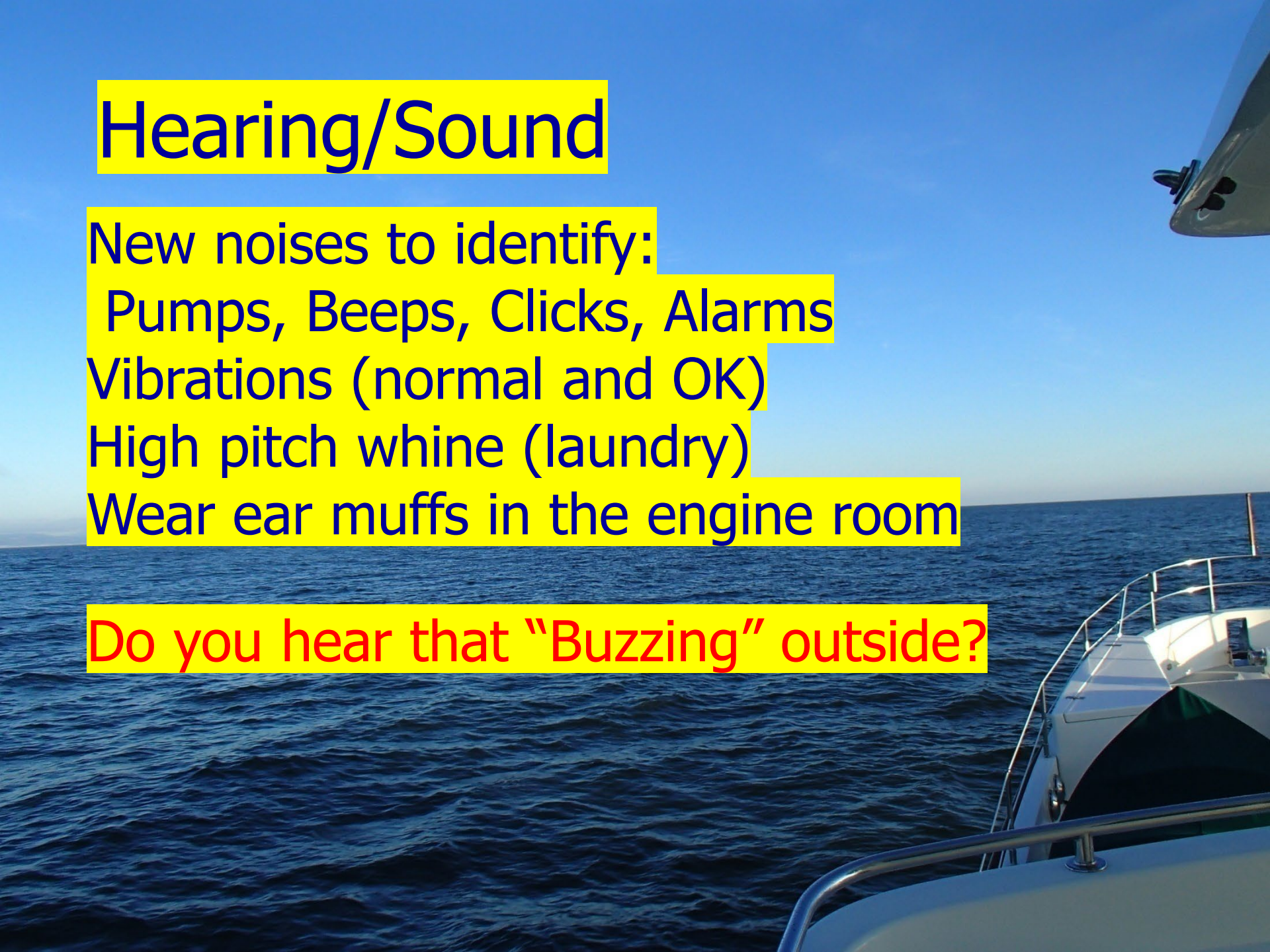
Pumps, Beeps, Clicks, Alarms

Vibrations (normal and OK)

High pitch whine (laundry)

Wear ear muffs in the engine room

Do you hear that “Buzzing” outside?



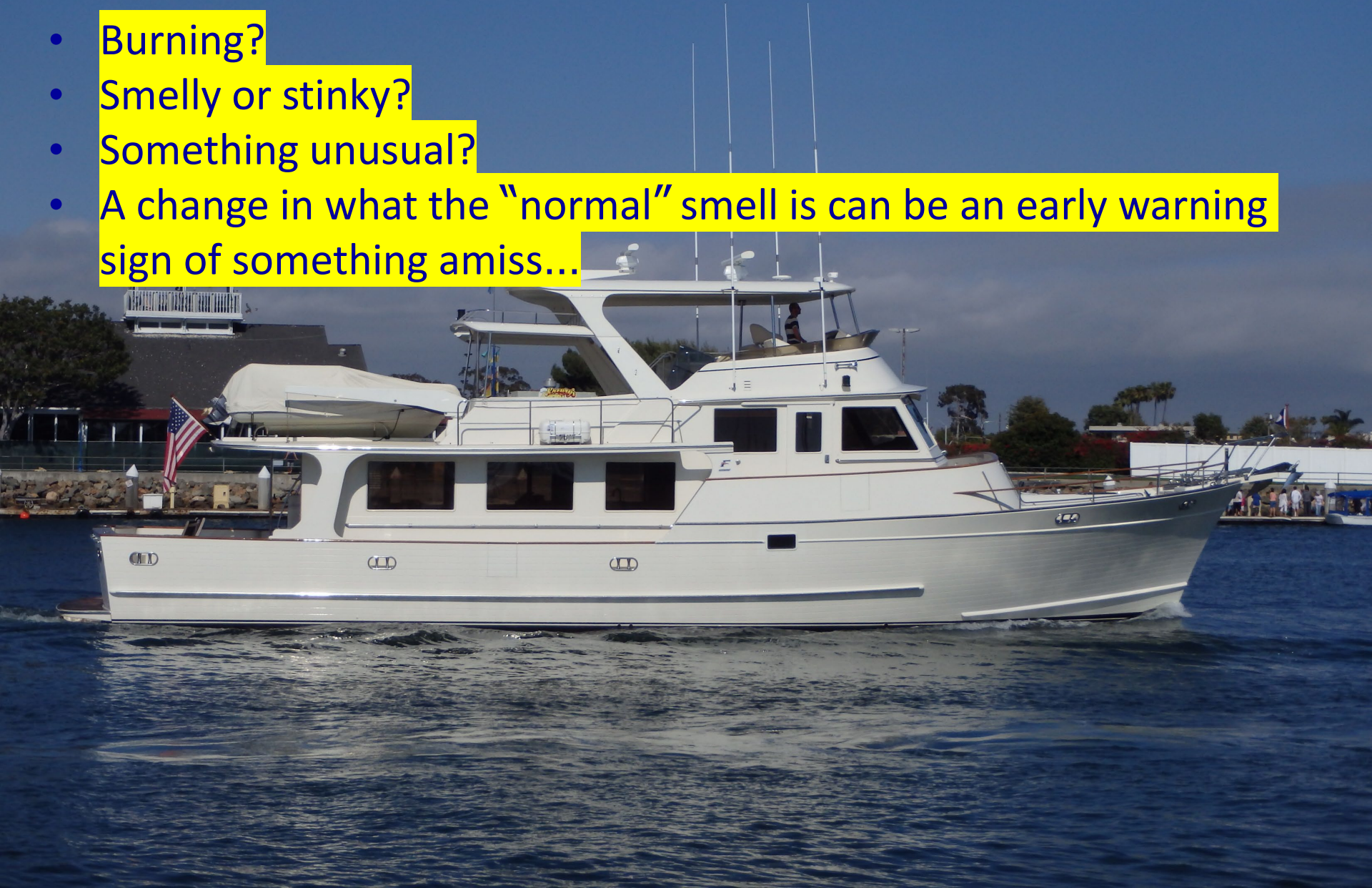






# Smell

- Burning?
- Smelly or stinky?
- Something unusual?
- A change in what the “normal” smell is can be an early warning sign of something amiss...





# Touch (and what not to touch)

Machinery hot parts – be careful of burns

Gloves – anchoring and handling dock lines  
(wood dock splinters)

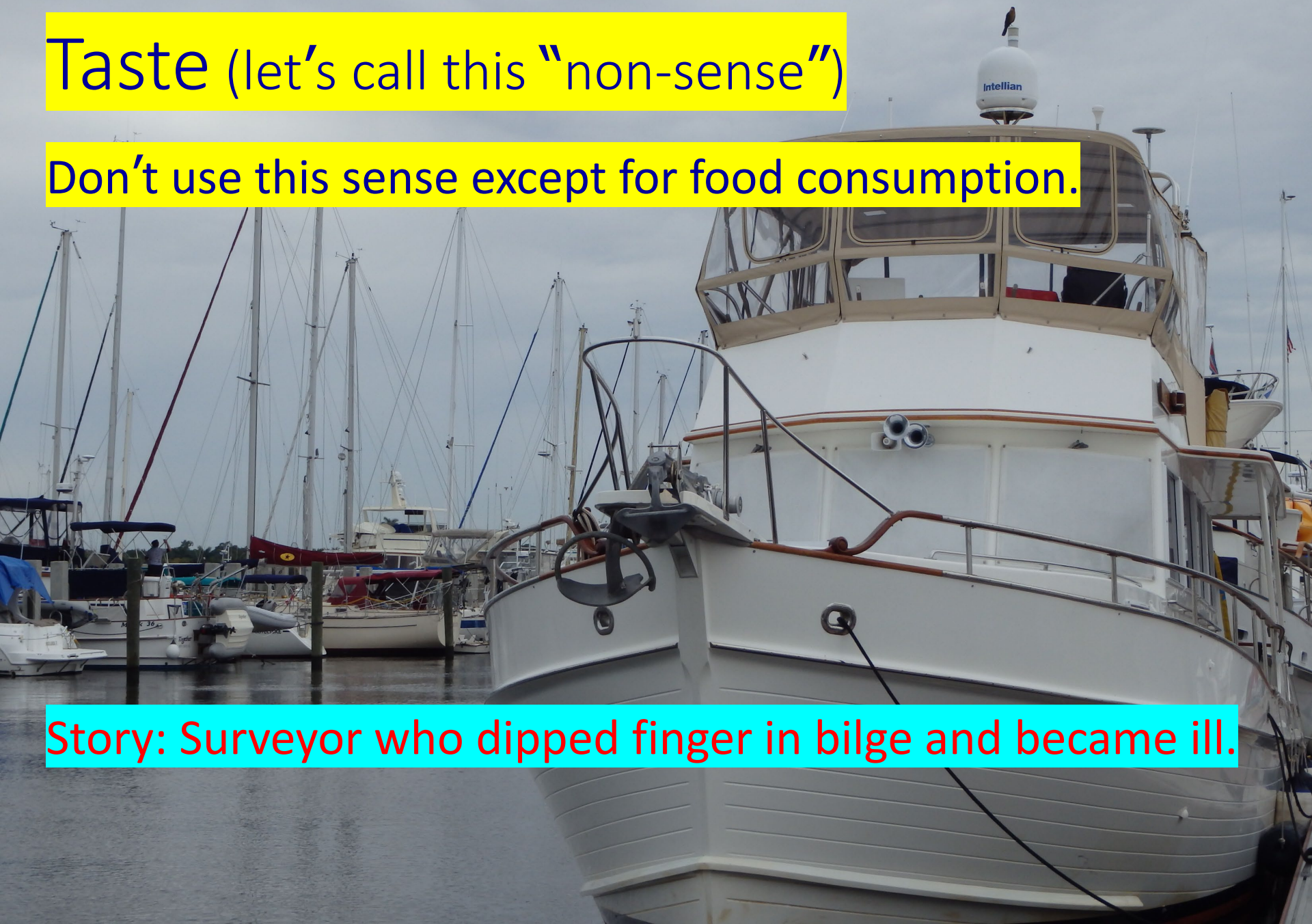
Shoes on deck: hatch dogs, sure footing,  
around windlass, anchor and chain



Taste (let's call this "non-sense")

Don't use this sense except for food consumption.

Story: Surveyor who dipped finger in bilge and became ill.







# Common Sense

- You typically have time to think through a good solution, don't rush to judgement



5-year expiration...





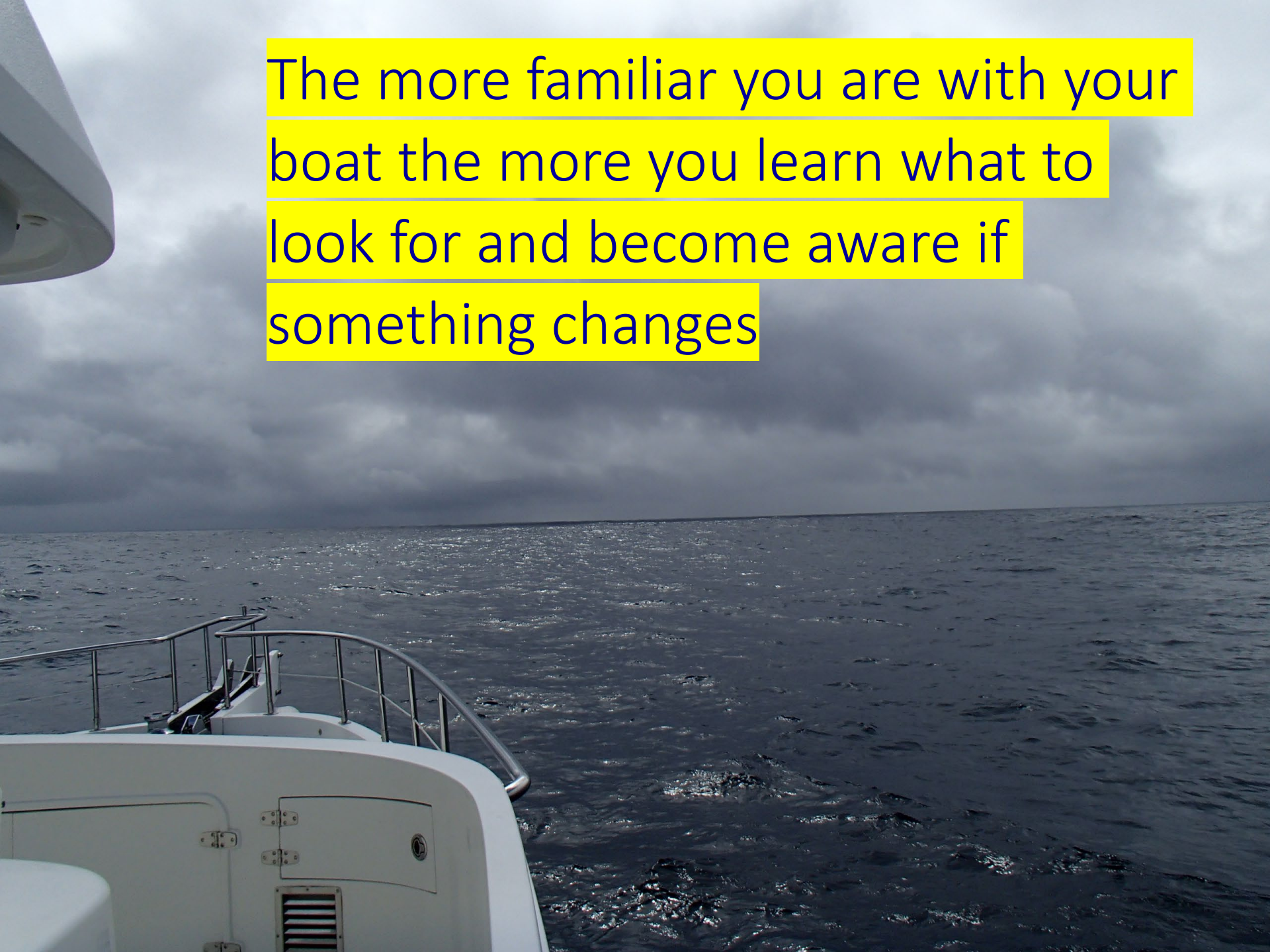
## GET YOUR BOAT ON TRACK

Let's see what other boat owners do to stay on top of things.

Machinery with temperatures to monitor and many reminders or quick reference ideas.



The more familiar you are with your boat the more you learn what to look for and become aware if something changes





Locate where things are installed

Anti siphon vents?

Where is your autopilot rate gain compass?



How about your GFCI outlets and shore power breakers?



# Temperatures to monitor





# What other temperatures should you record?

- Stuffing box
- Engine coolant
- ER forward and aft bulkhead





Analog "needle marks"





Mark normal needle position.

Do you have a bicycle pump?



**RECOMMENDED: MODEL No's. R-06, R-07, R-12**

Use standard Steering Fluid (HA5430) or a light viscosity hydraulic fluid meeting aircraft hydraulic fluid spec. MIL H-5606C, such as Shell Aero Fluid #41, Esso Unisvis N15, Chevron Aviation Hydraulic Fluid HFA. Heavier Fluids such as automatic transmission oil (SAE 30W) may be added but will cause harder steering.

**MAXIMUM RESERVOIR LEVEL**

**PRESSURE**



# Example of "tide mark" level





Learn the "INS"...

OLD

↑ ↑ ↑ IN ↑ ↑ ↑ ↑

# 10  
STBD  
MAIN  
ENG

RETURN FROM MOTORS

# 12  
PORT  
MAIN  
ENG

RETURN FROM TRANSFER PUMP

# 29  
FUEL

#30  
20KW  
GEN





and OUTS...

To and From, Supply and Return





# Get a Label Maker and use it!





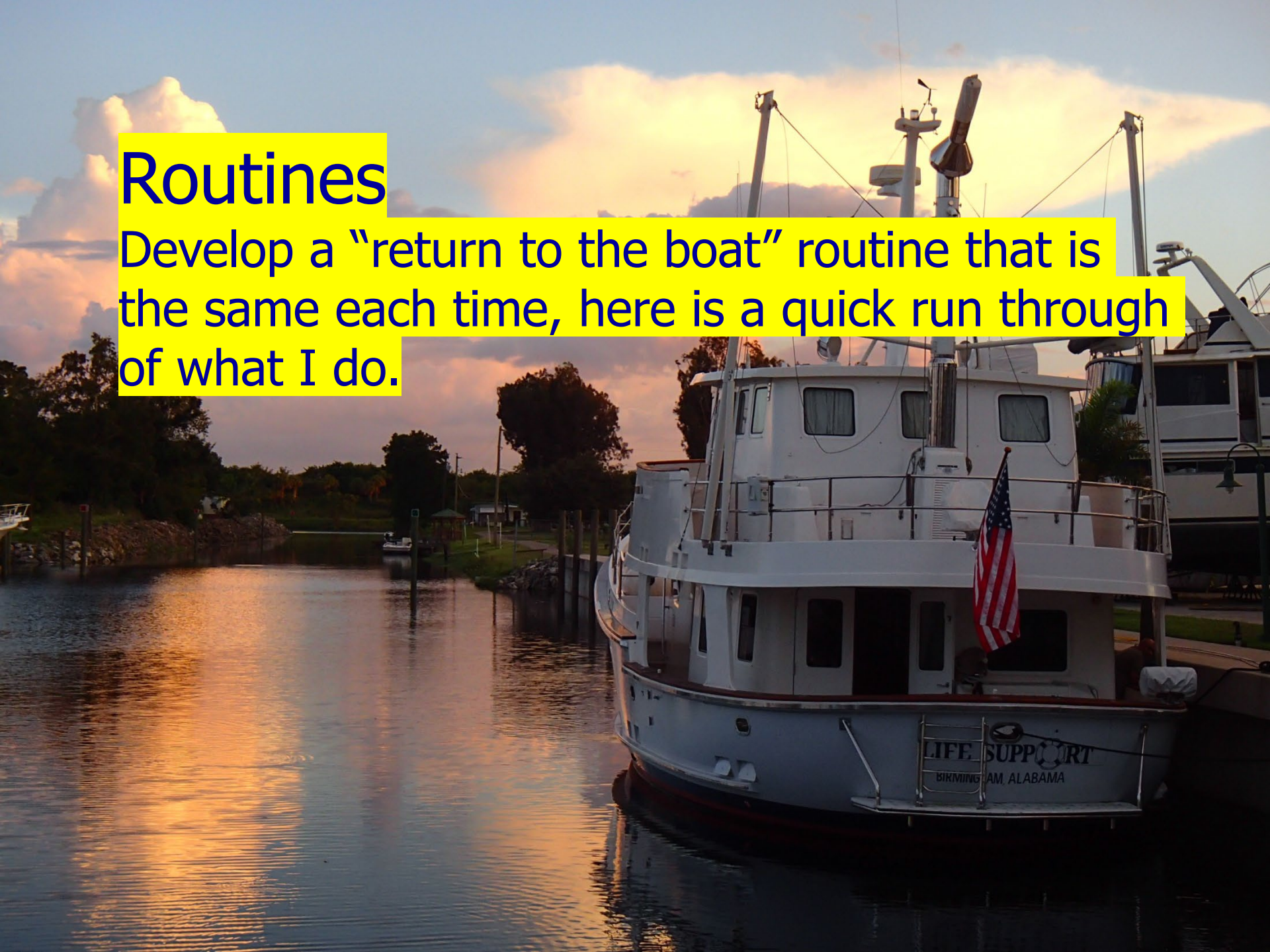
# Bow Thruster ON/OFF





# Routines

Develop a “return to the boat” routine that is the same each time, here is a quick run through of what I do.





# At The Dock

Let's start by approaching your boat tied up at the dock. What should you look for?

Shore tower breaker still **ON**?  
Shore power cord plugged **IN**? In the water?  
Dock lines secure? Any chafing on lines?  
Fenders properly positioned?



# On Board

Can you be contacted  
in an emergency?

Do you have a key for  
access to the boat?





# Emergency Contact Information

**M/V Convexity**

USCG #1186437

IN CASE OF EMERGENCY  
CALL OR TEXT **415-420-8800**



Is your lazarette hatch lockable?





Combination lock box for key





Shoes off basket





# Inside- My First Two Priorities

**Electrical** – Do I have shore power coming in and are my batteries charged?

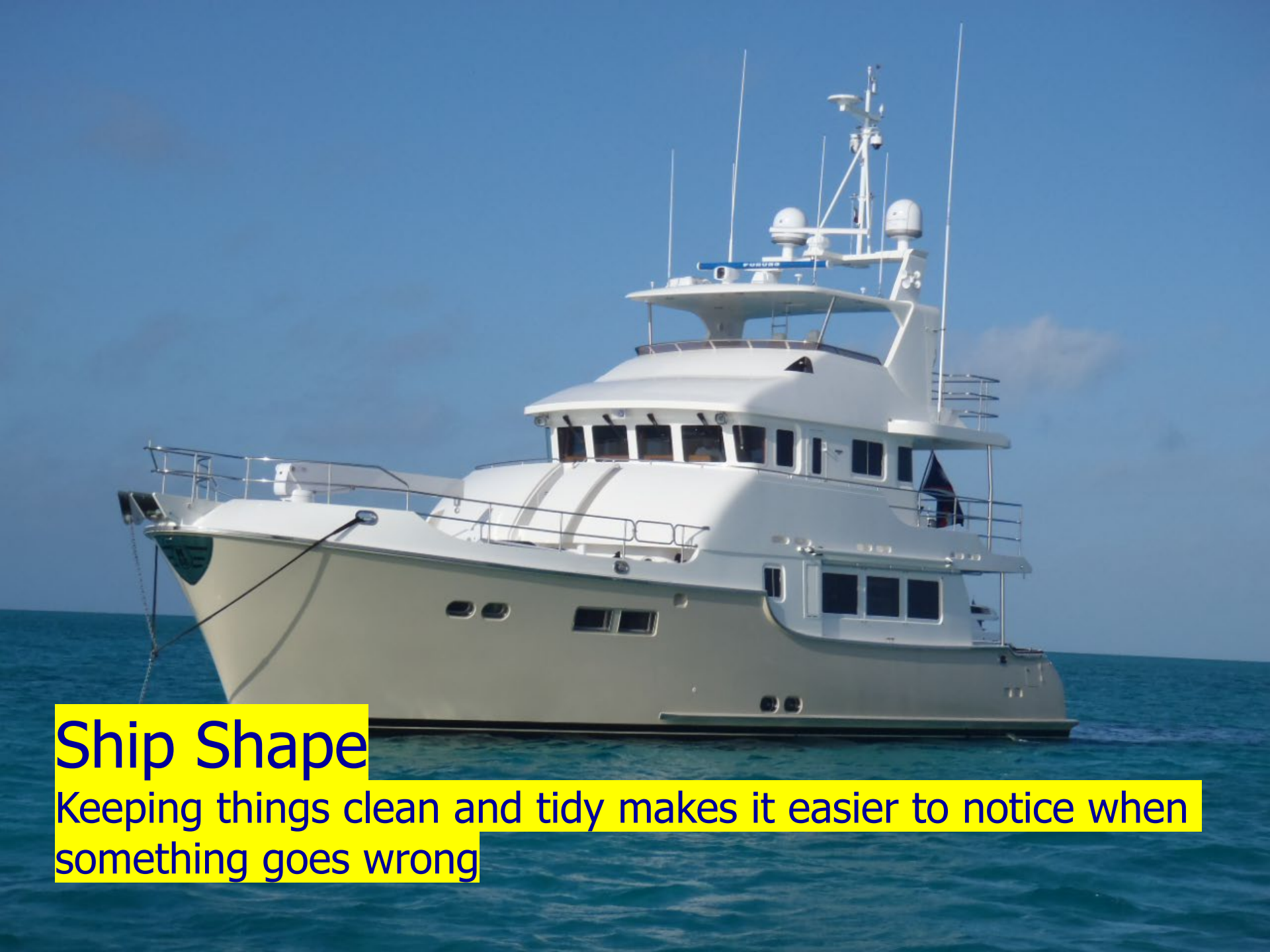
**Bilge** – How much water do I have in the bilge?





AC IN = Good!





# Ship Shape

Keeping things clean and tidy makes it easier to notice when something goes wrong



# USCG Vessel Safety Check

**Handout\*** This is a great way to make sure you are in compliance





## VESSEL SAFETY CHECK (VSC)

To be completed by a U.S. Coast Guard approved Vessel Examiner.  
See the back of this form for a brief explanation of required items.  
A Federal Requirements pamphlet is also available.

Date of VSC: \_\_\_\_\_

Decal Awarded: Yes ☐ No ☐

Owner/Operator Name: \_\_\_\_\_

Owner/Operator has attended a CGAUX, USPS, State  
or \_\_\_\_\_ Boating Safety Class: Yes ☐ No ☐

Location of VSC - County: \_\_\_\_\_ State: \_\_\_\_\_

Replaced decal was: Last Year ☐ Outdated ☐ First time ☐

### VESSEL INFORMATION:

Registration or  
Documentation Number: \_\_\_\_\_

HIN: \_\_\_\_\_

Length: <16 ☐ 16-25 ☐ 26-39 ☐ 40-65 ☐ >65 ☐

Powered by: Gas ☐ Diesel ☐ Sail ☐ Other ☐

Area of Operations: Inland ☐ Coastal ☐

Type: PWC ☐ Open ☐ Cabin ☐ Other ☐

### VESSEL SAFETY CHECK DECAL REQUIREMENTS

Item	Yes	No	N/A
1. Display of Numbers			
2. Registration/Documentation			
3. Personal Flotation Devices (PFD)			
4. Visual Distress Signals (VDS)			
5. Fire Extinguishers			

### RECOMMENDED AND DISCUSSION ITEMS

(While encouraged, items below are not VSC requirements)

Item	Yes	No
I. Marine Radio		
II. Dewatering Device & Backup		
III. Mounted Fire Extinguishers		
IV. Anchor & Line for Area		
V. First Aid and PIW Kits (**over)		





There are several areas where you can  
“Dial In”



# Anchoring Ideas

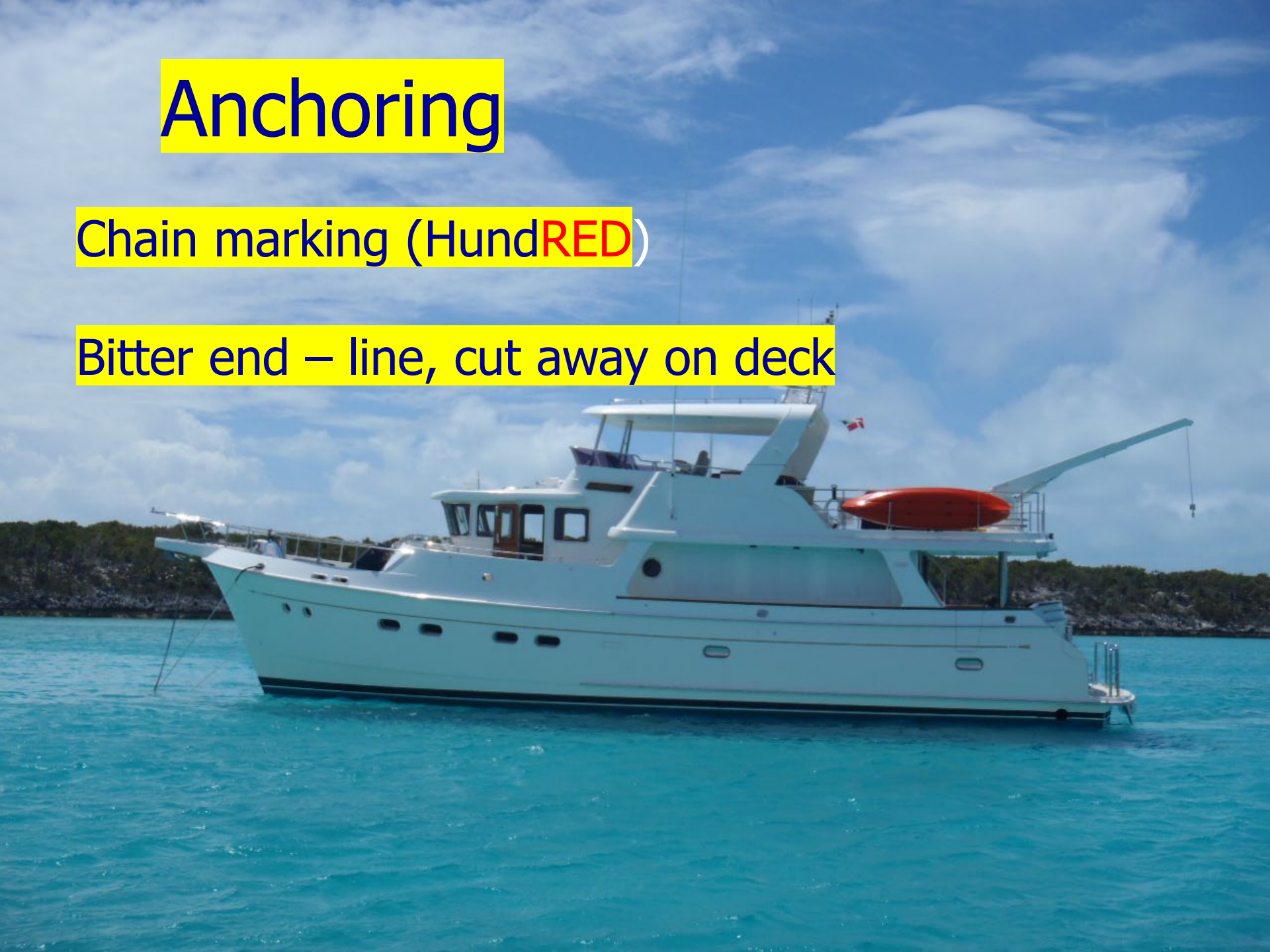




# Anchoring

Chain marking (HundRED)

Bitter end – line, cut away on deck





## Hund-RED's

NORDHAVN N5725  
ANCHOR CHAIN  
COLOR KEY

WHITE	=	50 FT
RED	=	100 FT
RW	=	150 FT
RR	=	200 FT
RRW	=	250 FT
RRR	=	300 FT
RRRW	=	350 FT
RRRR	=	400 FT



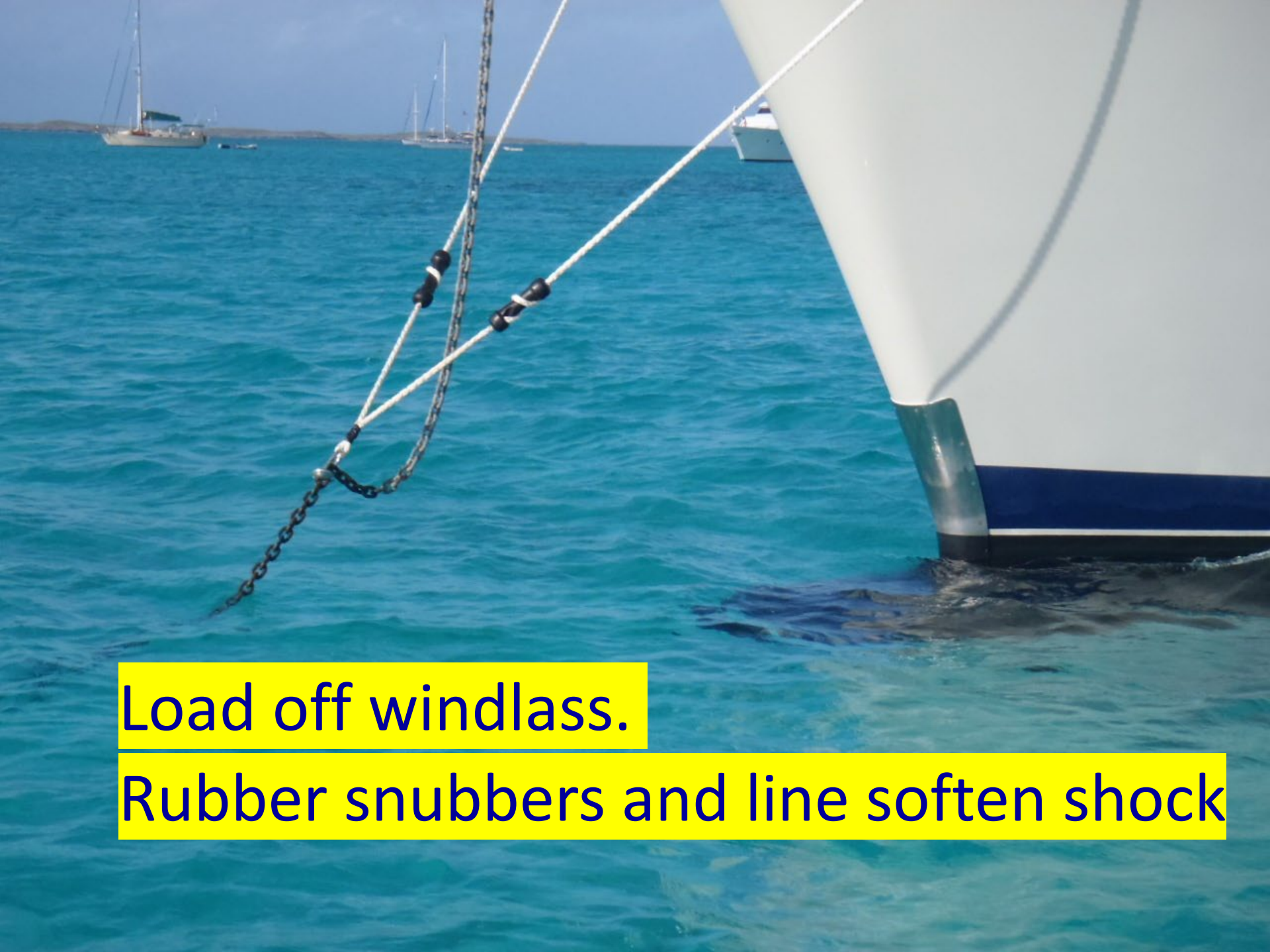
## Color code summary right by windlass

WHITE	50'
RED	100'
WHITE	150'
GREEN	200'
WHITE	250'
RED	300'

# Anchor Bridle







Load off windlass.

Rubber snubbers and line soften shock



Stop Slop



Chain tensioner, snug anchor on roller

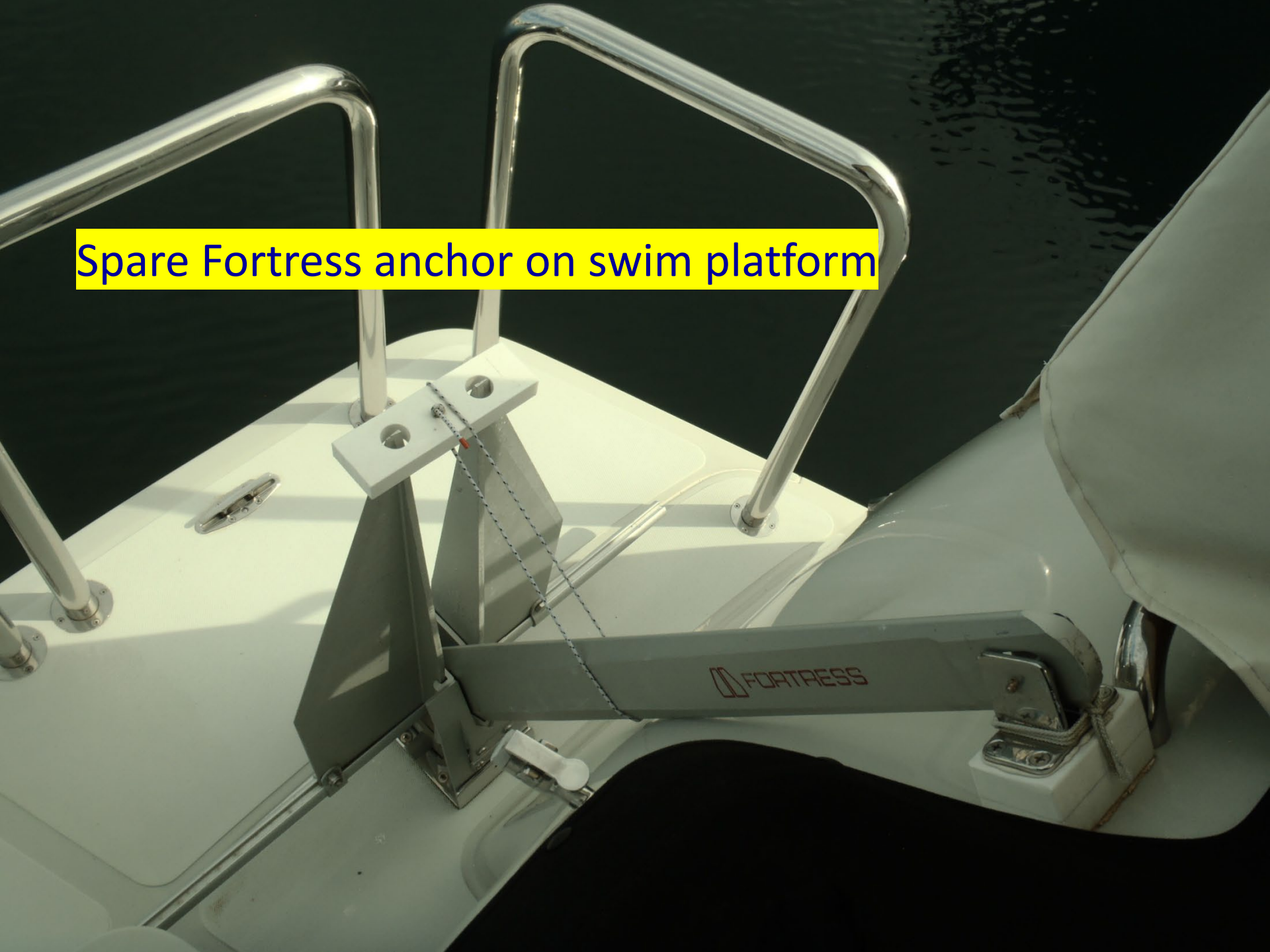




Spare Fortress anchor on foredeck



Spare Fortress anchor on swim platform



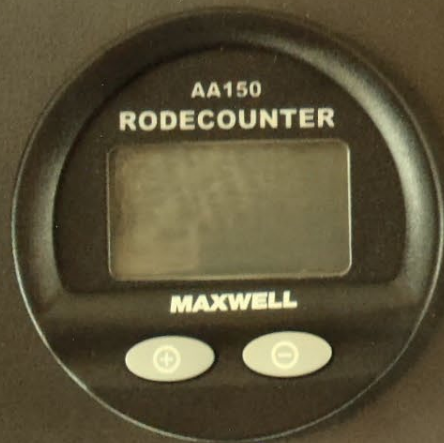
# Chain color coding by windlass control





Last 50' feet or anchor at waterline.

Can you disconnect from bitter end?



**ANCHOR CHAIN**  
1st WHITE AT 40'  
WHITE MARK EVERY 50'  
LAST 50' PAINTED RED



Folding pad eye for clipping on fenders





Mark your fins for haul out



# Deck and Dinghy Tips





Secure outside deck lockers



# Life raft – lock it? Positioning, how launch it?



## EMERGENCY LIFE RAFT INFLATION PROCEDURE

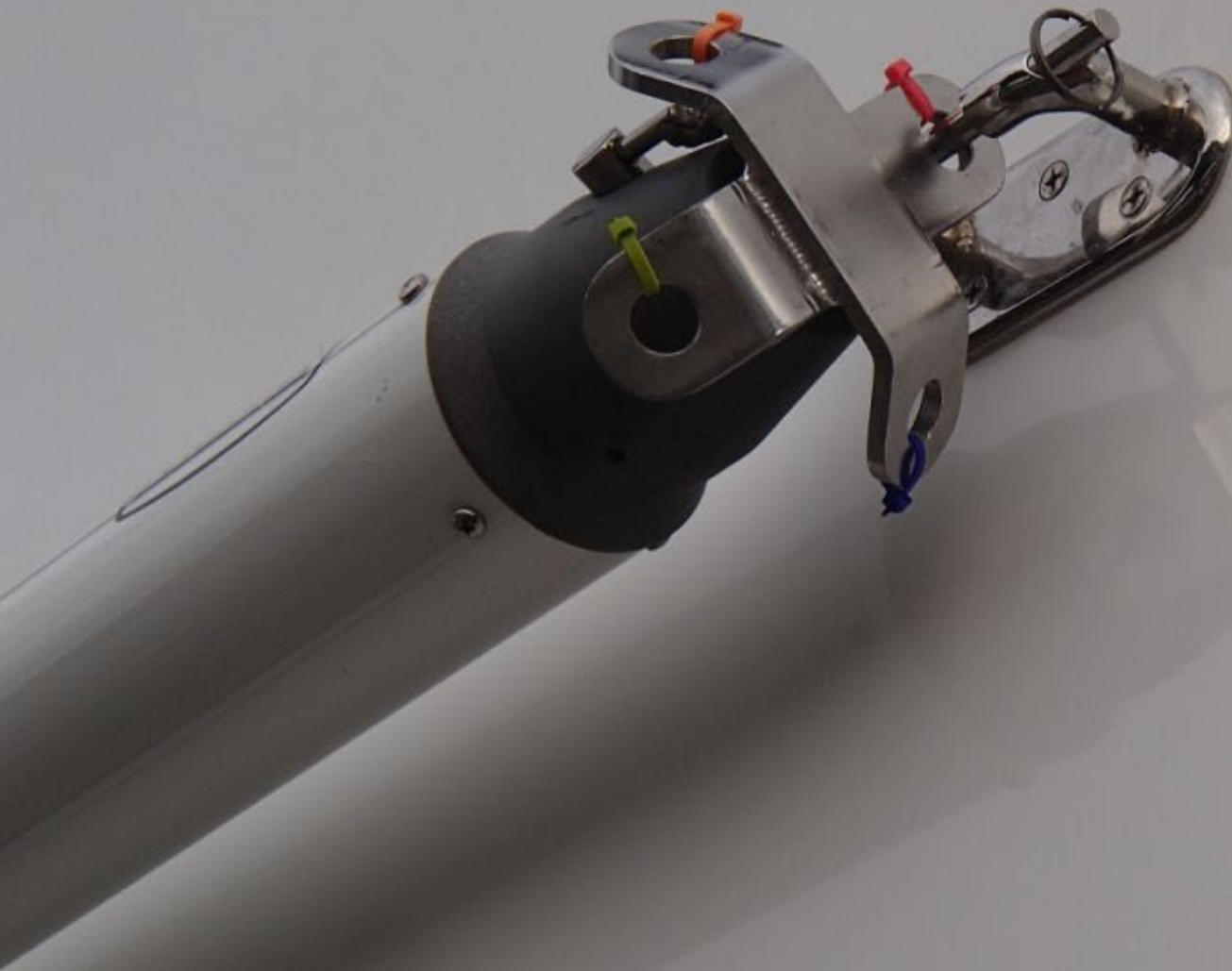
1. PULL BLACK AND WHITE LANYARD TO RELEASE PAINTER LINE FROM SNAP ON SHACKLE.
2. ATTACH TO NEAREST STRONG POINT ON VESSEL.
3. THROW LIFE RAFT IN CANISTER OVERBOARD.
4. LIFE RAFT WILL INFLATE AFTER 30 FEET OF LINE IS OUT.
5. IF CALM SEA, YANK LINE TO INFLATE.
6. PULL LIFE RAFT ALONGSIDE VESSEL AND BOARD.
7. KEEP LIFE RAFT AWAY FROM SHARP PROTRUSIONS.

WINSLOW LIFERAFT COMPANY  
11700 WINSLOW DRIVE LAKE SUZY, FL 34206  
(800)838-3012





## Flopper stopper – color code line attachments



Reflective tape on flopper pole





Dinghy launch with crane – level gauge



A white robotic crane is positioned on a grey ship's deck. The crane has a cylindrical base with two black vertical markings. A yellow text box is overlaid on the image. In the background, a white railing and a steering wheel are visible.

Mark crane pick up to simplify line-up at return



Boom winch lines can be marked with a Sharpie –  
Amsteel or Dyneema



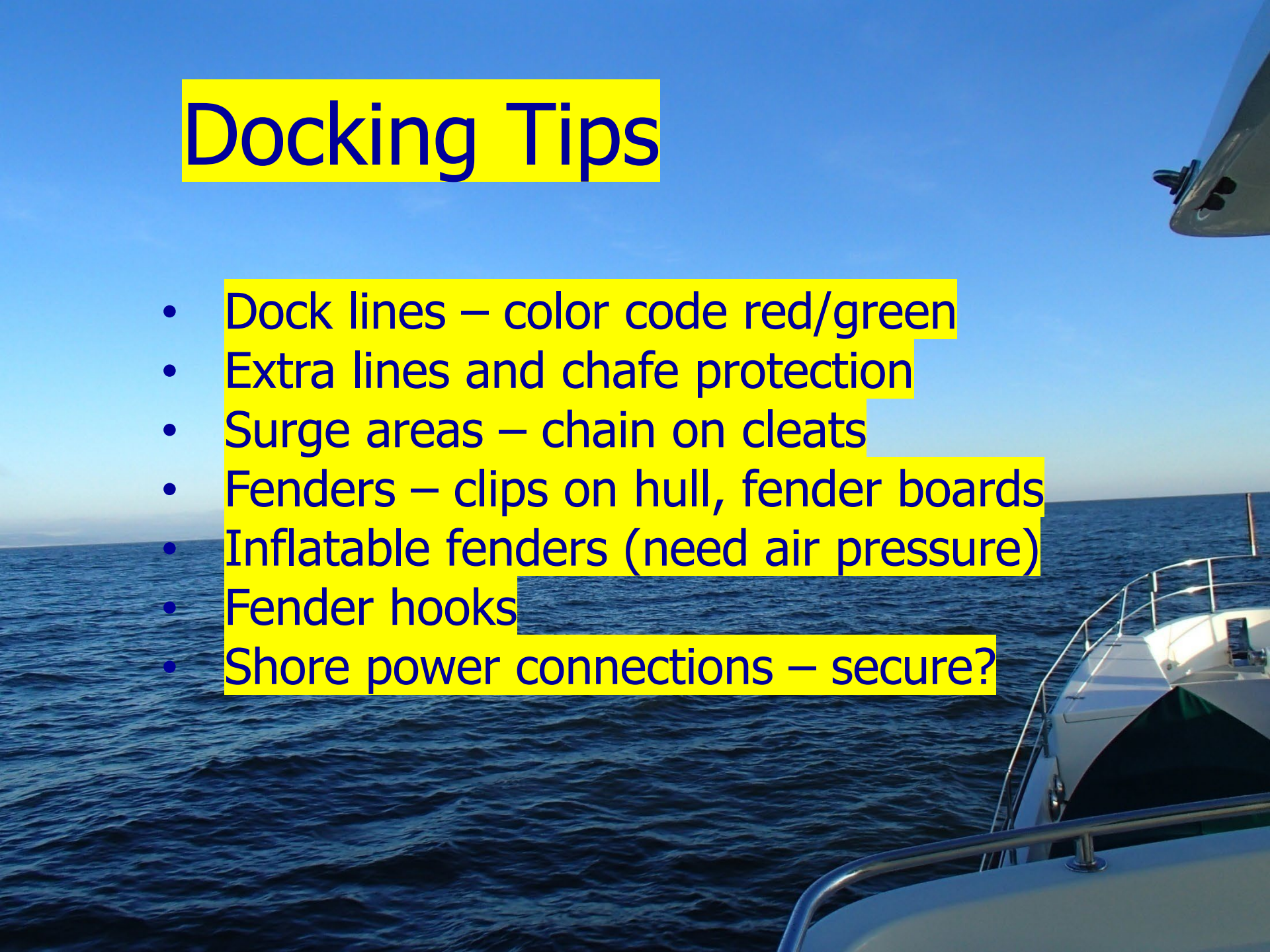


Outboard skid plate



# Docking Tips

- Dock lines – color code red/green
- Extra lines and chafe protection
- Surge areas – chain on cleats
- Fenders – clips on hull, fender boards
- Inflatable fenders (need air pressure)
- Fender hooks
- Shore power connections – secure?



## Color markings or numbering of dock lines

**Dock Lines**  
Short – White whipping  
Medium – Red whipping  
Long – Black whipping



# Fender Boards



Boat Hook Ready!





# Shore Water: Filter Before Adding To Tanks



Hardware store cartridges  
sediment removal, charcoal –  
remove impurities





Water  
softener



The background of the slide is a photograph of a ship's deck at sunset. The sky is a gradient of blue and orange, with the sun low on the horizon. The ship's railing and some equipment are visible in the foreground, and the ocean stretches out to the horizon.

# Main Engine Maintenance Log

## **Handout** - Nordhavn 55\*

This example is for a main engine. I recommend you create an individual log for all major components: Transmissions, Generator, Windlass, Crane, Watermaker, Stabilizers, etc.



**Nordhavn 55**

**Main Engine Maintenance Log**

John Deere I Luger L1276A.2C/MG5091SC Serial # 1271-2708 :340 HP @ 1800 RPM

*Fuel, Coolant (brand and gallons) Filters (air, fuel oil), Belts,  
Zincs, Oil Changes*

**Service contact:**

*Engine mounts, drips/leaks*

*Engine mounts, shaft, stuffing box, shaft brush*

**Main Engine Service records**

Date	Hours	Project	Comments
<b>Note - create a separate maintenance page for ALL major equipment:</b>			
		Black holding   Toilets	
		Crane or Davit	
		Engine 2 (twin or wing)	
		Fuel Log	
		Fuses and Breakers	
		Generator (s)	
		Haul out	
		Hydraulics	
		Laundry	
		Lube oil	
		Main Transmission	
		Shaft, stuffing box, propeller	
		Stabilizers	
		Steering	
		Tender and outboard	
		Thruster(s)	
		Watermaker	
		Windlass	
		Zincs	



# Maintenance Log - Records

Note all purchases and upgrades

Keep receipts

Track oil changes and all service repairs

This collected information is an important record and doubles as a sales tool when you are ready to sell your boat

Handout\*

Steve D'Antonio and  
Jeff Merrill Maintenance List



# Maintenance Guidelines and Recommendations

## Engines and Generators

- Check engine oil, transmission fluid and coolant daily/before each use
- Change oil and filters seasonally or every 200 hrs. whichever comes first
- Change primary and secondary fuel filters seasonally, or if vacuum exceeds 5 in. hg. All primary filters should be equipped with vacuum gauges, see <https://www.proboat.com/the-vacuum-gauge-tool.html> for more on vacuum gauge selection, installation and use.
- Adjust valves per engine manufacturer's requirements (typically every 1000-2000 hrs.). <http://www.cruisingworld.com/how/keep-valve-train-track>
- Check belts monthly, replace every two years.  
<http://www.cruisingworld.com/how/orderly-transfer-power>
- Check/replace air filters as needed. These should be equipped with vacuum monitors. See <http://stevedmarineconsulting.com/fuel-and-air-filter-service-protocols/>
- Pressure test cooling systems annually.
- Flush and refill cooling systems every two years or 1000 hrs. whichever comes first. Coolant should be analyzed annually.  
<http://stevedmarineconsulting.com/photo-essay-may-2015/>  
<http://www.cruisingworld.com/how/engine-cooling-system-tips>



# PART TWO

## IDEAS THAT YOU CAN USE ON YOUR TRAWLER



by Jeff Merrill, CPYB  
© 2024 all rights reserved





I hope you will say...

That's a good idea!



Clear plastic protects wood surfaces

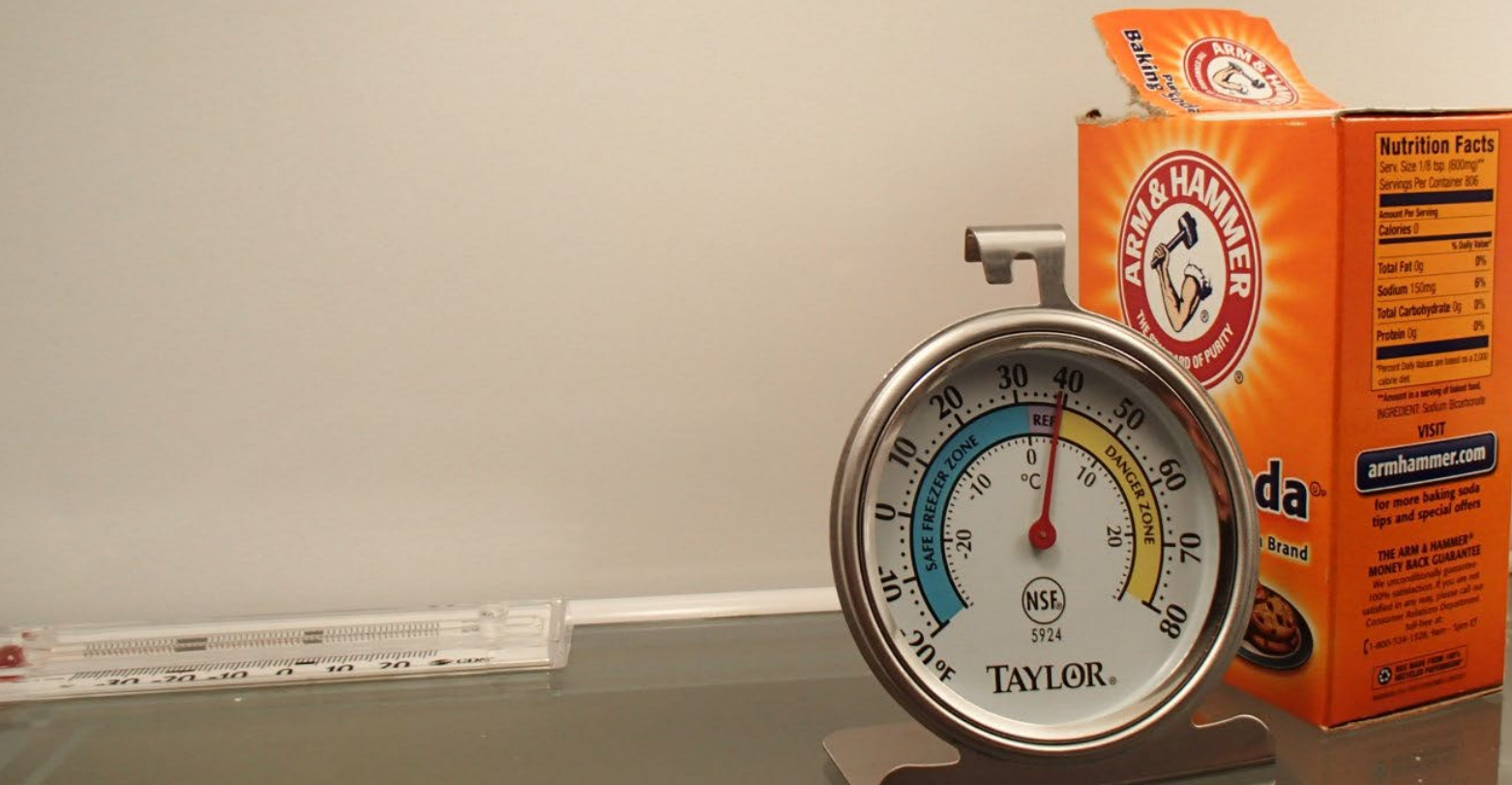




# Refrigerator organization – bars and tubs



# Thermometer and baking soda in refrigerator



Story - leave boat, ice cube test...



Shelf levels create more storage space







Soft rubber mesh protects



Peg system for plates and bowls





Kadey-Krogen peg system for  
pots and pans









# Organized home style drawer caddy





# Clear tubs for storage





# Storage bins "Lock and Lock"

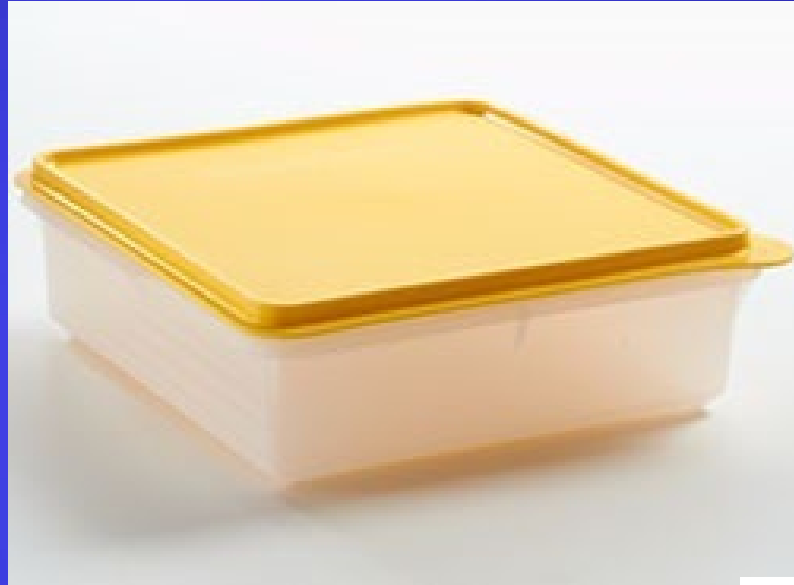




# Really Useful Boxes



# Loose Parts Bin (you'll identify where it goes later)





A Bissell Lift-Off pet vacuum cleaner is shown lying on a red and beige patterned rug. The vacuum is primarily grey with red accents on the handle and the front of the motor unit. The brand name 'Bissell' and the product line 'LIFT-Off' are printed on the side of the motor unit, along with the text 'FLOORS & MORE pet'. A black power cord is attached to the back of the unit.

Dust buster small vacuum

(Kelp flies story)

Swiffer Sweeper Vacs are great for wood floors





# Squeegee and Shower Spray



# Suction cup caddy

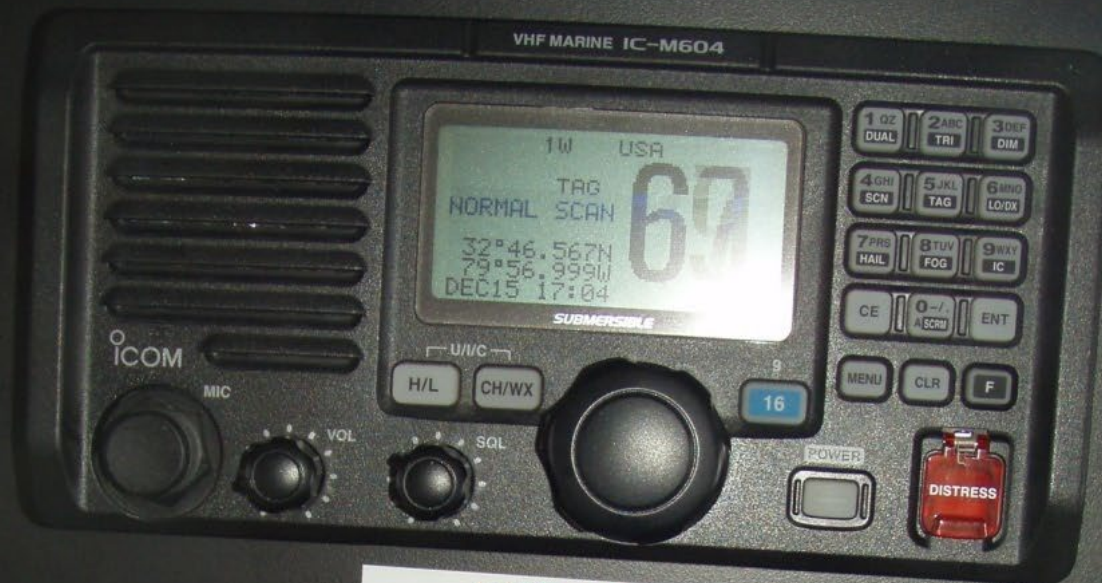




# Helm area suggestions







WDE 4988

VHF call sign label





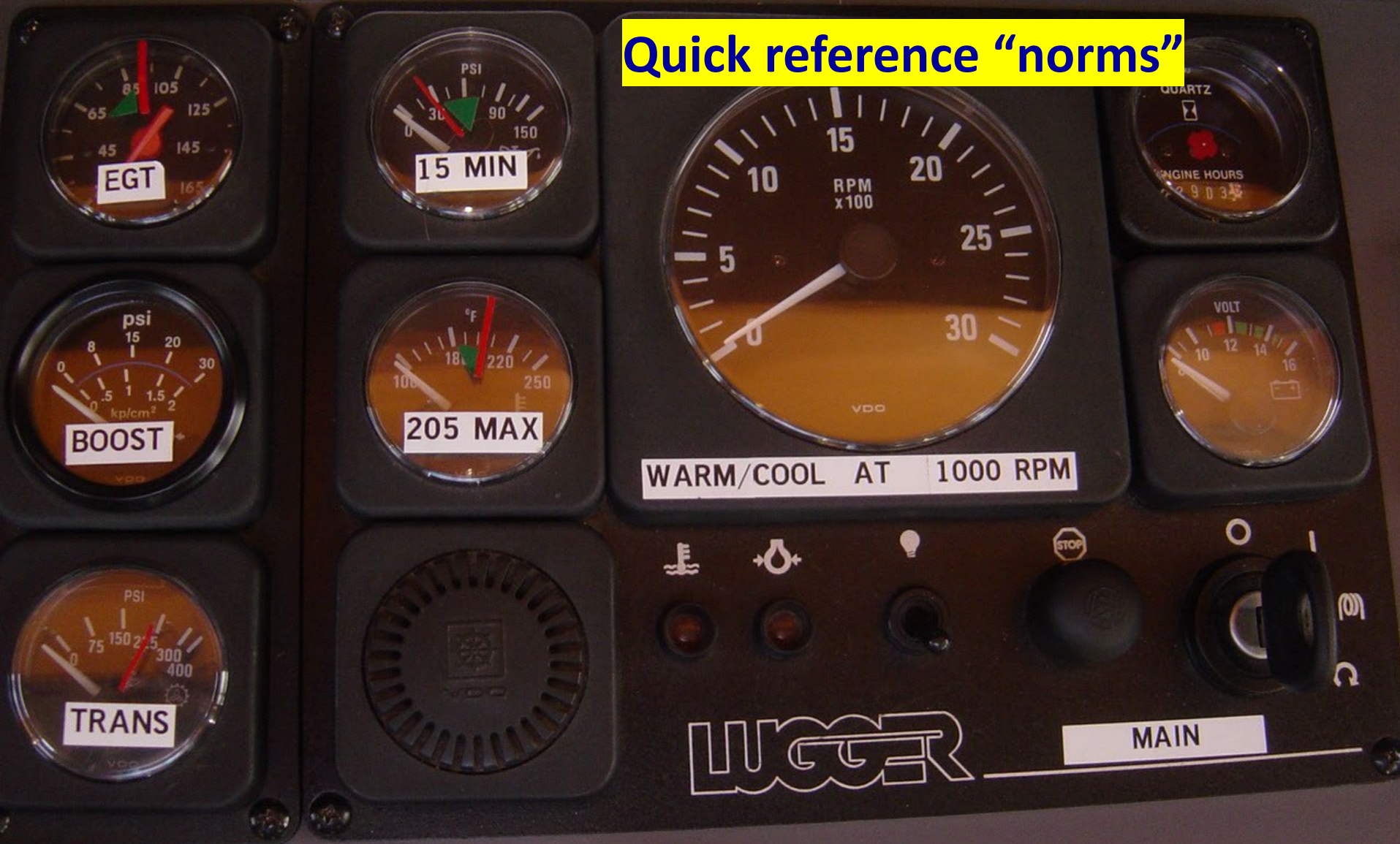


Keep your display screens clean



- above hydraulics breaker, protected switch)
- SET 2200 RPM ON WING ENGINE
  - PRESS "START" (GREEN) ON BOW THRUSTER KEYPAD; pump will whine and discharge stb'd. side, aft
  - PRESS "STOP" (RED) ON KEYPAD WHEN BILGE IS EMPTY; Repeat as necessary while locating water entry.

## Quick reference "norms"







LOA 61 FT  
BEAM 17 FT  
DRAFT 6 FT  
HEIGHT 24 FT  
ANCHOR MARKS 25 FT

LOA, Beam, Draft, Bridge clearance

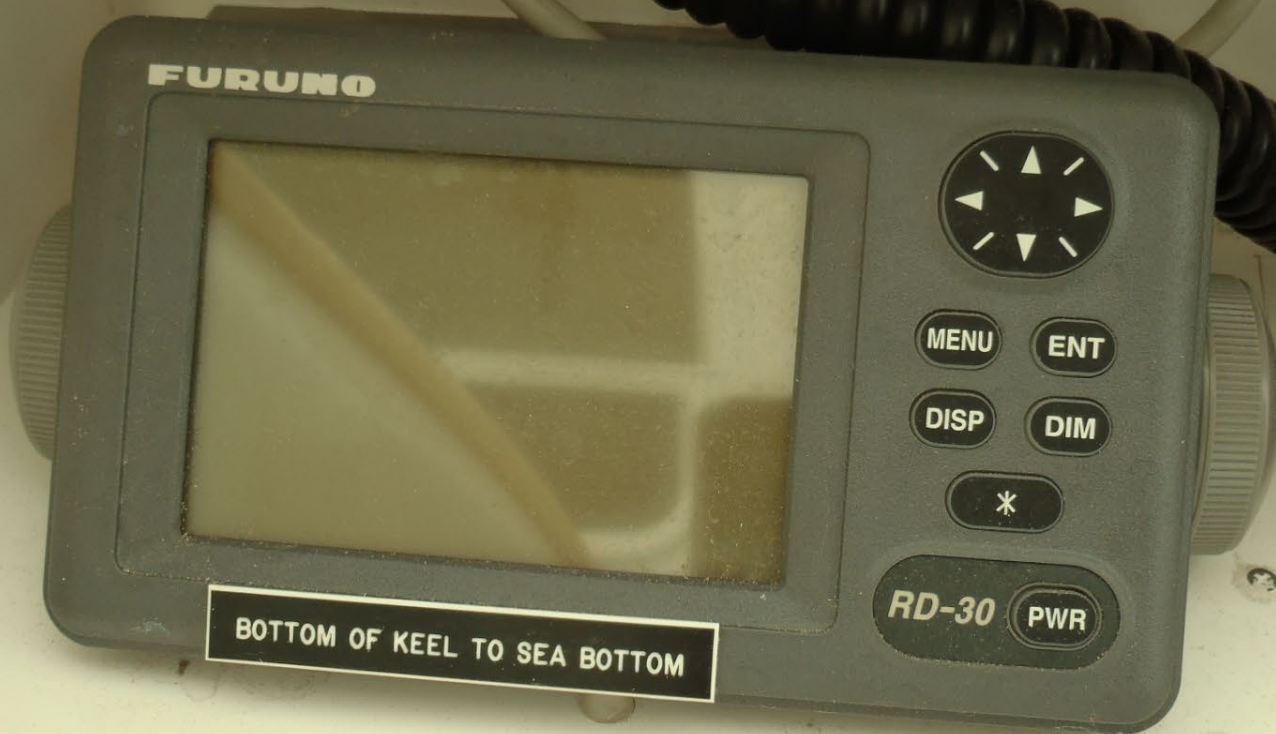


## M.V. JODA

DRAFT	5.0'	1.525 m
LOA	48.5'	14.75 m
BEAM	16.75'	5.10 m
DISPL.	56,200 lbs	
WATER	540 USG	2,044 L
FUEL	1,038 USG	3,945 L
MAST	30' 4"	9.2 m



What depth are you reading?



# Inland, River reminders

1 WHISTLE

HEAD ON PORT TO PORT

OVERTAKING BOAT PUTTING SLOWER BOAT TO PORT

2 WHISTLES

HEAD ON STBD TO STBD

OVERTAKING BOAT PUTTING SLOWER BOAT TO STBD



# Detail tape to segment electrical panel





Color code dots – ON/OFF – Day/Night





1 BATTERY CHARGER  
ENGINE

2 BATTERY CHARGER  
WING ENGINE

3 GALLEY  
REFRIGERATOR

4 WATER  
HEATER

5 Color code AND numbered on Selene

6 OUTLET

7 GUEST CABIN  
OUTLET

8 MASTER CABIN  
OUTLET

9 SALON  
OUTLET

10 PILOT HOUSE  
OUTLET

11 GALLEY  
OUTLET

15 TV/VCR

16 E/R LIGHTS

17 E/R OUTLET

18 F/B OUTLET

19 FUEL POLISHING  
SYSTEM

20 GARBAGE  
DISPOSAL

21 SPARE

22 SPARE

23 SPARE

24



# Toggle guards on “permanent” breakers

INVERTER

FWD

AMIDSHIPS

TS AFT

ETS PILOT HOUSE

NE ROOM LIGHTS

/STEREO

4V CHARGER



GALLEY FRIDGE/FREEZE

EXHAUST STACK COOLING

P/H CHEST FREEZER

WASH COMPACTOR

MICROWAVE / SALON TV

STOVE TOP IGNITER

GARBAGE DISPOSAL

WATERMAKER

E / ROOM BLOWERS







Binocular rack



Drink holders







Portable caddy for important “stuff”

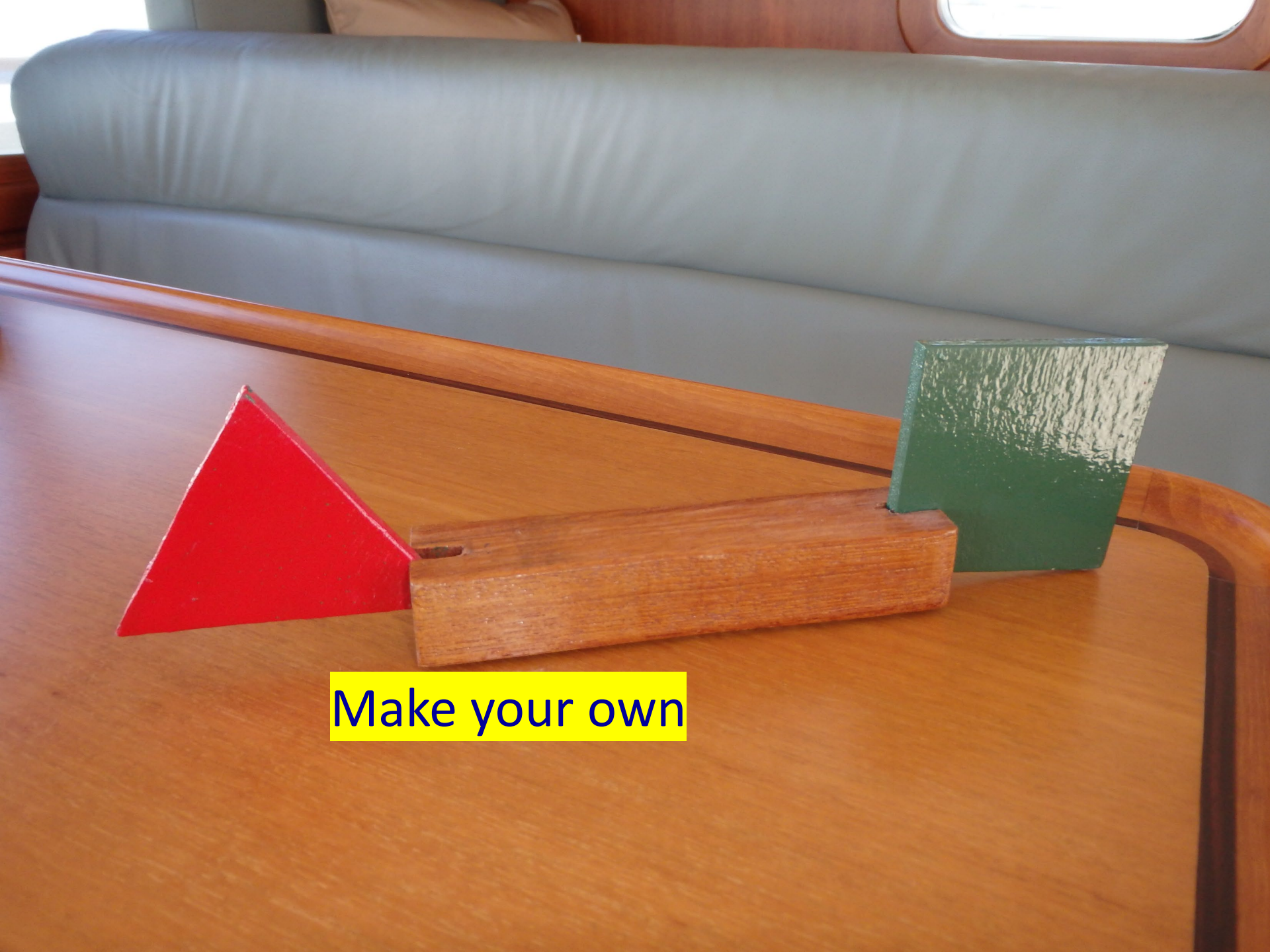


Channel buoy reminder

Easily reversible!







Make your own



When you depart,

leave yourself a reminder...

Thru Hull Closed !!

Gen  
Viking  
Water Maker

Start Charger - Off



## Engine Room Inspection Tips



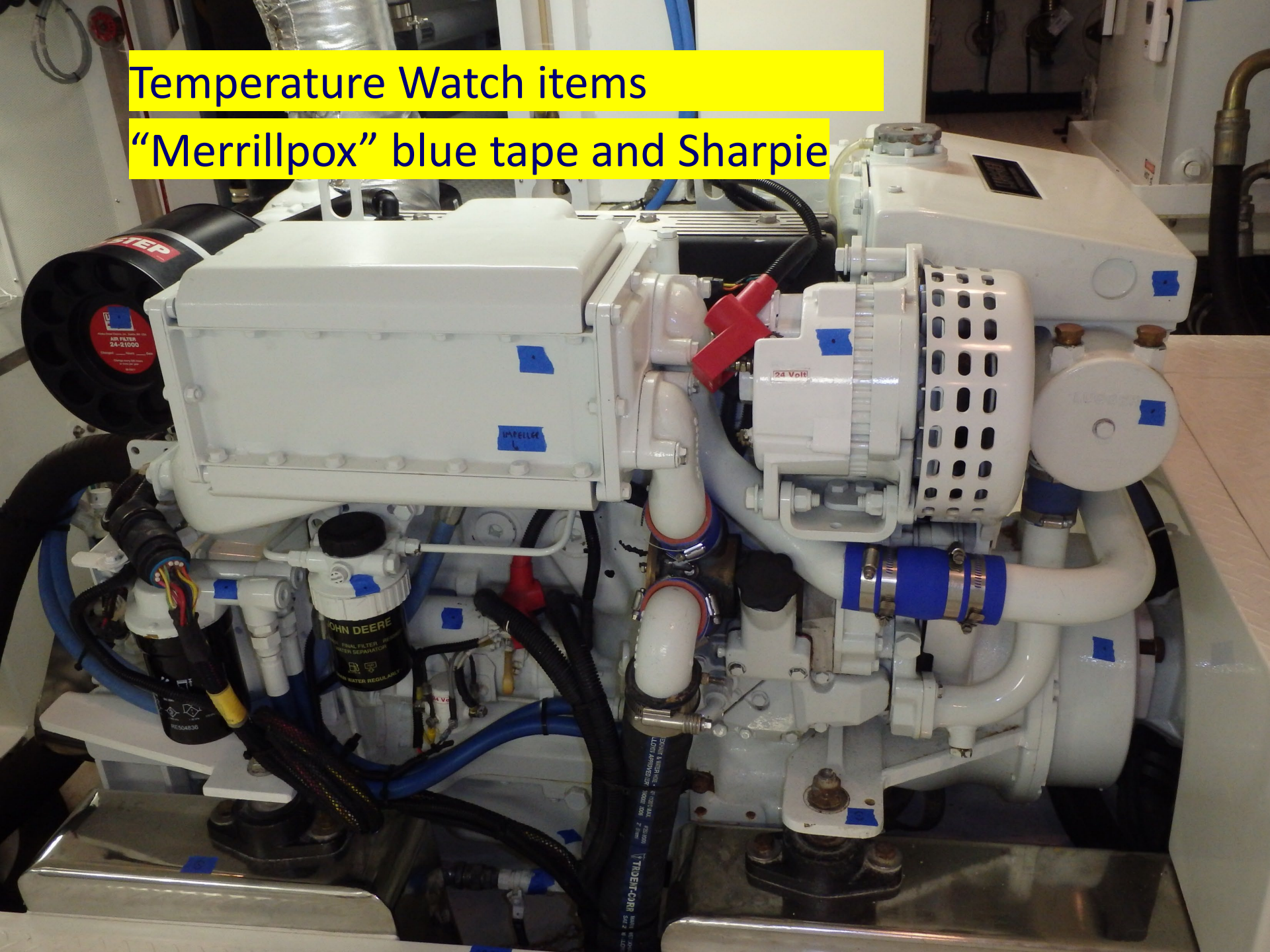
# Infrared Temperature Gun





Temperature Watch items

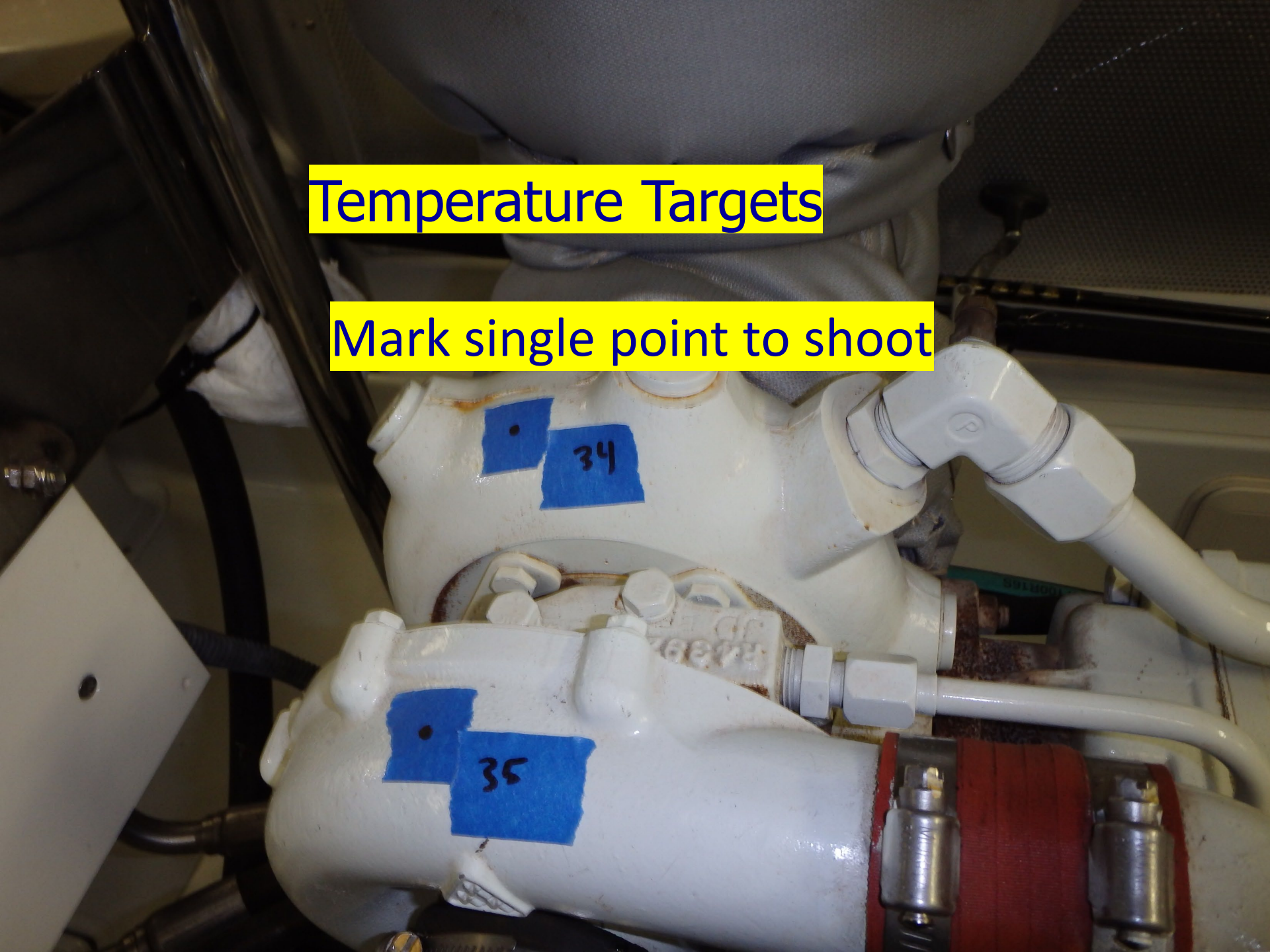
“Merrillpox” blue tape and Sharpie





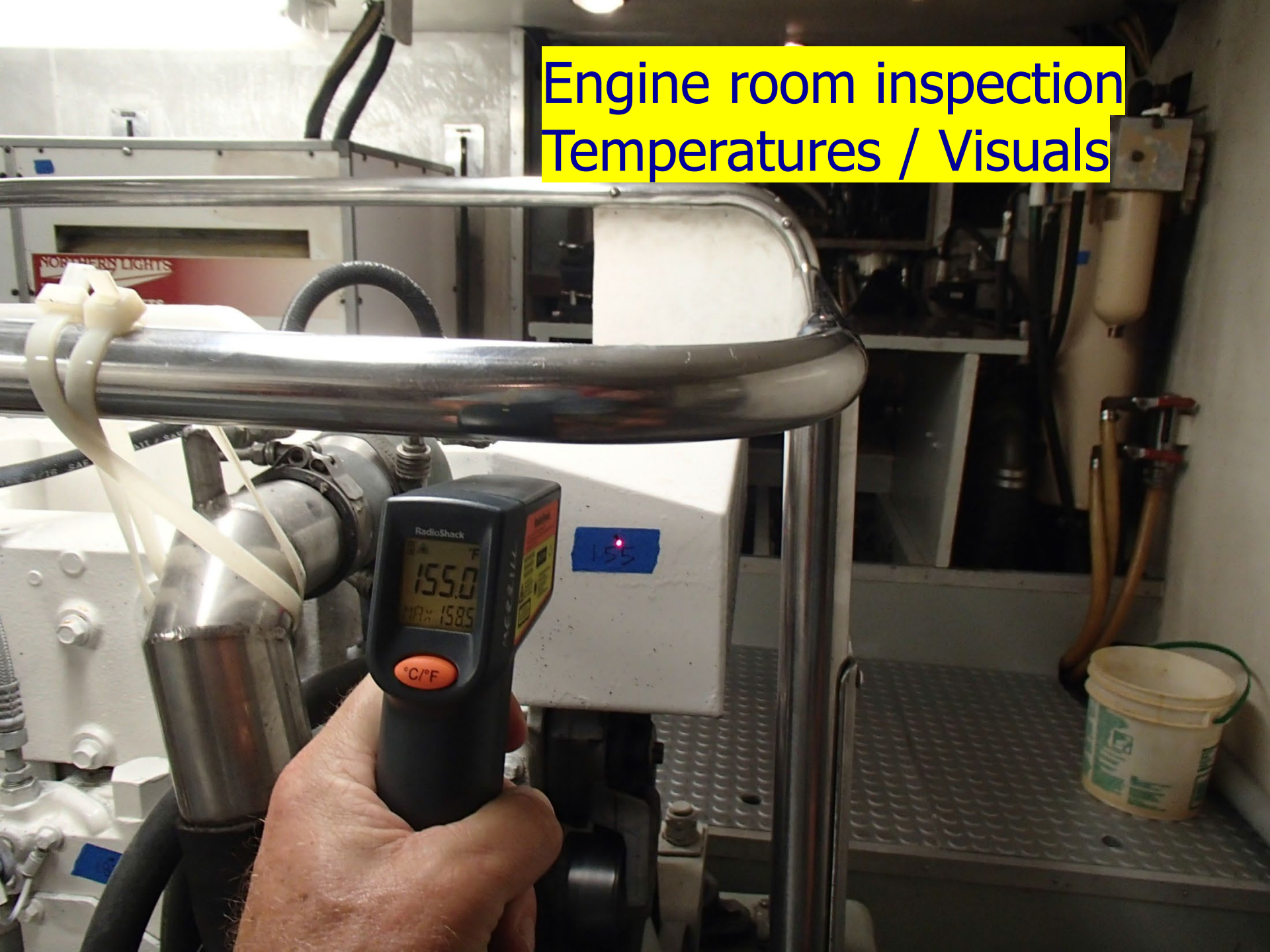
# Temperature Targets

Mark single point to shoot





# Engine room inspection Temperatures / Visuals





Hold Gun 2 – 6" away

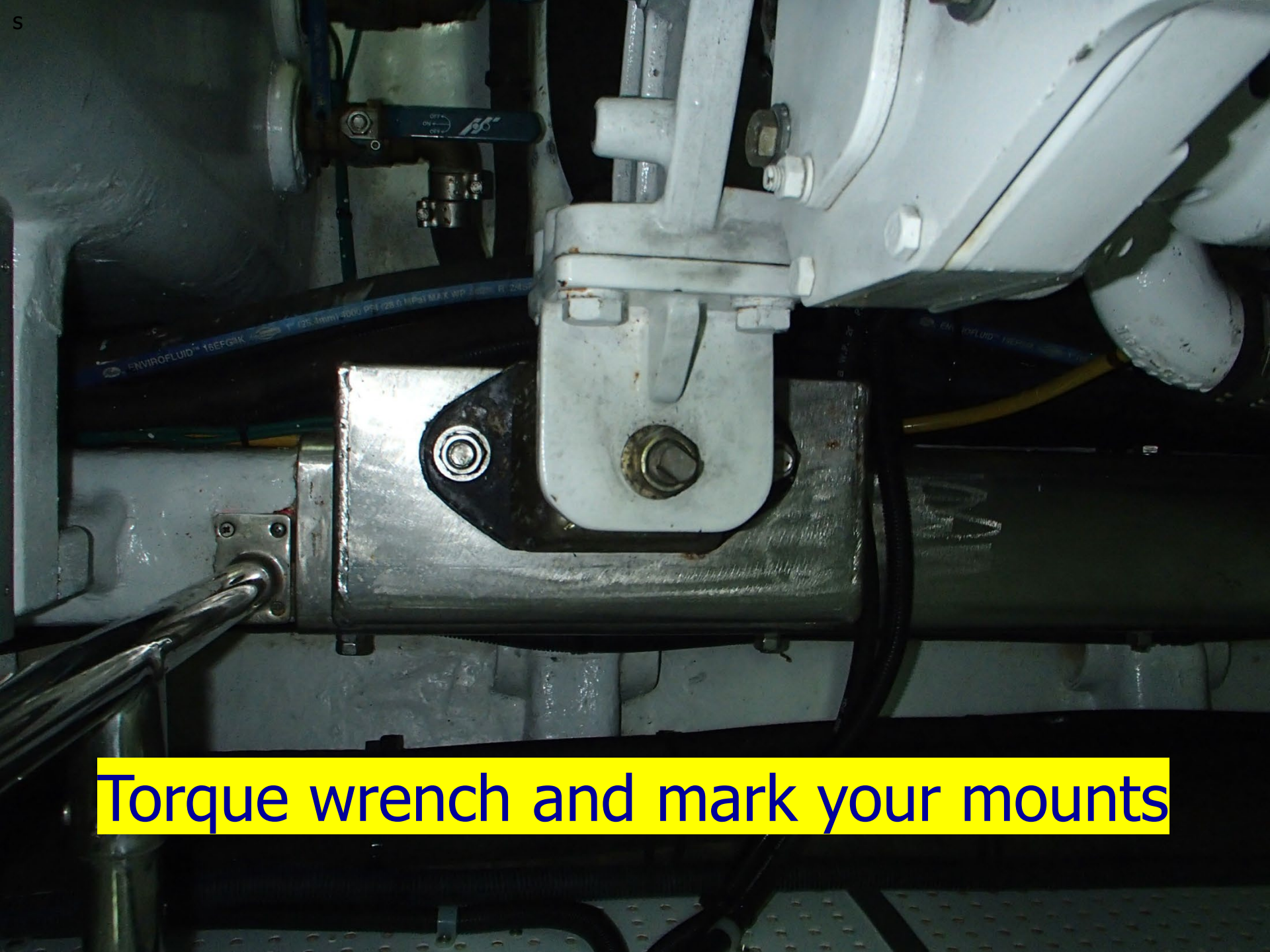




Visual inspection “(\*)” Eye







Torque wrench and mark your mounts



engine  
13  
mounts



Bilge  
16  
Level



SNUGGED DOWN  
ALL ENGINE MOUNT.

13 SEPT 13

3/4" WRENCH.

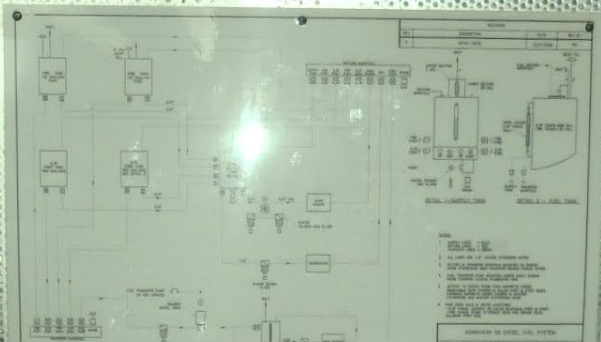
PRODUCED

CLARK



STBD

Laminated fuel diagram by manifold

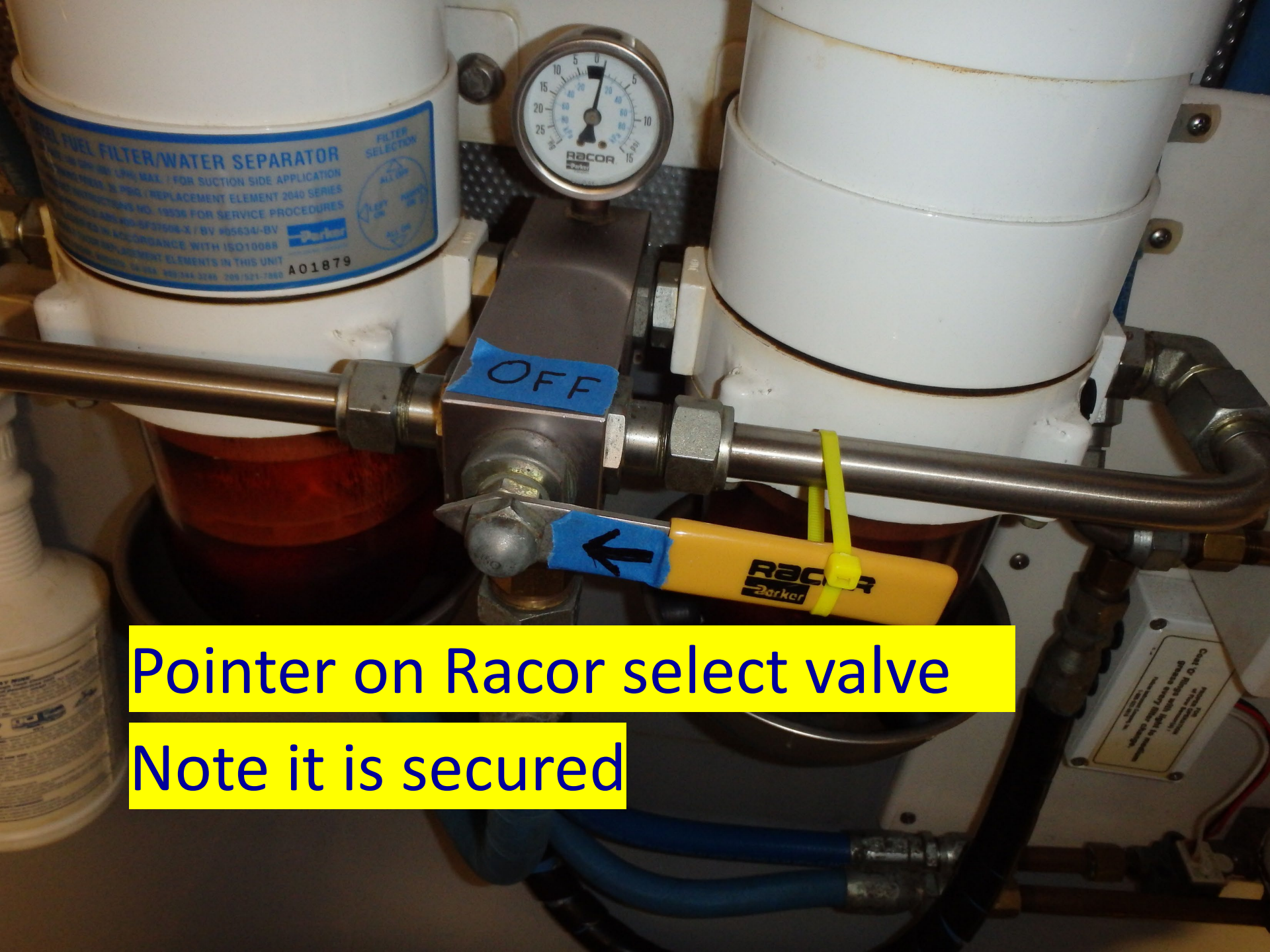






The sharp end points to desired bowl





Pointer on Racor select valve

Note it is secured



Velcro straps so valve handle isn't bumped





# Replacement sizes and hours noted



MARINE WET EXHAUST & WATER HOSE • 250°F (120°C) MAX.  
SAE J2006 • LLOYDS APPROVED CERT. 02/69002 • 2304

#250-1120  
1 1/2" (38mm)



TRIDENT-FLEX



MARINE WET EXHAUST & WATER HOSE • 250°F (120°C) MAX.  
SAE J2006 • LLOYDS APPROVED CERT. 02/69002 • 2304

TRIDENT-FLEX

#250-1120

1 1/2" (38mm)





Color code multiple tank valves





Nail polish or red Sharpie to mark Zincs





Mark fuel filter for bleeding

WARNING  
ON ANY ENGINE WITH AN  
CONTROLLED FUEL SYSTEM

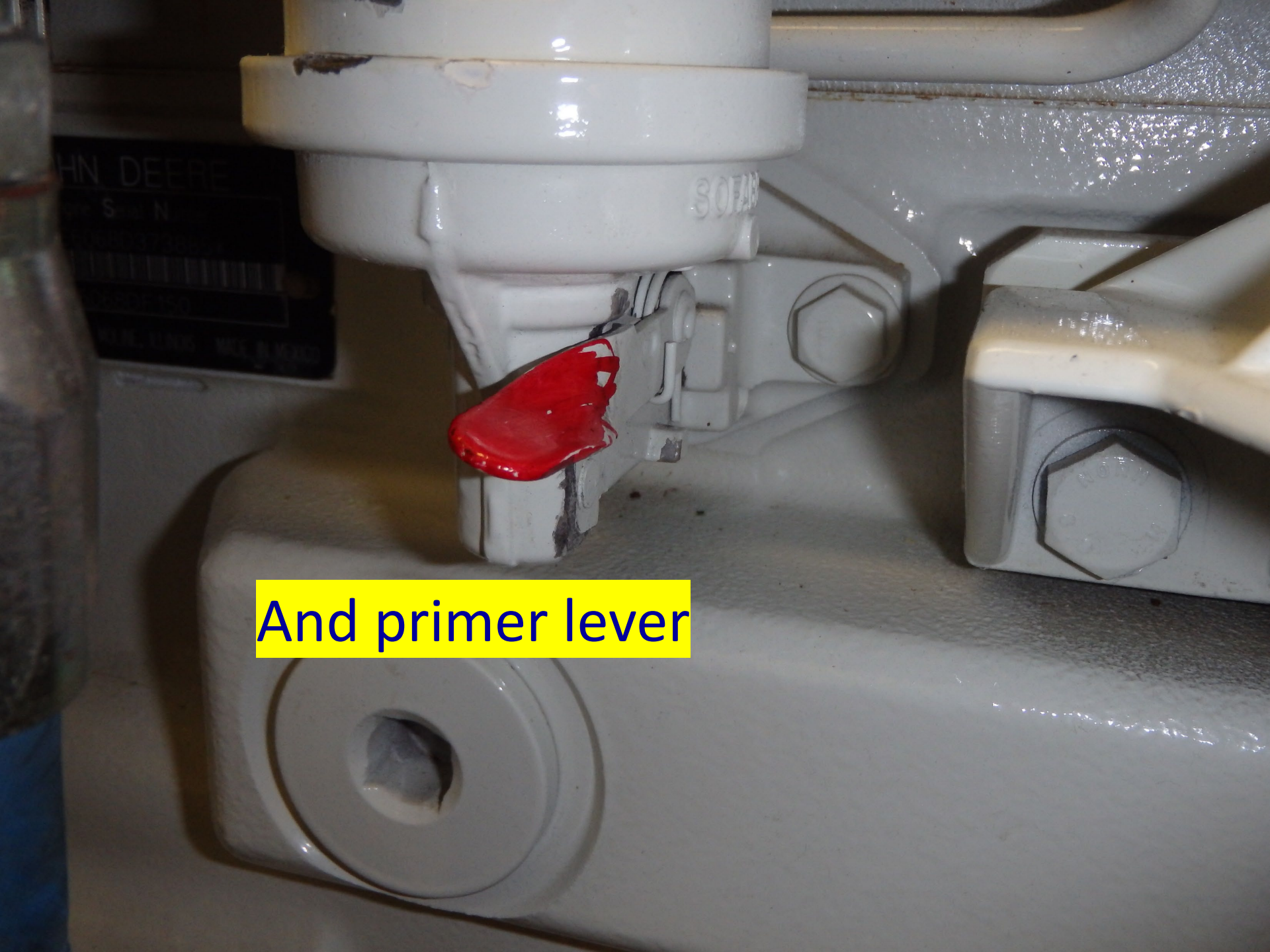
FUEL FILTER  
SEPARATOR  
51005

NORTHERN

FILTER @ 1700 HRS  
14 APRIL 2015

LUGGE  
NORTHERN LUGGE





And primer lever

A close-up photograph of a white cylindrical muffler. At the bottom, there is a circular drain hole surrounded by a significant amount of brown rust. The muffler is mounted on a white metal plate with a diamond-plate texture. In the background, a black hose is connected to a valve with a white label that reads "USE DRY NITROGEN (N2) ONLY!" and lists instructions for installation and safety.

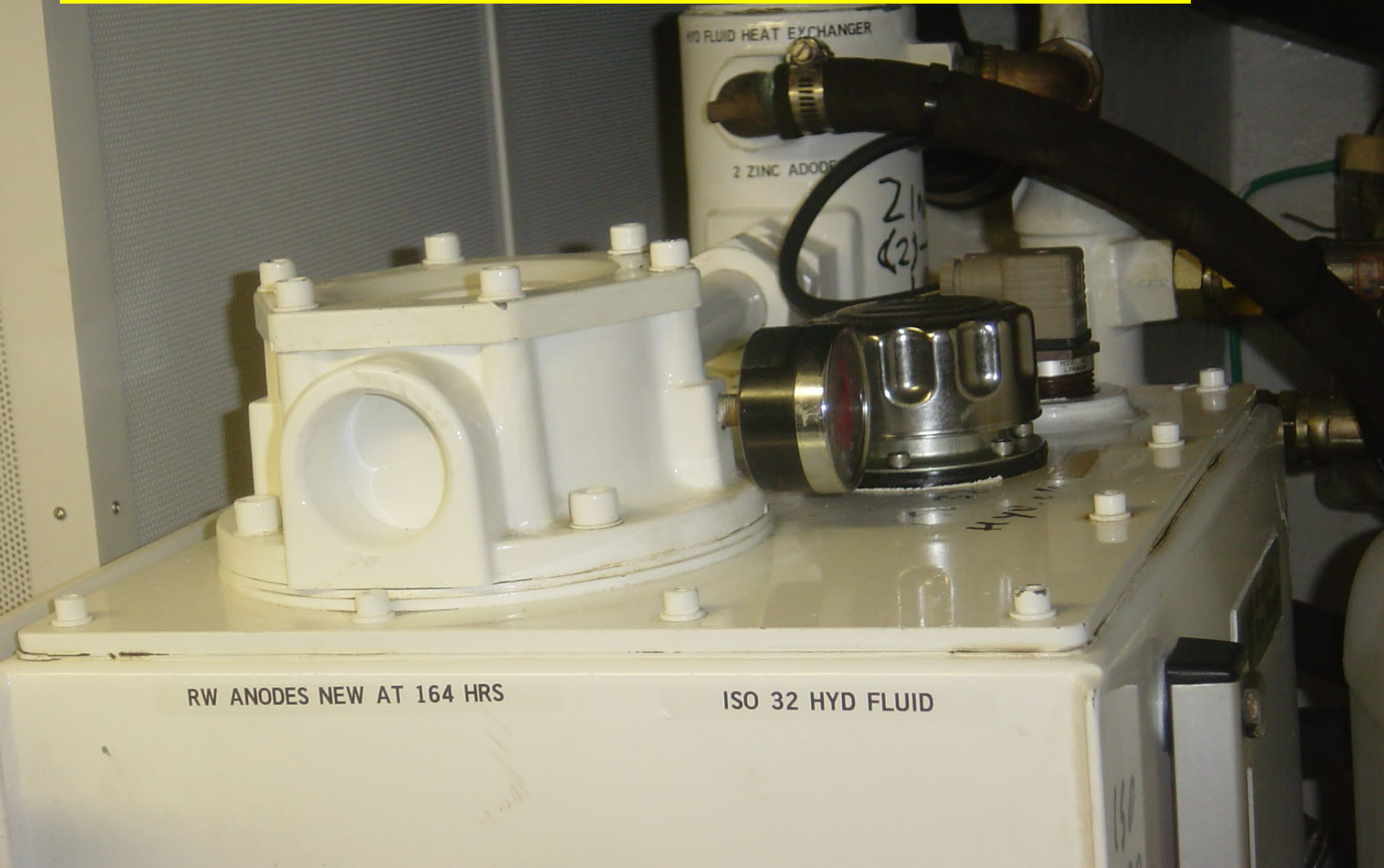
Potential trouble, will your muffler drain?



Install a drain valve



# Anodes (pencil zincs) and hydraulic oil weight







Coolant over flow catcher





DELO 400 15W-40

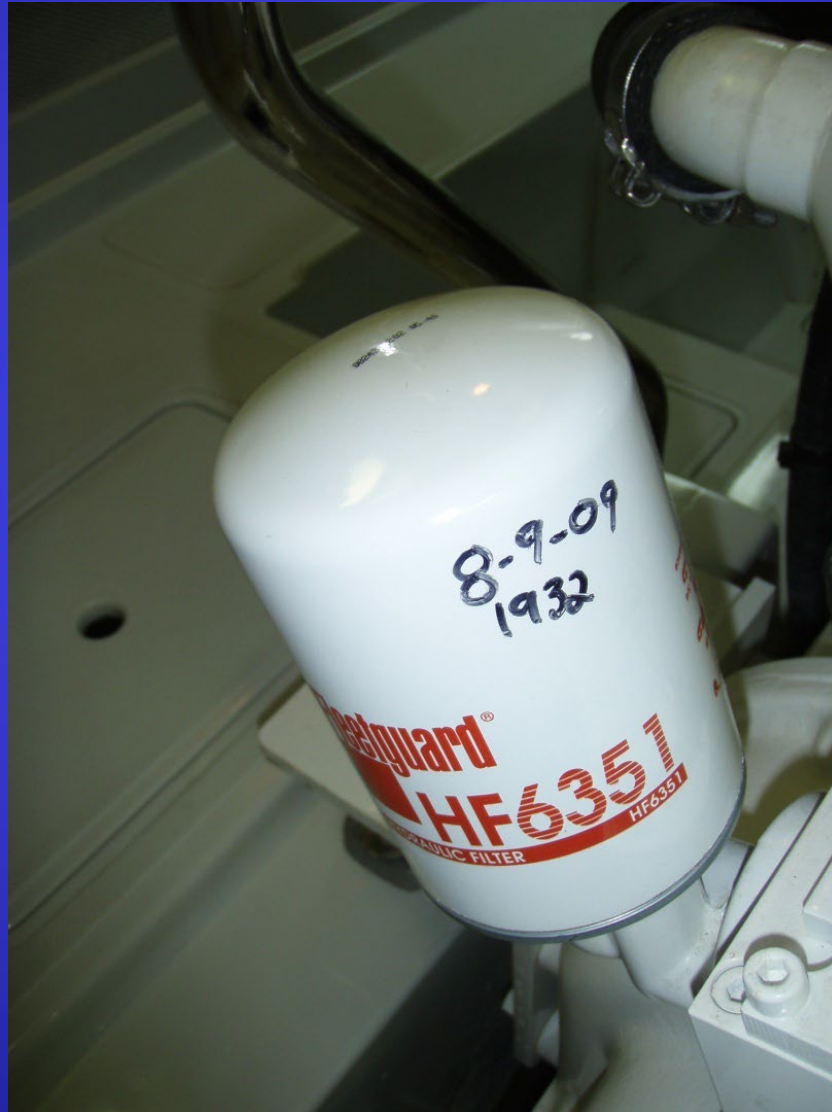
4 GALLONS


Brand of oil, viscosity weight and quantity.

Make it easy!



# Label filters to track changes





The image shows a white electrical enclosure containing three fuse blocks. Each block is labeled with a black tag. The left block is for the bilge pump power source (50A fuse). The middle block is for the stbd. engine isolator to the charge house bank (60A fuse). The right block is for the port engine isolator to the charge house bank (60A fuse). A yellow bar at the bottom contains the text 'Identify fuses, carry spares'. The enclosure is mounted on a metal panel with various cables and hoses visible.

BILGE PUMP  
POWER SOURCE  
(50A FUSE)

FROM STBD. ENG.  
ISOLATOR TO  
CHARGE HOUSE  
BANK (60A FUSE)

FROM PORT ENG.  
ISOLATOR TO  
CHARGE HOUSE  
BANK (60A FUSE)

Identify fuses, carry spares



**Secure spare fuse near active one**

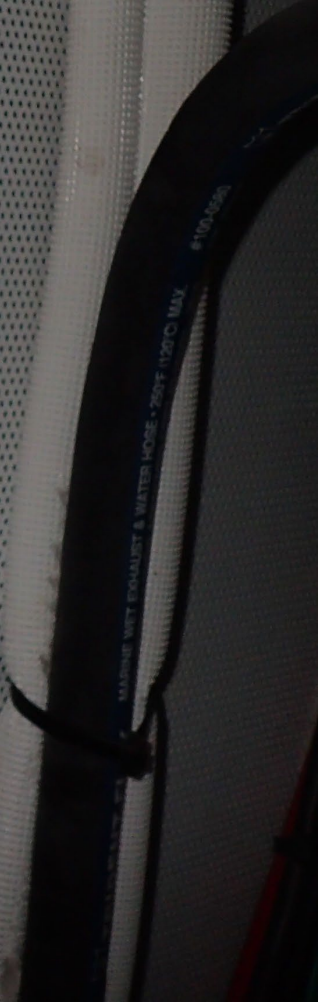




Replacement at location



HOUSE BATTERY FUSE





# Stuffing box wrench caddy





Cleaning  
spray  
bottles  
ready



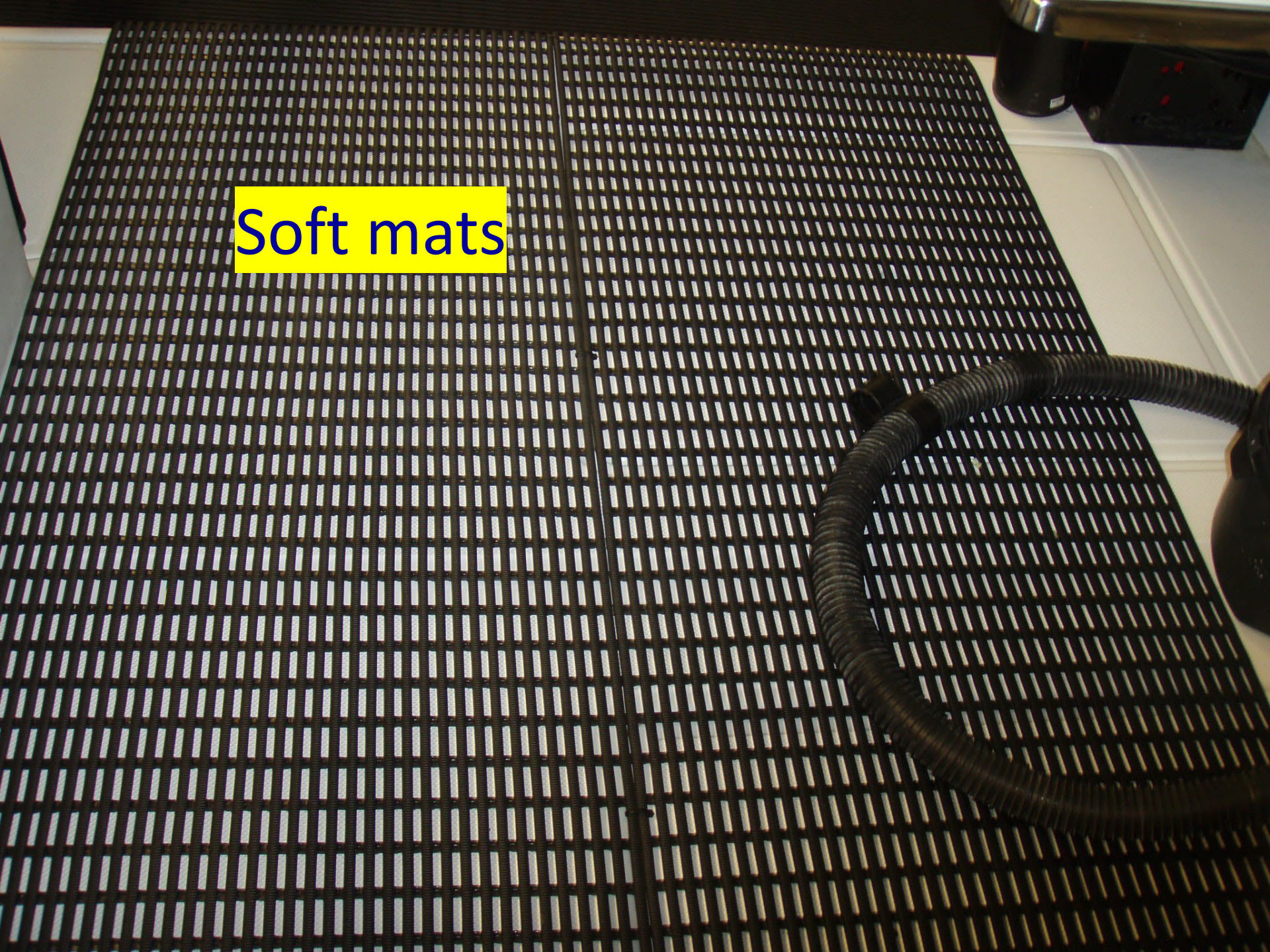




Fresh water tap and bucket

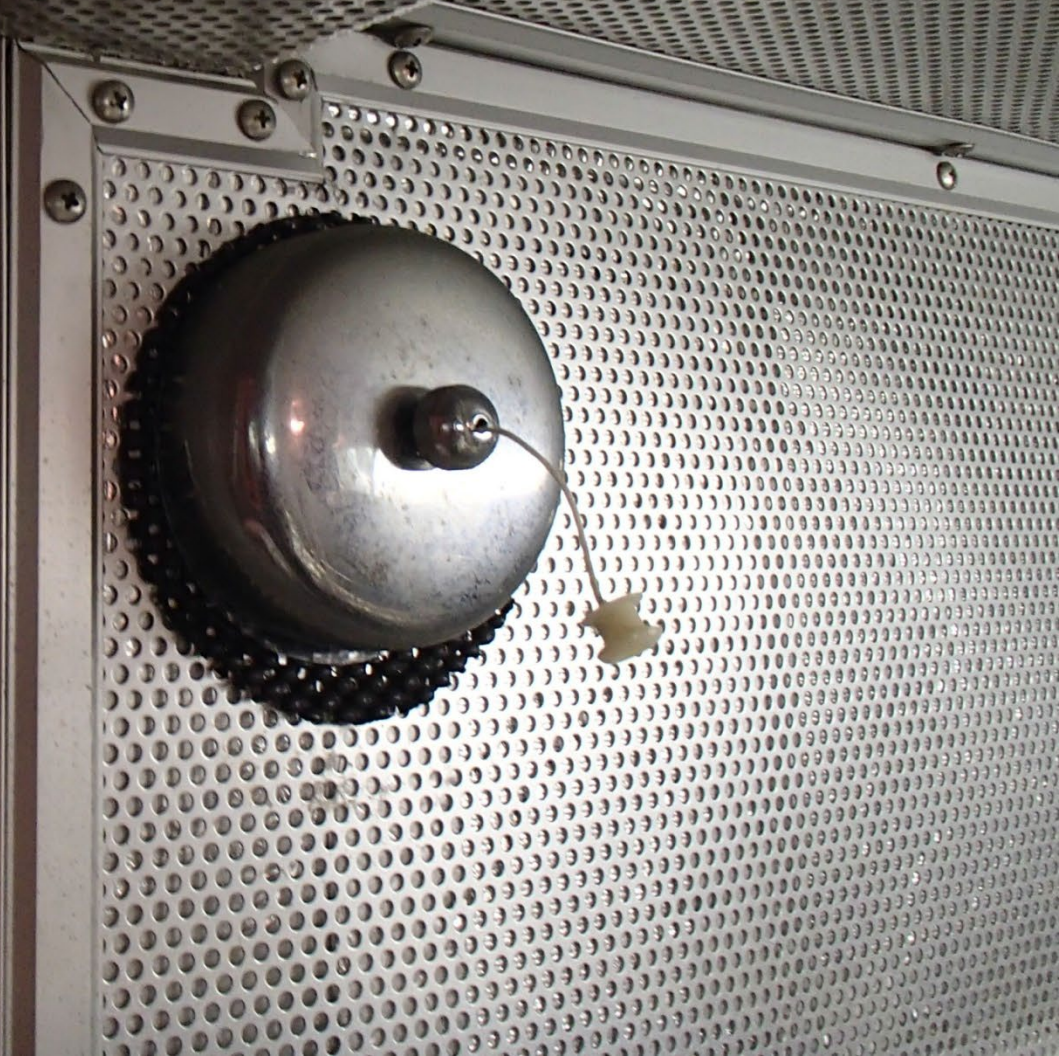
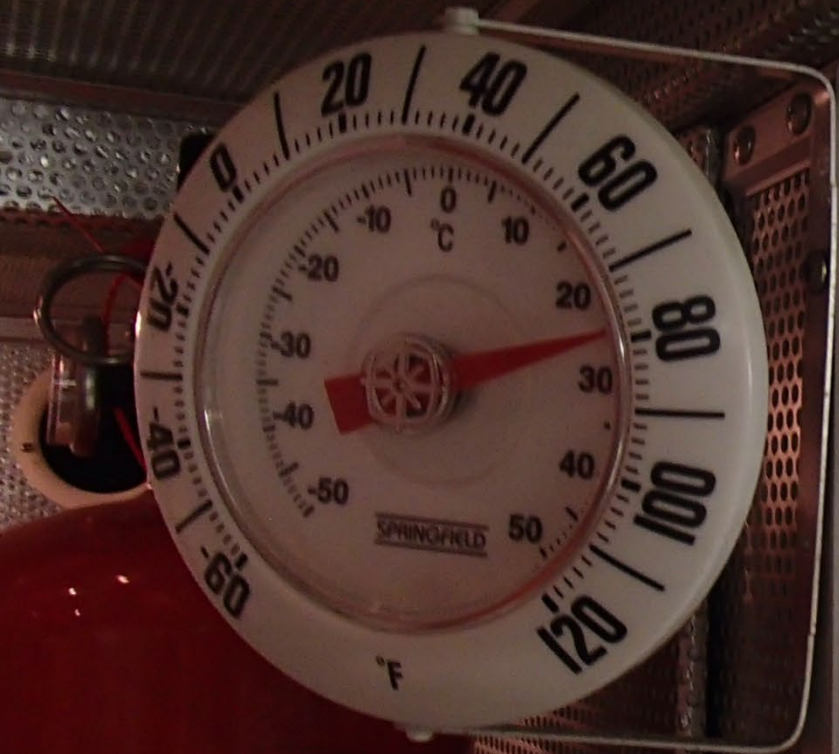


Soft mats





# Engine room temp and clothes line







Cleaning product shelf



Storage hammock





A blue, flexible mesh bag with a fine grid pattern. It is shown draped over a white surface, with three circular through-hull bungs visible at the top. The bag has a central opening and is designed to fit snugly around the bungs. A yellow text box is overlaid on the center of the bag.

Suction mesh bag for through hull bungs





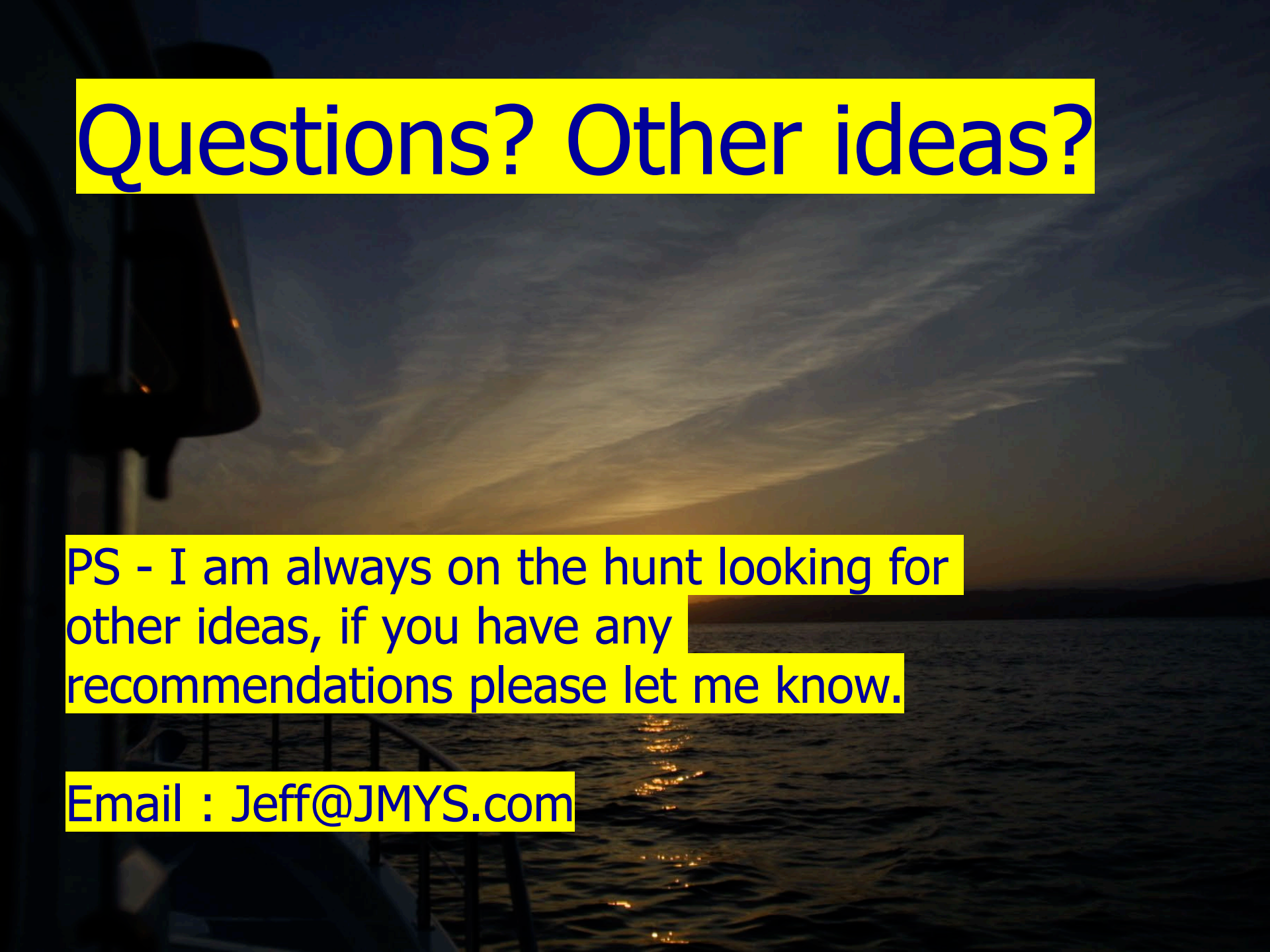
Zippered pillow bag for engine diapers



Get out there and have fun!







# Questions? Other ideas?

PS - I am always on the hunt looking for other ideas, if you have any recommendations please let me know.

Email : [Jeff@JMYS.com](mailto:Jeff@JMYS.com)



A full-page background image of a sunset over the ocean. The sun is a bright, glowing orb on the horizon, casting a shimmering path of light across the dark, choppy water. The sky is filled with large, billowing clouds that are illuminated from below, giving them a warm, orange and yellow glow. The overall scene is serene and majestic.

Thank you!

Dial-In-Your-Trawler series PDF on [www.JMYS.com](http://www.JMYS.com)