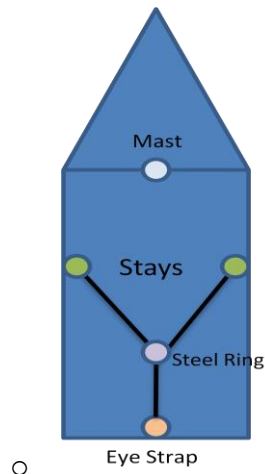


420 Exam Study Guide



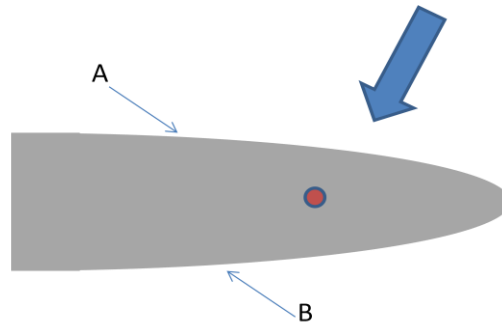
- Launching
 - After Checking out the boat from the Sail Attendant on duty, remove the cover from the boat and check the boat for any damage; let the sail attendant know of any damage found.
 - Return boat cover to shed
 - Remove tension strap, lay on rack, leave lock cable around mast
 - Make sure that you have all the necessary gear before heading to the boat ramp
 - Sails
 - Rudder
 - Tiller and extension
 - Jib Sheet
 - PFD
 - Bailer
 - First Aid Kit
 - VHF
 - Crane Harness
 - Place boat on dolly, one person on each side of the boat, and one on the bow, carefully lift and place boat on dolly (this reduces the chance of someone tripping and dropping the boat)
 - Take the boat to the ramp watching for trees
 - Attach Boom, jib sheets, jib, and cunningham to the boat
 - Lay rolled main sail in boat
 - Return the sail bag to the shed.
 - Make sure that all boat plugs are in place before launching
 - All 420s are launched with the crane, see the diagram below for proper attachment points for the crane harness (stern facing channel, bow facing PYC), ask a sail attendant to show you how to properly use the crane (only certified skippers and sail attendants can use the crane)



- Always step onto the center of the cockpit when getting into a 420 from the dock or another boat to avoid capsizing
- After launching the boat have one crew member paddle the boat to the transient dock to finish rigging,
 - 1st Lower the centerboard
 - 2nd Attach the rudder
 - 3rd Raise the Main sail
 - 4th Double check all sail controls
- the other crew member should return the dolly and crane harness
- Sailing
 - 420s are a mono-hull racing dinghy with a centerboard and a rudder, and an auto bailer which must be kept closed during light winds to avoid flooding the boat
 - 420s feature a main and a small jib, can also be sailed with a spinnaker
 - Basic sailing features
 - To steer
 - To change directions push the tiller opposite of the direction you want to go
 - To get out of “irons”
 - The boat can change directions with both the tiller and with the sails
 - Sails: By letting out the main sheet and pushing the main sail in the direction you want to go the wind will catch the sails and move the boat out of irons
 - Rudder: use the tiller to steer the boat out of irons and into the direction you want to go, this technique may not work if the boat does not have enough momentum, if this is the case, use in combination with the sail technique listed above

- To recover a capsized boat
 - To recover the boat once it has capsized, release both the main and the jib sheets fully extend the centerboard, then pull down on the centerboard until the boat rights itself, be aware the boat may pull away from you once the wind has caught the sails
- To prepare the boat for towing
 - Attach the painter (bow line) to the Whalers towing bridle
 - Drop and secure sails
 - Raise center board
 - Sit in the center of the boat
 - Steer directly behind the tow boat
- Reducing heel
 - 420s sail faster (except going down wind) and steer easier when kept flat
 - Let main sail out to help depower the boat by dumping some wind off the sails
 - Point closer to the wind, to decrease the curvature of the sail and depowering the boat
 - Move more crew weight to the windward side of the boat
- Slowing down and stopping
 - Let both the sails all the way out: do this to slow the boat down
 - Steer directly into the wind: done briefly to slow the boat down or a safe way to quickly stop the boat be prepared for possible auto gybe and luffing of the sails
 - Back wind the sails : do this to slow the boat down
- Tacking
 - Correct Commands
 - Skipper: Prepare to tack
 - Crew: Ready
 - Skipper: Hard-a-lee or Helms-a-lee and push the tiller to the leeward side of the boat
- Gybeing (Jibe is also an acceptable spelling)
 - Correct Commands
 - Skipper: Prepare to Gybe
 - Crew: Ready
 - Skipper: Gybe-ho
- Telltales
 - Leeward telltale is luffing:
 - Head up (steer closer to the wind)
 - Let sail out some
 - Windward telltale is luffing:

- Fall Off (steer away from the wind)
- Pull sails in some



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- If the Blue arrow is the wind
 - A is the windward side of the boat (the side the wind hits first, also called the high side)
 - B is the leeward side of the boat (the side the sails are on, the low side of the boat)
- Sailing downwind



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- Wing on wing is the best point of sail
- Have the crew sit on one side of the boat and hold out the jib
- The skipper should sit on the opposite side of the boat, you want the boat angled slightly above horizontal
- Pulling the boat
 - Preparation
 - When preparing to dock slow the boat down by briefly pointing the boat into the wind to slow it down
 - Always have dock lines ready before reaching the dock
 - Drop both sails and secure them
 - Tie the boat up to the transient dock until the crane is clear
 - Paddle the boat over to the crane with the stern facing the channel, the bow facing PYC
 - Send 1 crew member to get the crane harness and the dolly
 - Remove all 3 plugs and rinse the boat off with fresh water
 - If the sails got salt water on them during the day rinse them with fresh water
 - Using the same method to take the boat off the rack return the boat to the rack, secure boat with tension strap

- If sails had to be washed raise them back up after boat is secured to air dry
- Before you leave if sails are dry roll them up if not hand them in the shed to dry
- Have the sail attendant check the boat for damage and that the boat is properly stowed
 - Put cover back on and pad lock