Chase Boat Operator Manual

Written by E. Eric Matus

6/22/2022

This Page Left Blank

Chase Boat Operator Manual

This manual has been developed for people operating Challenged Sailors San Diego (CSSD) Chase Boat. Martin 16s are sailed by people of a wide variety of physical challenges and/or sailing experience. While San Diego Bay is an ideal area to sail in, there are some challenging areas to sail in such as the channel and fairway leading to the CSSD dock.

The Chase Boat Operation (CBO) can be explained in a few 10 to 15 minutes lessons. More experienced boaters will be able to complete several of the first lessons quickly. It is strongly suggested that all lessons be done in order. Each lesson has been developed to build on Chase Boat skills and vocabulary discussed in previous lessons.

We hope you enjoy your days on the water and find practicing the skill lessons informative and confidence building! The sailors are reliant on the CBO!

By E. Eric Matus 6/22/2022

This Page Left Blank

TABLE OF CONTENTS

CONTENTS

PART 1: THE OPERATOR

1.1 CHASE BOAT OPERATOR PREREQUISITES

The Chase Boat Operator has many tasks that they may be called upon to do. First they are the safety boat escort for the CSSD participants, if a Participant needs assistance, the CB Operator must be able to render a variety of assisting duties, including temporary repairs to a Martin 16, providing first aid, and towing.

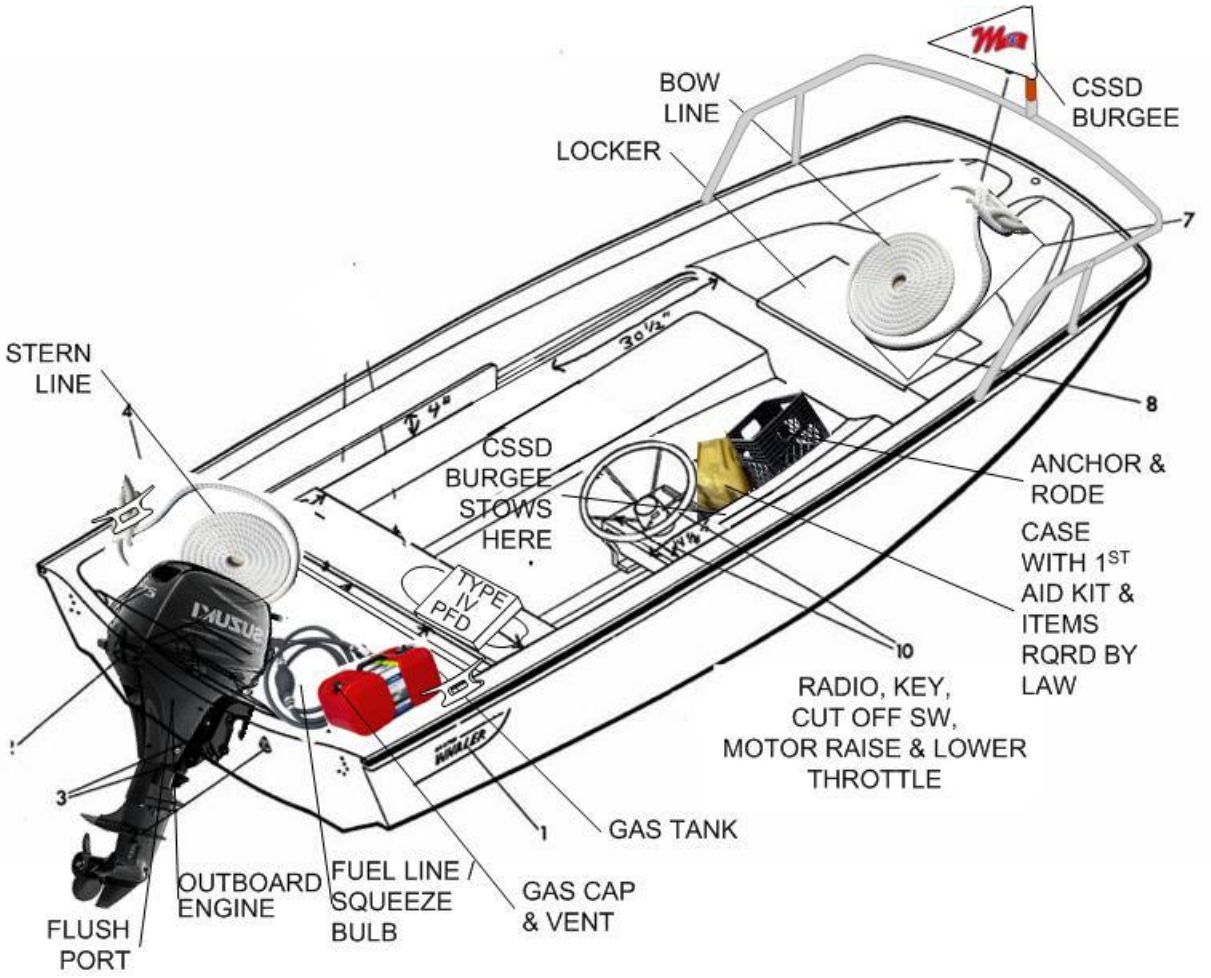
The role of the Chase Boat Operator can expand to cover Race Committee duties or act as a tug boat towing a fleet of Martins to another venue to participate in a regatta there.

Candidate Chase Boat Operators are recommended to have three years of boating experience before attempting to qualify. Once this manual has been read, the Candidate Chase Boat Operator must complete the checklist at the end of this manual under the direction of a qualified Chase Boat Operator.

A volunteer who is considering being a Chase Boat operator can find the California Boater Safety Couse here at: (https://www.boaterexam.com/california). A Chase Boat Operator must also possess a Safe Boater Card. (Apply Now – California Boater Card). First, the person must pass a California Boater Safety Course (California Boating Safety Course: BoatUS Foundation).

PART 2: THE BOAT

2.1 PARTS OF THE CHASE BOAT



A Challenged Sailors SD Chase Boat

Parts of the Chase Boat (See diagram):

Beam Widest part of the boat

Bilge the hollow area between the deck and the keel and the in between the foam injected inside the hull where water can collect and a bilge pump can eject

Bow Front of the boat

Cleat A metal or plastic device used to secure a line

Cockpit The interior part of the boat where people usually sit

Deck The bottom of the boat that covers the bilge

ECS (Emergency Cutoff Switch) The ECS is located in the rear of the Throttle assembly beneath the boat's keyhole. The ECS is a switch that is held in the run position by a plastic 'key' attached to a lanyard that in turn attaches to the helm person. This ensures if the helm person were to fall overboard the engine would cut off and the boat would not 'run away'.

Engine Coolant Flush Port The Chase Boat outboard motor on the right side is a hose that can be disconnected. By disconnecting the hose and connecting a fresh water hose the cooling system can be flushed of salt water.

Helm The wheel on the console used for steering by turning the outboard motor

Hull The main body of the boat, a fiberglass shell with foam core making the boat self-rescuing

Keel The central underwater line of the hull and as a try-hull is the center of three strakes that form two tunnels that promote planing at speed

Outboard Motor Self-contained engine, drive train and propeller clamped to the Transom with a bracket that allows the engine to pivot 30 to 40 degrees port or starboard for steering.

Seat Athwartship board extending from the port side to the starboard side, aft of the Helm

Stern Back of the boat

Throttle Attached to the starboard gunwale and controls the outboard motor's speed

Transom The flat portion on the Stern of the boat

Nautical Terms:

Trim Switches that tilt the motor forward and back

Windward Toward the wind

Leeward Away from the wind

Forward Toward the bow

Aft Toward the stern

Starboard The right side of the boat when looking forward

Port The left side of the boat when looking forward

Self-Rescuing - Boats with hulls that are designed to remove water from its decks using gravity vice pumps of any kind, also referred to as “Self-Bailing.”

Unsinkable A boat that will not sink:

Self-Righting Boats with weighted keel and sufficient buoyancy that if turtled they will turn right-side-up, such as the USCG Motor Life Boat (MLB).

2.3 PRE/POST-UNDERWAY CHECKS:

Chase Boat Inventory The following items are required to be onboard the Chase Boat, Note the inventory and if anything is missing in the boats log (look in the grey box):

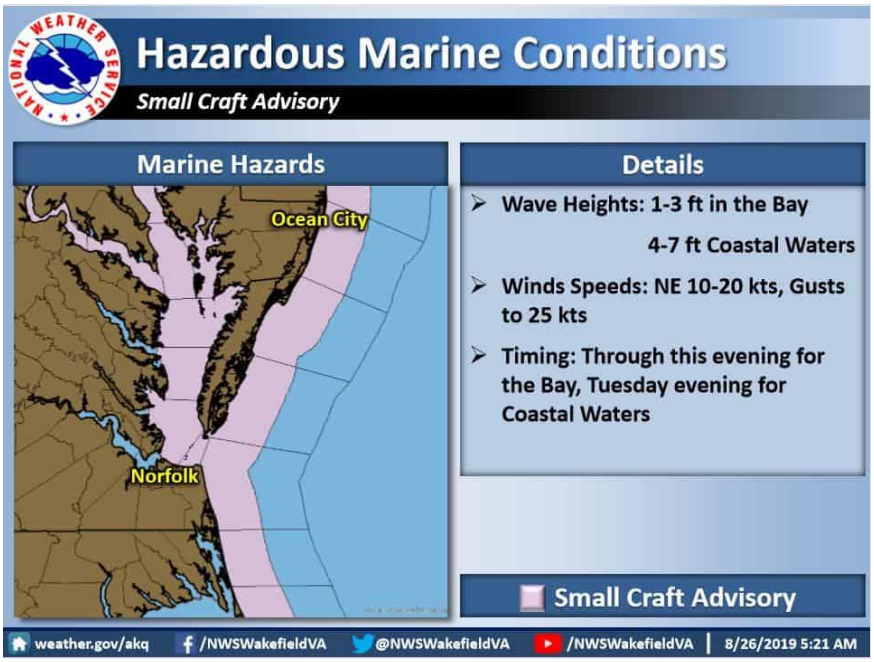
- First Aid Kit
- Anchor and Rode
- Sound Device
- Fire Extinguisher (check the gauge is in the green)
- Bilge Pump
- Boat Hook
- Visual Distress Device
- Life Jacket (Type I, II, III or V) for each person on board (worn)
- VHF Radio
- Type IV Throwable PFD (cushion)
- Bow and Stern Lines
- Bottled Water

Pre-Underway Checks The following items must be present to get underway on the Chase Boat:

- In the Chase Boat Log record Date, Chase Boat Operator, and Crew
- Key with ECOS (Engine Cut Out Switch) you must have the ECOS attached to your body (Key is kept in the VHF Carry Bag
- Fuel tank preferably topped off but with at least 1/2 full, ensure the vent on the cap is open, and fuel line bulb pumped until it feels full
- All crew wearing a USCG Approved Life Jackets (inflatables show ‘green’ ready to inflate)
- A bottle of water for each crew plus a spare
- Put up CSSD Burgee on Bow
- Good radio check with Dock Support
- Weather: check that forecast, sky, wind, and tides are within acceptable limits
- Normally you should file a Float Plan with family, a friend, or the US Coast Guard, however the Dock Leader knows your Float Plan and would be concerned if you did not return

Post-Underway Checks The following items should be done after the Chase Boat is secured at the dock:

- Take down and stow CSSD Burgee
- Tilt outboard all the way up
- Pump the Chase Boat Bilge dry
- In the Chase Boat Log record any unusual actions taken during the outing
- Record fuel level and any problems or missing items with the Chase Boat in the log book
- Rinse outboard coolant system with fresh water, reconnect coolant hoses
- Put cover on the Chase Boat



2.4 BASIC RIGHT OF WAY RULES:

Be courteous, and avoid possible collisions!

Port–Starboard rule: Port-tack boat must keep clear of the starboard tack boat

Clear astern - Clear ahead: Overtaking boat must keep clear of a boat clear ahead, whether it is a sailboat or a powerboat

The boat with the least maneuverability has right of way: Usually boats under power need to keep clear of boats under sail. However, large naval or commercial ships have limited maneuverability, so smaller recreational boats need to keep clear of them. Also, small boats should give a large boat in a narrow channel adequate room to maneuver.

Right and Left Drift: Get used to observing boats that present a concern for possible collision and sighting their position relative to your boat. Keep checking occasionally if their relative position for right or left drift. If another vessel is on a **Constant Bearing with Decreasing Range (CBDR)** then a potential collision exists. This can be avoided by simply changing your course or heading to pass astern of the other vessel.

Telegraphing Your Intentions to Pass (Port or Starboard): While maintaining a straight course when approaching a vessel, that is nearly dead ahead, it is important to keep the bow of your boat to one side of the other vessel's bow. Avoid allowing your bow to wander to the right and left of the other vessel's bow since this will confuse that vessel's helms person or skipper as to your intentions. If the other vessels skipper is experienced they will keep their bow pointed to one side of your bow also 'telegraphing' their intention to pass to one side of your bow. If you find a vessel approaching that keeps veering right and left of your bow it may indicate they are inexperienced or distracted and you should change course to avoid passing close to the other vessel.

By determining early the right of way situations for the boats closest to your boat and monitoring their bearing, drift, and course you can prevent situations that require you to make drastic course

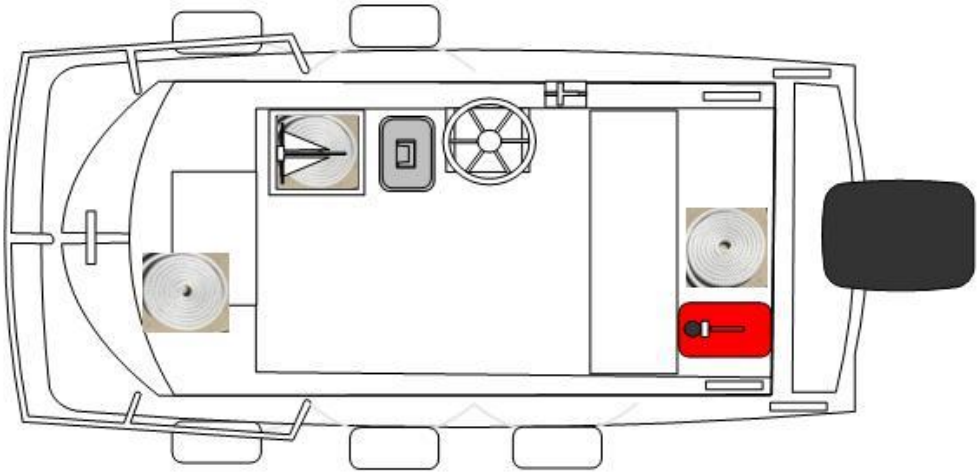
changes to avoid a collision. Telegraph your intentions early with other boats coming towards your bow, and monitor the drift of boats closest to you. Always cross astern of large vessels that are working, must stay in a channel, vessels towing or fishing, and especially ferries and harbor patrol boats. Early monitoring and action will lead to an uneventful sail. Do not assume that as a sailboat you automatically have right-a-way over power boats. Know your right-a-way rules but know that the most important rule is “Avoid a collision.”

2.5 MANUEVERING THE CHASE BOAT:

The first thing an experienced sailor will discover is that the Chase Boat has very little resistance to moving sideways. The keel on the Chase Boat is a shallow “V” molded into the hull along the centerline as part of three “strakes” that make up the tri-hull configuration. The Chase Boat can plane with a pretty small motor and at fairly low speeds around 14 knots. Between 1000 and 3500 RPM the CB will accelerate about a knot for every increase of 500 RPM but between 3500 and 4000 the boat will begin to plane and the speed will go from about 6.5 to 14 knots.

Chase Boat

In 1958 Boston Whaler introduced a 13-foot utility boat that would soon become the most succesful recreational boat of all time.



The Chase Boat is a Boston Whaler 13, a tri-hull utility boat. It has an inner “liner” and outer hull with foam in between making the boat unsinkable. However it also has low freeboard and a lower transom and can be swamped by waves or boat wakes if the operator is not careful.

Length.....13 feet 4 inches (13 feet 3-1/2 inches c.1960)

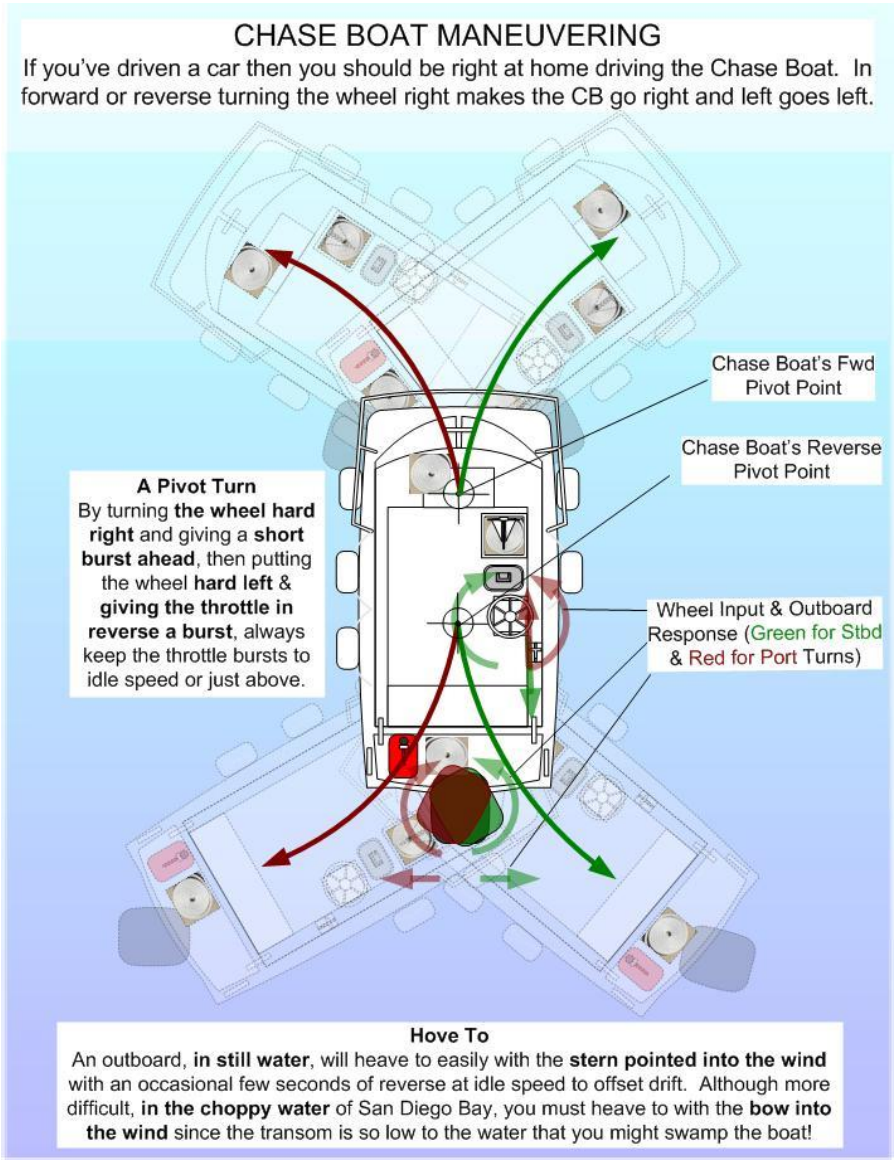
Beam.....5 feet 5 inches (5 feet 3-inches c.1960)

Length/Beam Ratio..... 2.5:1

Draft..... ....6 inches (with engine tilted clear of water)

Weight.....320 pounds Standard

In this section we’ll talk about how to maneuver the Chase Boat which will include Forward, Reverse, and in waves, including large boat wakes.



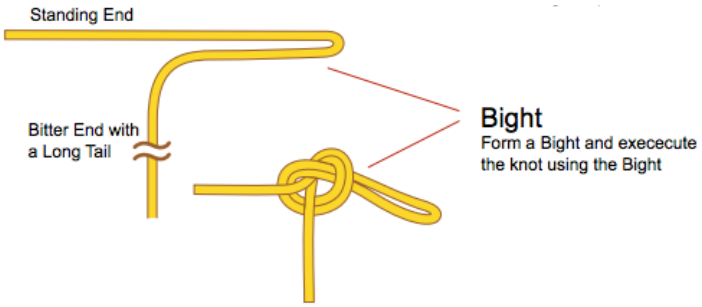
As crew on the Chase Boat remember the 3 point rule: One hand for the boat and one hand for yourself! Always maintain a three point balance, both feet and one hand. This is especially important on the bay with a lot of powerboat traffic and large wakes being generated.

Page Intentionally Blank

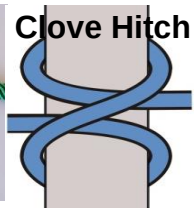
2.6 BASIC KNOTS

In order to understand an explanation on how to tie a knot some basic knot vocabulary is needed:

Line anatomy – Line typically has two ends the 'Standing Part' (or end) which is where the line is attached to a load (e.g., a boat) and the 'Bitter End' the free end that is not attached to a load. A 'bight' is formed when a line's "tail" is doubled over.

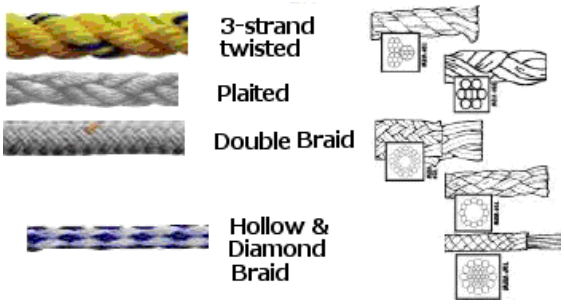


A 'Bend' generally refers to a knot used to tie two lines together, while a 'hitch' generally refers to tying a line to an object or to itself. However like English for every rule there're lots of exceptions.



Typical line types seen in boating are:

- 3-Strand used for dock lines and tow lines. It's the easiest to splice.
- Double Braid used for running rigging
- Plaited line is used for anchor rode.
- Hollow Braid is used with polypropylene life lines attached to Rescue Rings for throwing to persons in the water. Polypropylene will float making it easier to see in the water.



Some Basic Knots:

1. **Figure Eight** – Sometimes referred to as a stopper knot, it makes a knot that won't slip out. Tied with a bight it also forms a secure, non-slip loop at the end of a rope. It's a common knot used by mountain climbers, but comes in handy for securing to a mooring.

   https://www.animatedknots.com/figure-8-knot

2. **Square Knot** - Also called a reef knot, it's an ancient knot from old school mariners. It's a simple concept for securing a rope or line around an object. It can also be used to join two ropes together. Put a bight in the second half of the square knot and you have a slipped reef knot.

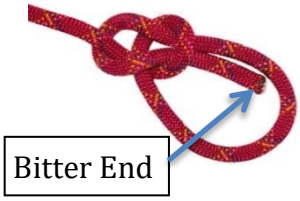
   https://www.animatedknots.com/square-knot

https://www.youtube.com/watch?v=-EPGC_rp7tU&ab_channel=GuiadeN%C3%B3s-KnotsGuide

3. **Cleat Hitch** - Also referred to as a halyard knot. If you're working with a cleat, use a cleat hitch. It's a quick knot for securing your vessel/halyards, and it comes undone with ease. Easy on & off.

https://www.animatedknots.com/cleat-hitch-knot-dock-line

4. **Bowline** - A reliable choice that creates a fixed loop at the end of a line. It's a knot that won't jam and can be untied even under extreme tension. As long as it's under constant load the bowline won't slip, but under an intermittent load it can fail if the 'bitter end' is too short.

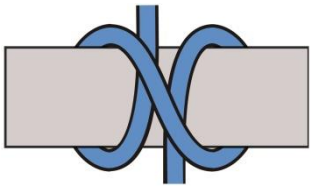


https://www.animatedknots.com/bowline-knot

5. **Anchor Hitch** - Also called an anchor bend knot. If you don't use a chain and need to keep your anchor tethered to the anchor rode, this is the ideal choice. Once you've mastered it, it's a quick go-to choice.

https://www.animatedknots.com/anchor-hitch-knot

6. **Clove Hitch** - A quick temporary knot for tying moving objects to fixed ones or to secure fenders. Be careful, this knot can come undone if both objects aren't stable. A quick solution knot, made more permanent when finished with three half hitches.



https://www.animatedknots.com/clove-hitch-knot-rope-end

7. **Sheepshank** - A classic boating knot used to shorten a length of rope or take up slack. It's not a stable knot and will come undone under too much, or too little, load but it's a very handy for organizing and setting several lines you're working with.

https://www.animatedknots.com/sheepshank-knot

8. **Trucker's Hitch** - One of the most versatile knots there is, not just for boating but in many outdoor activities. Don't let the video intimidate you, it's quick and easy. It's a great knot for securing equipment into position and it utilizes a quick release to make unloading/changing out items efficient and simple. 1(a) Or some sailors have gone to the Alpine Butterfly Loop used the same way but much easier to untie after being under load.

https://www.animatedknots.com/truckers-hitch-knot-quick-release

https://www.animatedknots.com/alpine-butterfly-loop-knot

9. **Alpine Butterfly Knot** - The butterfly loop, also known as lineman's loop, butterfly knot, alpine butterfly knot, Swiss loop and lineman's rider, is a knot used to form a fixed loop in the middle of a rope. One advantage is it unties easily after a load than a slip knot when used in a truckers hitch.

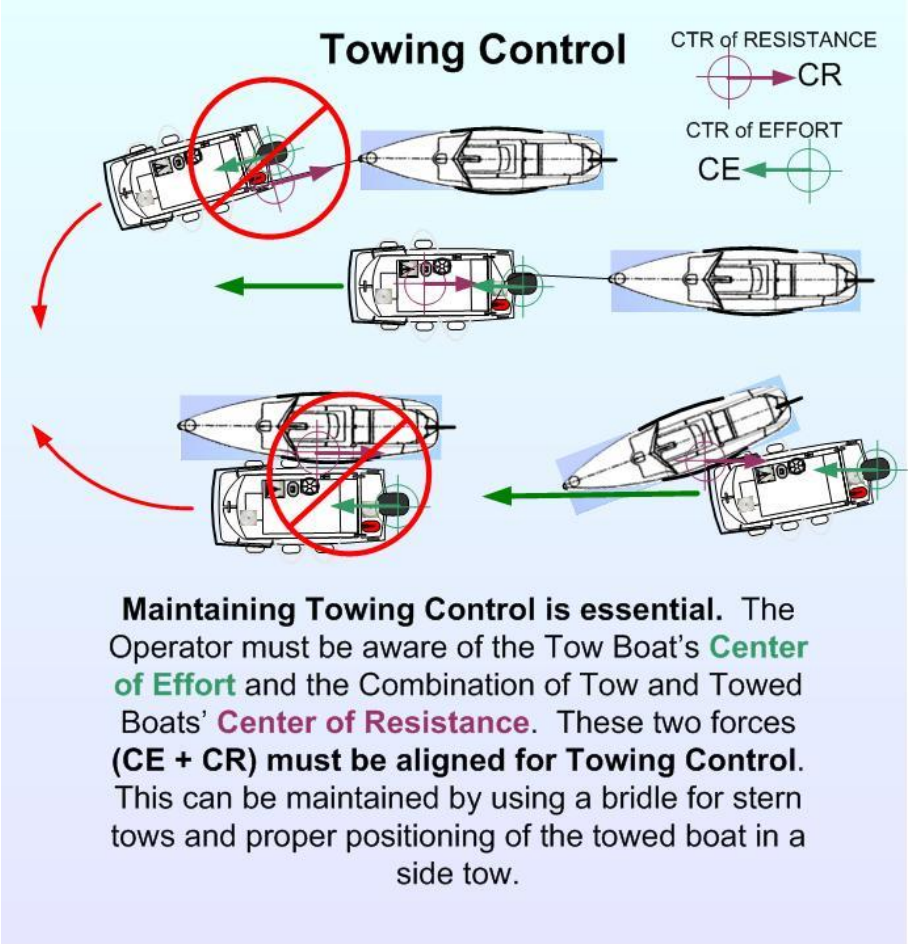
https://www.animatedknots.com/sheepshank-knot

Page Intentionally Blank

PART 3: TOWING

3.1 TOWING CONTROL

When towing any boat it's assumed that the towed boat's propulsion system in non-functional or the propulsion cannot be properly controlled. For sailboats like the Martin 16 this means the Mainsail may need to be lowered. The towing boat will have more predictable control with the towed boat's propulsion shut down, including lowering sails.



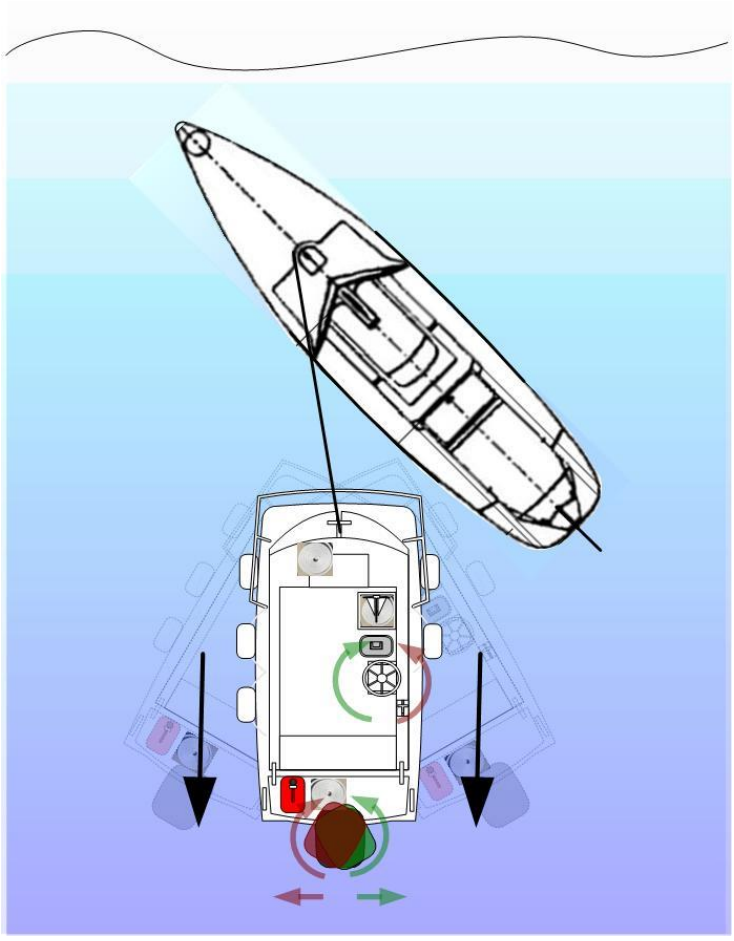
There are **five types of tows** the Chase Boat might get involved in:

1. **Backwards Tow** – Used in calm waters only to pull a grounded boat to deeper water.
2. **Stern Tow** – Used to tow a boat to and in the channel.
3. **Side Tow** (Alongside or Hip Tows) – Used to tow a boat in a narrow fairway to the dock.
4. **Multiple Boat Stern Tow** – Used when towing the fleet to a regatta location, or back.
5. **Multiple Boat Side Tow** – Used in a calm to get the boats back to the Fairway pending bad weather or other emergency. **For very experienced Chase Boat Operators only!**

3.2 BACKWARDS TOW

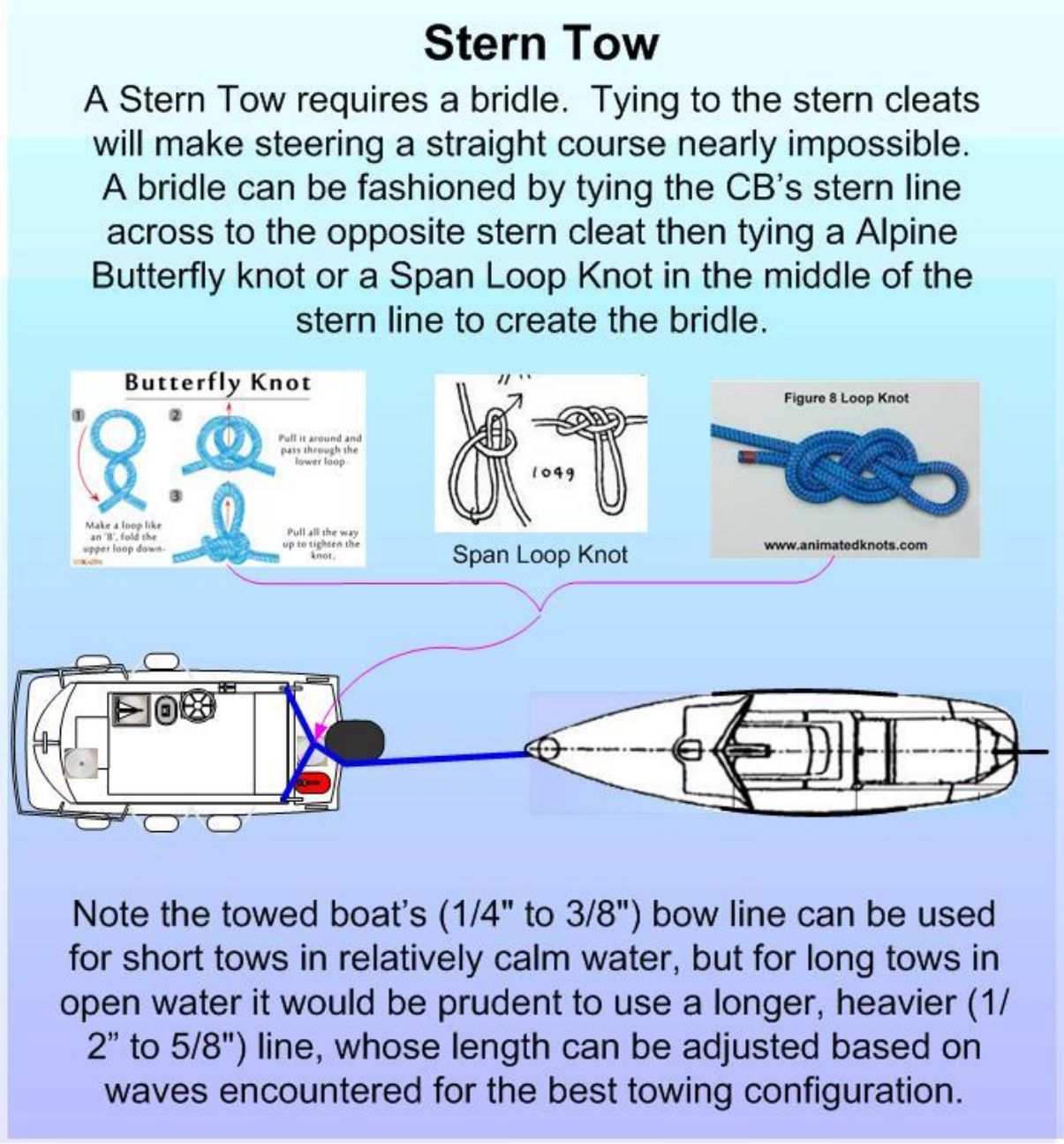
Backwards Tow - When a sailboat like the Martin 16 or the SKUD 18 grounds they will typically radio for help if the Chase Boat doesn't see them first. As you approach with the Chase Boat (CB), the Operator's first concern, beyond everyone's physical well-being, is not to ground the Chase Boat. Because the Martin 16s and the SKUD 18's keels are deeper than the Chase Boats motor this may not be a problem as long as the Chase Boat is kept on the side opposite the Shore. The Chase Boat can approach slowly from seaward putting their bow close to the grounded boat and a crew on the CB or on the grounded boat can attach a line. The grounded boat can reach over with the bow line and cleat it to the CB's cleat just inside the bow, or the CB crew can hand their bow line to the Chase boat to tie around the mast. While tying off the CB Operator needs to stay aware of their position relative to shore and to keep the Chase Boat oriented bow toward the grounded boat and stern pointed out to open water.

Once the grounded boat is tied off, the Chase Boat crew will need to move aft, in case the line parts while pulling. The CB Operator can control their pulling direction by turning the steering wheel, while backing down, right will cause the CB's stern to move right and steering left will walk the boat's stern to the left.



3.3 STERN TOW

Stern Tow – If the need to tow a Martin 16 or the SKUD 18 in open water arises a stern tow is advised since this tow technique is less likely to be affected by waves or boat wakes. First a towing bridle should be rigged with a spare line or the CB's stern line by cleating the ends and tying either an Alpine Butterfly Knot or a Span Loop Knot in the center. If these knots are not known then make a bight in the bridle line's center and tie a Figure Eight Loop Knot. After towing the figure eight knot may be very hard to untie making the Span and Butterfly knots preferred.



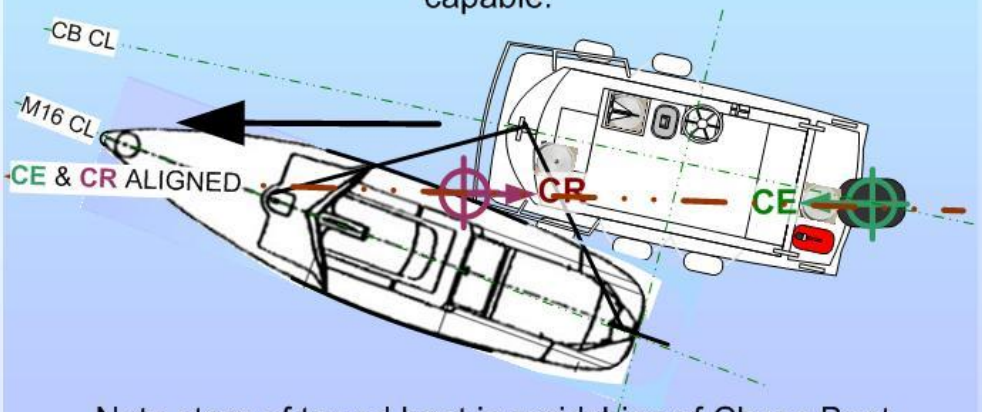
3.4 SIDE TOW

Side Tow – Once the towing Chase Boat has reached the C – D Fairway entrance if the towed boat needs towing to the dock the Chase Boat should switch to a side tow (aka Alongside Tow and Hip Tow). The towed boat's bow line should be untied from the bridle and passed back to towed boat. If capable the two towed boat crew can grab the CB's Bow stanchions and hold on while the Chase Boat guides them to the dock motoring **at idle speed**. Or, the CB's bow line can be passed in front of the forward bow stanchion to the mast of the towed boat and the towed boat's stern line can be tied to the aft bow stanchion with a round turn and two half hitches, a clove hitch and one half hitch, or the Companion Sailor can simple wrap the stern line around the stanchion a couple of times and hold onto the line. The towed boat's bow should be pointed 5 to 10 degrees toward the Chase Boat's Bow and the CB Operator should **proceed at idle speed** or just enough speed to maintain steerage way (two knots max) and the towed boat should be on the port side since the dock will be to port on the approach.

Side Tow (Calm waters only)

In the Side Tow both boats' combined CR (Center of Resistance) must be aligned with the CB's CE (Center of Effort). To accomplish this the CB's Bow Line can be tied to the towed boat's mast and the Stern Line of the towed boat is passed between the CB's Bow Stanchions and tied to CB's bow cleat required to keep the towed boat forward to give CB necessary steering control

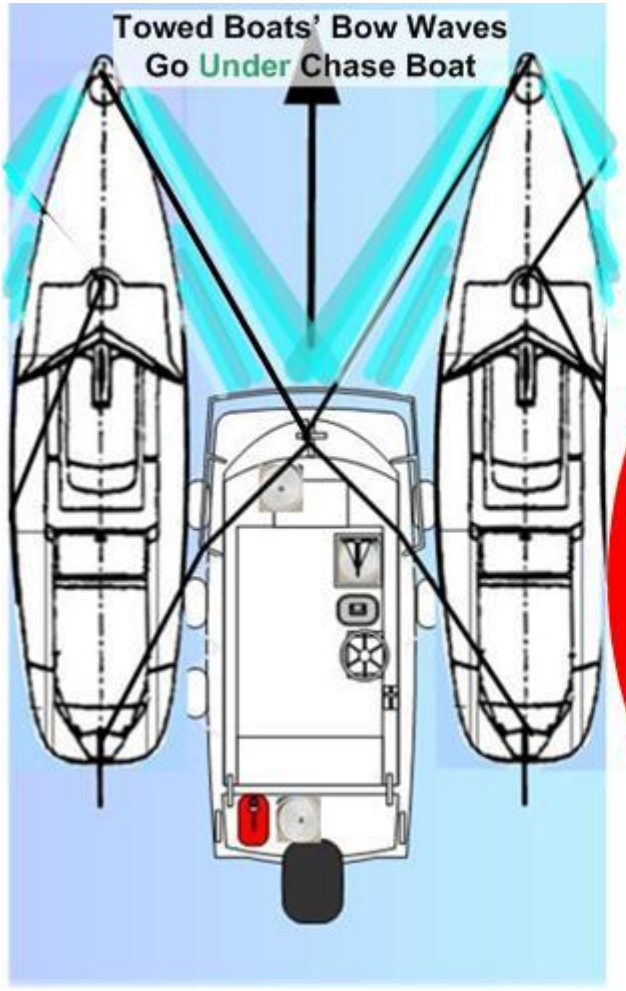
Side tow up the C – D Fairway to the dock **(port side, done at idle speed only)** the CB Operator may elect to have towed boat crew hold onto the bow stanchions if the crew is deemed capable.



Note stern of towed boat is amidships of Chase Boat and bow is angled slightly towards CB's bow. This arrangement gives the CB Operator essential steering control.

TUG & BARGE IN HIP (Side) TOW

Side Tow and Bow Waves - When side towing, two or more boats there's a tendency to tie the boats farther aft. This can produce towed boat bow waves that strike the sides of the Chase Boat instead of the bow of the Chase Boat. When the towed boats' bow waves are aft and striking the sides of the Boston Whaler and wash over the low gunwales and begin filling the cockpit of the Chase Boat, swamping it. Some of this can be alleviated by slowing down; however the best way to avoid this is to take up on the stern lines and tow the boats farther forward. Tug Captains refer to side tows as "Hip Tows" because they tie up to their much larger tows all the way aft (see previous illustration) on the towed vessel's hip,

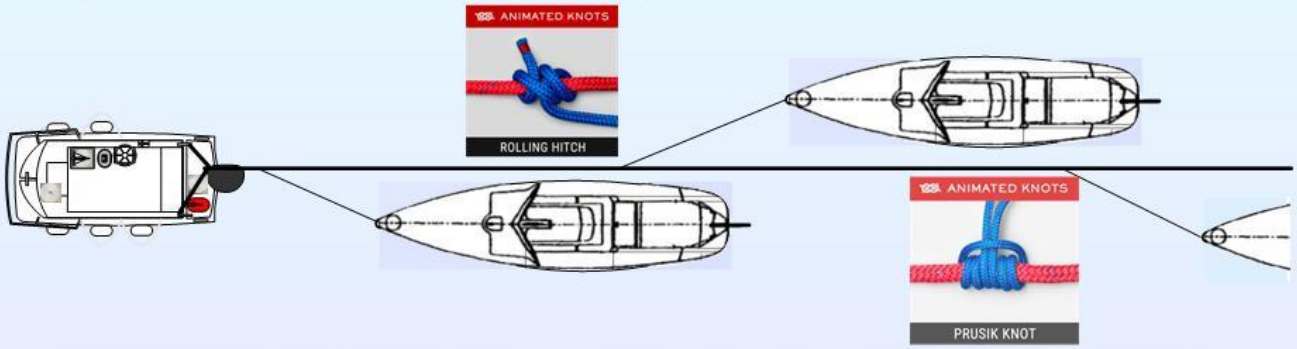


Multi-Boat Stern Tow – Used for towing several boats, for instance to a regatta location, by the Chase Boat using a longer heavier tow line onto which the towed boats use a rolling hitch or a Prusik hitch to tie their bow lines. Each towed boat typically has a person to steer and handle lines.

Multi-Boat Stern Tow

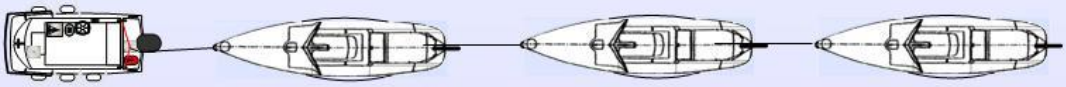
A Stern Tow requires a bridle. Tying to the stern cleats will make steering a straight course nearly impossible.

A bridle can be fashioned by tying the CB's stern line across to the opposite stern cleat then tying a Alpine Butterfly knot or a Span Loop Knot in the middle of the stern line to create the bridle. If the Operator is unfamiliar with loop knots a bight can be made in the center of the line and a figure 8 knot tied to create a loop but after a load this knot can be very difficult to untie.



For stern towing multiple boats a longer, heavier line can be used along with the towed boat's bow lines tied on with rolling hitches or prusik hitches. Usually each towed boat has a person aboard for steering and line handling.

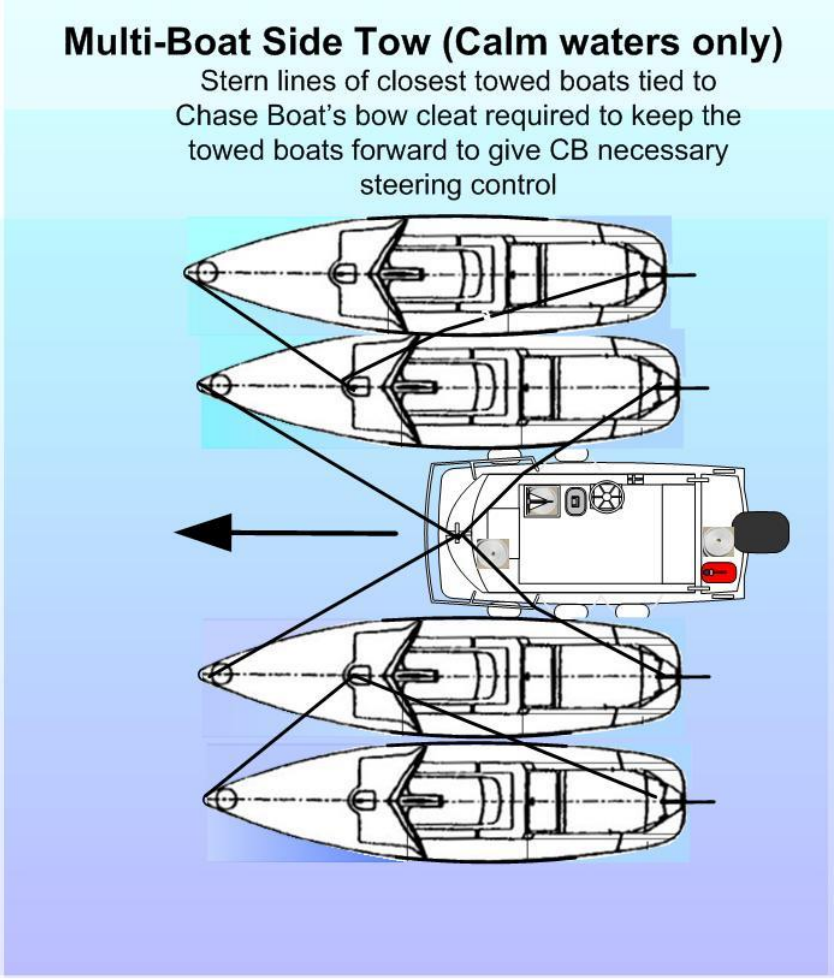
For short distances on calm water a daisy chain using bowlines can be used.



Page Intentionally Blank

3.6 MULTI-BOAT SIDE TOW

Multiple Boat Side Tow - In the case of a **calm, or very light winds**, and **a need to get all of the boats back to the dock** as soon as possible, a multiple boat side tow might be the answer. The Chase Boat Operator needs to assess the possibility of boat wakes and the presence of waves. If the water is predictably calm then having the boats tie up to both sides of the Chase Boat is possible. Tying the towed boats up to the CB's sides in pairs is necessary to ensure the CB can steer adequately. **Speed must be kept down to two knots or below**. Once the tow has reached a point near the entrance of fairway to C & D slips then the tow must be abandoned. Since the Fairway is too narrow to safely conduct such a tow to the docks. At this point the Chase Boat should tow the boats to the dock using a side two or if time is of the essence then a pair can be tied near either side of the CB's bow and towed to the dock. **Multiple Boat Side Tows are advanced maneuvers that should only be tried by a very experienced Chase Boat Operator**. If there's any doubt use a stern tow with each towed boat using their bow line tied to the stern of the towed boat ahead of them and the lead towed boat tied to a Bridle on the Chase Boat.



Page Intentionally Blank

PART 4: RENDERING ASSISTANCE

4.1 THE REQUIREMENT TO RENDER ASSISTANCE

An article in The Log by Maritime Attorney David Weil September 9, 2021 has excerpts and quotes Federal and California Statutes that make it clear that all boat operators are obligated to render assistance:

> "In the United States, federal law (46 USCS sec. 2304) requires the master of any vessel subject to U.S. jurisdiction to "render assistance to any individual found at sea in danger of being lost," so long as the assistance can be rendered without endangering the rescuing vessel or individuals on board. This law is a part of an international treaty (the International Convention on Salvage, 1989) which extends the obligation to mariners throughout the world.
>
> California has a similar maritime assistance statute, (Harbors and Navigation Cod sec. 656), which requires "the operator of a vessel involved in a collision, accident, or other casualty" to render assistance, so long as the operator "can do so without serious danger to his or her own vessel, crew, and passengers." A careful comparison between these laws reveals a different approach between California and federal law. The California statute imposes the obligation on a vessel operator "involved" in an incident, whereas the federal and international provisions apply to all vessel operators."
>
> "…the "Custom of the Sea" has always called for mariners to render assistance to each other.
>
> Everyone who works or plays on the water and who encounters another vessel in distress understands that they may be next in line to suffer a casualty, and the maritime assistance statutes simply provide a formal framework for a process that is second nature to most boaters."

4.2 CAPSIZES AND PERSONS IN THE WATER

In https://boattests101.com/united-states/boating-resources/emergency-preparedness/capsizing-and-falls-overboard it says:

> "Boat sinkings, capsizing and passenger falls overboard have been deemed responsible for nearly 70 percent of all boating fatalities in the U.S., making it consistently the leading cause of death for operators and passengers. Boat operators should fully understand how to prevent such emergencies and how to quickly respond if a capsizing or a fall overboard occurs."

This fact emphasizes how important it is to, not merely have on board, but **wear a life jacket** when on the water. In spite of being an expert swimmer I have followed this principle since teaching my first sailing class at Oakland Community College in 1977 and setting the example by wearing my lifejacket whenever I was on the dock or in a boat. As a Chase Boat Operator you should have your life jacket on at all times. If you see a Person In the Water (PIW) slow and stop your boat, throw the Type IV Personal Floatation Device to the Person and carefully maneuver the Chase Boat to the Person, making sure to keep the Engine away from the PIW until the person can grab onto the stanchion,

fender line, or gunwales of the Chase Boat, then **SHUT OFF YOUR ENGINE**. The stern line can be run past the outboard and into the water low enough to create a step and cleated to the opposite side of the transom. Extra crew can then move to the bow to prevent the stern from swamping while one person assists the PIW onboard. If two persons are required to assist then the stern line can be run to the bow stanchion to fashion a step and the PIW can be brought aboard on the port side. Once aboard standard first aid procedure should be administered as explained in the next section.

4.3 FIRST AID STEPS

Once a person in the water is brought on board, the next step is to perform these Red Cross recommended **First Aid Steps**. The Chase Boat Operator has multiple responsibilities at this point so delegating is important. If any of the Chase Boat crew is First Aid trained, then assign them to perform the First Aid Steps on the rescued person.

1 CHECK the water for other PIWs, then with the rescued PIW form an initial impression, obtain consent, and use personal protective equipment (PPE – gloves and/or mask)

2 If the person appears unresponsive, CHECK for responsiveness, breathing, life-threatening bleeding or other life-threatening conditions using **shout-tap-shout**

Note: CHECK for no more than 10 seconds

3A If the person does not respond, responds but is not fully awake, is not breathing or is only gasping, or has life-threatening bleeding or another obvious life-threatening condition, CALL 9-1-1 and get equipment, or tell someone to do so. Then, give CARE based on the condition found and your level of training and continue your check to determine if additional care is needed

Note: For a person, who is unresponsive and not breathing, start CPR and use an AED immediately

3B If the person is responsive, or responds to stimulation, and is fully awake, and does not appear to have a life-threatening condition:

- Interview the person (or bystanders, if necessary), ask questions about signs and symptoms, allergies, and medications and medical conditions (SAM)
- Do a focused check based on what the person told you, how the person is acting and what you see

Note: Do not ask the person to move if you suspect a head, neck or spinal injury. Do not ask the person to move any area of the body that causes discomfort or pain

Note: As you check the person, take note of any medical identification tags

4 After completing the CHECK steps, CALL THE Coast Guard or 9-1-1 and get the First Aid equipment, or tell someone to do so (if needed). Then, give CARE based on the condition found and your level of training

While the assigned crew continues to attend to the rescued person, scan for the boat where the PIW came from and its condition. If the boat is located, determine are there other people aboard, and if the boat is functional and out of danger. If the boat can move then the two boats should proceed to the nearest docks where addition assistance can be arranged if needed, or the rescued person can be safely returned to their boat. If the PIW is one of Challenged Sailors' Participants or volunteers, radio ahead and return them to the nearest dock, or preferably bring them back immediately to the CSSD docks.

4.4 HYPOTHERMIA

Hypothermia is the abnormal lowering of internal body temperature that occurs when your body loses heat more quickly than it produces it, and it is extremely dangerous and deadly because it cools the internal organs. Boaters who understand the physiology of cold water immersion are better able to respond to an immersion emergency. The four stages in the body's reaction to cold water immersion include:

Initial reaction (involuntary gasp reflex)– This stage, also known as "cold shock," usually lasts just about a minute and involves an initial deep and uncontrollable gasp followed by hyperventilation.

Short-term immersion/swimming failure– The following 10 minutes will involve the loss of the effective use of extremities, including fingers, arms and legs. This prevents meaningful movement. In this phase, it is essential that the victim remain concentrated on self-rescue efforts and techniques, despite their limitations.

Long-term immersion/immersion hypothermia– Depending on the water temperature, clothing, body type and behavior of the victim, long-term immersion hypothermia usually sets in around 30 minutes after immersion. A person who succumbs to hypothermia eventually loses consciousness and often dies, with or without drowning. Loss of consciousness may occur in as little as one hour.

Post-rescue collapse– Even after being rescued from cold water, a person is still in danger of cardiac arrest or lung damage from inhaled water. Heart problems may also develop as the cooled blood from extremities is released into the body's core.

4.1 ACCESSIBLE DOCKS

A lot of docks around San Diego Bay are designed for larger ships and specifically designed to discourage small boat infringement. Docks with easy access depending on the location of an incident are:

- Near the Submarine Base at Ballast Point are the Coast Guard Station Pt. Loma Docks
- Near the west end of Shelter Island is the San Diego Harbor Police Dock

- Near the middle of Shelter Island is the Shelter Island Boat Ramp
- Near the west end of Harbor Island is the Harbor Island Fuel Dock
- Near the east end of Harbor Island is the Coast Guard Pier at Coast Guard Sector SD
- Near the C – D Fairway are the Challenged Sailors SD Docks
- Near Downtown San Diego is the Maritime Museum Dock.
- Near the Coronado Ferry Landing are the Coronado 4 hr Boat Docks (due to frequent wakes use the shore side docks)
- Near the west end of the S. Embarcadero is Tuna Harbor Docks
- Near the Seaport Village and the Rady Shell for the Summer Pops is the A Docks at Gate 1
- Near the east end of the South Embarcadero is the Fifth Avenue Landing by Joe' Crab Shack

4.2 FIRE PREVENTION

The Martin 16s and the SKUD 18 have no engines and thus few sources of volatile fuel or sources of ignition. Smoking is not permitted so that removes the source of ignition to catch clothing or sails aflame. However the Chase Boat with its outboard and gas tank does have volatile fuel source and the outboard itself is a source of ignition. So, the Chase Boat has a fire extinguisher onboard which can serve as protection for the Chase Boat and be used to come to the aid of another boat that is on fire. The Chase Boat Operator should know how to inspect and use the fire extinguisher.

Proper Usage of Fire Extinguishers

All required portable fire extinguishers should be mounted with a clamp or bracket that allows for a quick and easy release. Before leaving shore, operators should check all on-board extinguishers for correct operating pressure and make certain that all crew know how to use them safely and effectively. Extinguishers should be serviced, recharged and maintained by a qualified individual per the manufacturer's instructions.

Dry chemical devices should be shaken in the upside-down position monthly to avoid caking and keep the contents active.

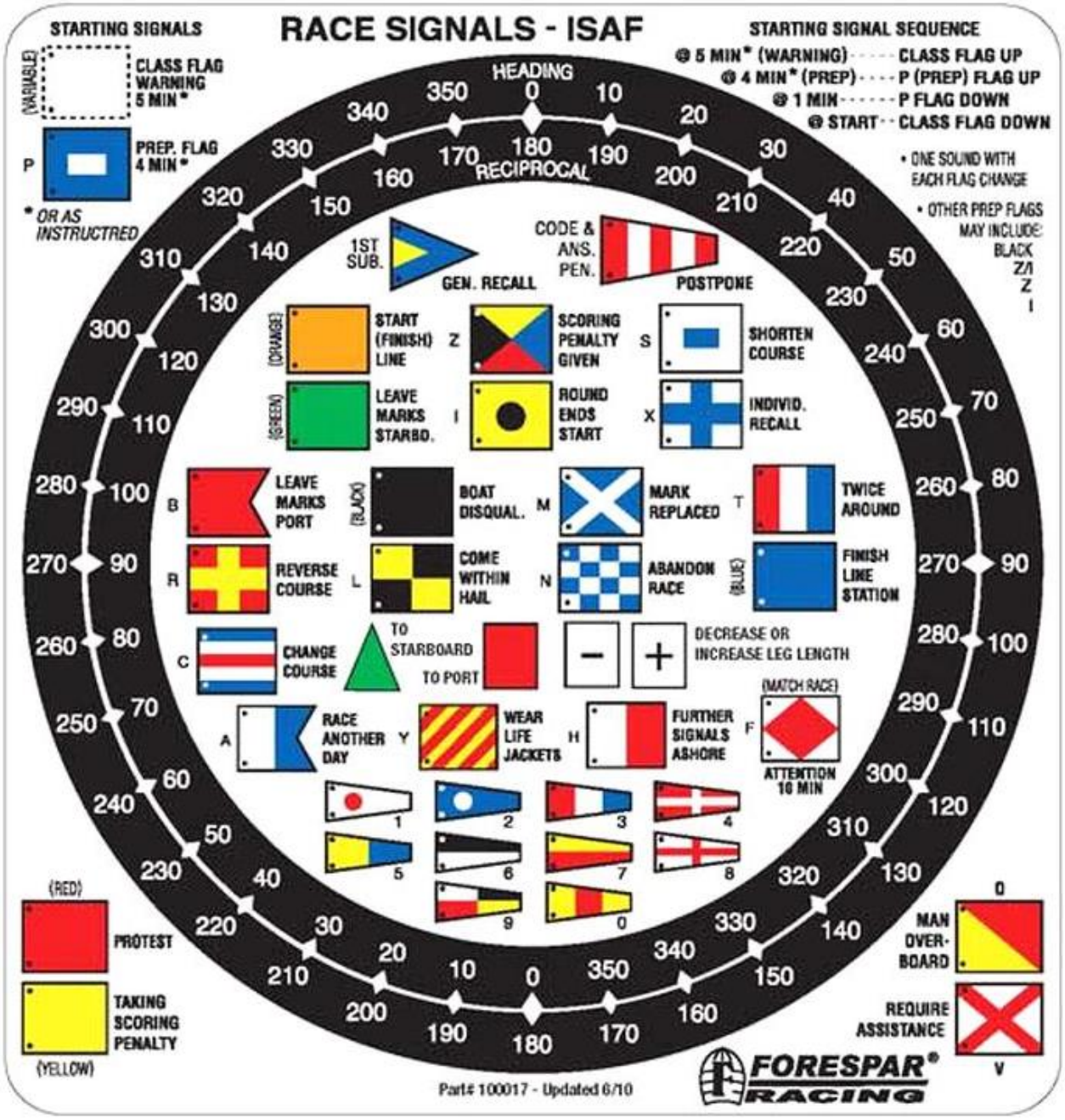
All extinguishers should be operated per manufacturer instructions. The extinguisher should always be aimed at the base of the fire when in use.

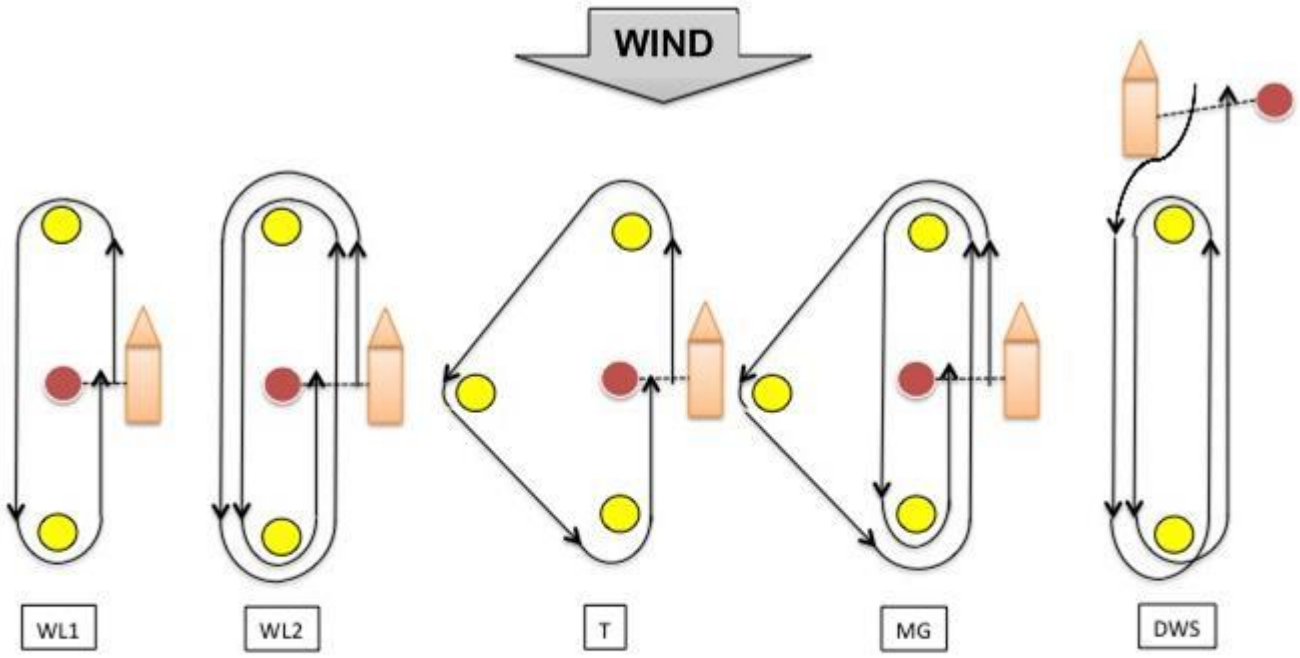
PART 5: RACE COMMITTEE

5.1 CHASE BOAT RACE COMMITTEE (RC) DUTIES

Occasionally the Chase Boat will be pressed into RC (Race Committee) duties when a day of practice race starts and races is scheduled. And, there may be official races with invited Physically Challenged Organizations participating. It would behoove the Chase Boat Operator know what is required to run a regatta on the water as the RC Boat!

Setting up a race course requires knowing the purpose and timing. Nothing can happen without first getting out the Race Flags and Marks use to create the course. A practice course is typically fifteen to twenty minutes which in eight knot winds at an average of four knots of boat speed a windward-leeward course would be about one mile or one half mile from windward mark to leeward mark. Find two points on the bay or along shore that are approximately a mile apart and set the windward mark off the upwind point and proceed downwind to the downwind point and set the leeward mark. By sighting the wind from downwind of the leeward mark you should be able to line up the two marks and the wind. If not then drag the leeward mark until it is lined up with the source of the wind and the windward mark. Next motor to the mid-point between the marks and drop the 'Pin', a buoy that has a small float with a weighted rod running through it topped off with a colorful (i.e., orange) pennant. Once the pennant is set then the RC Boat motors 90 degrees to the course one boat length for each boat racing and then upwind far enough to accommodate the anchor scope and set the RC (CB) anchor. When the RC Boat is positioned on a proper line then they should set an orange flag to make the RC end of the Start Line. Posting an RC guide like the one below in the Chase Boat can be very useful.


RACE SIGNALS - ISAF
STARTING SIGNALS
(VARIABLE)
CLASS FLAG WARNING 5 MIN*
P
PREP. FLAG 4 MIN*
* OR AS INSTRUCTRED
STARTING SIGNAL SEQUENCE
@ 5 MIN* (WARNING) ---- CLASS FLAG UP
@ 4 MIN* (PREP) ---- P (PREP) FLAG UP
@ 1 MIN ---- P FLAG DOWN
@ START ---- CLASS FLAG DOWN
• ONE SOUND WITH EACH FLAG CHANGE
• OTHER PREP FLAGS MAY INCLUDE: BLACK Z/A Z I
HEADING
RECIPROCAL
1ST SUB.
GEN. RECALL
CODE & ANS. PEN.
POSTPONE
(ORANGE)
START (FINISH) LINE
Z
SCORING PENALTY GIVEN
S
SHORTEN COURSE
(GREEN)
LEAVE MARKS STARBD.
I
ROUND ENDS START
X
INDIVID. RECALL
B
LEAVE MARKS PORT
(BLACK)
BOAT DISQUAL.
M
MARK REPLACED
T
TWICE AROUND
R
REVERSE COURSE
L
COME WITHIN HAIL
N
ABANDON RACE
(BLUE)
FINISH LINE STATION
C
CHANGE COURSE
TO STARBOARD
TO PORT
DECREASE OR INCREASE LEG LENGTH
A
RACE ANOTHER DAY
Y
WEAR LIFE JACKETS
H
FURTHER SIGNALS ASHORE
(MATCH RACE)
F
ATTENTION 10 MIN
1
2
3
4
5
6
7
8
9
0
(RED)
PROTEST
TAKING SCORING PENALTY
(YELLOW)
0
MAN OVER-BOARD
REQUIRE ASSISTANCE
V
FORESPAR® RACING
Part# 100017 - Updated 6/10



WL1 = WINDWARD – LEEWARD ONE LAP
WL2 = WINDWARD – LEEWARD TWO LAPS
T = TRIANGLE
MG = MODIFIED GOLD CUP
DWS= DOWNWIND START

Starting a race is next and requires putting up another flag on the Chase (RC) Boat to mark the starting line and sounding three short horn blasts to let the Martin 16s that in one minute the Start Sequence will begin. For practice starts three minutes is typically used so the sailors can see the full sequence of flags (see illustration).

The Start Sequence is:

1 short sound + Class Flag = 3 mins to start,

1 short sound + Papa Flag (with Class Flag) = 2 mins to start

1 short sound + Papa lowered = 1 min to start

1 short sound + Class Flag lowered = Start

Three Minute Start Sequence

Minutes Until Start	Period	Visual	Sound	Description
3	Warning	Raise Fleet Flag	One	Race Committee displays the class flag of starting fleet and designates the course.
2	Preparatory	Raise Prep Flag	One	Display the preparatory flag; class flag stays up. Starting line set. You can be penalized under right-of-way rule.
1	Preparatory	Lower Prep Flag	One Long	Race Committee removes prep flag. Fleet flag stays up.
0	Start	Lower Fleet Flag	One	Fleet flag down. If boats are on the course side of starting line, X flag (individual recall) or general recall displayed with sound.

The Finish of the Race requires the RC Boat records the finishes and once the racing is over taking up the marks and reporting on the results where the Participants rendezvous at the Pier Head after the boats have been put away securely. The Chase Boat/Race Committee Boat Operator will meet the sailors at the Pier Head and announce the results and turn those results over to the Scheduler and other appropriate Board members for storing in the applicable files and publish the results applicable online sites. And finally, the Chase Boat Crew should put away the Race Flags and Marks.

Blank Page for Notes

CSSD CHASE BOAT OPERATOR CHECK-OUT		
DATE:		
CANDIDATE CB OPERATOR:		
CHECKOUT BY:		
ACTIVITY	**Done**	**COMMENTS**
DEMONSTRATE KNOWLEDGE		
Does CBO Candidate have a CA Boaters Card? (CB motor is 25 hp) CA requires in 2020 for ages 16 - 35, +5 yrs/yr to 2025 then 16 and up.		https://californiaboatercard.com/about-the-card/
Collect and distribute parking passes to participants.		
Obtain a VHF radio, ensure charged & locked on Ch 67, and issues portable VHF radios to all boat companions, retrieves them after the sail, and plugs them back into the charging station. (Leave on board radio on Ch 16, for emergencies)		Saving Ch 67 and +16 allows both channels to be monitored by portable VHF radio.
CB oversees all boats returning safely to dock.		
CB is manned by the Operator and one crew to assist as needed.		
CB Operator engine checks; coolant hose connected (Stbd side aft on Engine Cowl), gas tank vent is open, tank reads full, or if necessary tops off tank (once all Martin 16s have cleared the Channel)		The fuel dock is by Tom Ham's Lighthouse
CB Operator inventories equipment onboard: - First Aid Kit - Anchor and Rode - Sound Device - Bilge Pump - Boat Hook - Visual Distress Device - Life Jacket (Type I, II, III or V) for each person on board (worn) - VHF Radio - Type IV PFD (cushion) - Bow and Stern Lines		
Note, or get list of sailors assigned to each Martin from Dock Lead.		
Request a radio check with each Martin 16 as they leave the dock.		
Demonstrate ability to tow a Martin 16 off of rocks or contact with a docked vessel in channel.		
Demonstrate escorting Martin 16 back to dock capture point.		
Return to slip after all Martin's are returned. CB to raise prop and demonstrate ability to flush engine after each trip.		
Log and pass on to Dock Lead any repair work needed on CB/motor.		
CSSD Flag raised after boarding and removed after returning to dock.		
Cover boat after Saturday sail or if rain in forecast.		
ADMINISTRATIVE & MISC		
Sign CSSD waiver:		
Discuss & explain what to do in emergency situation:		
General discussion & comments:		

Applicable CA Required Equipment Motorboats Less Than 16 Feet in Length

Life jackets: One wearable Coast Guard-approved life (must be worn).

Fire Extinguisher: One Type B-I Coast Guard-approved fire extinguisher (not required for boats <16', but required by CSSD)

Sound Signaling Devices: A vessel of less than 39 feet 4 inches (12 meters) must

be able to provide a means of making an efficient sound signal, but is not required

to carry a whistle or bell.

Visual Distress Signals

Navigation Lights: CSSD does not authorize CB operation after dark.

Other equipment items listed in CB Checklist are required by CSSD.

The card is issued by the California State Parks Division of Boating and Waterways (DBW). Once DBW has received your application, proof of education and payment, you will receive a 90-day temporary boater card by email. You should receive your official boater card by mail within 30 days from the time the application was approved.

California Harbors and Navigation Code Section 678.11(b) contains the following phase-in schedule based on operator age:

- January 1, 2018 – Persons 20 years of age or younger
- January 1, 2019 – Persons 25 years of age or younger
- January 1, 2020 – Persons 35 years of age or younger
- January 1, 2021 – Persons 40 years of age or younger
- January 1, 2022 – Persons 45 years of age or younger
- January 1, 2023 – Persons 50 years of age or younger
- January 1, 2024 – Persons 60 years of age or younger
- January 1, 2025 – All persons regardless of age

+California age restrictions for operating a motorized vessel: According to California Harbors and Navigation Code Section 658.5, NO person under 16 years of age may operate a boat with a motor of more than 15 horsepower, except for a sailboat that does not exceed 30 feet in length or a dinghy used directly between a moored boat and the shore (or between two moored boats). https://californiaboatercard.com/about-the-card/

https://dbw.parks.ca.gov/pages/28702/files/DBW%20BAR-1%20Boating%20Accident%20Report%2011.14.17(final).pdf