



# Aquatic Consulting Services

1220 Rosecrans Street #915 • San Diego • California • 92106

## Boating Tip #24: Boat Log

### Time (Military)

Fill in the time when you took the readings. Use military time. For example: 0800, 2130. Ideally, the readings should be taken on the hour.

### Helmsman (Past Hour)

Write in the name of the person who was at the helm the previous hour. If the autopilot was steering, also indicate by putting the circled letters AP in the cell.

### True Course (Course Made Good)

Draw a line connecting your current position with your last plotted position. Place the course plotter on the chart and align the top edge along the course. Place your triangle along the top edge of the plotter. Keeping aligned with your parallel plotter, move the triangle to a meridian. When 0 touches a meridian, read the edge of the triangle compass to determine direction. Remember "East is least. West is best." When heading in an easterly direction read the numbers less than 180°. When heading in a westerly direction, read the numbers greater than 180° on the triangle.

### Variation

Find the variation by referring to the middle of the compass rose on your paper chart closest to the area where you are sailing. Subtract easterly variation from the true course, or add westerly variation to find the magnetic course.

### Magnetic Course

Find the magnetic course by adding westerly or subtracting easterly variation from the true course.

### Deviation

Find the difference between the magnetic and compass courses. Record the deviation as east if the magnetic course is larger than the compass course, or west if the magnetic course is less than the compass course.

### **Compass Course**

Record the course on the magnetic compass that the helmsman steered.

### **Latitude / Longitude**

Press the "Display" button on the chartplotter, if necessary, to display the chart. Press the "Find ship" soft key to place the cursor directly over the ship. Read the geographic coordinates at the top of the screen. Record latitude, then longitude rounding off to tenths of a minute. For example N 32° 15.2' and W 117° 19.9'. Then, plot your position on the paper chart. Label the time of the electronic fix. Draw a line connecting your current position with your last plotted position. Measure the distance covered with the dividers, and the course made good with the course plotter and triangle.

### **Location**

After plotting your position on the chart, check to see where you are. Write down your location. For example: approaching Avalon harbor, or LaJolla kelp beds, or south of Los Coronados, or 6 nm due west of San Onofre nuclear power plant.

### **Sail / Motor**

Indicate whether you were sailing, motor sailing or motoring.

### **Engine Hours**

If you were motoring or motor sailing, record the engine hours. For example: 4452.

### **Engine RPM**

If you were motoring or motor sailing, record the RPM at which the engine was running. For example: 2500. Do not run the engine for prolonged periods above 2800 RPM. Full throttle for the 50 hp Perkins diesel auxiliary engine is 3600 RPM. Do not run in reverse at more than 2000 RPM. If the engine was not used, draw a line through the cell.

## **Engine Temperature**

If you were motoring or motor sailing, record the engine water temperature. For example: 150°. Normal temperature when running for an extended amount of time is 160° - 180°. If the water temperature rises to 200°, then engine alarm will sound. Shut off the engine. WARNING - Do not open the metal filler cap to check the water level or top off the water; wait until the engine cools down. Make sure you are adding water to the correct reservoir. If the engine was not used, draw a line through the cell.

## **Fuel Level**

Record the fuel level. If there is no fuel gauge, record fuel level as full minus the number of hours since the fuel tank was filled with diesel. For example: If the fuel tank was filled at 4414 hours and the engine hours read 4444, record F – 30. Fuel capacity is 44 gallons. Fuel usage is typically 1 – 1.5 hours per gallon.

## **Wind Speed & Direction (True / Apparent)**

Record the wind speed and direction. Record the true wind speed and then the apparent wind speed by toggling between the two readings on the wind instrument. You can determine wind direction by looking at the windex and the compass. For example: 9.2 / 15 NW, or dead calm.

## **Point of Sail**

Record your point of sail as: close hauled, close reach, beam reach, broad reach or running.

## **Weather**

Briefly describe the weather. For example: sunny, foggy with visibility < 1 nm, raining.

## **Time Interval (Minutes)**

Fill in the time in minutes since the last readings were taken. Usually, this will be 60.

## **Speed through Water (Knotmeter)**

Record your average speed through the water as indicated by the knotmeter.

### **Speed over Ground (GPS or $(60 \times D) \div T$ )**

Calculate speed over ground using a 60 D ST calculation. If readings were logged exactly 60 minutes apart, speed over ground will be the same as the measured distance.

### **Distance (Measured or $(S \times T) \div 60$ )**

Measure the distance covered between the last and current readings using dividers and the latitude scale. Extend the legs and place one leg of the dividers on the previous location and the other leg of the dividers on your current location. Take the extended dividers, without changing their spacing, to the nearest latitude scale on the side of the chart and count the distance. Remember 1 minute of latitude equals 1 nautical mile. Or, extend the dividers to a known distance, then walk the dividers along the course.

### **Comments**

Write a comment about the weather, astronomical events, marine life, other vessels, activities or unusual events. For example: Moon rise @ 0410, Switched to chart #83, Green flash @ sunset, Tanker spotted on the horizon @ 0210, Dolphins playing on our bow wave, California Gray Whales spotted, Cruise ship crossed our bow at a distance of < 1/2 nm, large mixed 8-10' swells from NW and SE with short periods – very choppy, Island spotted on the horizon.

# Boat Log

Chart # \_\_\_\_\_ Date \_\_\_\_\_ Departure / Destination \_\_\_\_\_

Time (Military)				
Helmsman (Past Hour)				
True Course (Course Made Good)				
Variation				
Magnetic Course				
Deviation				
Compass Course				
Latitude	N	N	N	N
Longitude	W	W	W	W
Location				
Sail / Motor				
Engine Hours				
Engine RPM				
Engine Temperature				
Fuel Level				
Wind Speed & Direction (True / Apparent)				
Point of Sail				
Weather				
Time Interval (Minutes)				
Speed through Water (Knotmeter)				
Speed over Ground (GPS or $(60 \times D) \div T$ )				
Distance (Measured or $(S \times T) \div 60$ )				
Comments				