

How to Manoeuvre a Single Engine Inboard Boat



Hello members,

As we are all keen boaties and do not like it when we make a mistake when manoeuvring the boat that results in damaging your boat or even injuring a passenger. Therefore, I have put together some notes and pointers to help you manoeuvre your single engine inboard boat. These two manoeuvres' will help you understand your boat and give you the confidence to handle your boat in different situations.

Please remember, when doing these manoeuvres, it is not a race to see how quickly you can complete the manoeuvre, it is about taking your time and doing it right without damaging your boat.

Please enjoy these manoeuvres

Boating Committee

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Take It for A Spin to Practise.

All boats are different, and there are lots of factors that affect how any boat handles. The size of the rudder, the length and depth of the keel, and the underwater hull profile all make a difference. So, if the boat is new to you or you want to brush up your skills, find a clear stretch of water and get the hang of how your boat moves. Often this is easy to do near a buoy or other fixed object, so you have a reference point. Then find a spare dock on a quiet, bright day to practice the steps outlined here.

One key when trying to get the stern of the boat to move to one side is to use a quick, sharp burst of throttle. This uses your prop to push water to the side rather than out the back, as it normally would when the throttle is advanced gradually. The position of the rudder also has bearing on how the boat moves when a quick burst of throttle is applied. Practice the manoeuvre with the rudder in different positions; turned to port, starboard, and straight ahead to understand how your boat handle

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How to Pivot a Single Engine Inboard Boat on its own Length

Spinning an inboard-powered boat in its own length is relatively easy for those with twin engines. But what if you only have one engine and no bow and stern thrusters? This is another story.

Spinning a single engine boat is trickier for sure, but given a little **practice**, the right technique, and an understanding of how to utilise throttle, gears, and steering to best advantage, you can manoeuvre a single screw boat with confidence and gain enduring admiration from those who are watching. Using what is known as "prop walk" (something we will discuss more in a future issue), it's possible to rotate a single screw boat pretty much in its own length, handy for turning a boat should you find yourself approaching the bulkhead and a dead end — at the end of a row of slips for instance.

On a calm day with little or no current and with no boats nearby, determine whether your stern normally swings to starboard or port because of prop walk when you're reversing. Practice with the rudder in different positions; turned to port, starboard, and straight ahead to understand how your boat handles, both in forward and reverse. My boat's stern tends to swing to starboard when I'm in reverse.

How To Accomplish The Manoeuvre.

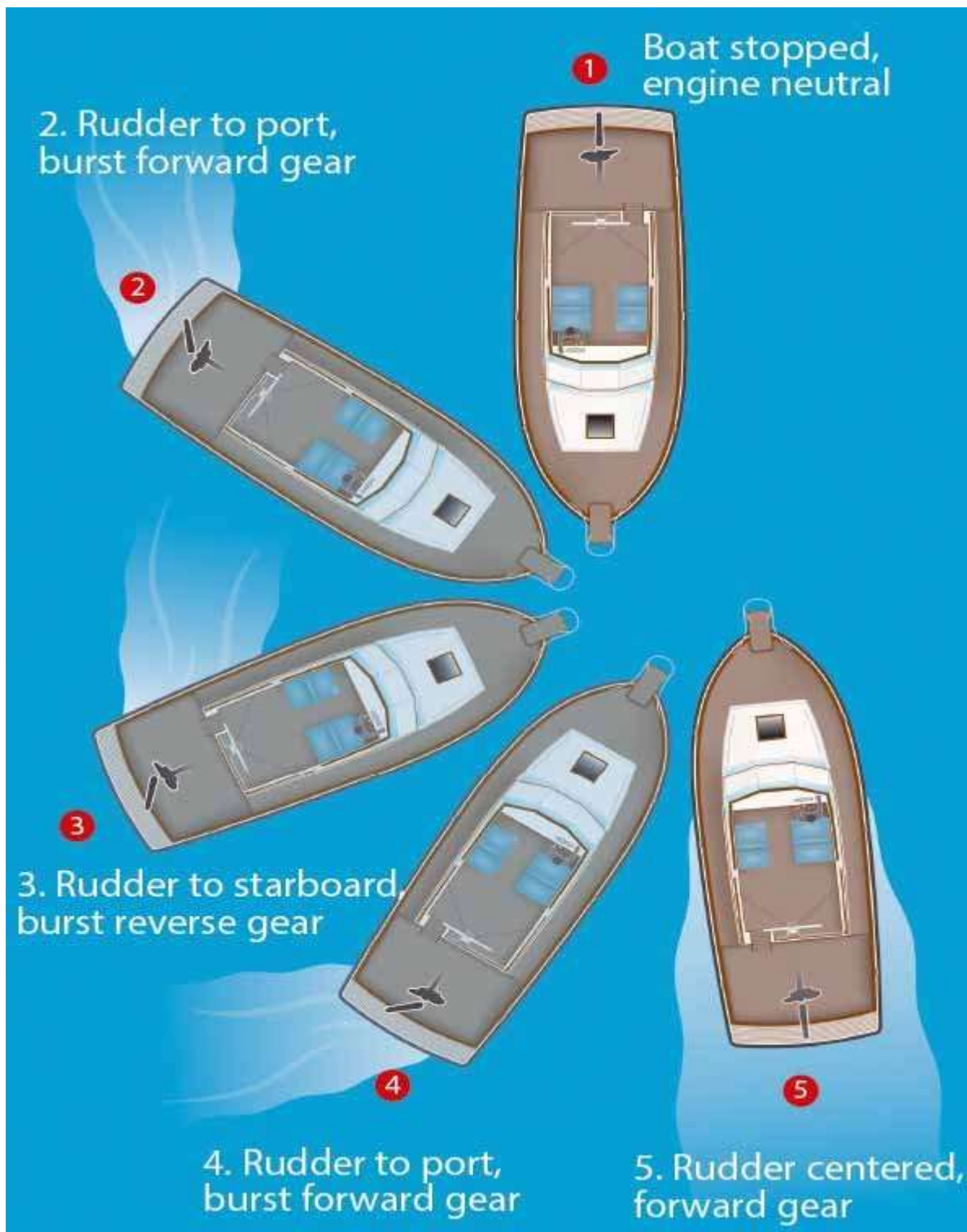
- 1. For this manoeuvre to be effective**, start with the boat stationary in the water.
- 2. Put the wheel hard over in the direction that you want the boat to turn.** For boats with a left hand or counter clockwise turning prop (when the boat is viewed from the stern), this usually means putting the helm to port; put the helm to starboard should you have a right-hand or clockwise turning propeller.
- 3. Put the engine in forward gear as in this example with the rudder hard to port and then immediately give a short but generous burst of throttle.** (This should be no more than a second or two, or the boat is likely to start moving forward, the opposite of what we want.) The stern should swing to the starboard in this example and the bow to port. Bring the throttle back to idle and immediately put the transmission into neutral.
- 4. The boat should have now started rotating in the direction of the rudder.** Now engage reverse gear and give another hefty but brief burst of the throttle. The stern should swing to starboard in this example. If your boat is too sluggish, orienting the rudder to help your turn may be in order, depending on the boat.

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5. Repeat steps 3 and 4 to further rotate the boat, if necessary. Remember that in many boats you won't need to touch the wheel, but just swiftly and confidently alternating between bursts of power in forward and reverse will have the desired effect.

6. When the bow of the boat is just approaching the direction in which you want the boat to go, centre the wheel and engage forward gear, only this time leave it in gear to propel the boat forward in the direction you want to go.

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How to Dock a Single-Engine Inboard Boat

Many modern boats now come with joystick controls, and this new technology makes docking a breeze. But what if you have a more modest craft with a single inboard engine and no bow or stern thrusters?

If your boat's propeller turns counter clockwise with the engine in forward gear when viewed from astern, it is sometimes easier to tie to a dock on the starboard side of the boat when backing in. This is because a short burst of astern turns the prop clockwise, which will tend to bring the stern in close to a starboard side dock. This is the effect known as "prop walk," which makes a boat easier to turn one direction than the other. (We'll be covering this in detail in a future article.)

If your boat has a prop that rotates in the other direction, you'll often find that tying up to port may be the preferred option. That said, even at idle speeds a single-screw boat will tend to favour turning one way or the other, and this can be used to advantage when docking and manoeuvring at slow speeds.

Two flies in the ointment are wind and current, which can upset an otherwise perfect docking manoeuvre. When wind or current is from the side, it will either push you too close to or too far from the dock. These additional challenges are why you need to practice and get comfortable with your boat so that you can dock in most any condition. If conditions are bad enough, and it looks like you really can't get into your slip, seek alternative dockage until conditions improve.

Finally, if you're too far from the dock or things just aren't working out, pull forward clear of the slip and start-over. There's no shame in that; we all need start-overs now and then.

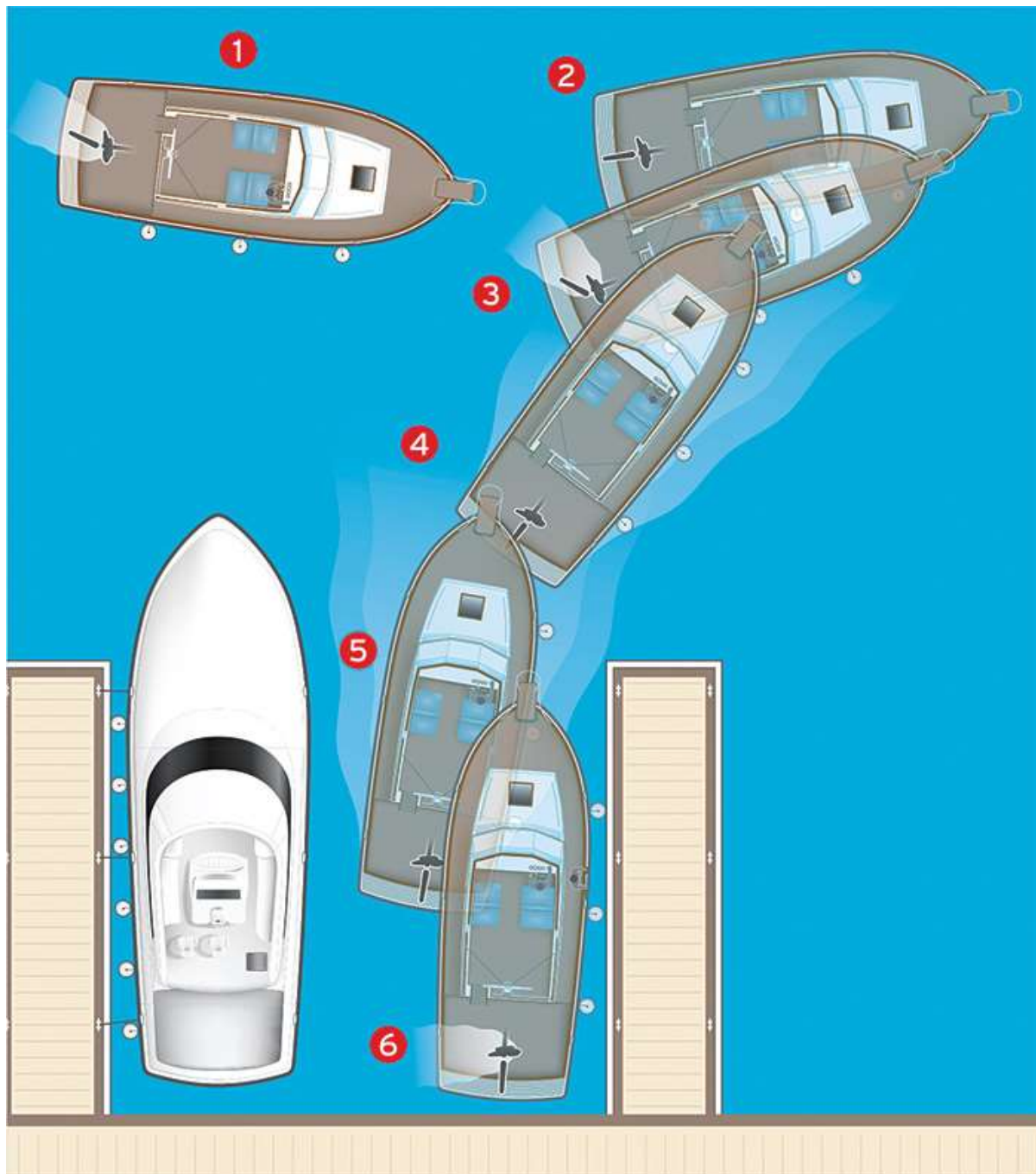
How To Accomplish the Manoeuvre?

1. Before starting the manoeuvre, deploy fenders and get the bow and stern lines ready on the side where you intend to tie up — or preferably all around in case things don't go as planned. Although it's possible to dock a boat single-handedly, it's much easier to have a helper or two.
2. Start the manoeuvre with the transom even with the end of the dock that you intend to tie up to and the boat at a right angle to the slip, as shown. Although things like wind and current have an effect on the boat and should be taken into account, boats turn more readily one way or the other when going astern. With my boat, it's usually easiest to keep the dock on the starboard side.

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3. With the boat stopped, turn the wheel hard to port, engage forward gear and give a quick burst of throttle. Then immediately bring the throttle back to idle and the gearshift to the neutral position. The object here is not to make the boat move forward much, if at all, but to merely kick the bow to port and the stern to starboard.
4. Centre the helm, then without moving the throttle, shift into reverse idle until the boat starts to move backward. We're doing everything slowly here so don't be impatient. If you need more thrust to compensate for wind or current, use a little more throttle but don't overdo.
5. Shift into forward gear, turn the wheel to port, then give another quick burst of throttle to rotate the boat some more, unless you are still moving as fast as you wish. You should now be aligned parallel with the slip and able to reverse neatly in. If not, repeat the previous step to align the boat properly.
6. When the stern of the boat is about 5 feet from the bulkhead, centre the helm, shift into forward and give a quick burst of power to stop the boat. This may also have the effect of moving the stern toward the dock. Also, depending on your boat and its position, a short burst of reverse power may bring the stern over toward the dock because of prop walk. If all goes according to plan, the crew should now be able to step ashore and secure the boat with the bow and stern lines.

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Docking Tips and Techniques for Windy Conditions

Wind can make a difference. The above manoeuvre will work even with a slight wind off your beam pushing you away from the dock, but a very strong breeze calls for common sense. If the water is choppy, it can make the manoeuvre a bit more difficult. here are some tips for docking when it's windy:

- **Reduce your “sail area” as much as possible.** Sail area refers to any flat surfaces that catch wind, such as cabin bulkheads and windows. This is especially pronounced on trawlers with enclosed Bimini tops. The simple solution to this problem is to open all of the windows so that the wind can pass through rather than push against the surface.
- **If you have a bow thruster, use it if necessary.** When practicing the manoeuvre described in this article, avoid using the bow thruster. Rely instead on learning the manoeuvre itself. If the wind is blowing you off the dock, however, use the thruster. Check your bow thruster every time you get underway. When the time comes to use it, you don't want to discover that it's stuck because it has become a home for solidified sea critters.
- **Don't be shy.** Shout for assistance or radio in advance when you're in a strong blow.