

## **BOAT TRAILERING**

### **Education Module**

#### **Learning Objectives:**

As a result of this session the participant should:

- Become aware of trailer selection components and their characteristics.
- Become familiar with the Float Plan and its purpose.
- Become familiar with Departure, Launch and Retrieval procedures.
- Understand land storage and theft prevention measures.
- Become familiar with towing and backing up with a trailer.

#### **Resources:**

Boating Skills & Seamanship, eleventh Edition, U.S. Coast guard Auxiliary, Chapter 3  
The Squadron Boating Course 2001, The United States Power Squadrons, Section 15  
Chapman Piloting Seamanship & Small Boat Handling, 62<sup>nd</sup> Edition, Hearst Marine Books, Chapter 8

#### **Material and Equipment:**

Equipment Items

Overhead Projector, as required by instructor

1 Lawn Tractor with Lawn Trailer or Tow Vehicle with Boat and Trailer per crew

A minimum of 12 Traffic control cones or equivalent

Material Items

Provide one copy for each participant:

Trailer Terminology Handout

Coast Guard Auxiliary Float Plan

Pre-Departure/Pre-Launch Checklists

#### **Instructor Qualification:**

U.S. Coast Guard Auxiliary Trainer presence required for USCGAUX Certificate Program

U.S. Power Squadron Instructor, Council Venturing Trainer or equivalent

**Time Allocation:** 3 Hours

#### **Session Plan:**

Southern Region, B.S.A.  
Yachting Initiative  
Program Elements

**Classroom Session (1 Hour)**

**1. Module Introduction.**

- a. Introduce yourself and each member of the module staff.
- b. Explain the objectives of this module.
- c. Explain that the tow vehicle, boat and trailer must be made carefully so the combination works well while fitting boaters needs.

**2. Trailer Selection.**

- a. Distribute the handout “Trailer Terminology” for reference.
- b. Explain basic trailer construction including;
  1. Wheels and Tires
  2. Hitches and Couplers
  3. Hitch balls and Chains
  4. Lighting System
  5. Brakes
  6. Winches, Dolly jacks, and Ball guides
  7. Tie-downs and Mast supports (sailboats)
- b. Explain briefly regulations, licensing requirements and possible insurance needs.

**3. Load Balancing.**

Explain trailer load balancing (weight distribution) and its effects on towing operations.

**4. Float Plan.**

- a. Distribute the “Float Plan” and explain its purpose.
- b. Explain who to file the plan with or to leave a copy under your windshield wiper.

**5. Pre-Departure Procedure.**

- a. Distribute “the Pre-Departure/Pre-Launch Checklists”.
- b. Using the “Pre-Departure Checklist”, discuss each item on the list.

**6. Launch and Retrieval.**

- a. Using the “Pre-Launch Checklist”, discuss each item on the list.
- b. Discuss launch control and safety procedures.
- c. Discuss using the tow vehicle’s brake system, transmission, and the use of chocks in the launching process.

Southern Region, B.S.A.  
Yachting Initiative  
Program Elements

d. Explain that the retrieval procedure is the reverse of the launch procedure and that the “Pre-Departure Checklist” can be used as a safety check prior to departing the ramp area.

**7. Land Storage.**

a. Discuss the following topics for safe and careful storage of both boat and trailer.

1. Protection against theft and damage.
2. Boat covers and support structure for cover.
3. Draining accumulated water.
4. Easing strains on the hull.
5. Blocking trailer/removing tires.
6. Check the boat and trailer frequently.
7. Lubricate bearings prior to use.

**8. Theft Prevention.**

a. Discuss preventative measures help keep theft from happening in the following area.

1. Boats and Equipment.
2. At Launch Site.
3. At Home.

**Outdoor Area Session (2 Hours)**

*[In the stand-alone mode, the expectation is to have one lawn tractor/lawn trailer or tow vehicle and boat with trailer combination per crew. When the session has more than two crews, plan to add one additional lawn tractor/lawn trailer or tow vehicle with boat and trailer combination and schedule this activity with another outdoor or waterfront area session in a round-robin format.]*

**1. Trailer Operation.**

Discuss driving and steering a vehicle with a trailer attached on the highway or multi-lane roads prior to the hands-on experience of moving forward and backward.

**2. Moving Forward.**

Set up a short course using traffic cones requiring the participant execute an intersection left turn and intersection right turn.

**3. Moving Backward.**

a. Use the same short course and have the participant execute both intersection turns going backward.

b. Set up a simulated ramp using traffic cones and have the participant approach the ramp and then back straight down the ramp.

Southern Region, B.S.A.  
Yachting Initiative  
Program Elements

4. **Trailer Emergency.**

Discuss safety factors regarding a flat tire emergency with a loaded trailer. If time permits, remove a tire from a loaded trailer. Return tire and return loader trailer to its starting position.

## TRAILER TERMINOLOGY

### HANDOUT

- **Ball mount.** The part of the hitch that connects the hitch ball to the coupler on the trailer.
- **Bearing Buddy™.** Replaces the dust cover on the axle hub; as well as, the Bearing Buddy™ allows the wheel bearings to be greased without disassembly.
- **Bumper hitch.** Trailer hitch bolted to the rear bumper. Usually rated for Class I towing applications.
- **Class I hitch.** A weight-carrying hitch whose capacity is rated at up to 2,000 pounds gross trailer weight, and up to 200 pounds tongue weight.
- **Class II hitch.** A weight-carrying hitch whose capacity is rated at up to 3,500 pounds gross trailer weight and up to 300 pounds tongue weight.
- **Class III hitch.** A weight-carrying or weight-distributing receiving hitch whose capacity is rated at up to 5,500 to 7,500 pounds gross trailer weight.
- **Class IV hitch.** A weight-carrying or weight-distributing hitch designed capacity is 7,500 to 10,000 pounds gross trailer weight.
- **Coupler.** That part of the trailer that connects the tongue to the hitch ball.
- **Electric brakes.** An independent braking system for a trailer, actuated electrically from the tow vehicle.
- **Frame mounted hitch.** A hitch that is mounted or welded to the frame of the tow vehicle.
- **Gross axle weight rating (GAWR).** Specifies the maximum weight an axle is designed to carry. This figure included the weight of the vehicle plus any load supported by the axle. Caution: Never exceed the GAWR.
- **Gross tongue weight (GTW).** The difference between GVWR (trailer) and the GAWR.
- **Gross vehicle weight rating (GVWR).** The maximum weight the vehicle is designed to carry. This includes the weight of the vehicle itself plus any load normally added.
- **Hitch ball.** The part of the hitch that couples to the trailer, in essence, a ball-joint. The ball allows the trailer to swivel freely when cornering.
- **Hitch receiver.** The component part of a hitch that receives the shank. Also called a hitch box.
- **Receiver hitch.** A hitch with a receiver, from which the hitch-shank can be removed.
- **Safety chains.** Required by law in most states, these connect the trailer to the hitch, providing an extra measure of safety.
- **Spring bars.** Spring steel bars in a weight-distributed hitch that distributes weight throughout the tow vehicle and trailer.
- **Step bumper hitch.** A hitch found on many utility vehicles.
- **Surge brakes.** A hydraulic braking system that is activated by the inertia of the trailer pushing against the tow vehicle during deceleration.
- **Weight carrying hitch.** A trailer hitch that accepts all of the tongue weight of a trailer.
- **Weight distributing hitch.** A frame-mounted hitch that consists of a shank, a ball mount and spring bars, as well as hookup brackets.
- **Wiring harness.** Wiring connecting a trailer's lights to the tow vehicle's electrical system.

Southern Region, B.S.A.  
Yachting Initiative  
Program Elements  
**FLOAT PLAN**

**Date:** \_\_\_\_\_

Complete this plan before you go boating. Leave it with a reliable person either at a marina or elsewhere.  
Ask that person to notify the Coast Guard or other local authority if you do not return as scheduled.  
**DO NOT FILE THIS PLAN WITH THE COAST GUARD OR OTHER LOCAL AUTHORITY.**  
*Cancel the plan when you return.*

Name of your vessel \_\_\_\_\_  
Your Name \_\_\_\_\_ Telephone \_\_\_\_\_  
Address \_\_\_\_\_

**DESCRIPTION OF VESSEL**

Type \_\_\_\_\_ Color \_\_\_\_\_  
Color of Trim \_\_\_\_\_ Registration Number \_\_\_\_\_  
Length \_\_\_\_\_ Sails \_\_\_\_\_ Make \_\_\_\_\_  
Engines: Number \_\_\_\_\_ Type \_\_\_\_\_ Horsepower \_\_\_\_\_  
Fuel Capacity: \_\_\_\_\_ Canvas Top? \_\_\_\_\_ Color of Top? \_\_\_\_\_

**SURVIVAL EQUIPMENT (Check as appropriate)**

PFDs \_\_\_\_\_ Flares \_\_\_\_\_ Mirror \_\_\_\_\_ Signal Flag \_\_\_\_\_  
Smoke Signals \_\_\_\_\_ Signaling Flashlight \_\_\_\_\_  
Food \_\_\_\_\_  
Emergency Water \_\_\_\_\_  
Anchor \_\_\_\_\_ Amt. Of Line \_\_\_\_\_ Paddle \_\_\_\_\_  
Radio YES/NO \_\_\_\_\_ Type \_\_\_\_\_ EPIRB \_\_\_\_\_ Frequencies \_\_\_\_\_  
Raft or Dinghy \_\_\_\_\_

**OTHER PEOPLE ON BOARD**

Name	Age	Address & Telephone Number
_____	_____	_____
_____	_____	_____
_____	_____	_____

**TRIP DETAILS**

**Depart:** Date \_\_\_\_\_ Time \_\_\_\_\_ **Return:** Date \_\_\_\_\_ Time \_\_\_\_\_  
Destination: \_\_\_\_\_ VIA \_\_\_\_\_  
Return VIA \_\_\_\_\_ Latest Time of Return \_\_\_\_\_

**IF TRAILERING:**

Auto License \_\_\_\_\_ State \_\_\_\_\_ Type & Make \_\_\_\_\_  
Trailer License \_\_\_\_\_ State \_\_\_\_\_ Color of Auto \_\_\_\_\_  
Where Parked? \_\_\_\_\_

**NOTIFICATION**

If Not Returned Back by \_\_\_\_\_ (Time) **Call the Coast Guard**  
Telephone Number \_\_\_\_\_ or  
Local Authority (Name) \_\_\_\_\_  
Telephone Number \_\_\_\_\_

**ANY OTHER PERTINENT INFORMATION**

\_\_\_\_\_  
\_\_\_\_\_

Southern Region, B.S.A.  
Yachting Initiative  
Program Elements

**PRE-DEPARTURE CHECKLIST**

1. Is the boat securely attached to the trailer? \_\_\_\_\_
2. Is ball locked in socket? \_\_\_\_\_
3. Are safety chains in place? \_\_\_\_\_
4. Is dolly wheel retracted? \_\_\_\_\_
5. Is electrical connection secure? \_\_\_\_\_
6. Do brake and turn signal lights operate? \_\_\_\_\_
7. Are trailer tires properly inflated? \_\_\_\_\_
8. Is trailer load properly balanced? \_\_\_\_\_
9. Is motor/stern drive unit in the “up” position? \_\_\_\_\_
10. Are antennas lowered? \_\_\_\_\_
11. Have the wheel bearings been checked recently? \_\_\_\_\_

**PRE-LAUNCH CHECKLIST**

1. Is boat “plug” in place? \_\_\_\_\_
2. Are straps unfastened? \_\_\_\_\_
3. Does battery have a fresh charge? \_\_\_\_\_
4. Are towing vehicles’ brakes set and/or chocks in place? \_\_\_\_\_
5. Are appropriate lines attached to boat and adequately manned? \_\_\_\_\_
6. Is engine/stern drive unit in the “lowered” position? \_\_\_\_\_
7. Are all passenger/crew members out of boat? \_\_\_\_\_