



Course Challenge





Course Map



Google Earth Map

<https://earth.google.com/web/@41.70238808,-85.02280627,293.6035483a,204.59469572d,35y,0h,0t,0r/data=CgRCAggBMikKJwolCiExYVFla2VsOUJ>

<https://earth.google.com/web/@41.70238808,-85.02280627,293.6035483a,204.59469572d,35y,0h,0t,0r/data=CgRCAggBMikKJwolCiExYVFla2VsOUJ>

A team's score will be totaled for the BEST COMBINED SCORE for all challenges.

1 hour will be provided to each team to attempt to complete as many challenges as possible. Teams will be penalized for prior team's delaying the beginning of their attempts. There will be no time limit for "stopping the clock" during a run that will not penalize a team.

Teams are permitted to return to the dock to modify their device or software.

Completion of Challenge #1 is required to record a score to compete in subsequent challenges.

If 20 minutes is attempted to complete a Challenge #1 without success, the team may attempt the challenge again for an exhibition run. This exhibition run will not result in a competition score. This rule applies to all challenges.

Any remote-control intervention to complete challenge tasks will result in a disqualification.

GPS Agnostic:

If a team can perform any task without use of GPS or external control, they will receive 1 point per task.

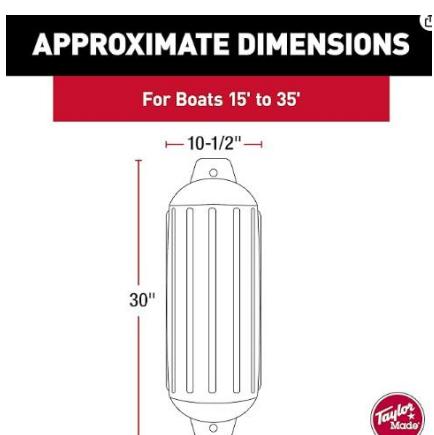
IR/RADER Navigation:

If a team can perform a task using only IR cameras and/or radar to navigate, they will receive 1 point per task.

Buoy Mar

*Color Defined by Ch

Taylor Made Products Super Gard Inflatable Vinyl Boat Fender



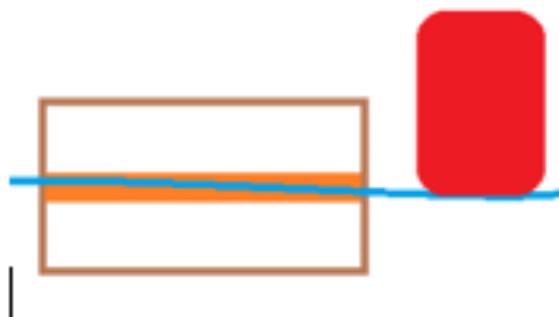
[https://www.amazon.com/Inflatable-Double-Molded-Football-InflatAtlantic/dp/B000MJMQ74/ref=sr_1_25?crid=1GXGSM4SDCGK7&key1698668009&suffix=taylormade%2Bboat%2Bbumper%2Caps%2C8](https://www.amazon.com/Inflatable-Double-Molded-Football-InflatAtlantic/dp/B000MJMQ74/ref=sr_1_25?crid=1GXGSM4SDCGK7&key1698668009&sprefix=taylormade%2Bboat%2Bbumper%2Caps%2C8)

Basic BUOY Navigation Rules:

GREEN BUOYS should be navigated to on the RIGHT



RED BUOYS should be navigated to on the LEFT side



CHALLENGE #1 Gate Navigation

- a) Successfully leave the dock untethered
- b) Navigate a 2-buoy gate
- c) Points will be awarded for navigating successfully through the gate.
 - a) Partial points for any portion of the boat entering the gate
 - b) Full points for the entire LPV passing through gate
 - c) Additional points awarded for zero contact with either buoy

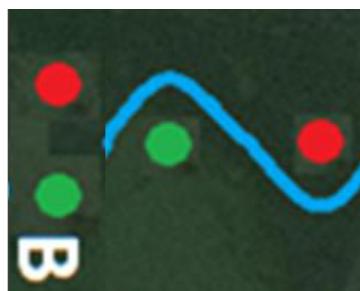
Lime Green



Red



CHALLENGE #2 Dodge



2. Dodge

- a. Successfully navigate the buoy slalom course, following the blue line.
- b. Points will be awarded for navigating successfully:
 - i. Additional points awarded for zero contact with buoys.
- c. Bonus points will be awarded for the “fastest” slalom run:
 - i. Dodge time will begin after entering Gate “A”.
 - ii. Dodge time will end after crossing the plan.

Lime Green



CHALLENGE #3 Evade

3. Evade



- a. Evade detection
- b. Navigate the debris field
- c. LiDar detectors on varying sides of the channel
- d. Points will be awarded based on proximity to the channel while evading
- e. Bonus points will be awarded for recorded versus live evasion
 - i. Evade time
 - ii. Evade distance

CHALLENGE #4 Identify



- a) Navigate to a specific-colored buoy
- b) Contact the buoy with the LPV to receive points
- c) Teams can define the colored buoy that scores the most points
- d) Additional points can be earned by having the correct color for the team

CHALLENGE #5 Deploy



- a) Teams will be able to
- b) Navigate to the “Zebra Buoy”
 - a) 2” wide black elongated buoy located near the white buoy
- c) Deploy the sensor
 - a) Sensor must not fall off the boat
 - b) Sensor must float
- d) Sensor upon initiation of deployment must travel a radius of Zebra Buoy
- e) Sensor must be a minimum of 10 feet from the Zebra Buoy to score

VIBRANT COLORS

Colors match gelcoat



ø10ft / ø3.04m

ø8ft / ø2.43m



CHALL

- a) Navigate to the Black Bu
- b) Launch a provided toy fo
- c) Points will be awarded f
- d) Aerial Drones (guided o

NO PERSON CAN “

https://www.amazon.com/VEVOR-Inflatable-Floating-Trampoline/dp/B0D2R8MK9C/ref=sr_1_9?crid=9R0bstofubfAO3sgqsf1SrorArISqflFeYUNqagg9aHzTqq9xFotU7WAVKWKlapsu3TG8-RhixiwaFLMbJvXV5gmWlpLM8bIR402c.vdnSJW8q2DU9fdWjkJ0Bnvabsax=x=vevor+inflatable+floating+dock+10+ft%2Caps%2

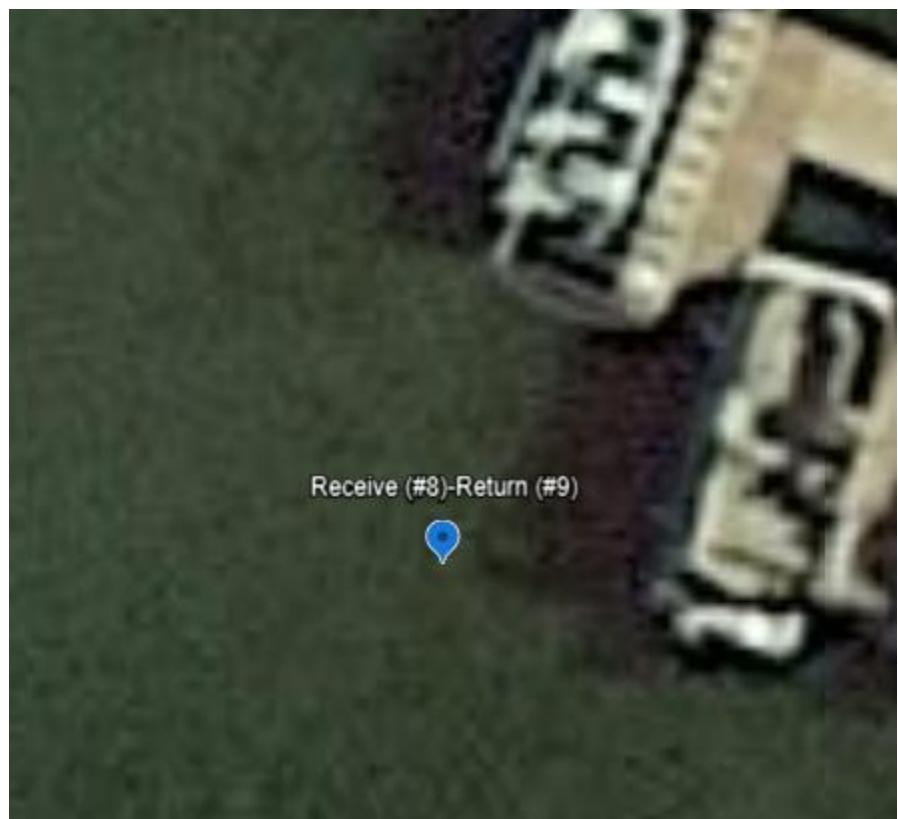
https://www.amazon.com/NERF-Vortex-Aero-How-Optimizing/dp/B08P29SC84/ref=sr_1_1_sspa?crid=V5otKNrMoqQ8XLwek_5PhiQkEQtTxXqHyZuotFBWQoxleQdktuxY7kx6cfTDkY8CG6C1DG-z_XQQtgtLt-968eFvDasP4fIUM.eOtcxRt51z5DvnFNk2ZMshFvI51725013375&sprefix=nerf%2Bvortex%2Baero%2B

CHALLENGE #7 Recover



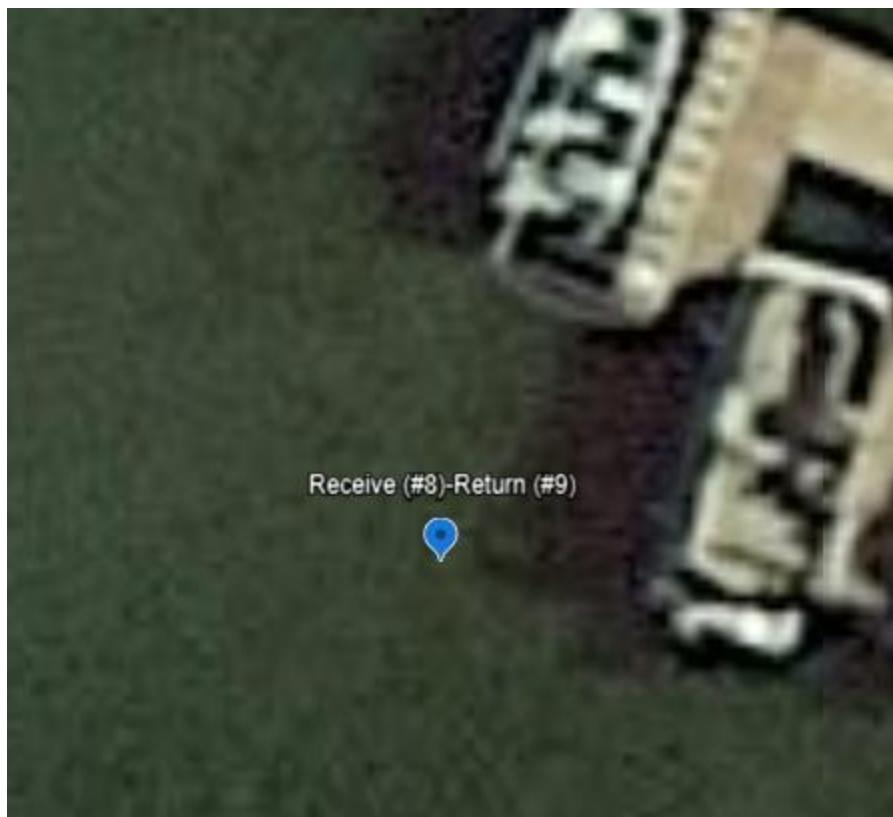
<https://www.amazon.com/Customizable-Case-13x9.7x5.8/dp/B00YV9KQH4>

CHALLENGE #8 Receive



- From Dock
- a. Communicate Deployed
 - b. Validate points

CHALLENGE #9 Return



Receive (#8)-Return (#9)

Vessel
contact

Total Time Bonus:

If a team completes a minimum of 4 tasks, they will be eligible for a time bonus. The team's total time will be divided by the number of tasks completed. The team with the smallest per-task time average will be awarded the highest bonus. All eligible teams will be ranked for this time and point value.