

GICAA Robotics

2017-18 KICKOFF

Important Info

- Kickoff: March 10th, Midway Academy (same as last year)
 - Dr. Matt Ross, Principal
 - Mrs. Nancy Long, GICAA
 - Mr. Brian Mattick
 - Bathrooms
 - Schedule
 - Rules Summary
 - Lunch
 - Help Sessions
- Event: April 21st, Grace Fellowship Church, Greensboro (new)

General Rules - Match

- Four teams, head to head
- (3) one-minute rounds
- Reset field after rounds 1 and 2
- After round three, score the field
 - Match points – points scored during the round
 - Position points – points awarded based on place (1st, 2nd, 3rd, 4th)
 - Ranking points – Position points + Match points of ALL FOUR TEAMS.
- After matches are complete, top eight teams compete in single elimination tournament.

General Rules – Key Terminology and Definitions

- “In Play” vs. “Out of Play” – Can’t touch ANYTHING unless it is out of play
- “In Control” (think fork-lift) – Can’t claim it unless under control
- “Free” – if you can leave it after moving the robot one direction (not up!), it stays

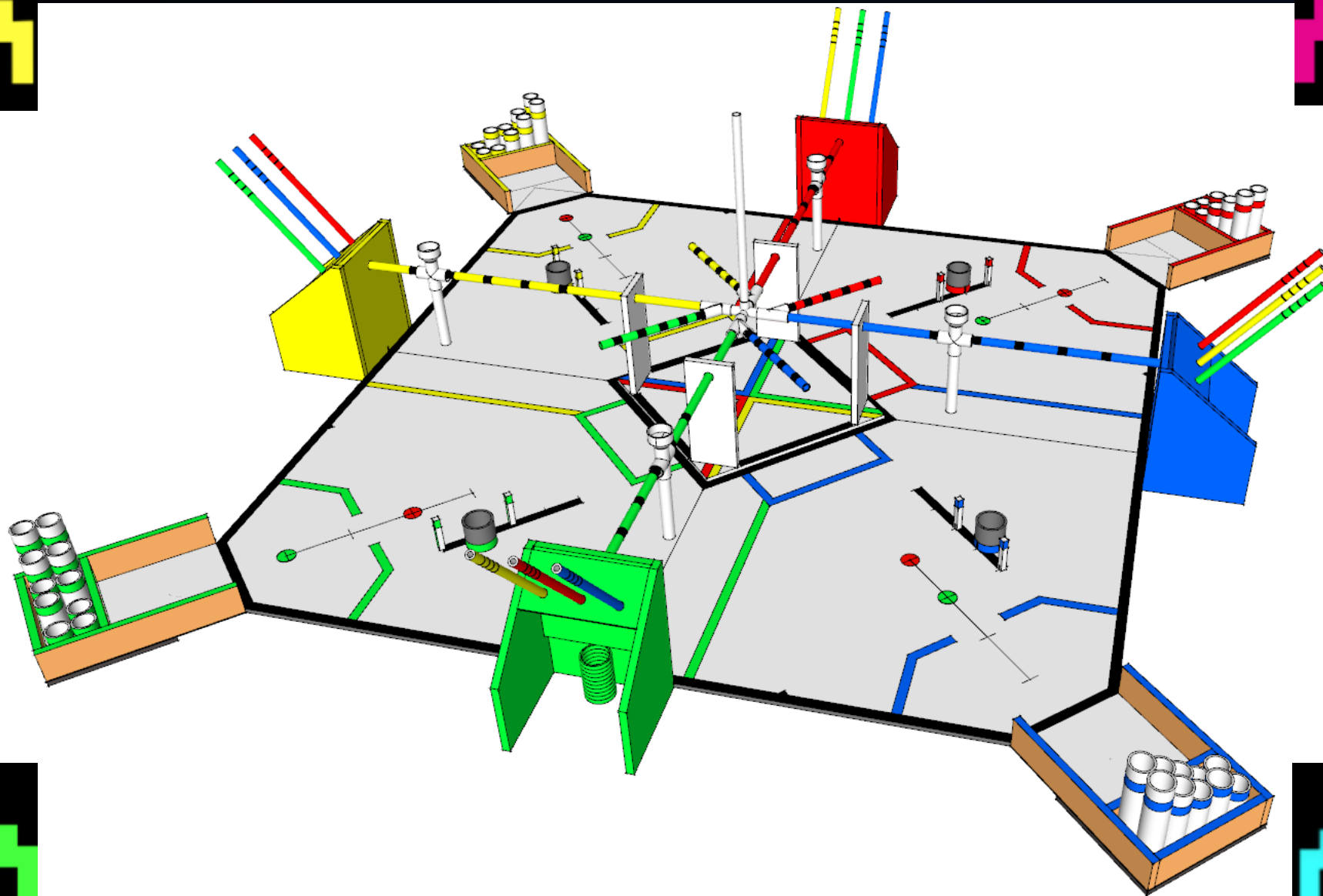
General Rules

- Robots are completely autonomous.
- Robots can be restarted as many times as a team can in a round
 - Must wait until out of play or “rescue”
 - Reload with scoring elements
 - Run different programs
 - Add attachments
 - Must fit in start zone

General Rules

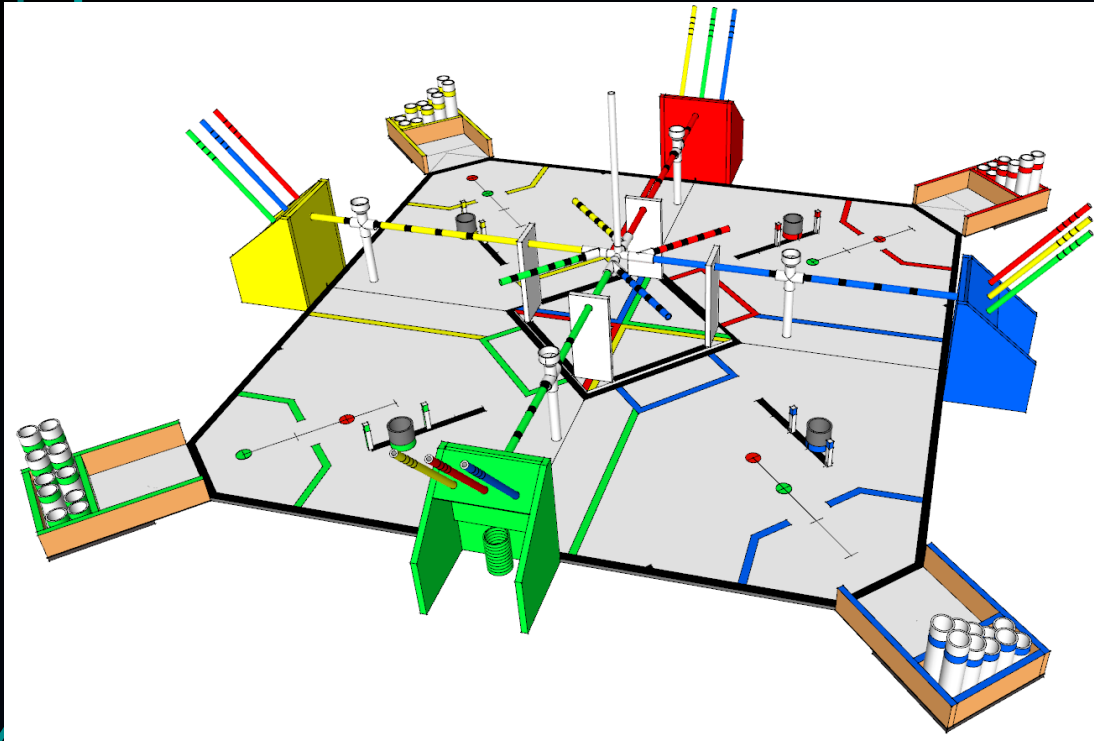
- Robot Retrieval
 - Raise your flag
 - Anytime, except when on platform
 - No cost, when “out of play”
 - No cost, while in contact with another robot
 - “Free” elements stay in the field
 - Pay a token otherwise

“Placed Invaders”



<http://www.tethrasolutions.com/web>





Key Scoring Concepts

- Place your 10 tubes in other team's scoring zones
- Compete for most rings in the center by hanging scoring tubes
- Retrieve and use bonus elements for extra points
- Wrestle your way up the platform
- Defend your area and capture pieces
- Use your tokens wisely

Start with:

- 10 tubes (2-10's, 2-8's, 3-6's, 3-4's)
- 12 rings
- 3 rescue tokens

GSM01-A: Scoring Zones (Mat)

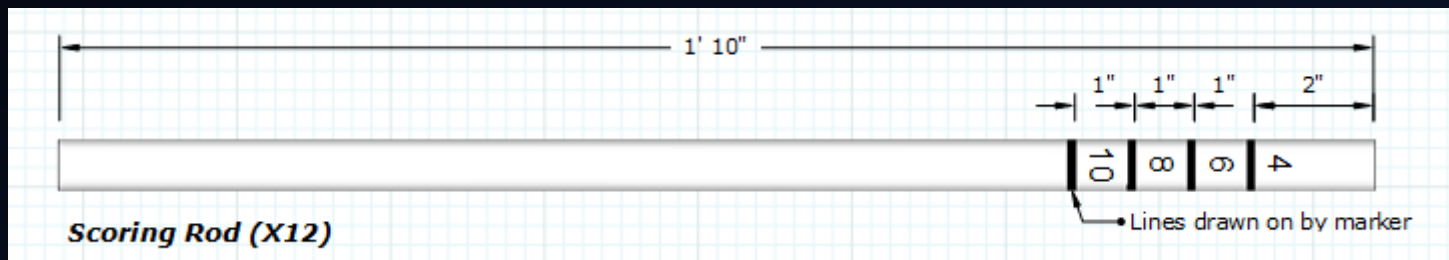
- Tubes standing in the zone at the end of round
- Only 2 tubes per round
- Shortest first
- Height limit
- Score by height* at the end of match

De-scoring? **YES**

Capture? **YES**

Points:

	1 team	2 teams	3 teams
1st	25	35	40
2nd	-	20	25
3rd	-	-	15



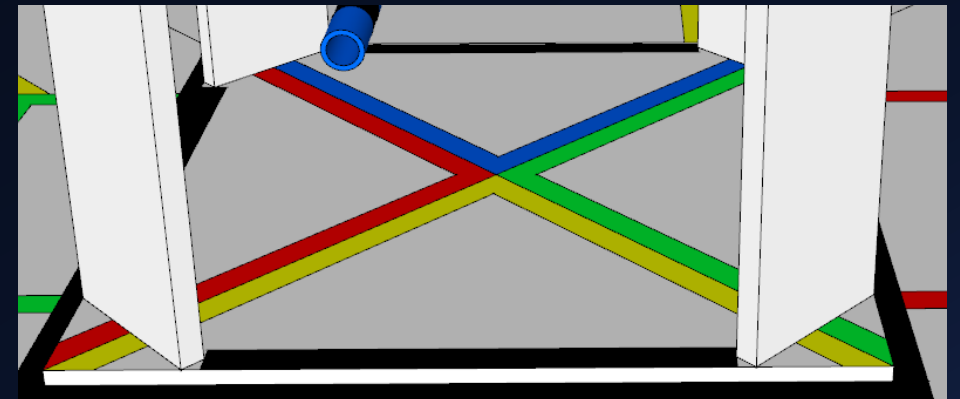
*Height: Designed,
NOT actual

GSM01-B: Scoring Zones (Platform)

- Tubes score **BEFORE** Mat
- Only 1 tube per round **IN ANY COLOR**
- More than 1? Break ties, as follows:
 1. Use **TALLEST** tube **THAT CAN SCORE!** (scoring rod height limit still applies)
 2. Scoring rod with current shortest height
 3. Clockwise from SZ

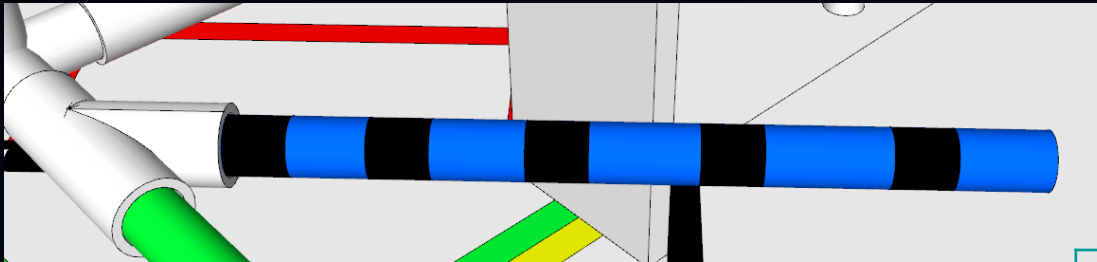
De-scoring? **YES**

Capture? **NO**



GSM02: Scoring Tube in Center Zone

- Must be completely supported by rod
- One center ring per “black ring”



- Score by table **+ 3 pts / ring**
- Tube place back in zone after scoring (can be reused!)

De-scoring? **NO***
(Your team, yes.
Another team, no)

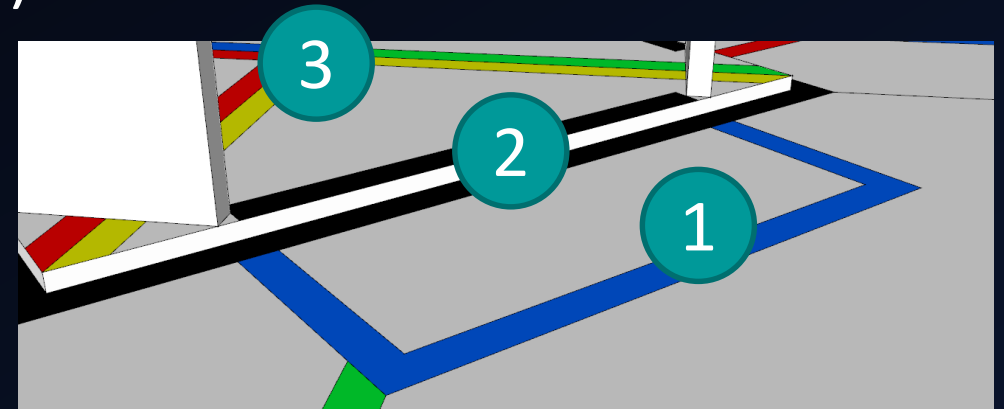
Points:

	1 team	2 teams	3 teams	4 teams
1st	25	30	35	40
2nd	-	20	25	30
3rd	-	-	15	20
4th	-	-	-	10

GSM03: Parking Tokens

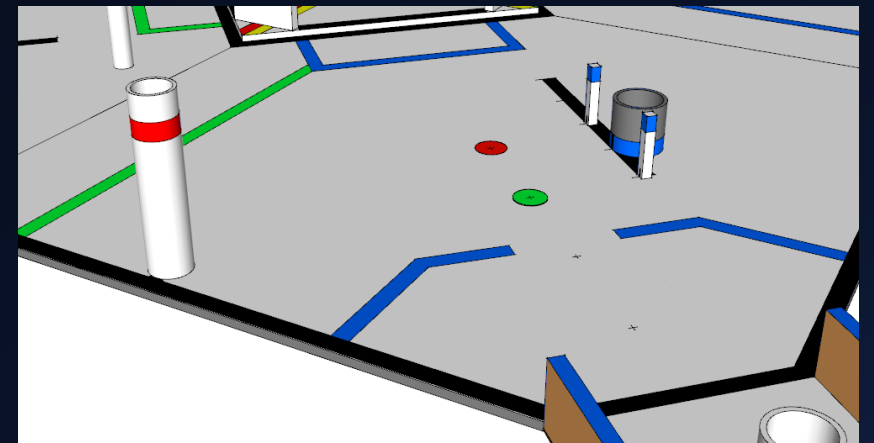
- Award EACH ROUND
- Must be COMPLETELY stopped in scoring areas before buzzer (refs will indicate)
- Three areas:
 - 1. Mat: **+1 Token**
 - 2. Platform (partial): **+2 Tokens**
 - 3. Platform (full): **+3 Tokens**
- No rescues when fully on platform
- Can be pushed off

De-scoring? **YES**
(Contact is permitted
on platform)



GSM04: Capturing Pieces

- **Points – 3 pts / piece, Max 15 pts.**
- Tubes knocked over, “IN PLAY”, and completely in team’s zone
- Placed in jail area
- Teams CAN ransom own pieces (Optional)
 - Rounds 1 & 2 ONLY. Count for points in Round 3
 - 1 Token, 1 Piece
 - 2 Tokens, ALL pieces
- Robots can free jailed pieced (push)



GSB01: Multiplier Ring

- One per team
- 1 of 3 locations (set beginning of match)
- How to use:
 - Step 1: Retrieve (UNDER CONTROL)
 - Step 2: Load any tube into ring
 - Step 3: Score the tube per GSM01 (not ring)
- **Doubles** whatever points team score in that zone at the end of the match

Scoring Zone Points:

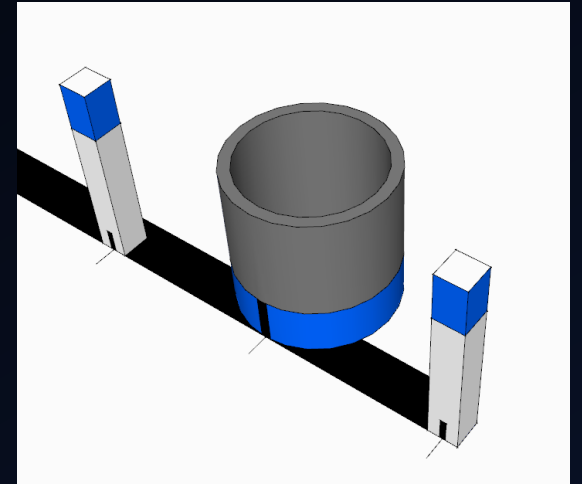
	1 team	2 teams	3 teams
1st	25 X 2	35 X 2	40 X 2
2nd	-	20 X 2	25 X 2
3rd	-	-	15 x 2

GSB01: Multiplier Ring (cont'd)

- Once recovered, can't lose it. Returned to team if tube doesn't score (due to height, knocked over, or capture)
- Use it when you want. Only worth points if it is scored.
- Knocked off line? Reset at the end of each round
- Doesn't add to height of scoring rod (goes around tubes)
- First tie-breaker in scoring zone

GSB02: Multiplier Ring Flags

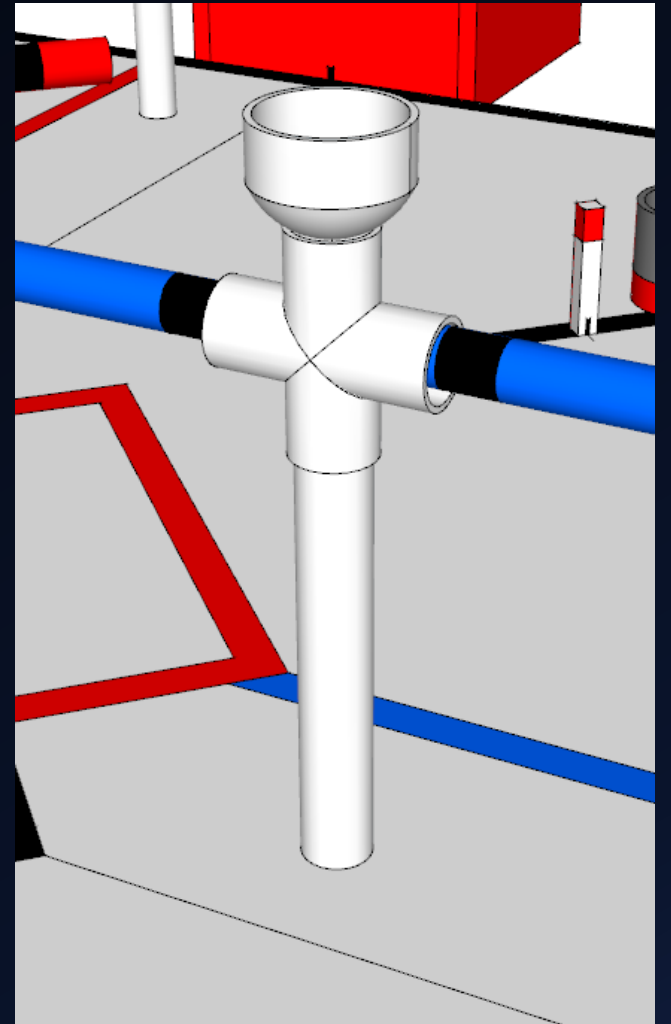
- Score points for pushing mult. ring off black line without knocking over flags
 - **1 Flag: 10 pts**
 - **2 Flag: 25 pts**
- Referee recovers flags immediately (tell ref you are going for ring)
- Team knocks over flags - removed for remainder of match
- Opponent knocks over flags – **2 token penalty**, reset at end of round



GSB03: Cap / Tipper

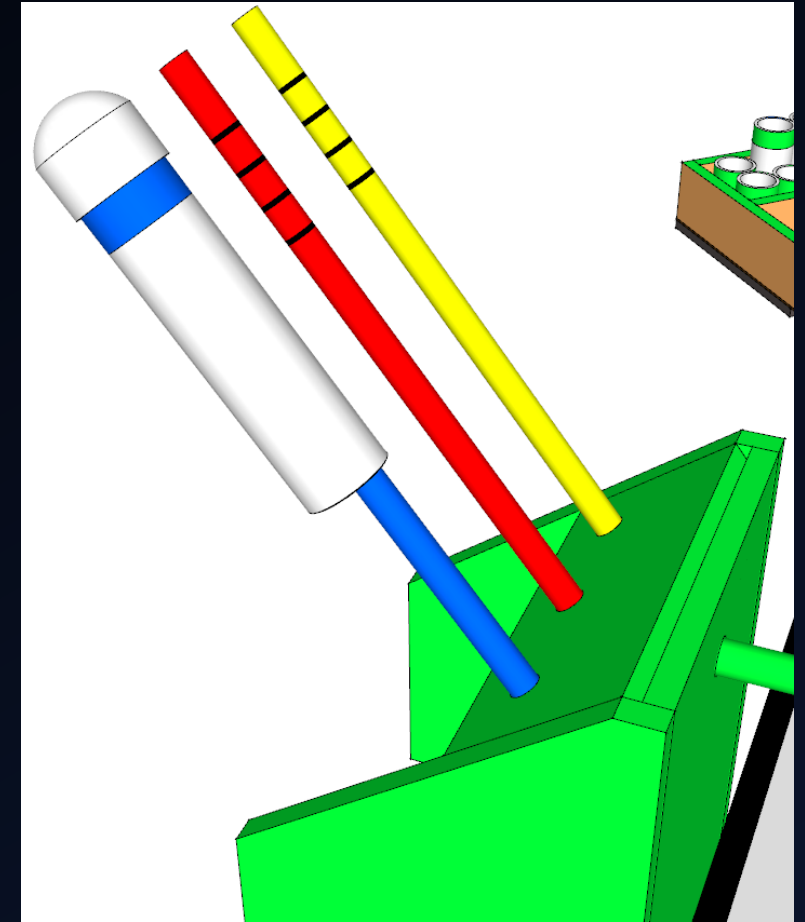
20 pts + Special Zone Ability

- 4 tipper mechanisms (NOT team specific)
- Located on 1 of 4 fixed locations on tipper support rods
- Red / Green indicators near SZ provide guides to trigger locations
- Will be positioned **DAY OF MATCH!**
- How to retrieve cap:
 - Push tipper trigger (vertical rod)
 - Catch cap (can't hit the ground)
 - Leave play area



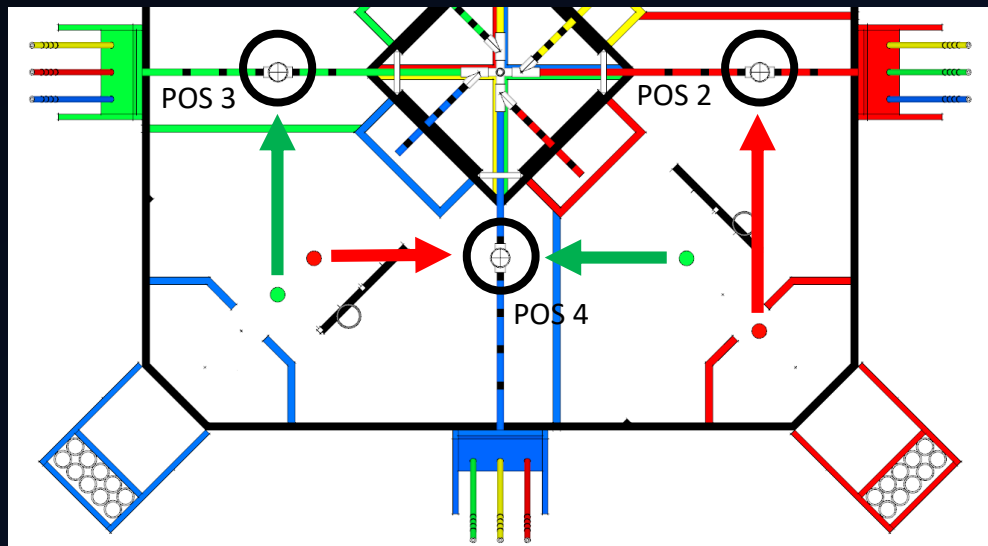
GSB03: Cap / Tipper (cont'd)

- Cap reset on tipper if not retrieved properly
- Can be attached to any of the **8"** or **10"** scoring tubes
- Previously scored tubes CAN be removed and returned (one time option)
- If tube is scored (GSM01), counts as a height of **17"**
- Add 1" if on top of other tubes



Questions / Notes

1. In addition to leaving the playing mat, a robot is considered “out of play” if a single wheel crosses back into its start zone.
2. There are 4 possible tipper positions for each quadrant. On the day of the match, each tipper will be assigned to one of the four positions. Each quadrant’s tipper will be in a different position
3. There are four indicator crosses in a line in front of each team’s start zone. These crosses correspond to the center of the four tipper positions to the left and right of the cross. On the day of a match, a 2” red circle sticker will be applied to the cross corresponding to the tipper to the RIGHT of the start zone. A 2” green circle sticker will be applied to the cross corresponding to the tipper to the LEFT of the start zone.



Questions / Notes

4. “In control”: Element will touch the robot in two places when spun in either direction, **AND** element is moving in the same direction as robot. A robot can't control an element it is moving away from. It must be pushing or pulling it.

Need more info?

1. GICAA Website
2. Email: Bmattick76@gmail.com