PREMIER AQUATICS

Connecting the Community

SAMLARC

Rancho Santa Margarita Landscape and Recreation Corporation

RESCUE BOAT OPERATOR
Manual

LIFEGUARD OPERATIONS & RESPONSIBILITIES

- Premier lifeguards, unless otherwise instructed, are required to be actively patrolling, on the water, when SAMLARC rental boats are in use.
- Rescue boat should remain in the proximity of the active rental boats but should not “hover”.
- Rescue boat should be operated at the slow speeds and should not cause a breaking wake behind the vessel.
- Operators should stay clear of the bulkhead (wall), shallow areas, floating islands, and buoy lines. If the prop becomes fouled (tangled), immediately turn off motor and request assistance.
- ***Ensure*** that rental boat operators follow ***all*** of SAMLARC’s policies & procedures while on the water.
- ***Always*** operate the rescue boat responsibly and safely!

SPEED

During normal conditions, the RescueBoat Operators should obey the 7-mile per hour speed limit on the Lake. However, the Rescue Boat may be operated at speeds more than 7 miles per hour during strong winds or white-capping conditions. The preferred speed to operate a Rescue Boat while on patrol is a speed in which a breaking wake will not occur.

COMMUNICATE

When operating at high speeds, the Operator should communicate any sudden changes in direction or speed to any person aboard the Rescue Boat.

POSITIONING

Lifeguards are not to lie down on the Rescue Boat. Lifeguards may stand or sit in an upright position while aboard a Rescue Boat.

PASSENGERS

The only people allowed to ride on a Rescue Boat are lifeguards, persons in need of rescue or urgent assistance and any other person approved by the lifeguard manager or SAMLARC facility managers.

FUEL

Lifeguards operating a Rescue Boat are required to monitor fuel status. Fuel should always be evaluated before and after a boat shift.

EQUIPMENT

Lifeguards operating a Rescue Boat are required to maintain equipment in a state of readiness unless said equipment is being used. Any equipment lost or damaged during a lifeguards shift aboard a Rescue Boat is to be documented and a manager notified as soon as possible.

SWIMMERS

The Operator will check to ensure swimmers are clear and are a safe distance away from the prop prior to placing the engine in gear when swimmers are or have been recently in the area of the Rescue Boat.

BOARDING

A. **Swimmers** Anyone approaching the Rescue Boat must have either eye-to-eye or verbal communication with the Operator.

B. **Engine** The Engine of the Rescue Boat **must** be turned off prior to boarding any person other than a lifeguard unless wind or wave conditions make it unsafe to do so.

C. **Seating** Rescue victims should be required to sit while on the rescue boat

TROUBLE SHOOTING

Lifeguards should be prepared to encounter some sort of equipment/apparatus failure or malfunction from time to time. Some systems or equipment failures can be easily addressed whereas others may be very significant. In some cases, early recognition of small problems can prevent significant problems from occurring. Listed below are a few situations that lifeguards who operate the Rescue Boats should be familiar with.

1. Engine will not turn over
    A. Check position of throttle, is it in neutral?
    B. Check battery connections
    C. Check connections on posts mounted on motor-well
    D. Dead or low battery, check amps on amp-meter while turning key

2. Engine will turn over, but will not start
    A. How long has it been since the engine has been started? Prime the bulb?
    B. Is the throttle in the "High Idle" position, out of gear?
    C. Check for sheen on the water around the engine. Do you smell gas? Flooded engine?

3. Engine is not producing either a solid stream or reduced stream of water from the water pump exit port (pisser)
    A. TURN OFF THE ENGINE if no or minimal water is flowing from the port
    B. With the use of a paperclip, attempt to clear port of debris or water deposits
    C. If you cannot create a flow from the port, request assistance for a tow

4. Alarm sounds
    A. If alarm sounds shut down the engine and request assistance for a tow

5. Engine stalls
    A. Check fuel level
    B. Check Quick Connects on fuel line. Are they secure and in place?

RESPONSIBILITY

Responsibility for safe and effective Rescue Boat operations doesn't start with the turn of a key or a push off from the dock; rather, it starts well before the actual use of the boat and the equipment stored on board.

A. BOAT OPERATOR

The Boat Operator is directly responsible for the safe operation of a Rescue Boat.

a. P.0.B.'s securely positioned on boat
b. All POB's must be prepared for speed & direction changes
c. Boating traffic or collision
d. Wake control

Increasing engine speed will cause a larger wake, potentially overturning small craft or causing persons to fall on docks or in the water.

RESPONSE & RESCUE

1. Maneuvering

2. Approach

3. SIZE UP
   The Operator should have a clear view of the scene before bringing the Rescue Boat in close. This is commonly referred to as "Size Up". The Operator should be aware of persons and property locations in the water before bringing the boat in close.

4. Wind
   Wind chop/swell can have a significant effect on the maneuvering characteristics or abilities of a Rescue Boat.
   Keep stem downwind with bow facing into the wind for better control. Waves over the stem can swamp a Rescue Boat quickly.

5. Confined Space
   Try to avoid confined space, however if committed, try to keep the stem free to maneuver. Go slow ("SLOW IS PRO")

6. Boarding
   a. Quickly board all victims (if possible) to minimize propping accident
   b. When boarding victims, engine should be turned off. (Exceptions for inclement weather)
   c. Once victims are on board, have them sit down

7. De-boarding
   a. Advise victims/passengers to remain seated
   b. Advise victims/passengers to keep hands and fingers inside the boat. People often feel compelled to help fend off. Do not let them!
   c. Secure with minimal slack in line to prevent movement
   d. Advise passengers to use caution

Physically aiding passengers may be helpful or required.

THE LAW

Many aspects of the law potentially effect Rescue Boat operations. From Criminal to Civil cases, boaters are accountable for their actions.

1. CRIMINAL: A violation of Federal, State and local laws. (A crime against the people and/or state)
2. CIVIL: A tort is a wrongful action against an individual I violation of their private rights. (lawsuit)

Situations that would likely result in legal action might include:

   a. Property damage, injury or death due to a Boat collision
   b. Injury or death of swimmer due to a propping accident

c. Injury or death of swimmer due to collision with boat
d. Injury or death sustained by falling due to change in speed or direction without warning
e. Injury or death sustained by falling aboard a boat in tow due to change in speed
f. Injury or death sustained due to a passenger attempting to fend off from or against the Rescue Boat
g. Injury or death sustained due to passenger attempting to board or exit the Rescue Boat
h. Injury, death or property damage sustained when the Rescue Boat changes direction while in tow with a sailboat and the boom moves striking passengers, lifeguards and/or the Rescue Boat
i. Injury, death, or property damage due to influence of a following wake
j. Property damage sustained when a towline is tied to a weak point
k. Property damage sustained when a boat in tow rubs against the Rescue Boat's hull
l. Property damage sustained when a boat in tow collides against a dock with too much speed
m. Property damaged sustained during a rescue

Following policies and protocols will not only help keep you and your crew safe, but it will also aid you in making decisions that allow you to perform your job with efficiency, safety and security.

MANEUVERING AND HANDLING

Maneuvering boats differ from automobiles in many ways. Probably the two most profound differences can be identified as steering and stopping.

1. Steering
    A. With outboard driven boats, the motor is mounted on the stern/transom of the boat. Instead of the boat's bow/front responding to a turn of the steering wheel/helm, the engine pushes the stern in a different direction. This is why it is important to keep the stern free and clear from objects. As long as the stern has the ability to change direction, so does the boat.

    B. Unlike automobiles, the turning capability of a boat is subject to the push or thrust of the prop. Approximately 85 percent of the boats turning capability come from the prop thrust. Approximately 15 percent of the turning ability comes from the shaft of the engine acting like a rudder. This is why a faster moving boat responds to or maneuvers better than a slower moving boat.

    C. You will note that when a boat turns under some speed, it has a tendency to lean into the turn. This will prevent the boat from skipping or flipping over. The shape of the hull causes the listing effect. Our Rescue Boats (Boston Whalers) are a modified or "semi-deep V" hull. Skipping can and does occur when tight turns are made at high

speeds in choppy conditions. This skipping or loss of control is exaggerated when the trim is high.

D. Trim-Tilt is an integrated hydraulic system used to elevate and change the angle of the shaft and prop. A high angle trim would tend to bring the bow up. Inversely a low angle (all the way down) trim would tend to bring the bow down.
   a. Operating the Rescue Boat with a high angled prop can prove to be dangerous. At high speeds, the boat can become very difficult to control.
   b. The trim should be left on or near the lowest point on our boats for best control. During high wind and low speeds, the trim can be brought up approximately 10 degrees or at the 1/2-way point to prevent waves from breaking in the boat.
   c. The trim tilt can be used to aid in entering and exiting the swim areas. When this occurs, make sure engine is in neutral when the prop passes over the buoy line. Additionally, make sure the intake ports do not leave the water and a continuous flow of water comes from the cooling exit port. If the motor's cooling intake port comes out of the water while the engine is running, overheating the engine can occur causing engine damage. NEVER RUN THE ENGINE WHEN THE TILT IS UP.
   d. Vibration aboard the Rescue Boat may be reduced by bringing the trim up about 1 degree.

2. Accelerating
   A. Each Lifeguard should be cognizant of the fact that each Rescue Boat has its own different throttle characteristics due to the mechanical mechanisms located inside the throttle box. Characteristics will likely change over time with use.

   B. Outboard engines do not have clutches. Placing an engine into gear when the RPM's (either engine or prop) are high (over 5mph and/or 1,200rpm) may result in one or more of the three following conditions.
      a. Drive shaft will fail
      b. Engine stall
      c. Hull damage, injury or death may be sustained due to stopping inability.

   C. Before placing a boat into gear
      a. Make sure all POB's are ready for movement.
      b. Make sure the boat and prop are clear
      c. Ensure that the engine is straight; not turned at an angle

   D. Placing the engine into forward gear is done by simply pushing the throttle arm forward.

a. When placing the engine into a gear from neutral, the movement from neutral into the gear should be done quickly as to avoid gear teeth grinding on each other. This is recognized by the clicking sound that can be heard when slowly moving the throttle from neutral.
b. Once in gear, the engine will usually run around 800 rpm in idle and at about 3 mph.
c. Continued forwarding of the throttle arm will continue to increase the rpm's and speed.

E. By increasing the R.P.M.'s of the engine the prop will concurrently increase its rpm's. It is the increased prop speed that creates the thrust needed to propel and steer the boat.

F. Patrolling speed should be between 3 and 7 mph. The rpm's should range from 800 - 1,000.
a. More important than speed or rpm' s, the wake should be monitored so as not to cause unfortunate consequences. (See: wake control)
b. A good rule of thumb regarding speed is to monitor the wake and to not allow it to break like a wave. If the wake is large enough to cause a breaking wave or sustain white water, you are probably going over 7 mph. High winds and choppy conditions may warrant a faster speed to aid in maneuvering and handling of the Rescue Boat.

3. Slowing
A. Knowing the characteristics of the boat you are operating is a critical aspect of safe operations. One of the most important aspects of operating a boat is knowing what it will take to stop it. Several factors should be considered.
a. Distance needed to stop within
b. Speed of travel
c. Weight of the Rescue Boat and equipment on board
d. Weight of or number of POB's
e. Wind or current conditions

B. Reaction or response of reverse thrust is the breaking mechanism for the Rescue Boat
a. Remember, reversing the propeller direction to create reverse thrust should only be done at very slow speeds.
b. Even if the rpm's have dropped to 800, the boat may still be moving at a high rate of speed. As water passes the prop which may be in neutral, the prop continues to spin like a pinwheel. The prop speed or rpm's may remain high and damage may occur.
c. If a sudden or unexpected need to avoid an object or person occurs, a change of direction may prove to be a more effective action for the operator to take.
d. Even at low speeds, the operator should pause before the placing the engine from forward to reverse and vice versa. From neutral to a gear no pause is

necessary and transversely going from a gear to neutral does not need a pause. Only from one gear to an opposing gear does there need to be a pause.

e. Failure of this pause may cause engine damage, injury or death.

4. Stopping

A. There is a difference between putting the engine in neutral and stopping the boat.

a. Placing the engine in neutral may likely slow the boat, however the boat will almost certainly fail to stop and the forward or reverse direction of the boat will continue.

b. By placing the engine in the reverse gear of travel and by adding thrust in that gear, will the boat slow to a stop?

c. Failure to stop the reverse thrust when the boat becomes still, will begin a change of direction in the direction of the gear.

Operators need to recognize and predict the boat's reaction to the action or influence of the propeller and the direction of the shaft of the engine.

5. Docking

A. There are several different docking situations that lifeguards should be familiar with. Understanding some basic physics may also help Operators determine the best method for a particular docking effort. Nothing however can replace the simple fact that PRACTICE is essential to becoming proficient at docking.

B. Lifeguards should become proficient at docking the boat several different ways.

a. Starboard side

b. Port side

c. Stem in

d. Stem out

KNOTS

Knots Commonly Used by Lifeguards

A. Bowline

a. The Bowline (also known as the king of knots) is probably the most common knot used on boats.

b. The Bowline is used to tie a line off to something or to make a loop in the end of a line.

c. The Bowline is a strong knot that should not slip and remains easy to untie even if a heavy load is placed upon it.

B. Square knot

a. The Square Knot is a knot used to tie two lines of equal size or to tie the ends of one lines together.

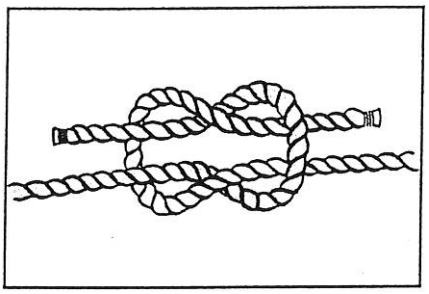
b. It is a strong knot. However, it may be difficult to untie after heavy loads have been placed upon it.
c. The Square knot could slip depending on the type of load(s) placed upon it.

E. Tying Off to a Cleat
a. If possible, the line should make one full wrap around the cleat
b. The line should make a figure eight with the line wrapping around each horn
c. Run the line underneath the last leg of the figure eight
d. If possible complete the figure eight once again running the end of the line underneath the last leg of the figure eight.

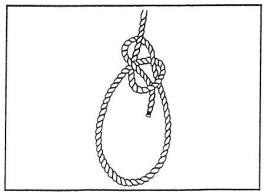
F. Clove Hitch & Quick Release Clove Hitch
a. Run the line over the object to tie off and wrap it completely around the object.
b. Continue the line over the top again, however cross the line over the existing wrap.
c. When the line returns from the second wrap, pass it underneath the first wrap
d. To make this knot a quick release knot, take the bitter end and run it back through where the last crossing took place. This will leave the bitter end exposed pointing back at you. You must also leave a look beyond the bitter end and where it crossed under and back again, for the knot to hold.
e. This is not a good knot to use during windy conditions. It will likely fail when inconsistent loads are placed upon it. It should only be used during calm conditions for short durations.

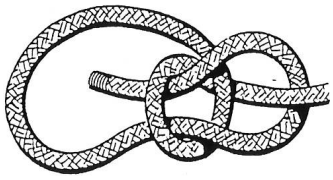
Knot tying uses this same principle of friction. Properly tied knots create a level of friction adequate to keep the end of a line secure (fastened) when a load is placed on the line. Knots that can be tied and untied swiftly can make the difference between life and death, or the saving and destruction of property.

The square or reef knot is perhaps the most useful knot known. It should not be used to tie together lines of different sizes, as it will slip. The square knot is used for tying light lines together, not for tying heavy hawsers. Although simple and effective, the square knot has one serious flaw – it jams and is difficult to untie after being heavily stressed.

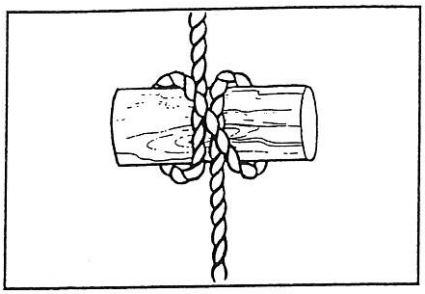


The bowline will not slip, does not pinch or kink the rope as much as some other knots, and does not jam and become difficult to untie. This knot is the most desirable one for carrying heavy loads, and it is the most useful and important knot for lifeguarding purposes.

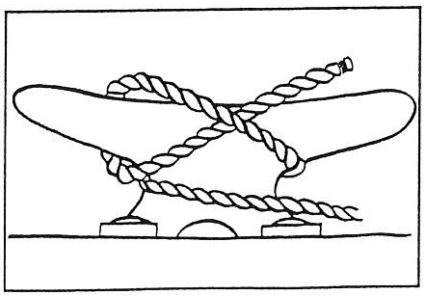




The clove hitch (Figure 25-4) is actually composed of two half hitches, tied in such a way that they work together. This knot is used for making the line fast and temporarily to a piling or bollard.



Cleats (Figure 25-6) are found on most boat docks, on flagpoles, and in other places. They allow the free end of a line to be quickly and securely fastened and detached with equal ease. Tying a line to a cleat involves running the line around the base of the cleat, and then tying a half hitch around one of the horns. Usually, an additional half hitch is tied to the other horn in such a way that the line falls together on the cleat.



BOAT TOWS

The Side Tow is the most commonly used towing method used by our lifeguards. Superior control and the ability to communicate well with the POB's are the two primary reasons that make the Side Tow, the preferred method of towing.

SIZE UP

When approaching a boat that is in need of a tow, the Operator should size up the situation and consider which type of tow would be most appropriate.

A. Rescue situation verses an assist situation
B. Wind or weather conditions
C. Type of boat
D. Ability to place or moor the boat in tow.

SIDE TOW

1. Inform the POB's of your intentions.

2. Prior to bringing the Rescue Boat alongside, make sure the POB's do not assist in fending off the Rescue Boat. They will often try to assist.

3. Placement of Rescue Boat should be 2-3 feet aft of the boat to be towed.

4. Fenders should be in place. If boat hulls contact each other use more fenders or cushion. If no other protective devices are available, use the long tow method.

5. Lines should be securely placed at the aft of the boat in tow first and then at the bow of the Rescue Boat.

6. Lines should be connected to solid or secure points on the boat to be towed. Using the aluminum railing on pontoon boats should be a last resort. If it is necessary, use aluminum railing; tie off at the bottom of rail. These rails will easily fail, causing damage to the boat in tow. Many boats use plastic cleats, use caution when determining which point to tow from.

7. Lines should be tight. Bow line should run through the bow rail and chock. Do not run lines over the Rescue Boat's bow rail.

8. Prior to moving the boat now in tow, request all POB's sit. Movement of the boat while POB's are standing may cause injury.

9. Once all POB's are sitting and a verbal announcement is made, begin the tow.

OVERTURNED BOAT

Size-up

A. The crew should be preparing to affect a rescue, even though most of the time, the persons we respond to assist do not need much immediate assistance.
   a. The Operator should be monitoring the scene upon approach
   b. The Deckhand should prepare for water entry with the rescue tube
   c. The Operator should take the Rescue Boat around the scene to better evaluate the situation

On Scene

1. Once the Rescue Boat is on scene and has sized-up the situation, there are several different modes the crew can go into. Rescue is obviously the most critical.
    A. Rescue
        a. The Deckhand or Operator will need to affect a rescue
    B. POB count
        a. After providing assistance or affecting a rescue, account for all POB's. Ask "How many people on board with you today?"
        b. If one or more persons cannot be accounted for the Operator should request assistance for person(s) down in the water, while the Operator radios for a 911 response and prepares to perform a quick check under and around the overturned boat.
    C. Mark Location
    D. Remove all persons from water
        a. All persons boarding the Rescue Boat should be seated

LIGHTNING

1. More often experienced along the east coast, lightening routinely poses a significant risk to life. Lightning strikes that occur near swimmers or boaters have claimed the lives of many. Less frequently, however just as threatening, lightning storms have occurred in the vicinity the Lake Mission Viejo. When this weather phenomenon occurs, the lifeguards are tasked with clearing the lake waters.
    A. Swimmers
        a. Rescue Boat crews may be assigned to help clear the swimming areas.
    B. Boating Activity
        a. Rescue Boat crews may be assigned to clear the lake of all boats.

When clearing the lake of boating activity, keep the Rescue Boat toward the edges of the Lake.