

ABU
Asia-Pacific Robot Contest 2025
Ulaanbaatar, Mongolia



Frequently Asked Questions (FAQs)
“ROBOT BASKETBALL”

December 2024

ABU Asia-Pacific Robot Contest 2025 Ulaanbaatar, Mongolia

Organizing Committee

<http://aburobocon2025.mnb.mn>

THE FAQs

#	Update date	Detail	Approved by
1	2024/12/20	Initial release	Organizing Committee
2	2025/02/25	<ul style="list-style-type: none"> - Thickness of the foam rubber protective bar is corrected. - The question collum of F.7 is corrected. - "Update Feb 25, 2025" is released. 	Organizing Committee
3	2025/03/14	<ul style="list-style-type: none"> - Revisions to D69 and J4 are released. 	Organizing Committee

Categories of FAQs

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K	Others	Update Feb 25, 2025

A. Terms and definitions

Update Dec 20, 2024

#	Question	Answer
A.1.	"The base perimeter is a cylindrical frame equipped with a foam rubber protective bar. It has a height of 300 mm and an outside diameter of 800 mm, surrounding the base of the robot" does it mean that the base frame of the robot must be cylindrical?	Yes, the base perimeter must be cylindrical.
A.2.	In Rulebook (20240814 version), 1.2 states that "the base perimeter must be positioned no more than 50mm above the game field surface". We have 2 questions about this rule: 1. Do robots need to meet this requirement throughout the game, or only when robots are set in "setting time" and "possession change"? 2. If the answer to 1 is "robots have to meet this requirement throughout the game", we assume that a robot is exempt from this rule when the robot jumps. Is our assumption correct?	1. The base perimeter of robots must meet the 50 mm height requirement throughout the game, except jumping. 2. Yes, your assumption is correct. The 50 mm rule does not apply when the robot is jumping.
A.3.	We have a question about one robot lifting the teammate robot. In Rulebook (20240814 version), 1.2 states that "The base perimeter must be positioned vertical to and no more than 50 mm above the game field surface." We assumed that this means a robot cannot be lifted by the teammate robot, as this would cause the base perimeter of the lifted robot to go above 50 mm. Is our assumption correct?	First, robots are not allowed to lift their teammate robots. Therefore, yes, your assumption is correct. If a robot is lifted by its teammate, the base perimeter of the lifted robot would exceed the 50 mm height limit above the game field, which both will be a violation of this rule.
A.4.	While dunking, can the clearance for the perimeter be greater than 50 mm with reference to the surface?	Yes, during dunking or jumping, the 50 mm clearance rule does not apply if the robot is temporarily airborne, as stated in FAQ A.2.

		answer that jumping actions are exempt from this requirement.
A.5.	In Rulebook (20240814 version), 1.2 states that "the base perimeter is a cylindrical frame". We assumed that the outside of the base perimeter needs to be a single, continuous curved surface that runs all the way around the base circle of the cylinder. In other words, on the curved surface of the base perimeter, there should not be any gaps or holes, such as those for sensors or for exhausting heat. Is our assumption correct? If this assumption is wrong and there could be gaps or holes, I would like you to specify the number/size of the gaps/holes.	Yes, your assumption is correct. The cylindrical frame must have a continuous curved surface without holes or gaps.
A.6.	About a base perimeter, is there any specific color that the base perimeter should have?	The color of the base perimeter should refer to the color code of the Operating areas for the specific colors. [Refer the Rulebook (RB)-1.2, update #2].
A.7.	According to the base perimeter, it has a diameter of 800 mm. If the team's robot is small, can this diameter be less than 800 mm?	Yes, robots can have a base perimeter with a smaller diameter than the specified 800 mm. However, all other dimensions and requirements of the base perimeter and compliance with the rulebook and FAQs, must be strictly followed.
A.8.	Are partial base perimeters allowed? 1. The base perimeter has a portion which was cut out, so it forms a C-shaped perimeter instead of a circular perimeter 2. The base perimeter consists of 2 or more separate parts, but the perimeter as a whole still follows the dimensions set by the game rules.	1. No, partial base perimeters are not allowed. A base perimeter that is cut out to form a C-shape (or any shape with a gap or missing portion) would not comply with the requirement for a continuous curved surface. The perimeter must be complete, with no gaps or cuts. 2. A base perimeter consisting of two or more separate parts is allowed if these parts

		together form a unified cylindrical frame that meets the required specifications.
A.9.	Are we allowed to put text/symbols/logos on the outside of the base perimeter?	No, in the international ABU Robocon 2025 contest, putting text, symbols, or logos on the outside of the base perimeter is prohibited.
A.10.	According to the rule book, the definition of base perimeter: "The base perimeter is a cylindrical frame equipped with a foam rubber protective bar. It has a height of 300 mm and an outside diameter of 800 mm, surrounding the base of the robot." What is the thickness of the base perimeter?	While the thickness of the cylindrical frame's material itself isn't explicitly mentioned, the foam rubber protective bar that wraps around it must meet the minimum thickness of 25 mm.
A.11.	"A robot to control the ball for the team in possession must be positioned immediately behind the designated baseline for ball loading." What does "behind the designated baseline" mean? Also, does the robot need to climb over the fence? <ol style="list-style-type: none"> As shown in the ABU ROBOCON 2025 introduction video (https://www.youtube.com/watch?v=FTopsDAP2-o), "behind the designated baseline" means the Playing area, and the robot starts from the "Playing area." In this case, the robot does not need to climb over the fence. "Behind the designated baseline" refers to the area outside the Playing area, meaning the Operating area. In this case, the robot starts from the Operating area and needs to climb over the fence to enter the Playing area. 	<ol style="list-style-type: none"> In the ABU Robocon 2025 rulebook, "behind the designated baseline" refers to a position within the Playing area where the robot must be placed to control the ball for the team in possession. Since this position is within the Playing area, the robot does not need to climb over the fence. The robot is simply positioned behind the baseline in the Playing area, ready to perform its tasks without needing to cross any barriers.
A.12.	Is it possible for the offensive team's robot to roll the ball on the field and dribble it like in soccer using its mechanism?	Yes, it is possible for all robots to roll the ball on the field and manipulate the ball using its mechanism, but actions like rolling or other non-bouncing forms of dribbling or passing will not qualify the specification of the dribbling or

		passing. Dribbling requires bouncing the ball, and passing must involve throwing the ball.
A.13.	Would the robot rolling the basketball on the ground still count as being in control of the ball?	No, the robot is not considered to be in control of the ball while it is rolling on the ground. However, the team is still regarded as being in possession and the shot clock continues.
A.14.	Rule 12.13 stated that if the attack team violated any rule, the possession will be transferred to the defense team, will it take effect instantly? Or the game will be reset? After the possession, will the order of alternated possession be changed? E.g. Team A scores, Team B violated and passed possession to Team A, Team A scores again, Team B scores. Is this correct?	If the attacking team violates any rule, the possession will be transferred instantly to the defending team. The game will not be reset, but the shot clock will be reset for the new possession. Yes, the order of possession will be changed after a rule violation and possession transfer.
A.15.	In the Rulebook 12.6, what is the definition of “returns to their defensive zone”? Please include pictures to illustrate different cases.	A robot in control of the ball is considered to have returned to the defensive zone if: 1. Any part of the base frame of the robot crosses the center line and enters the defensive side. 2. Any part of the robot or the ball touches the defensive side. The center line does not belong to either the offensive or defensive side.
A.16.	Is it counted as a successful dribble if the robot fails to pick up the ball after it drops the ball at the first bounce and pick it up at the second or third bounce?	Yes, it is considered a successful dribble if the dropping and pickup satisfy the dribbling rules. In addition, for the dribble to be valid, the ball

		must be picked up by the same robot that dropped it.
A.17.	When passing, can the ball bounce on the game field before being received by the other robot?	Yes, the ball can bounce on the game field before being received by the teammate robot during a pass.
A.18.	<ol style="list-style-type: none"> 1. How is "jump" defined? 2. Do the robots have to ground in certain area for certain time? 3. Is flying included in "jumping"? Is flying robot considered it is jumping? If a drone shoot, is it considered as a dunk shot? 	<ol style="list-style-type: none"> 1. Jumping is defined as the robot using pushing force to release itself from the ground. This could be through mechanical means like actuators or motors that push against the ground to create an upward motion. 2. No, robots do not have to stay grounded in a specific area for a certain amount of time. 3. Flying or using propellers, drones, compressed air, or any other form of force that relies on open air to lift or maneuver the robot is not allowed. These actions are considered violations of the game rules, both for robots and for maneuvering the ball.
A.19.	"...directly placing the ball through the basket while in the air." Does this mean that the ball have to pass through the basket in a downwards direction? Based on Cambridge Dictionary, Dunk Shoot means "in basketball, a shot in which a player jumps up and pushes the ball down through the net in order to score:" So does this apply to ABU Robocon 2025 too?	<p>In ABU Robocon 2025, a dunk shot requires the robot to jump and release the ball in a specific manner. Here are the clarified points:</p> <ol style="list-style-type: none"> 1. Where to Release the Ball: The ball must be released above the paint zone. 2. Ball Trajectory: The trajectory of the ball should be below horizontal when released (this implies the ball must be

		<p>thrown downwards towards the basket).</p> <p>3. Directly through the Basket: The ball must go directly through the basket without bouncing off the rim or backboard.</p>
A.20.	Does the offensive team's robot need to dribble again in the offensive area after dribbling in the defensive area?	If the offensive team's robot has successfully advanced the ball to the offensive side by dribbling, the robot does not need to dribble again once it is in the offensive area.
A.21.	<p>"In the definition of Dunk shooting, "6.6.2.3 The ball must follow the direction of its fall after being released by the robot." Which of the following is the meaning of "The ball must follow the direction of its fall?"</p> <ol style="list-style-type: none"> 1. Satisfied if the angle of the ball trajectory is below the horizontal direction 2. Satisfied if the ball trajectory is perpendicular to the ground, i.e., the ball must fall straight down vertically 3. Satisfied if the ball trajectory is consistent with the direction of the robot's movement. 	<p>The correct interpretation of "The ball must follow the direction of its fall" is:</p> <ol style="list-style-type: none"> 1. Satisfied if the angle of the ball trajectory is below the horizontal direction.
A.22.	Is the centerline part of the offensive side or the defensive side or none? How to determine if the robot is in the offensive zone or the defensive zone? What if half of the robot is in the offensive zone while the other half is in defensive zone?	<p>The centerline is not part of either the offensive or defensive side.</p> <p>The robot's base perimeter must be fully within the offensive zone for it to be considered in the offensive zone.</p> <p>If a part of the robot's base perimeter crosses the centerline into the defensive zone or any</p>

		part of the robot touches the defensive side, it is considered to be in the defensive zone.
A.23.	Refer to 9.2, how to define “a robot pushes the opposing team’s robots”? If my robot just touches the opposing team’s robots and the opposing team’s robots move back, is it count as my robot push it away?	The decision on whether this action is considered a foul will be made by the referee.
A.24.	The term 2 talks about the base perimeter. Whether it counts as a component of the robot?	Yes, the base perimeter is considered a component of the robot.
A.25.	Under what circumstances could the spare mechanism of the robot be replaced? It is defined as a component designed for specialized tasks. But none of all rules states this special task.	While the rules do not explicitly define what constitutes a “special task,” the team is responsible for specifying the purpose of the spare mechanism.
A.26.	The outside color of the base perimeter must be red or blue, depending on the team's assigned side of play. Teams must change the color of the base perimeter accordingly before each game. How is the color of the Base Perimeter changed before the match, should it be changed physically or can we use LEDs to show the color of the base perimeter?	The color of the base perimeter must be changed physically before each match. Teams can either replace the base frame itself or use a fabric cover to cover the surface of the base perimeter (Refer the rulebook update). The use of LEDs to show the color is not permitted. The color change must be done with matte material.
A.27.	If possession of my robot is defensive and if my robot takes a basketball from an opponent team’s robot (i.e. offensive team robot) does my robot is allowed to shoot from the site where it takes ball from opponent’s robot while my robots are in my defensive playing area?	If your robot is in the defensive playing area and takes the basketball from the opposing team’s robot, it is allowed to shoot from the location where it took the ball. However, while the shot will not be considered a foul or a violation, points will not be counted for a shot taken from

		the defensive side. Instead, the action can be considered a pass, if the action satisfies the passing rule. The shot clock will continue until the opposing team gains possession.
A.28.	Can robots of one team reach (touch) each other?	Momentary contact between robots from the same team is permitted, but constant contact is not allowed.
A.29.	Rule 6.6.1 has "without changing its location", does the "it" refers to the ball or the robot?	In Rule 6.6.1, the "it" refers to the robot. The robot's base (the part of the robot in contact with the floor), including the base perimeter, should not move, rotate, or jump.
A.30.	Rulebook 4.3 states that "A robot to control the ball for the team in possession must be positioned immediately behind the designated baseline for ball loading". Does this mean that the robot controlling the ball should be in the operating area or inside the grey playing area?	In this context, the robot controlling the ball must be positioned in the playing area, not the operating area. The phrase "immediately behind the designated baseline for ball loading" means that the robot must be placed directly behind the baseline, within the playing area, from the perspective of the team member loading the ball.
A.31.	Is there condition for dribbling ball after a particular time if ball is with a same robot after a single dribbling in offensive playing area?	There is no condition that requires a robot to dribble the ball again after a specific time if the ball is still with the same robot in the offensive playing area.
A.32.	What is the dribbling frequency for ball, just like human games have 3 sec holding time or is it necessary to dribble the ball for passing it to	There is no specific condition for dribbling frequency, nor is it necessary to dribble the ball before passing it to the teammate robot.

	another robot. Can we pass the ball between both robots for multiple times?	Robots can pass the ball between each other multiple times without any limitation.
A.33.	Can robots use a propeller to increase their time in the air?	No, robots are not allowed to use any kind of open-air propulsion, such as blowing by propellers or compressed air.
A.34.	What are the exact dimensions (thickness not given), weight, material, color of the base perimeter? When will the official purchase link of base perimeter be released?	For details on the base perimeter, please refer to the FAQs. Please note that the base perimeter itself won't be sold, so please make it yourself.

Update Feb 25, 2025

#	Question	Answer
A.35.	In the definition of dunk shooting, which is when a robot propels the ball into the basket by “jumping”, how is the “jumping” defined? Is the robot considered as jumping as long as the bottom of the robot leaves the ground? If the robot performs the “dunk shoot” out of the paint zone, is it considered a valid scoring, and is the score based on the place where the robot performs its jumping?	Please, refer to RB-6.6.2.2
A.36.	If the ball drops from a robot's gripper and bounce back to different catching mechanism, does it consider dribbling?	A robot can dribble the ball using two different mechanisms, as long as the dribbling procedure complies with the rulebook.

<p>A.37.</p>	<p>What do you mean by Offensive team, offensive side, defensive team, defensive side? Or it may change during game itself.</p>	<p>The terms offensive team and defensive team refer to the roles that teams take based on possession of the ball. These roles alternate with possession, but the sides do not change during the game.</p>
<p>A.38.</p>	<p>What is material type of base perimeter?</p>	<p>Please, refer to RB-1.2. In addition, it is important to note that the base perimeter, along with its foam rubber protective bar, is designed for safety, protecting both the robots and team members.</p>
<p>A.39.</p>	<p>If my robot jumps and shoot, does it consider a dunk shot?</p>	<p>A jump and shoot are not considered a dunk shot unless it meets the specific procedures outlined in the dunk shooting rules.</p>

B. Game field and equipment

Update Dec 20, 2024

#	Question	Answer
B.1.	What is the material of the Backboard? FIBA uses different types of backboard materials for different levels of matches, which backboard material be used for Robocon 2025?	The specification for the backboard has been updated in the rulebook. For additional details, please refer to FIBA's 2024 official rules, articles 1.1–1.3. You can access the document through this link: FIBA 2024 Official Basketball Rules and Basketball Equipment .
B.2.	In the Term 8, it says " the rack's shape and size free". Since it was provided by the organizer, there must be a map, right?	Yes, you are correct. The organizer will provide the measurements for the ball rack that will be used in the international contest. For domestic contests, local organizers will specify the measurements.
B.3.	In operating area (1.6), could we put cameras or marks? We aim to use cameras to recognize our robots and the opposing team's robots for our robots to use that information. We aim to use marks for our robots to recognize the marks and use them to estimate self-position.	No, teams are prohibited from using any external sensors, landmarks, or computational equipment outside of the playing area, except for the robot controller for team members.
B.4.	What is the pressure inside a ball?	For the ball pressure specification, you can refer to FIBA's 2024 official rules, article 2.4. You can find the details in the official document at this link: FIBA 2024 Official Basketball Rules and Basketball Equipment .

		In contrast, when the ball is dropped onto floor from a height of 1800 mm measured from the underside of the ball, it shall rebound to a height of between 1035 mm and 1085 mm, measured to the underside of the ball.
B.5.	When game is start for attacking team can ball be given to robots from a single designated point or it can be given from any point in our own defensive side from operating area?	The ball does not have to be loaded to the robot from a single designated point. It can be given from any point within the area immediately behind the baseline in the playing area. However, team members must remain within the operating area while performing this action.
B.6.	For each team, the ball rack can only hold five balls at once, will the balls be replenished? If so, when will the balls be replenished?	Reserve balls will be replenished in the ball rack during the game whenever it is possible to replace them.

Update Feb 25, 2025

#	Question	Answer
B.7.	<ol style="list-style-type: none"> 1. What is the color of the basketballs? 2. Is there any official purchase link for basketballs and basket? 	In the ABU Robocon 2025 international contest, the Molten BG3800 basketball will be used (refer to the following figure).

		 <p>Recommended distributors for each country and region are listed on the ABU Robocon 2025 website.</p>
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C. Setting of the game

Update Dec 20, 2024

#	Question	Answer
C.1.	<ol style="list-style-type: none"> Can team load multiple balls or just one ball to the robot? Can team member load the ball manually to the robot or the robot load the ball itself from ball rack?" 	<ol style="list-style-type: none"> During the game, only one ball is allowed in the playing area at a time. Team members can manually load the ball onto their robot, but they must remain in the operating area while doing so.
C.2.	If the setup time expires and our team wishes to continue, how can we proceed after the allotted time has ended?	Please refer to RB- 4.4 and 4.5 for specific guidelines and procedures regarding setup.
C.3.	In the event of a robot malfunctioning in the middle of the match, what can be done by the operators to handle this situation? For example, operators were able to ask for "Retry" in the previous years. Is there a system similar to this that does not involve reconfiguration?	Please refer to RB-1.7 and 11 for the procedures in such situations.
C.4.	If the red team is the first possessing team in a game. At the end of the one-minute setup time, the blue team has not completed the setup and the game begins. At this point, according to Rule 4.5, the blue team can reconfigure its robots. However, Rule 11.1 states that " Teams can bring their robots to their own operating area for reconfiguration only during possession changes." But this is the start of the game, not a possession change. In other words, the blue team can' reset. What to do?	According to RB-4.4 and Rule 4.5, the blue team must wait until the next possession change to perform any reconfiguration of their robots.

C.5.	What if one robot of the offensive team who first controls the ball does not complete the setting within one-minute setting time? And, what if neither of its two robots haven't finished setting?	Even if the setup is not completed within the one-minute setup time, the match will still start. However, if the team does not advance to the offensive side within 8 seconds of the start of the match, it will be considered a violation as per RB-12.1.
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Update Feb 25, 2025

#	Question	Answer
C.6.	If a team fails to set up a robot within the allotted setting time, what consequences will the team face?	Please, refer RB-4.5 and RB-11.

D. Offensive team

Update Dec 20, 2024

#	Question	Answer
D.1.	Does the shot clock duration continue if no teams have control of the ball? For example, if the offensive team fails to shoot and the ball drops on the game field, does the shot clock stills continue counting down?	Yes, the shot clock will continue counting down until it expires or the defensive team gains possession.
D.2.	What if the shot clock is over but the ball already shot out from our robot and goes in the basket, does it count the score?	According to the RB-6.7.2 and 6.7.4, if the shot is already in progress (i.e., the ball has left the robot) before the shot clock expires, and it goes into the basket, the score will count.
D.3.	Once the offensive team is on the other side, can the robot "travel." For example, if the robot with the possession of the ball and it is on the offensive side, can it move with the ball?	There is no restriction on the robot moving with the ball within their offensive side. However, when shooting the ball to score, the robot must follow RB-6.6.
D.4.	To what extent is the offensive team's robot allowed to move while holding the ball?	The offensive team's robot is allowed to move freely while holding the ball, with no specific limitations on its movement. However, when advancing to the offensive side, the robot must follow RB-6.2.
D.5.	Is it possible for the offensive team's robot to use its arm to enclose and roll the ball that is in contact with the field while moving?	No, it is not allowed for the offensive team's robot to use its arm to enclose and roll the ball that is in contact with the field while moving.

D.6.	Is free fall considered as dribbling? Or pushing the ball against the ground is a valid dribble?	Since the dribbling satisfies the dribbling rule, pushing the ball against the ground is not mandatory.
D.7.	"The definition of a dribble is to bounce the ball, not to catch what is bounced or to keep it bouncing? If the robot is dribbling, is it allowed to surround or cover the ball until the robot starts dribbling or only while dribbling? How far is it allowed to enclose or cover the ball?"	Please refer to RB- 6.4.
D.8.	Do we have to have to continuously dribble the ball? Or is a single dribble valid?	Robots do not need to continuously dribble the ball. Please refer to RB-6.2.1 and 6.6.1.
D.9.	When a robot passes from one to another, does the ball needs to bounce first?	No, the ball does not need to bounce first, however, bouncing pass is allowed.
D.10.	<p>"We would like to ask a question about passing. In Rulebook (20240814 version),</p> <ol style="list-style-type: none"> 1. 1.5 states that "Passing is the act of a robot transferring control of the ball to a teammate robot." 2. 6.5.1 states that "To be valid, the ball must be thrown to the teammate robot from a distance of at least 1000 mm, ..." 3. 12.5 states that it is a violation "If an offensive team's robot dribbles or passes without adhering to the rules for dribbling or passing, respectively." <p>From these rules, we assumed that ""even after the offensive team have successfully advanced to their offensive side through either dribbling or passing, a robot transferring control of the ball to its teammate robot from a distance of less than 1000 mm is considered a violation". Is our interpretation correct?"</p>	Yes, your interpretation is correct.

D.11.	Can we shoot from our side of the game field? If yes, what will our score be?	Please, refer to RB-6.7.3.
D.12.	What does our robot accidentally touch the opponent robot frame after performing a dunk shot, does it count as violation?	Please, refer to RB-9.6.
D.13.	Can the offensive team's robot start dribbling again after dribbling once and then bringing the ball inside its body?	Yes, it can.
D.14.	"If the offensive team opts to dribble, a robot that controls the ball must dribble the ball at least once on the offensive side", does it mean that we can dribble only 1 on the offensive side and then robot can move freely with the ball (without dribbling)?"	Yes, it does.
D.15.	Can an offensive robot stay on the defensive side and shoot the ball into the basket without moving into the offensive side?	Yes, it can. However, no score will be counted.
D.16.	Should the dribble be done while the robot is moving or only done when the robot stops?	Robots can dribble while moving or stopping.
D.17.	If there is a condition where the ball is released from the offensive team's robot so that the ball's reflection doesn't reach 70 cm anymore, what should we do, do we still take it, or the referee takes the ball, and the defensive position changes to offensive.	If the dribbling ball is released from the offensive team's robot and its reflection doesn't reach 70cm, the robot can attempt to pick up the ball and dribble again. If the robot cannot pick up the ball, a teammate robot that satisfies the passing rule (RB-6.5.1) can pick up the ball. If the dribble is not successful, the game continues.
D.18.	Can a dribbling hand be combined with other functions such as passing?	Yes, it can.

<p>D.19.</p>	<p>"In Rulebook (20240814 version), 6.4.2 states that ""dribbling robots must not cover or surround the ball except for dribbling hand above 700mm"". Which of the following does this mean:</p> <ol style="list-style-type: none"> 1. Dribbling robots must not cover or surround the ball except for 'dribbling hand above 700mm'. 2. Dribbling robots must not 'cover or surround the ball above 700mm' except for dribbling hand. In this case, below 700 mm, it is OK to cover or surround the ball." 	<p>Meaning 1 is correct.</p>
<p>D.20.</p>	<p>According to 6.6.1, "Shooting robot must perform at least one dribble at any point but before a shot for each instance of gaining control of the ball." Assume robot is already in offensive side, below which situation that robot is allowed to perform ball shooting action?</p> <ol style="list-style-type: none"> 1. The robot moves to 3-point zone >> dribbling ball >> ball shooting 2. The robot moves to 3-point zone >> dribbling ball >> move to another place in 3-point zone >> ball shooting" 	<p>Both situations are allowed to perform shooting.</p>
<p>D.21.</p>	<p>Does the robot that dribbles when entering the offensive side, still need to dribble once more before shooting?</p>	<p>No, a robot that advances to the offensive side by dribbling does not need to dribble again before shooting, as long as the ball's control has not been transferred.</p>
<p>D.22.</p>	<p>In Rulebook (20240814 version), 6.6.1 states that "a robot may shoot without dribbling if it shoots immediately upon gaining control of the ball without changing its location or while in the air". We assumed that following situations would be allowed:</p> <ol style="list-style-type: none"> 1. After a robot gains control of the ball, mechanism of the robot other than tires moves. For example, mechanism for shooting changes its direction before shooting. 	<ol style="list-style-type: none"> 1. If the robot's wheels and base perimeter do not move, it is allowed for the other mechanism to change direction before shooting. 2. It is not allowed for the robot to rotate on the spot using its moving mechanism. 3. It is not allowed for the robot to move vertically (e.g., jumping) before shooting.

	<p>2. After a robot gains control of the ball, the robot doesn't change its location, but the robot uses tires to rotate on the spot before shooting.</p> <p>3. After a robot gains control of the ball, the robot moves vertically before shooting. For example, the robot jumps in the place the robot gains control of the ball.</p> <p>Is our assumption correct?"</p>	
D.23.	<p>When the robot receives a pass, the robot must dribble the ball at least once so it can move from its position. Does the robot also have to dribble the ball when the robot rotates?</p>	<p>No, the robot does not need to dribble the ball while rotating. Dribbling is only necessary when the robot is advancing to the offensive side or before shooting. Rotation alone does not require dribbling.</p>
D.24.	<p>Does a pass that aims to enter the offensive side count as a dribble and the robot is allowed to shoot directly?</p>	<p>No, a pass that aims to enter the offensive side is not considered a dribble. However, according to Rulebook section 6.6.1, the receiving robot can shoot the ball immediately, as long as it does not change its location or is in the air.</p>
D.25.	<p>"However, a robot may shoot without dribbling if it shoots immediately upon gaining control of the ball without changing its location or while in the air." By the term "shoots immediately" is there a time limit to it?"</p>	<p>There is no time limit for "shoots immediately" as long as the robot does not change its location. "While in the air" refers to action of jumping, catching the ball and shooting it while in the air.</p>
D.26.	<p>If the robot rotates on the spot or jumped from where it received the ball from passing, does it still count as not changing its location?</p>	<p>Yes, rotating by moving the mechanism or base perimeter, or jumping, will be considered as changing the robot's location.</p>

D.27.	When doing a dunk shoot, assuming the robot successfully jumps and shoots, but the ball doesn't go into the basket, does that mean 7 points are still awarded?	No, it does not. If the ball does not go into the basket during a dunk shoot, 7 points will not be awarded.
D.28.	Once a robot receives a pass in the offensive area, can it move and then dunk without dribbling?	No, it cannot. Once a robot receives a pass in the offensive area, it must dribble at least once before attempting a dunk, unless it shoots immediately without changing its location or while in the air, as per the rules.
D.29.	In terms of dunk shooting, is it permissible for the robot not to have to jump but there is a robot mechanism that can touch the basket, does this include a dunk shoot?	No, for a dunk shot, the robot must jump to perform the action.
D.30.	Are there any limitations on how high the robot can jump, how long it can stay in air, and how fast it must fall after the jump? For example, is it considered violation if a parachute or propeller mechanism (within the size limit) is used to slow down the fall before or after the shot?	There are no specific regulations regarding jump height, airtime, or falling speed. However, the safety of the robot and its surroundings must always be guaranteed. For the example, no, the use of any kind of open-air force, such as blowing by a propeller, compressed air, parachutes, or similar mechanisms, is prohibited.
D.31.	Is it allowed for an offensive robot to jump first, then receive the ball from a pass, and then dunk it? In this case, is there any limitation about where the robot must jump from and how long it can stay in air?	Yes, it is allowed for an offensive robot to jump first, then receive the ball from a pass, and then dunk it. There are no limitations on where the robot must jump from or how long it can stay in the air.
D.32.	We would like to ask about dunk shooting. In Rulebook (20240814 version), 6.6.2.1 states that "a robot must jump 'independently' when performing a dunk shooting". We interpreted this to mean that "when	Yes, your interpretation is correct. A robot must jump independently when performing a

	a robot jumps, it cannot be touching the teammate robot". Is our interpretation correct? If this interpretation is wrong, is a dunk shooting robot allowed to climb onto and jump off the teammate robot?	dunk shot, meaning it cannot be touching or relying on the teammate robot to jump.
D.33.	Does an offensive robot need to be completely within the paint zone before jumping? Because if the defense robot stands directly under the basket, there is not enough space to move the entire offensive robot within the paint zone.	No, during the dunk shooting attempt, the offensive robot does not need to be within the paint zone before jumping. However, the ball must be released from within the paint zone as per FAQ-A.19.
D.34.	What does "direction of its fall after released by the robot." mean? Is it permissible to shoot the ball by pushing it sideways or downward? For 6.6.2.3, does this refer to free fall? Does a free fall count as a shot if thrown against the ring from directly below?	The angle of the ball's trajectory must be below the horizontal direction after release by the robot. The falling direction does not need to be parabolic or a free fall. If the entire ball passes through the basket from below, it will be considered a violation (as per FIBA rule 16.2.4).
D.35.	When performing the "dropping" action described in rule 6.4.1, is it permissible to apply lateral force to the ball or change the ball's falling direction by rolling it on the robot (without applying force) under the definitions of dribbling or dunking in rules 6.4.1 and 6.6.2.3? If not, how is this distinguished from the inertia that occurs when the robot is dribbling while in motion?	It is not prohibited to apply lateral force or roll the ball on the robot during the "dropping" action
D.36.	Is it a violation if a robot damages the backboard or basket while performing a dunk shot?	Yes, it is a violation if a robot damages the backboard or basket while performing a dunk shot. Depending on the severity of the damage and the situation, the team can be disqualified.

D.37.	Refer to 6.3, can we intentionally lose control of the basketball and keep it rolling on the ground in order to pass it to the other robot from our team?	If the passing action satisfies the rulebook section 6.5.1, any form of passing is allowed.
D.38.	At the start of a game, is the offensive team allowed to make a pass on their defensive side of the field?	It is not prohibited for the offensive team to make a pass on their defensive side
D.39.	According to 6.5, to be valid, the ball must be thrown to the teammate robot from a distance of at least 1000 mm, measured from the nearest points of the robots." Is this rule still valid after both robots from offensive team enter the offensive side? For example, passing the basketball below 1 m when both robots are in 3-point zone.	Yes, the passing and dribbling rules must be always satisfied.
D.40.	Is it possible to utilize another robot to protect our dribbling?	No, it is not allowed to use another robot to protect the dribbling robot. Two robots of the same team must maintain a distance of at least 1 m while dribbling.
D.41.	Rules 6.4.1 and 6.5.1 both refer to "measure distance". I like to know how to measure and judge during the competition?	During the competition, referees will visually check and judge the distance to ensure compliance with the rules.
D.42.	What happens if the robot accidentally takes the ball out of the playing field?	Please, refer the RB-12.7.
D.43.	Can the offensive team's robot pick up or rebound the ball in its offensive zone? If it can't, why? If it can, does it have to still change possession if it gets the rebound ball after an unsuccessful shooting?	Please, refer the RB-6.3.
D.44.	Rulebook states that "6.4.2 Dribbling robots must not cover or surround the ball except for dribbling hand above 700 mm."	Yes, it can.

	Can the ball be covered by the dribbling mechanism during initiating or completing the dribble (mechanism is situated above 700mm and inside the area of base perimeter)."	
D.45.	When an offensive team's robot is dunking, can the defensive team's robots be in the paint zone?	Yes, it can.
D.46.	Rule 6.3 says that the offensive team's robot can pick up ball to remain possession, and 8.2 says that the defensive team's robot can also pick up ball to gain possession. If so, can they pick up the ball from the ground inside the game field? If it is true, after the offensive robot has dropped the ball on the ground, at what time can the referee decide that it is unable to pick up the ball, i.e. loses the control to the ball, and needs to send signal of possession change?	Please, refer the RB-12.1 and 12.2.
D.47.	There is nothing in Rule 6 that says the offensive team must enter its own offensive side within 8 seconds. Why does Rule 12.1 limit the time within 8 seconds? Also, does the offensive team mentioned in 12.1 refer to its one robot or all two robots?	Advancing to the offensive side refers that the offensive team to bring the ball into the offensive side. Therefore, only the robot with the control of the ball needs to be on the offensive side within the given time interval.
D.48.	Can ball be passed from one robot to another robot after ball is dribbled on ground once? Can I pass the ball to second robot while first robot is in moving condition?	Yes, both situations are allowed.
D.49.	When dribbling, the ball falls to the ground from a component of the robot. Does the ball bounce from the ground and have to return to the same component? Or is it only needed to go back onto the robot?	When dribbling, the ball can bounce off the ground and does not need to return to the same component of the robot.
D.50.	Rulebook states that "6.4.2 Dribbling robots must not cover or surround the ball except for dribbling hand above 700 mm."	Yes, the dribbling mechanism can be placed inside the area of the robot's base perimeter. However, if the ball bounces inside the robot's

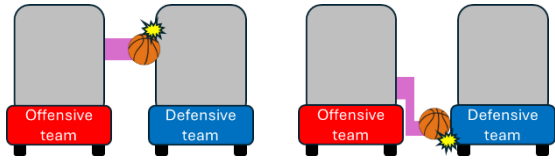
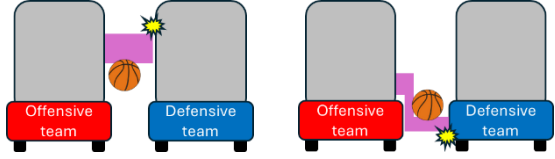
	Can the dribbling mechanism be situated at the height of more than 700mm and inside the area of the base perimeter?"	base perimeter, it will be considered as being covered or surrounded, which is not allowed.
D.51.	<p>If the offensive team’s robot passes a ball to another robot, but:</p> <ol style="list-style-type: none"> 1. The ball goes out of the game field and is not received by the own partner. 2. The ball is hit out of the game field by the opponent's robot on the way. 3. The ball rebounds out of the game field after hitting the opponent's robot on the way. <p>How are these three situations made decision by referee?</p>	<ol style="list-style-type: none"> 1. Ball goes out of the game field and is not received by the own partner: Violation by the offensive team. The offensive team loses possession. 2. Ball is hit out of the game field by the opponent’s robot on the way: Violation by the offensive team. The offensive team loses possession, but if the hitting robot of the defensive team is in their offensive side, it will be a violation by the defensive robot according to RB-12.8. 3. Ball rebounds out of the game field after hitting the opponent’s robot on the way: Violation by the offensive team. The offensive team loses possession, but if the hitting robot of the defensive team is in their offensive side, it will be a violation by the defensive robot according to RB-12.8.
D.52.	If the offensive team’s robot A passes the ball to own team’s another robot B, which is already in the offensive side, without dribbling in own defensive side, can robot A still enter its offensive side?	Yes, if a robot does not control the ball (i.e., after passing it), it can move freely.
D.53.	For Rule 6.6.2.4, how does a robot that grabs the basket ring after a dunk shooting return to the ground again? If it jumps down, and falls or hits the opponent’s robot when it lands, who is responsible?	After a dunk shot, team members are allowed to bring the hanging robot back to the playing area. If the dunking robot lands onto any other robot, each team is responsible for their own robot’s safety.

D.54.	<ol style="list-style-type: none"> 1. When performing dunk shot, does the robot need to physically hold and place the ball into basket or just shoot the ball into basket while jumping in air? 2. What is the minimum jump height of dunk shot? and how does the referee discern the dunk shot jump is valid or not? 3. When the ball fall into the basket partially (not all portion of the ball travel through basket) and get bounced out by the defensive mechanism of defensive team does it count points for the offensive team? 	<ol style="list-style-type: none"> 1. Both are allowed. 2. There is no minimum height requirement for a dunk shot. 3. Yes, it counts as a score.
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#	Question	Answer
D.55.	Regarding 6.4.2, which states that the ball must not be covered or surrounded except by a dribbling hand at a height of 700 mm or more, does this apply only during dribbling? For example, when a player receives a pass from a teammate's machine and loads the ball into the mechanism that ejects it, is he considered to be covering or enclosing the ball?	The RB-6.4.2 applies only during dribbling.
D.56.	Is it compulsory to stay airborne until a dunk shot is scored?	No, it is not compulsory to stay airborne until a dunk shot is scored.
D.57.	When using a robotic arm to drop a ball from a height of 700mm, and the ball bounces, can we catch the ball immediately as it bounces (robot touches the ball)?	No, during dribbling, the robot must not touch or cover the ball until it reaches a height of 700mm after bouncing.
D.58.	Can a robot, upon gaining control of the ball, refrain from shooting, move without dribbling, and then pass the ball to another robot?	Yes, a robot can move without dribbling after gaining control of the ball and pass it to another robot.

D.59.	If the robot jumps and catches the rim of the basket and then puts the ball into the basket, will it be considered as a "Dunk Shot"?	No, it is not considered a dunk shot if the dunking robot holds any part of the basket before releasing the ball.
D.60.	While we are in offensive time and trying to shoot or dunk, to what extent the defensive team can tackle our bots which are shooting? As this is concerning!	Robots can make contact using their base perimeter. However, if the tackle causes the offensive robot to fall or be pushed, it will be considered a foul.
D.61.	Regarding 6.3, it says "pick up" the ball, but does "pick up" mean "touch the ball" or "touch the ball with an arm, etc., so that the ball is fixed in the air (held in the air without moving the ball with the arm)"?	A momentary contact alone is not considered picking up the ball. The referee will determine what constitutes control of the ball based on the game situation.
D.62.	Referring to 6.6.1, does it mean that Robot A dribble and pass to Robot B, if Robot B was standing still on ground and the base of Robot B didn't move any distance, then Robot B can shoot the ball into the net without dribbling right?	Yes, your understanding is correct. Also, refer to FAQ-A29.
D.63.	Referring to 6.4.1, when I am dribbling, the ball must drop from 700 mm, and it also must bounce at least 700 mm. Is it correct?	Yes, your understanding is correct.
D.64.	According to section 6.6.1 in rulebook, is the robot allowed to dribble once when passing through the offensive field and standing still in that position and throwing the ball all the time. Or you have to dribble the ball a second time before being throw?	In this situation, the second dribble is unnecessary.
D.65.	How is a basket considered valid for scoring (in any scoring scenario)? For example, if only half of the ball passes through the ring and then bounces out, does it count as a score?	A shot counts as a success only if the entire ball passes through the basket downwards. If the ball passes halfway through the basket and then bounces out, it does not count as a goal.

D.66.	<p>If we have possession of the ball can our robot 2 directly goes to offensive side which not have control of the ball and then our robot 1 passes the ball to robot 2 and then shoot is performed by robot 2 (consider shoot is done in 3-point zone) is it valid?</p>	<p>Yes, it is valid as long as the play meets the requirements for passing and shooting outlined in the RB and FAQ.</p>
D.67.	<p>If we lose to dribble the ball and the ball rolls on the ground does our Robot1 which was dribbling the ball moves aside from the ball of 1 m and our robot2 picks up the ball, will it be considered as passing?</p>	<p>Yes, it will be considered a pass. Also, refer to FAQ-A12.</p>
D.68.	<p>Can the robot jump and grip the hoop before releasing the ball? The robot is technically "in the air"</p>	<p>Momentary contact with the basket before releasing the ball is permitted, but grabbing the basket is not allowed.</p>
D.69.	<p>Is it considered a foul if an offensive robot touches the defensive robot's base perimeter or inside base perimeter with:</p> <ol style="list-style-type: none"> With the ball?  <ol style="list-style-type: none"> With the ball-handling arm? 	<p>Revision Mar 14, 2025</p> <ol style="list-style-type: none"> Inside base perimeter: <ol style="list-style-type: none"> If the defensive robot moves into contact, it is not a foul, regardless of whether the contact is made by the ball or ball-handling arm. If the offensive robot enters and makes contact, it is an offensive team's foul, regardless of whether the contact is made by the ball or ball-handling arm. Base perimeter: <p>Contact with the base perimeter is not considered a foul, regardless of whether the contact is made by the ball or ball-handling arm, and regardless of which robot initiates the contact.</p>

E. Possession change

Update Dec 20, 2024

#	Question	Answer
E.1.	If a basketball stays or rolls on the ground, the offensive and defensive teams' robots fight and scramble for the ball, and the ball is forced out of the game field. How to deal with it?	Please, refer the RB-12.7.

Update Feb 25, 2025

#	Question	Answer
E.2.	The rule states that "all robots must come to a complete stop at their current positions" during a possession change. Does this apply to robots that might be in the air at the time of the possession change signal, such as during a jump or dunk attempt? If so, how should they comply with this rule?	Robots that are airborne at the time of a possession change must land promptly and come to a stop.
E.3.	If we intercept the ball and take possession, but choose to continue the game without a shot clock reset, and the shot clock runs out, does possession go to the opponent, or do we retain possession?	When the defensive team steals the ball and chooses to continue the game without a change of possession procedure, the shot clock will automatically reset.
E.4.	After performing a dunk shoot and hanging onto the basket, can the robot be taken by the team manually? Or the robot must do it by itself?	Team members are allowed to manually take the robot and place it back on the game field after performing a dunk shot.

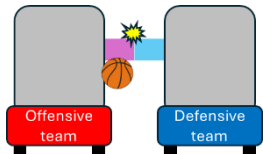
F. Defensive team

Update Dec 20, 2024

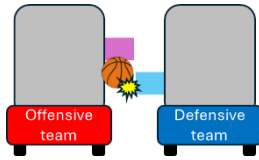
#	Question	Answer
F.1.	If the robot shoots outside the game field, what will the consequence be? and what will happen after that?	If a robot shoots from outside the playing area, it is considered a violation.
F.2.	In defensive terms, is it permissible for the robot mechanism to close the basket (this closing condition means the robot mechanism is around the basket), if it is permissible, is it permissible for the defensive team robot to touch the basket or accidentally touch the basket or ball?	<ol style="list-style-type: none"> 1. Defensive robots are allowed to protect the basket nearby; however, no robot, whether defensive or offensive, is permitted to touch or hold the backboard, basket, or net, except for an offensive robot performing a dunk shot, which is allowed to touch the basket during the dunking action. 2. If a defensive robot touches the ball while it is on its way down toward the basket, on its way up toward the basket after touching the backboard, or in the cylinder above the basket, it is considered goaltending, and the shot will be counted as a score.
F.3.	Can the defensive team go and attack, steal ball, or defend on the side of the game field?	The defensive team is only allowed to take defensive actions, such as stealing the ball, or defending, within their defensive side of the game field.
F.4.	What is the definition of “defensive action”?	Defensive action is defined as any action that disrupts the motion or strategy of the offensive robots, as specified in Rulebook section 8,

		except for actions restricted by the rules and clarifications provided in the FAQ.
F.5.	When the defense team rebounds or gets the ball from the offense team and wants to immediately make a possession change without a signal from the referee, is the shot clock reset?	Yes, the shot clock will be reset.
F.6.	What is the procedure if a defensive robot is damaged during the passing of the ball as a result of its defensive actions?	Please, refer the RB-11.
F.7.	Refer to 12.8, is it a defensive action if the ball accidentally touches defensive team robots inside the defensive team's offensive zone? Please specify defensive actions.	Yes, it is considered a defensive action if the ball touches defensive team robots inside the defensive team's offensive zone, whether intentional or not. Defensive actions refer to any actions by the defensive team that disrupts the offensive team's play, including blocking, intercepting, or deflecting the ball, or causing the ball to change direction or location, regardless of intent.
F.8.	Rulebook states that "8.4 If the defensive team fails to transition to their defensive side within a time frame that is given by the referee, they are prohibited from taking any defensive actions until they complete the transition." Can the defending team resume defending when only one robot has completed the transition to the defensive side?	Referring to Rule 8.4, the restriction applies only to the defensive robot that is still on the offensive side. Once that robot transitions to the defensive side, the defensive team can resume defending, even if the other robot has not yet completed the transition.

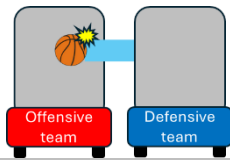
Update Feb 25, 2025

#	Question	Answer
F.9.	Is the defensive team’s robot allowed to jump and block a shooting ball?	Yes, it is allowed.
F.10.	<ol style="list-style-type: none"> 1. Can the defending robot stand in the paint zone when the attacking robot dunks? 2. Is a robot allowed to stand under the basketball net for 20 seconds on the defensive side to prevent offensive robots from dunking? 	Yes, a defending robot is allowed to stand in the paint zone. However, if the robot’s actions are deemed to significantly interfere with gameplay, such as by initiating collisions or obstructing play in an unsportsmanlike manner, it may result in a foul or disqualification.
F.11.	In 8.2.1, it's mentioned that the robot starts their attack without waiting for a referee's signal, but in 8.2.2, they may request the referee to initiate the possession change. Could you clarify under what situations one would start with or without the referee’s signal?	In situations other than a referee-controlled possession change, if the defensive team gains control of the ball, they immediately become the offensive team and can start their offense without waiting for a referee's signal, as the game is not stopped. Alternatively, the team can request the referee to pause the game and initiate the possession change process before starting their offense.
F.12.	<p>Is it considered a foul if a defensive robot touches an offensive robot's:</p> <ol style="list-style-type: none"> 1. Extended arm holding the ball but outside the base perimeter? 	<ol style="list-style-type: none"> 1. No, it is not. 2. No, it is not. 3. Yes, it is.

2. Ball held outside the base perimeter?



3. Ball held inside the base perimeter?



G. Fouls

Update Dec 20, 2024

#	Question	Answer
G.1.	<p>In Rulebook (20240814 version), 9.1 states that "if a robot enters the opposing robot's base perimeter and touches anything other than the base perimeter, it will be considered a foul". If we intentionally use the parts of our robot that are inside our base perimeter to hit the parts of the opposing robot that are outside of their base perimeter, is this considered as a foul for the opposing team?</p> <p>We assume that this would not be a foul for the opposing team, as this could be used strategically to force the opposing team to get a foul. This seems to go against fair play. Also, if this action was allowed, robots would get easily damaged, which goes against safety.</p>	<p>In this situation, please refer to the BR-13. The situation will be judged by the referee.</p>
G.2.	<p>In rule book 9.2, how to determine if a robot is pushing another robot? For example, when both robots are simultaneously moving and bump into each other, which team commits a foul?</p>	<p>If both robots are moving and come into contact, the determining factor for a foul is whether one robot is pushing the other. If one robot causes the other to move in the direction of the push or causes it to fall, the robot initiating the push will be considered to have committed a foul. The referee will make the final judgment in such cases.</p>
G.3.	<p>In Rule Book 9.2.3.3, how to determine if a robot is performing a dunk shot?</p>	<p>Please, refer to the RB-6.6.2.2.</p>

<p>G.4.</p>	<p>In Rule Book 9.4.5, "its position" refers to the robot's standing or operational position at the time it fell.</p>	<p>In RB-9.4.5, "its position" refers to the robot's standing or operational position at the time it fell.</p>
<p>G.5.</p>	<p>The situation described in Rule 9.4.5 is that the offensive team's robot is knocked down after the defensive team's robot fouls, and within 10 seconds it is returned to its position and the referee resumes the game. However, if the offensive robot does not have the ball at this time, how can the game be resumed?</p>	<p>In this situation, the game can resume by one of two options:</p> <ol style="list-style-type: none"> 1. The team member can load the ball onto the fouled robot within the given time frame, allowing the robot to resume play with control of the ball. 2. Alternatively, once the game resumes, the robot can pick up the ball from the playing area, as long as it is in compliance with the rules for possession and movement.
<p>G.6.</p>	<p>In Sections 9 and 12 of the Rulebook for ABU Robocon 2025, "Foul" and "Violation" are stated respectively. This has never been the case in the past twenty-three years of ABU Robocon. (1) What's the difference between these two terms? Can you give an exact definition for them? (2) In Section 9, Rules 9.1 and 9.2 describe two behaviors that are "Foul". Are there any other congeneric behaviors?</p>	<ol style="list-style-type: none"> 1. A foul is a breach of the rules involving physical contact. It is committed by a robot against an opponent. A violation occurs when a robot breaks a rule mostly without involving physical contact. This could involve actions like moving the ball out of bounds, not following the required time limits, or failing to execute specific tasks correctly, without direct interference with an opponent. 2. Other potential fouls can include actions like holding, lifting, or blocking the opponent's robot in an illegal manner, or actions that physically disrupt the

		opponent's robot in ways not permitted by the rules.
G.7.	In accordance with Rule 9.2, if after a robot Ra contact with the opponent's robot Rb and then pushes Rb, Ra's action will be considered as foul. How to decide if Rb is pushed by Ra? If Rb has the function of automatically backing away after being touched, the referee saw was that Ra made contact with Rb and Rb stepped back some distance. So, could the referee determine Ra makes foul?	The pushing action will be determined by the referee based on the observed interaction between the robots.

Update Feb 25, 2025

#	Question	Answer
G.8.	Regarding 9.1, does "entering the base perimeter" mean crossing into the area inside the foam rubber protective bars, or does it mean that the orthographic projections of my robot and the opposing robot's base perimeter overlap?	"Inside the base perimeter" is defined as the space formed by the vertical extension of a cylinder inscribed in the base perimeter.
G.9.	What happens if another part of the robot besides its base circumference touches the opponent's base circumference?	It is considered a foul.
G.10.	Is it considered a foul if the robot enters and touches the opponent's base perimeter when it lands after jumping?	It is not considered a foul during the landing process, but it is not permitted after the robot has landed. Each circumstance will be judged by the referee.

<p>G.11.</p>	<p>Regarding 9.1, it says that touching a robot outside the base perimeter while entering the base perimeter is considered a foul, but is it a foul if the robot touches a part that has expanded outside the base perimeter?</p>	<p>Robots making contact with parts of opposing teams' robots that are outside of the base perimeter's cylinder is not considered a foul.</p>
<p>G.12.</p>	<ol style="list-style-type: none"> 1. In Rule Book 9.4.5, what is the criteria for determining if a robot has fallen? 2. In Rule Book 9.4.5, what does "its position" refer to? Where should the robot be returned to? 	<ol style="list-style-type: none"> 1. The referee will decide if the robot has fallen. 2. The robot should be returned to the position just before it was fouled.
<p>G.13.</p>	<ol style="list-style-type: none"> 1. Since it is allowed to touch the base perimeter of an opposing robot, does this include using said base perimeter to disrupt/block its movement? 2. Rule 9.1 states that entering the opponent's base perimeter and touching "anything" other than the base perimeter is a foul. Does "anything" include the ball? If so, would touching the ball within the opponent's base perimeter be considered a foul? 	<ol style="list-style-type: none"> 1. Disturbing the movement is allowed but refer to Rule 9.2. Judgment will be made by referees. 2. A ball held inside the base perimeter is considered part of the robot. A ball held outside the base perimeter is not considered part of the robot (but note that for height measurement, the ball is considered part of the robot).

H. Reconfiguration

Update Dec 20, 2024

#	Question	Answer
H.1.	<p>We have a question about placing a robot back in the playing area after reconfiguration. In Rulebook (20240814 version), 11.5 states that "Team members are allowed to enter the playing area to bring their robots but are prohibited from entering the playing area to place their robots back." When placing the robots back, which of the following does "prohibited from entering" mean:</p> <ol style="list-style-type: none"> 1. Team members cannot step into the playing area, but a part of a team member's body entering the space above the playing area is OK. In other words, team members can manually place the robot back into the playing area. 2. No part of a team member's body can enter the playing area, including the space above. In other words, the robot in the operating area must autonomously enter the playing area by stepping over the fence. 	<p>Meaning 1 is correct.</p>
H.2.	<p>Rulebook 11.4 states that "If teams place robots back into the playing area while the game is in progress, the robot must enter from the defensive side of the offensive team when remaining robots of the offensive team are on the offensive team's offensive side."</p> <p>What happens if one of the offensive teams' robots is on the defensive side?</p>	<p>Robots may return to the playing area regardless of the positions of other robots; however, they must re-enter from the offensive team's defensive side and be placed in a manner that does not disrupt the flow of the game.</p>

Update Feb 25, 2025

#	Question	Answer
H.3.	Can we use air tanks as spare mechanisms?	Yes, but this power source can only be used for the spare mechanism.

I. Violations

Update Dec 20, 2024

#	Question	Answer
I.1.	The offensive robot passing the ball to another offensive's robot and the defensive's robot willing to steal or block the ball that cause defensive's robot damage in some part. Does offensive's team consider as violation?	No, it does not.
I.2.	In Rule 12.1, what is the definition of advance to their offensive side? All contact area being on the offensive side? Area projected by the robot fully inside the offensive side.	Please, refer the RB-6.2.

Update Feb 25, 2025

#	Question	Answer
I.3.	If on the competition day, during a match, the referee believes we have committed a violation that is not mentioned in the latest official rulebook or FAQ, do we have the right to appeal the referee's decision? And in such a case, how can we protect our rights	Yes, teams have the right to appeal a referee's decision if they believe a violation has been judged unfairly and is not mentioned in the latest official rulebook or FAQ. The specific appeal process and guidelines will be provided later by the organizers.
I.4.	Under what conditions is a robot considered to have left the playing area? Is it allowed to pass through the airspace above the top of the fence?	If any part of the robot touches outside the playing area, it will be considered as having left the playing area. Additionally, no part of the



		robot should extend into the space above the fence.
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J. Robots

Update Feb 25, 2025

#	Question	Answer
J.1.	Is it permissible to use radio control like the one on remote drones? to control the robot? but the communication still follows the applicable frequency standards.	Please, refer RB-14
J.2.	We have a question about initial and extend limits of dimensions of the robots. Rulebook (20240814 version) states that "15.1.1 Each robot must fit within a cylinder with dimensions of 800 mm (diameter) x 1500 mm (height) before a game starts." and "15.1.3 During the game, robots can extend up to diameter of 1200 mm above their base perimeter, with a maximum height of 2.4 meters." Regarding the 800 mm circle at the base of the initial cylinder and the 1200 mm circle at the base of the extension cylinder, we assumed that these two circles do not need to be concentric. Is our assumption correct? We assumed this because if the two circles need to be concentric, the diameter of dribbling hand would have to be less than 200 mm. This would seem to make it too difficult for the robots to dribble.	Yes, your assumption is correct. The cylinders representing the base perimeter and the extended body during gameplay do not need to be concentric.
J.3.	The rule 15.1.3 says "During the game, robots can extend up to diameter of 1200 mm above their base perimeter". Does the word "above" here mean that the 1200 mm extension limit only applies to anything that is on top of the base perimeter? Meaning we cannot have anything in front of the base perimeter?	<ol style="list-style-type: none"> 1. Yes, the word "above" in Rule 15.1.3 means that the 1200 mm extension limit applies only to the area directly above the base perimeter. 2. Robots' extension mechanisms can be front of its base perimeter.
J.4.	Can the robot extend from above the base perimeter horizontally within the limit and then extend vertically downwards until it is just above the	Revision Mar 14, 2025



	bottom surface of the base perimeter or even below the base perimeter?	Yes, it can.
J.5.	Regarding the extended dimensions of the robots, does the height measurement from the base perimeter begin from the top surface or bottom surface of the perimeter or from the playing area?	The height of the robots is measured between the highest and lowest points of the robot. If the robot has a control of the ball, the ball will be considered as a part of the robot for height measurement.
J.6.	Would the horizontal expansion of the robot be allowed above the top surface or bottom surface of the base perimeter?	The horizontal expansion of the robot is permitted only above the top surface of the base perimeter, not below the base perimeter.
J.7.	<p>Rule 15.1.3 states: "During the game, robots can extend up to diameter of 1200 mm above their base perimeter." Regarding this "extension," which of the following interpretations is correct?</p> <ol style="list-style-type: none"> 1. The robot can extend up to a diameter of 1200 mm within a cylinder that is concentric with the base perimeter, and only above the base perimeter. This means the extended parts must share the same center as the base perimeter, and the extension can only occur above it; no extensions can occur to the sides or below the base perimeter. 2. The robot can extend up to a diameter of 1200 mm within a cylinder that is concentric with the base perimeter, both above and alongside the base perimeter. Here, the extended parts must share the same center as the base perimeter, and the extension can occur both above and alongside it, as long as it stays within a cylinder of diameter 1200 mm. 3. The robot can extend up to a diameter of 1200 mm within a cylinder that is not concentric with the base perimeter, but only 	<p>The correct interpretation is:</p> <ol style="list-style-type: none"> 3. The robot can extend up to a diameter of 1200 mm within a cylinder that is not concentric with the base perimeter, but only above the base perimeter.

	<p>above the base perimeter. In this case, the extended parts do not need to share the same center as the base perimeter, but the extension can only occur above it; no extensions can occur to the sides or below the base perimeter.</p> <p>4. The robot can extend up to a diameter of 1200 mm within a cylinder that is not concentric with the base perimeter, both above and alongside the base perimeter. This means the extended parts do not need to share the same center as the base perimeter, and the extension can occur both above and alongside it, as long as it stays within a cylinder of diameter 1200 mm.</p>	
J.8.	Can we use vacuum - based mechanisms, such that relative pressure between vacuum and atmosphere does not increase beyond 600kPa?	No, any kind of open-air mechanism, such as blowing or suction using propellers or compressed air, is prohibited.
J.9.	Can the robot temporarily shrink, extend or bend its base perimeter such that it still follows all rules mentioned in Sec 15 and Sec 1 - Term 2?	Yes, the robot can temporarily shrink, extend, or bend its base perimeter, as long as it complies with all the rules regarding the base perimeter.
J.10.	Are we able to bring different spare parts for each game, as long as the total weight for two robots (including spare parts, robots, base perimeter and anything mentioned in rule book) are within the weight limit?	Yes, teams can use different spare parts in different games if the requirement of the total weight is satisfied.
J.11.	Is 50kg the max weight of both robots combined or up to 50kg per robot?	Please, refer RB-15.2.
J.12.	Will there be any speed limit of the ball shot out by a robot? Will there be any limitations of the speed of the robot?	There is no speed limitation for robots.
J.13.	In the Rule 15.2.1, the weight of the robot includes the weight of its spare mechanism. Does this mean that the original mechanism and the spare mechanism of the robot should be weighed together when the robot is weighed?	Yes, it does. When robots are weighed, the original mechanism and the spare mechanism should be weighed together.

J.14.	Rule 14.2 only allows RF communication between the remote controller and the robot. Can a team's two robots communicate with each other using radio frequency? If they can't, how do two autonomous robots cooperate closely to play basketball?	Yes, robots can communicate with each other, as long as the communication complies with the rulebook.
J.15.	We use double battery which is 20V for each one. Can we use both in series. It still under 42V in law.	Please, refer RB-15.3.3.
J.16.	Can shooting mechanism be only on one robot?	Yes, it can. Both robots can be equipped with a shooting mechanism, or only one robot can have the mechanism, depending on the team's design.
J.17.	Can the robot catch the ball and dunk without dribbling?	No, the robot cannot catch the ball and dunk without dribbling. However, a robot can perform an alley-oop dunk without dribbling (refer RB-6.6.1).
J.18.	Can we use a mobile/tablet/laptop for a remote control of the robot?	Yes, it is possible to use a mobile, tablet, or laptop for remote control of the robot, as long as it complies with the requirements specified in RB-14.
J.19.	<ol style="list-style-type: none"> Does ESP-NOW allowable? Because ESP-NOW operates on the same 2.4 GHz frequency as Wi-Fi and uses raw 802.11 packets. Can robots use radio like "NRF24I01"? 	No, you can only use the communication mentioned in the Rulebook. The Robocon Organizing Committee restricts RF communication to standardized protocols such as Wi-Fi, Bluetooth, and Zigbee to ensure security, safety, and ease of regulation during the competition. These protocols comply with internationally recognized standards, allowing


		teams to prevent interference and maintain consistent communication.
J.20.	Can we use suction for certain mechanism inside robot?	No, suction mechanisms are not allowed inside the robot.
J.21.	Can we use camera on the robot and FPV goggles or computer screen to control the robot? FPV goggles and computer screen should probably be considered as part of the controlling device.	FPV goggles are not allowed. However, a screen can be used as part of the controlling device to monitor the camera feed from the robot.
J.22.	If the ball is not supposed to have open volume around it while dribbling, does it mean we have to dribble it outside the base perimeter only?	Yes, the ball must be dribbled outside of the base perimeter.
J.23.	Are we allowed to use dummy basketball hoops as a hand to trick the opponent into locking onto our dummy basketball hoop instead of the actual basketball hoop, which will be useful for defending against automated robots.	No, teams are not allowed to use dummy basketball hoops or similar deceptive mechanisms, as this goes against the principle of fair play.
J.24.	Does it mandatory for robot to jump rather only for the dunk shooting?	No, it is not mandatory for the robot to jump, except when performing a dunk shot.
J.25.	Is it mandatory that we have to make a spare mechanism for special task?	No, it is not mandatory to have a spare mechanism for a special task.
J.26.	Can Spare part be used such that with the spare part it will exceed initial dimension but be within extended limit?	Please, refer to the RB-15.1. Spare parts can be used as long as they comply with the extended dimension limits specified in the rules. However, the robot's initial dimensions must still adhere to the rule before the game starts.
J.27.	Are we allowed to hold onto the basketball hoop rim, then transport the ball up the hand into the basketball hoop while dunking?	No, robots are not allowed to hold the basketball hoop (rim, hoop, or net) before releasing the ball during a dunk.

J.28.	Can 3 team members control 2 robots at the same time?	Yes, they can.
J.29.	The rule specifies the color of the base perimeter. We would like to confirm if there are any regulations regarding the visual appearance of the robot beyond the base perimeter. Specifically, are there any restrictions on using markings or colors on other parts of the robot for AI visual purposes during the game?	For the robot's visual appearance beyond the base perimeter, ABU Robocon 2025's organizing committee allows the use of numbers for team identification. However, markings or colors that resemble sponsor logos, images of basketballs, or commercial proposals are not permitted. The primary concern is to ensure that such markings do not interfere with fair play or the aesthetic standards of the competition. Therefore, using numbers for identification is acceptable, but other types of visual elements must adhere to these restrictions.
J.30.	Is vacuum allowed for jumping?	No, vacuum systems for jumping are not allowed. Please, refer FAQ-J8.
J.31.	In the Rulebook 15.1.2 states that " Each robot's base perimeter must not exceed the diameter of 800 mm at all times." "So, if another part of the robot on the base perimeter is lowered to pick up the ball, does it violate this rule?	No, it does not violate the rule. Also, refer to FAQ-J3.
J.32.	Is it necessary to design the chassis specifically to accommodate the foam rubber, or are there alternative solutions?	The primary purpose of using foam rubber is to absorb potential shocks and ensure the safety of both the robots and team members. Therefore, teams may use alternative materials, provided they fulfill the same function of shock absorption and safety.

K. Others

Update Feb 25, 2025

#	Question	Answer
K.1.	We could not find any statement about use of wind in the Rulebook (20240814 version). We assumed it is not allowed to use wind (generated by a mechanism like an air blower) to change a trajectory of a ball, since it seems to go against the theme of 'basketball'. Is our assumption correct?	Yes, your assumption is correct.
K.2.	We could not find any statement about the surface of base perimeter in the rulebook (20240814 version). We assumed it is not allowed to give the surface of the base perimeter a mirror finish, since this may cause sensors to malfunction. This may, for example, disturb the recognition of the opponent team's robots and lead robots to crash into each other, which is unsafe.	Yes, your assumption is correct. The surface of the base perimeter must have a matte finish.
K.3.	Is there ball speed limit? As it is quite dangerous to shoot basketball in high speed.	There is no specific speed limit mentioned for the ball in the rulebook. However, safety is the top priority, so it's important that teams consider the potential risks associated with high-speed shots and ensure their designs are safe for all participants.
K.4.	What color is the basketball used in the game? Would it be OK if a team painted its robot the same color as a basketball?	In the ABU Robocon 2025 international contest, the Molten BG3800 basketball will be used (refer the following figure).

		 <p>As for painting a robot the same color as the basketball, it is not prohibited.</p>
K.5.	Can our robot somehow hold backboard before dunk shot?	No, it is not allowed at any time for a robot to hold the backboard
K.6.	Can we use VR headset which receives a video feed from the camera on the robot?	No, using a VR headset is not allowed.
K.7.	<ol style="list-style-type: none"> 1. How do I participate in your competition? 2. When will registration starts for Robocon 2025? 	Please contact your domestic Robocon contest organizer. If you don't have a domestic contest organizer, please contact us via the following email address: agaanorov@mnbc.mn .
K.8.	What happens if a small component such as a bolt, nut, or screw comes off the robot during the game?	If deemed dangerous by the referee, the game will be stopped immediately, and the parts will be removed. Otherwise, the dropped parts will be collected during the possession change.
K.9.	Section 10.3.1 states that in a tie situation, the team with fewer successful shots wins the game. Could you clarify how this rule is justified?	The rule is designed to encourage teams to attempt more challenging shots, such as dunk shots. For example, if Teams A and B are tied at 7:7 at the end of the game, but Team A achieved a single dunk shot worth 7 points,

		while Team B scored two 2-point shots and one 3-point shot, Team A would be declared the winner.
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