

ABU Robocon 2023 Phnom Penh, Cambodia

FAQ2-1

2022.11.06

Please read the rule book carefully before sending any questions. Please cooperate with us for smooth operation in a limited time.

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[FAQ2-1 Posted on Nov 25, 2022 Providing answers for questions received from 25 Sep – 05 Nov 2022](#)

There will be FAQ2-2 (the remaining questions) which will be uploaded on the website soon.

Please always put the date of when you add FAQ

1. Term and Conditions

FAQ #	Question	Answer
1.1-9	<p>What do you mean by toss? Can you define the meaning of toss?</p>	<p>Toss here refers to throwing to the poles.</p>
1.1-10	<p>We would like to ask if it is acceptable to intentionally shift the position of the "Ring" on the field by throwing the "Ring".</p> <p>I thought that a robot throwing a "Ring" and intentionally shifting the position of the "Ring" on the field, which is not in the Pole, would be considered a violation of Rule 4.3 "The team performs any acts that are not in the spirit of fair play." Is this correct? This is because of the following two reasons.◦</p> <p>1: Because the above-mentioned act is malicious and does not use "Ring" as it should, as Rule 1.16 says "Rings are the objects representing flowers which will be tossed to the poles."</p> <p>2: If the above-mentioned act is allowed, a robot can quickly retrieve the "Ring" and destroy the pile of "Rings" placed on the opponent's "Ring Zone". In this case, depending on the mechanism, it may be very difficult to retrieve the "Rings", and the attraction of this contest,"the battle over the pole", will be severely compromised.</p>	<p>It is NOT a violation to change the position of the rings by throwing rings.</p> <p>However, it will be a violation if the opponent team changes the position of the rings in the Ring Zone. The opponent team must retry.</p> <p>Those rings can be re-arranged by team members while opponent team's retry.</p>
1.1-11	<p>FAQ #1.1-6 answers the question "Are there any specifications/conditions for the arrangement of rings (...) in the Ring Zone?" with "No. The team can place the rings freely in their ring zones." In addition to arrangement, we would like to confirm that a team can place the rings in the Ring Zone in any MANNER they wish to, including scattering the rings, stacking the rings into a single</p>	<p>The team can place the rings freely in their Ring Zones but deforming or/and disassembling of the rings will be a violation.</p>

	pile, and forming a structure made out of multiple rings. Is this assumption correct?	
1.1-12	As per subsection 16 Rings in 1 Term and Definitions in Game Rules, "Teams can place their rings freely in their Ring Zone during setting up time." In Angkor red and blue area, can we place our rings being touched with the wall of the Angkor Center area (lean against the height of 200mm wall) ?	Yes, you can.

2.Game

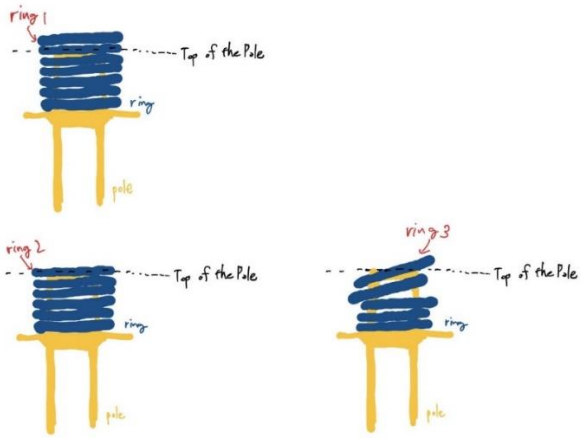
2.1 Game Procedure

FAQ #	Question	Answer
2.1-27	Do we need to go to Angkor area, in order to shoot type2 and 3 pole?	Robots can shoot the ring from Blue or Red Area to any types of poles
2.1-28	1)Can we keep RR inside ER before the start of game (during setting time) ? 1.a)if yes will it be considered as one bot ? 1.b) what will be the total dimension to be considered for that bot ?	You can place robot freely in the start zone during setting time, they won't be regarded as one robot.
2.1-29	What happens if a ring tossed out falls into the opponent's Ring Area and breaks up the stack of those rings?	Please refer to FAQ1-2, 2.1-25.
2.1-30	Can the Rings In Red Area be loaded in the bot by the team members (manually)	No

2.1-31	Does RR can toss ring at all poles from Red or Blue Area?	Yes.
2.1-32	The section 5.4.5 in the Rule Book states "Flying objects cannot be used as robots." However, the Rule Book does not specify the conditions that robots are regarded as "flying objects". We consider that the following conditions are appropriate. Is it correct? "Flying objects are robots which are not in touch with the ground for more than 2 seconds on end."	For example, propellers or drones are not allowed. But Jumping mechanism is allowed.
2.1-33	FAQ 2.1-24 states that "Can multiple rings be thrown simultaneously from one robot? - Yes, you can." In relation to this statement, can one robot toss multiple rings simultaneously at the same pole?	Yes.
2.1-34	The section 2.1.5 states "two robots must be in their respective Start Zone, including its space above." In relation to this, we considered that when both ER and RR are standing still inside Start Zone and its space above, the game can start even if they are not in touch with the field. Is this correct? We assumed a situation such as the one in which ER carries RR at the start of the game, and both ER and RR are inside the Start Zone and its space above, but RR is not in contact with the field.	Yes, you are right.
2.1-35	We would like to know the details of "all the ground planes of the RR" mentioned in the section 2.4.3 of the Rule Book. Which of the following does it refer to? In case it refers to neither of the following options, please describe "all the ground planes of the RR" in details, for example by using drawings. 1. The polygon which consists of grounding points of a robot (figure.1) 2. The orthogonal projection of a robot to the ground (figure.2)	The Figure 1 is correct.

	<p>Figure 1: Top view shows a blue rectangular field with four grey rings. Dashed lines indicate 'the ground plane'. Below it, a side view shows a blue horizontal bar representing the field, with two grey circles representing the robot's wheels.</p> <p>Figure 2: Similar to Figure 1, but the blue field is enclosed in a dashed rectangular box representing a moat area. The side view is also similar, showing the robot on the field within the moat.</p>	
2.1-36	<p>If a robot runs over rings fallen on its course while running and the rings are destroyed as a result, does this correspond to "The team intentionally damages or tries to damage the field, facilities, and game objects" in the Rule Book 4.2, and will the team be disqualified? If not, we assume that it is not allowed to use the destroyed rings and that since it is dangerous for referees, for example, to retrieve them, they will be left on the field. Is this correct?</p>	<p>If it is just the robot run over the ring, it could not easily destroy the ring.</p> <p>If the rings should be destroyed by running over by the robot, it won't be a violation or disqualification.</p>
2.1-37	<p>If, instead of directly picking up a ring that falls in the moat area, the robot moves the ring into the red or blue area without making contact with the moat area, and then picks it up and uses it again, is this way allowed?</p>	<p>if it dropped on Moat Area, you can pick it up but you cannot touch the Moat Area.</p>
2.1-38	<p>As per subsection 16 Rings in 1 Term and Definitions in Game Rules, "Teams can place their rings freely in their Ring Zone during setting up time." In red or blue area, can we place our rings being touched with the inside of the fence (lean against the fence) ?</p>	<p>Yes, you can.</p>
2.1-39	<p>1:Can the robot enter the space above Pole Type1 and Type2? 2:Can the robot use rings for purposes other than scoring? ex. The ring is shot by ring. The ring is set on field.</p>	<p>1.Yes, it is allowed. 2: Yes.</p>

2.2 Points

FAQ #	Question	Answer
2.2-4	<p>Since "Rule Book" (21 August 2022) 2.1.13 states: "The two robots can pick up the ring(s) which has fallen in the area where they can move and toss it into the pole.", it is possible that Team A's robot may toss a ring of Team B's color.</p> <p>If that ring is at the top of the pole at the end of the game, is it correct to assume (for ease of calculation of points) that points are awarded to "the team with the color of the ring (B)" rather than to "the team that placed the ring (A)"?</p>	<p>It is not whether the team who throw the fallen ring into the pole, at the end of the game, the color of the top ring will be valid and given point to the same team color.</p>
2.2-5	<p>"The section 1.6.16 in the Rule Book states "A ring that is tossed in the pole but is sitting above the top of the pole does not score a point." We considered that the ring this statement defines "as not scoring ring" is a ring which is sitting still above the pole and entire part of the ring is in the area above the top of the pole like the ring 1 in the drawing below, not rings like the rings 2 and 3, which are also sitting still above the pole but only part of the ring are in the area above the top of the pole, and that these rings score a point. Is this assumption correct?"</p>  <p>The diagrams show three scenarios of a ring on a pole. In the first, a ring is entirely above the top of the pole. In the second and third, only a portion of the ring is above the top of the pole.</p>	<p>If any part of the ring is sitting above the top of the poles, they are invalid. All of the pictures of Ring 1, 2 and 3 are invalid.</p>

2.2-6	If a ring tossed on a pole is shot down by another ring tossed to the pole before the end of the game, the reply to FAQ2.1-25 says that the ring is valid and the score remains. Excuse me, does the referee have to remember that the removed ring is used to be on the pole?	Yes.
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2.4 Retry

FAQ #	Question	Answer
2.4-6	If we ask for a retry when RR is in the Red Area or Blue Area, do we have to place only RR in the Start Zone or both RR & ER in the Start Zone ?	You have to place both robots in the Start Zone.
2.4-7	According to the rulebook, we must put RR in the Retry Zone while it is in the Angkor Wat Area, if we ask for a retry at that point. Do we also need to put ER in the Start Zone in that case?	When a team ask for retry, it will be a retry for both robots.
2.4-8	Is it allowed to pick up the rings from ground which were thrown earlier?	Yes, robot(s) can.
2.4-9	Rule 2.4.3 indicates "if the other robot is nearby and the referee determines that it is dangerous, the robot cannot be moved". So, in this situation, how can RR be got back into its retry zone?	Retry is not possible until Referee judges it is safe. Referee should make a way to let the Team Member to carry the robot to its retry zone.

3. Violation

FAQ #	Question	Answer
3-7	We would like to ask whether or not it is acceptable to interfere with the progress of the other team's robot by throwing and scattering rings. [1] Intentionally obstructing the other team's robots from approaching	It is not a violation if rings entered the field other than the Ring Zone. However, it is a violation to change the arrangement of rings in the opponent's Ring Zone by rings.

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	the Ring Zone by throwing a Ring at or around the other team's Ring Zone. [2] Intentionally throwing rings on and around the opposing team's Bridge to prevent the opposing team's robots from entering the Angkor Wat Area through the Bridge.	
3-8	Will the team be penalized for shooting down the ring on the pole?	No. But if it is intentionally to damage the result in the game, it depends on the judge's decision.

5 Robots

FAQ #	Question	Answer
5-6	Is throwing the ring necessary, or can we design a robotic arm that simply picks up and places the rings on the pole?	As long as your robot's mechanism or size follow the rulebook.
5-7	In the Rulebook, two different dimensions of RR are given whereas that for ER is not given. What are the confirmed dimensions (Before the start of game & During the game) of both the bots ?	Please kindly refer 5.4.2 in the rulebook.
5-8	As for the size restriction for RR during the game, "Rule Book" (21 August 2022) 5.4.1 states: "When the robot is tilted from the horizontal surface due to step movement or jumping and etc, RR must not extend beyond the cube which RR must fit." When RR is crossing the "bridge", can we regard the top surface of the "bridge" as the "horizontal surface"? In other words, we assume that when RR is crossing the "bridge", the vertical size restriction for RR during the game is measured like Figure 1 (see attached image) in the attached file. Is our assumption correct? There are three reasons why we think. The reasons are as follows. 1. If we regard the top surface of the "bridge" as the "horizontal surface", the relative position of RR and the rectangular object	If the robot tilts, the reference surface will also tilt.

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	<p>of the size restriction is always constant during the game, so the consistency is high.</p> <ol style="list-style-type: none"> 2. If the vertical size restriction is applied as shown in Figure 2 of the image, the actual size restriction of RR becomes smaller when it passes through the "Bridge", and the team using the "Bridge" is disadvantaged compared to the team not using the "Bridge", which is not fair. 3. If the vertical size restriction is applied as shown in Figure 2 of the image, it is necessary to prepare a slope with the same angle as that of the "Bridge", which makes the measurement very complicated. 	
5-9	<p>Regarding the size of the robots, Rule Book 5.4.1 and 5.4.2 states: "During the game, the bottom of RR/ER should be sized to fit in a cube with horizontal surface of \sim and a height of \sim." We interpreted these rules in the following manner.</p> <p><< Even if it is theoretically possible for a robot to surpass the specified size limits with all of its component mechanisms extended, the robot does not violate the Rule Book as long as the robot fits within the size limits at all times during the actual game.</p> <p>To be more exact, even if, during the "Robot Inspection" (Rule Book 5.8), a robot is seen to surpass the size limits when all of its component mechanisms are extended,</p> <p>if it is made clear by the team that the robot is made to fit within the size limits at all times during the actual game (i.e. that at no point during the game will all of the robot's component mechanisms be extended at the same time),</p>	Yes.

	this robot is deemed to be in compliance with the Rule Book and the team will not be subject to a disqualification as per Rule 4.1 of the Rule Book: "A team will be disqualified when the design and build of the robot are not following the rulebook." >>Is this interpretation correct?	
5-10	Every year, a number of robots which use sensors to detect infrared light participate in the game. By installing a device which emit infrared light on the robot, the team can disturb the function of the opponent team's robots. However, we consider that this act corresponds to the section 4 "Disqualification" in the Rule Book for following reasons. Is this assumption correct?	It is not allowed to interfere with the opponent's robot(s) using wireless means such as infrared rays.
5-11	Will the weight of Air bottles be included in the 50Kg weight limit?	Yes.
5-12	1.Can the RR have legs only? 2.Can the RR jump to the height of more than 500mm from the horizontal plane if its actual height is less than 500mm?	1.Yes, you can. 2. Yes, it can.

6. Safety

FAQ #	Question	Answer
6-1	Is there any speed limit for the throwing?	No, but you have to think of the safety of throwing ring to the opponent robot team and spectator.

6-2	In relation to the section 1.16 Ring in the Rule Book, the ring does not have a speed limit. We would like to make sure that "no speed limit will be imposed on the ring" because this affects the basis of building robots from now on.	No, but you have to think of the safety of throwing ring to the opponent robot team and spectator.
6-3	For the response to FAQ2.4-1, what criteria does the referee use to confirm the safety of the field?	To avoid team member operate the robot hit the opponent robot to their retry zone.

7. Team

FAQ #	Question	Answer
7-2	We request you to share the registration link for ABU Robocon 2023 to confirm our participation.	Registration will be issued to each broadcaster.
7-3	<ol style="list-style-type: none"> 1.How do we register for Robocon 2023, is there any online portal. 2.How much is the registration charges for this event for both team and participants. 3.Is there any kind of accomodation charges involved in this process. 	Please contact to each broadcaster for your domestic contest, we will share contact each broadcaster on our website.

8. Other

FAQ #	Question	Answer
8-9	What are the dimensions of a Type 2 pole? What is the inner diameter of Type 1 and Type 3 poles?	Dimension of type 2 pole is the same of type 1. Please follow the outer diameter of the pole.
8-10	In the Rulebook, the inner diameter of the ring is given as 200 mm whereas in Game Field, the inner diameter of the ring is given as 210 mm. What are the confirmed dimensions of the ring?	Please kindly refer to the ring information, appendix 2, in the website.
8-11	Timeline for the whole event (Important Dates)	Please refer to our official website.
8-12	We would like to use images to explain details when we send questions about game rules. You have mentioned that we are allowed to send questions which are too long to send through "asks" to the email address posted in "Contact Us", so could we also send questions on rules with images to this address by attaching image files to the email? Or do you have any plans to use other media to share images?	You can send us by our email on the website: aburobocon2023@gmail.com or Facebook Page Robocon Cambodia .
8-13	The ABU Robocon official website recently announced the details of the materials for the rings to be used in the competition. I am unable to purchase hoses from the designated place. How can I do so?	Please contact us by email or Facebook page, our side will help to assist for your purchasing as much as we can.
8-14	Second, regarding the dimensions of the hose. This time, the dimensions were different from those described in the rulebook. Are you sure?	There will be the adjustment on the rulebook. Refer to Appendix 2.
8-15	What is the thickness of the pole's base where the ring would rest after being thrown in it?	Please kindly refer to the figure.