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FIRST® GAME CHANGERSSM powered by Star Wars: Force for Change
2020-2021 *FIRST® Tech Challenge*

Forum Answered Questions - Remote



FIRSTINSPIRES.ORG/ROBOTICS/FTC

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How to Use This Document

The *FIRST* Tech Challenge Official Q&A Forum is a place where teams can ask questions and receive official answers from game expert moderators. The official *FIRST* Tech Challenge Question & Answer Forum rulings take precedence over all information in the game manuals.

Moderators will answer team questions beginning each Monday, and close on Thursday at 12:00pm eastern time. The forum answered questions are then converted to PDF (this document) to be easily read by teams and volunteers. This takes place every week for the entire season, so teams should ensure to access the new forum printout each Thursday.

For Remote Teams

Teams competing in remote gameplay must use the rules that apply when their specific event started. For example, if a team's remote event starts on Monday, 11/30/2020, the team would use rules from that date and prior. New rules or clarifications that are posted after the window opens do not apply until the next competition. Make sure to check the date of the forum post.



FIRST TECH CHALLENGE

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Billie Jean
Senior Member
Join Date: Nov 2013
Posts: 220

General Robot Rules #1

09-22-2020, 09:52 AM

Answers to questions about General Robot Rules.

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Tags: None

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10-20-2020, 07:31 PM [Manage](#) | [Show](#)

This reply by Broadway Joe has been deleted by [Broadway Joe](#)

10-20-2020, 07:29 PM

Broadway Joe
Game Design
Committee Member
Join Date: Sep 2010
Posts: 942

10-20-2020, 07:29 PM #2

Launching Distance

Originally posted by FTC12533

Rule <RG08> in Game Manual Part 1 states that "Teams must only launch the elements with enough velocity to score", and that if a robot is deemed to be launching with too much velocity, they should be re-inspected and that "Robots must then show that a launched scoring element cannot travel in the air more than a 16 ft. (4.88 m) distance or more than 5 ft. (1.52 m) in elevation". Noting that this game requires the rings to be launched in the launch zone, this means that some positions on the field, when being shot from, will be in violation of the 16ft rule (as shown in https://www.reddit.com/r/FTC/comment...me_renders_of/).

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Q1: Noting that this game requires rings to be launched with high velocity and spin, does the rule limit the construction of the robot so that it could not possibly launch further than 16 feet?

Q2: In addition, with many teams competing in remote events, where inspection will be just an honesty check, to what extent will <RG08> be enforced this season?

A1: If a Referee feels the Robot is Launching rings in excess of the requirement, then Teams must demonstrate that the Robot as configured, cannot Launch Rings exceeding the limits imposed by <RG08>.

A2: There will be no checks of Robots that compete in Remote events. We are relying on Teams to be honest and to follow all the Rules. At traditional events, Rule <RG08>, along with all the other rules will be strictly enforced.

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11-17-2020, 12:09 PM

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This reply by Broadway Joe has been deleted by [Broadway Joe](#)
Reason: wrong place

11-17-2020, 12:07 PM

Broadway Joe
Game Design
Committee Member

Join Date: Sep 2010
Posts: 942

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12-07-2020, 06:15 PM

#3

Maximum Ring Launching Distance

Q:

*Originally posted by **FTC3805***

In rule <RG08> it says that "Robots must then show that a launched scoring element cannot travel in the air more than a 16 ft. (4.88 m) distance or more than 5 ft. (1.52 m) in elevation." does this refer the maximum distance/height the launcher can launch or does it include software limitations such as slowing down the motor/s?

A: A software limit is acceptable.

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Billie Jean
Senior Member
Join Date: Nov 2013
Posts: 220

Commercial Off the Shelf Components #1

09-22-2020, 09:53 AM

Answers to questions about Commercial Off the Shelf Components.

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Tags: None

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Broadway Joe
Game Design
Committee Member
Join Date: Sep 2010
Posts: 942

10-26-2020, 01:21 PM #2

PITTSO Motor 385

Q:

*Originally posted by **FTC10095***
Is a PITSCO Motor 385 an allowed DC motor? We were not sure if this is considered a Tetrax motor (listed as legal under the rules).

A: No, this is not a legal motor.

Last edited by Billie Jean; 10-29-2020, 01:36 PM.

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Broadway Joe
Game Design
Committee Member
Join Date: Sep 2010
Posts: 942

11-17-2020, 12:07 PM #3

Universal Joints

*Originally posted by **FTC12533***

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Q: What is the legality of universal joints, specifically the gobilda universal joint? (<https://www.gobilda.com/4003-series-...to-6mm-d-bore/>). Universal joints were ruled legal in a forum post last year and we wanted to verify that they were still legal.

A: Yes, universal joints are legal.

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Billie Jean
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Raw and Post Processed Materials #1

09-22-2020, 09:54 AM

Answers to questions about Raw and Post Processed Materials.

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Tags: None

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Broadway Joe
Game Design
Committee Member
Join Date: Sep 2010
Posts: 942

01-07-2021, 10:41 AM #2

Tread

*Originally posted by **FTC13178***

Q: In the legal and illegal parts book, it says that you are not able to use rough top treads because it can scratch and ruin the game floor. If we are just using it on the arm of our robot and it wouldn't touch the floor would we be able to use it?

Thank you!

A: Yes. The intent of the rule is to prevent damage to the floor tiles from spinning wheels. Rough top tread may be use for other applications provided their use does not damage the field, field elements, or scoring elements.

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Broadway Joe
Game Design
Committee Member

01-26-2021, 05:45 PM #3

Plaster of Paris

Join Date: Sep 2010
Posts: 942

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Originally posted by **FTC14779**

Q: Our team is having weight distribution problems and we need a ballast to fix this problem. Is it legal to use hardened plaster of pairs as a weight on our robot?

A: Yes, providing it is sufficiently protected to not leave debris on the field.

Last edited by Broadway Joe; 01-26-2021, 05:48 PM.

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Senior Member

Join Date: Nov 2013
Posts: 220

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Miscellaneous Robot Electrical Parts and Materials #1

09-22-2020, 10:40 AM

Answers to questions about Miscellaneous Robot Electrical Parts and Materials.

Tags: None

Stuck

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Pierluigi Collina
Game Design
Committee Member

Join Date: Sep 2010
Posts: 1128

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10-13-2020, 12:27 PM

*Originally posted by **FTC14470***

Subject: Interconnect Only PCB

Question: Hello!

I believe this is allowed based on previously asked questions, but wanted to make sure. Is a custom PCB that has no electrical components on it besides connectors that is used strictly to connect things like motors, encoder, sensors, etc. allowed?

*A similar question is asked here: <https://www.firstinspires.org/sites/...-questions.pdf>
(use ctrl + f and type "pcb" to find it)*

Answer: Yes. Be sure to have a circuit diagram for the PCB and be prepared to discuss/describe/explain the PCB to inspectors at your events (if attending Traditional Events)

#2

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Pierluigi CollinaGame Design
Committee MemberJoin Date: Sep 2010
Posts: 1128

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11-10-2020, 12:06 PM

#3 *Originally posted by **FTC8397*****Subject: Robot Controller Phone LED Light****Question:** Game manual part 1 <RE13> neither explicitly allows nor disallows use of the camera flashlight. It can be helpful with computer vision tasks. Rulings regarding its use in prior seasons have been:

2017-18 -- allowed

2018-19 -- initially disallowed, then allowed

2019-20 -- allowed

Will use of the camera flashlight be allowed for the 2020-21 season?

Thank you.

Answer: Yes, the LED built in to the robot controller phone may be used as a light source.

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Pierluigi CollinaGame Design
Committee MemberJoin Date: Sep 2010
Posts: 1128

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11-18-2020, 04:49 PM

#4 *Originally posted by **FTC11129*****Subject: USB Control of LED strip****Question:** Our team would like to add controllable RBG light strip for aesthetics and for signaling purposes in TeleOp and Autonomous. Adafruit's DotStar LED strips (<https://www.adafruit.com/product/2238>) were permitted in the past with I2C to SPI bridge. Can we use USB to SPI bridge (<https://www.adafruit.com/product/2264>) chip to connect RGB strip to powered USB hub? The board is not user programmable and available in COTS package (datasheet https://www.ftdichip.com/Support/Doc.../DS_FT232H.pdf).**Answer:** In short, No. An I2C to SPI bridge would be acceptable. The USB to SPI bridge to control the LEDs violates RE13.c

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Pierluigi CollinaGame Design
Committee MemberJoin Date: Sep 2010
Posts: 1128

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12-01-2020, 11:59 AM

#5 *Originally posted by **FTC11129*****Subject: Blinkin LED Driver****Question:** Could you confirm if **Blinkin LED Driver** is legal for Ultimate Goal season (and explain if possible)? Latest FTC SDK includes **Blinkin Driver** sample **OpMode** which implies that **Blinkin LED Driver** is

legal, but [explanation](#) for legality of USB/SPI bridge appear to rule Blinkin out of compliance since it is not connected to the components listed in <RE12>b.

Answer: RE12.b allows light sources controlled by compatible ports of the REV Expansion Hub or REV Control Hub. The Blinkin LED Driver connects to and is controlled by a servo port and is included in the sources allowed by RE12.b

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Pierluigi Collina
 Game Design
 Committee Member

12-03-2020, 10:59 AM

#6

Join Date: Sep 2010
 Posts: 1128

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*Originally posted by **FTC11129***

Subject: COTS LED Module

Question: *COTS LED Modules with integrated ATtiny85 microcontroller were approved for 19/20 completion season (original post). Could you confirm if this decision is applicable for 20/21 competition season?*

Answer: As long as the processor in the LED module is not user programmable, the LED module would be allowed as long as it meet the requirements in RE13

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Pierluigi Collina
 Game Design
 Committee Member

01-21-2021, 02:04 PM

#7

Join Date: Sep 2010
 Posts: 1128

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*Originally posted by **FTC12090***

Subject: GoBLIDA Battery

Question: *Is the GoBLIDA battery allowed this season? It is just a different physical layout to the same battery cells used in the Matrix and Rev batteries, so it does not provide any capacity or power benefits.*

Answer: No. The only batteries that are allowed for use are listed in <RE03>

.....
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Pierluigi Collina
 Game Design
 Committee Member

02-01-2021, 07:22 PM

#8

Join Date: Sep 2010
 Posts: 1128

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*Originally posted by **FTC12731***

Subject: HDMI Monitor in Robot

Question: *Is it legal to have an HDMI monitor connected to the Control Hub?*

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Answer: No. HDMI monitors would fall under <RE18> Additional Electronics.

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Pierluigi Collina
Game Design
Committee Member

03-31-2021, 12:39 PM

#9

Join Date: Sep 2010
Posts: 1128

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Originally posted by FTC12533

Subject: REV Grounding Strap

Question: Assuming the resistor stays intact, is lengthening, shortening, switching out either the XT30 or ring terminal on, or changing out the cable on the REV grounding strap legal?

Answer: No. No modifications to the REV grounding strap are allowed.

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Pierluigi Collina
Game Design
Committee Member

04-08-2021, 12:00 AM

#10

Join Date: Sep 2010
Posts: 1128

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Originally posted by FTC12533

Subject: Grounding Signal Cables to Robot Frame

Question: Is grounding a shielded cable's drain wire to the robot frame legal?

Answer: No. The only allowed electrical connection to the robot frame is via the REV Resistive Grounding Strap (per <RE15>.k)

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Billie Jean

Senior Member

Join Date: Nov 2013

Posts: 220

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Motors and Servos

09-22-2020, 10:40 AM

#1

Answers to questions about Motors and Servos.

Tags: None

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Pierluigi CollinaGame Design
Committee Member

Join Date: Sep 2010

Posts: 1128

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11-10-2020, 12:09 PM

#2 Originally posted by **FTC9999****Subject: Servo Power Module Device Limits****Question:** Section 7.2.1 [Robot Technology Definitions] of Game Manual Part 1 defines a **REV Servo Power Module** as

"An electronic device that boosts the power supplied to 3-wire servos. A REV Servo Power Module has 6 input servo ports and 6 matching output ports. It draws power from a 12V source and provides 6V power to each output servo port. A REV Servo Power Module can provide up to 15A of current across all output servo ports for a total of 90 Watts of power per module."

*The stall current of the VEX EDR 393 is rated as 3.6 amps at 7.2 volts (or 3 amps at 6 volts), but when connected to the VEX "Motor Controller 29" the stall current is limited to 3 amps at 8.5 volts (or **2.2 amps at 6 volts**).*

*The stall current of the goBILDA 2000-0025-0002 (25-2) servo is rated as 3 amps at 7.4 volts and **2.5 amps at 6 volts**. Thus, teams are allowed to power six (6) goBILDA 25-2 servos from a single REV Servo Power Module (SPM).*

Even though teams are allowed to power six (6) goBILDA 25-2 servos

per SPM, and even though the VEX 29/393 draws less current at stall than the goBILDA 25-2, teams are only allowed to power two (2) VEX 29/393s per SPM.

Like most teams, after the season is over our competition bot becomes an outreach bot. Since the SPM can safely power six (6) VEX 29/393s we reduce the number of SPMs on the bot from the 5 to 7 required for competition to at most 2 SPMs as allowed by the specifications. We use the 4 to 5 SPMs recovered from the previous season's bot on next season's competition bot so that the team need not have to purchase any more SPMs than necessary in the long run.

Nevertheless, in the interests of reducing congestion, debugging complexity, and points of failure on a competition bot, we request that the restriction of two (2) VEX 29/393s per SPM be removed. As with any other servo, the SPM's over-current shutdown feature will safely inform teams in the event the team miscalculates the max current draw of the mix of servos, VEX and non-VEX, connected to any given SPM.

Answer: Thank you for the thoughtful analysis. We do not plan to make any changes to the Servo Power Module limits for this season.

.....
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Pierluigi Collina
 Game Design
 Committee Member

12-26-2020, 06:31 PM

#3

Join Date: Sep 2010
 Posts: 1128

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*Originally posted by **FTC14433***

Subject: Servo Legality?

Question: *Can we use this servo [https://www.servocity.com/sg12-serie...-0-80-sec-60/?](https://www.servocity.com/sg12-serie...-0-80-sec-60/) It has feedback from a potentiometer located on the final shaft of the Servo Gearbox so that the rotation is not limited or effected by the ratio chosen. The servo has input from potentiometer. When we buy it, the servo already has that input. We do not modify anything.*

Answer: No. The servo used in this gearbox assembly has been modified, post-manufacturing. As such, it violates <RE16>

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Pierluigi Collina
 Game Design
 Committee Member

12-31-2020, 01:04 PM

#4

Join Date: Sep 2010
 Posts: 1128

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*Originally posted by **FTC12611***

Subject: Servo/Gearbox Legality

Question: *1. <https://www.servocity.com/servo-gear...in-0-32-sec-60> These servo gearboxes have the goBILDA servo altered by the manufacturer.*

2. <https://www.servocity.com/sg12-serie...z-in-31-3-rpm/>
These servo gearboxes don't have any modifications on the servo.

Are any of these servo gearboxes legal?

Answer: In general, it is not possible for us to make rulings on all servos.

For Servo #1 - this servo is not a legal servo. It has been modified from its original configuration to add an additional potentiometer output

For Servo #2 - these appear to be legal servo combinations. The servos appear to be digital servos that have been programmed to control their range of motion.

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Pierluigi Collina
Game Design
Committee Member

03-31-2021, 12:44 PM

#5

Join Date: Sep 2010
Posts: 1128

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*Originally posted by **FTC12533***

Subject: Servo Power

Question: *Is powering a servo with a stall current above 2A at 4.8V, via the 4.8V ports on the rev hub legal if a 2A fuse is added by the manufacturer or by a team?*

Answer: No. Servos may only be connected to/powered by the servo ports on a REV Expansion Hub, the servo ports on a REV Control Hub or the servo outputs on a REV Servo Power Module

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Billie Jean

Senior Member

Join Date: Nov 2013
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Control System

09-22-2020, 10:41 AM

#1

Answers to questions about the Control System.

Tags: None

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Pierluigi CollinaGame Design
Committee MemberJoin Date: Sep 2010
Posts: 1128

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10-13-2020, 12:31 PM

#2 *Originally posted by FTC12533***Subject: External Mechanisms Attached to Gamepads****Question:** Are external attachments to legal controllers, such as [this 3D printed joystick](#) that snaps onto an Xbox 360 controller legal? This attachment does not directly modify the controller in any way.**Answer:** Yes.

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Pierluigi CollinaGame Design
Committee MemberJoin Date: Sep 2010
Posts: 1128

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10-29-2020, 05:58 PM

#3 *Originally posted by FTC12533***Subject: 3rd-Party Gamepads & Gamepad Modifications****Question 1:** Is a modified PS4 controller, such as those from:

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<https://scufgaming.com/>, *legal?*

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Question 2: *Is this officially sold PS4 back button:*
https://direct.playstation.com/en-us...4aAuebEALw_wcB *legal?*

Question 3: *Are purely aesthetic button and shell mods legal?*

Answer 1: No

Answer 2: No. Only the controller is allowed.

Answer 3: Modifications that do not require the disassembly of the Gamepad would be acceptable (painting, stickers, etc)

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Senior Member

Join Date: Nov 2013
Posts: 220[Share](#)[Tweet](#)**Sensors**

09-22-2020, 10:41 AM

#1

Answers to questions about Sensors.

Tags: None

[Edit](#)[Quote](#)[Flag](#)[Like](#) **Pierluigi Collina**Game Design
Committee MemberJoin Date: Sep 2010
Posts: 1128[Share](#)[Tweet](#)

10-13-2020, 12:24 PM

#2 *Originally posted by **FTC16626*****Subject: Intel T265 RealSense Camera w/ 3rd Party VSLAM Library****Question:** According to a reply by the GDC last season, the T265 was ruled legal as it is and can function solely as a UVC camera.<https://ftcforum.firstinspires.org/...5207#post75207>*Just as a quick summary, the Intel Realsense T265 camera performs VSLAM (Visual Simultaneous Localization and Mapping) allowing one to localize and get relative pose. It is not directly programmable and all the processing is done onboard.**Since then, a member of the FRC community has ported his T265 wrapper from FRC for FTC use (<https://github.com/pietroglyph/ftc265>). The camera transmits the pose data through UVC. The T265 still functions like a webcam. So no external USB/other connection is made. It just uses the same USB connection as any other webcam and transmits the same UVC data. It should be legal by all FTC standards.**Just wanted to re-establish legality on the Intel RealSense T265 for this season and clarify if extracting pose data from the UVC stream is legal. Essentially, are we allowed to use the T265 and that library specifically in competition for localization?*

Answer: Yes. Make sure to pay attention to power needs ... the T265 likely needs to be plugged into a powered USB hub.

Note that in general, ruling from prior years do not automatically apply to the current season. It is always a good idea to ask via the Forum if/when there are questions about component legality.

.....
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Pierluigi Collina
 Game Design
 Committee Member

10-29-2020, 06:06 PM

#3

Join Date: Sep 2010
 Posts: 1128

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*Originally posted by **FTC8813***

Subject: Microcontroller as Sensor

Question: *An ATTiny85 works great as a hardware pulse counter. This chip can be made non-programmable. We want to use the ATTiny85 as a voltage sensor for the signal coming from an encoder. In this way, we will have a sensor (encoder) connected to a sensor (voltage sensor). The ATTiny will be set as non-programmable. Is this allowed on a robot?*

Answer: No. The ATTiny85 is inherently a programmable system and must be programmed at least once before it can be used. The limit on programmability is not a question of can it still be programmed, but rather of was it ever capable of being user programmed.

.....
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Pierluigi Collina
 Game Design
 Committee Member

11-18-2020, 04:41 PM

#4

Join Date: Sep 2010
 Posts: 1128

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*Originally posted by **FTC16514***

Subject: Interfacing 5V Analog Sensors with a Rev Hub

Question: *In past seasons 5V analog sensors have been legal when connected to a Modern Robotics Core Device Interface Module (which is no longer legal this season). We'd like to continue using such sensors this season, so are wondering:*

- 1. Can 5V analog sensors legally be connected to a 5V power port on the REV hub? (This appears to be acceptable under <RE12(a)>)*
- 2. Does a voltage divider, consisting of two resistors to lower the sensor output signal from 5V to 3.3V, fall under passive electronics in <RE12(c)>?*
- 3. If (1) or (2) are prohibited, can you suggest a legal way to use a 5V analog sensor that doesn't work with a 3.3V signal?*

Answer 1: Yes

Answer 2: Yes. Make sure to select resistor values appropriately! And

remember to have a simple schematic ready in case your robot inspector has questions!

Answer 3: n/a

.....
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Pierluigi Collina

Game Design
Committee Member

Join Date: Sep 2010
Posts: 1128

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11-18-2020, 04:53 PM

#5

*Originally posted by **FTC8813***

Subject: I2C Encoder Interface Device

Question: *As a follow-up item to the question about counting encoder pulses (quoted below), if one were to find a supplier of a legal pulse counter off-the-shelf, is it acceptable to use such a device with an encoder? The reason for asking is that there are only 8 encoder ports and i2c doesn't handle the pulse rate of typical encoders.*

Answer: Under current rules, this would be considered in the bucket "Additional Electronics" and is not allowed.

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Pierluigi Collina

Game Design
Committee Member

Join Date: Sep 2010
Posts: 1128

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01-07-2021, 12:47 PM

#6

*Originally posted by **FTC8397***

Subject: COTS Potentiometer as Sensor

Question: *This question has to do with the interpretation of rules <RE12>a ("Compatible sensors from any manufacturer may be connected to the REV Expansion Hub or REV Control Hub.") and <RE18> ("Electronic devices that are not specifically addressed in the preceding rules are not allowed.").*

Rev Robotics markets a potentiometer for use as a sensor (by connecting to an analog port on the Expansion Hub).

Would other COTS potentiometers (of appropriate total resistance and connected to the Expansion Hub in the appropriate manner) be considered legal for use as sensors?

Thank you.

Answer: Yes.

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Senior Member
Join Date: Nov 2013
Posts: 220

Gameplay – All Match Periods #1

09-22-2020, 10:53 AM

Answers to questions about Gameplay – All Match Periods.

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Tags: None

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Air Jordan
Game Design
Committee Member
Join Date: Sep 2010
Posts: 526

11-02-2020, 09:11 AM #2

Originally posted by FTC9999

Subject: Rings that Exit the Playing Field Boundary, Impact an Object, and Bounces Back Into the Playing Field Boundary

Question: Are Rings that come to rest inside the Playing Field Boundary after bouncing off an object outside the Playing Field Boundary, such as the garage wall, eligible to be scored?

Answer: Yes

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Air Jordan
Game Design
Committee Member
Join Date: Sep 2010
Posts: 526

11-16-2020, 06:20 PM #3

Originally posted by FTC12524

Subject: Rule <RG08> Launching Game Scoring Elements

Hello! We are FTC Team 12524 and we have a big discussion about

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<RG08> rule from the Game Manual Part 1. The rule states that Robots must show that a launched scoring element cannot travel in the air more than a 16 ft. (4.88 m) distance or more than 5 ft. (1.52 m) in elevation. The main problem is with the definition of the word "or".

Referees at our today League Meet told that our shooter is not legal because Rings travel more than 16 ft with the elevation of 3 ft.

Question: *So, the question is: Could a Scoring Element travel in the air more than 16 ft. if it doesn't elevate higher than 5 ft. Or both limitations should be respected for the shooter to be legal?*

Thank you

Answer: A Launched Ring that travels in the air more than 16 feet violates rule <RG08>. A Launched Ring that travels more than 5 feet in elevation violates rule <RG08>.

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Air Jordan

Game Design
Committee Member

Join Date: Sep 2010
Posts: 526

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12-15-2020, 09:15 PM

#4

Originally posted by FTC16219

Subject: Resetting Power Shot Targets

Question 1: *Is the Human Player allowed to reset the Power Shot Targets during the autonomous period?*

Question 2: *Is the Human Player allowed to reset the Power Shot Targets during driver-controlled period?*

Answer 1: No

Answer 2: The Human Player may reset Power Shot Targets to an un-Scored state during the first 100 seconds of the Driver-Controlled Period (the 90 seconds before the start of the End Game plus a 10 second grace period following the start of the End Game).

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Air Jordan

Game Design
Committee Member

Join Date: Sep 2010
Posts: 526

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01-27-2021, 04:25 PM

#5

Originally posted by FTC14320

Subject: Rule <RG08> Launching Game Elements - Enforcement

We have questions about the definition and enforcement of rule <RG08> from Game Manual Part 1.

Question 1: *Is the rule violated if the ring is shot with enough velocity to travel over 16 feet, but is impeded by the goal (by hitting the backboard, being scored, etc...), for example, and only actually travels, say, 10 feet? If this does in fact violate the rule, how would referees make such a determination?*

Question 2: How is “excess velocity” defined? (For instance, our robot has a flywheel for shooting rings with variable speed selection. We can score rings into the high goal at a relatively low velocity, but our accuracy increases as we increase our shooter velocity. Would such an increase be considered excessive velocity, given that we can technically shoot and score at a lower velocity, albeit with less accuracy?)

Answers 1 and 2: At a Traditional Competition, the referee will require a re-inspection for rule <RG08> compliance if a height or distance violation is observed, or if the Launched Ring clearly has excessive velocity that is likely to result in exceeding the rule <RG08> constraints if the Ring had not impacted an object.

The scenario described in Question #1 violates rule <RG08>.

At a Remote Competition, Field Personnel scoring a Match are expected to follow the same guidance provided above to referees at a Traditional Competition. Robot actions that violate rule <RG08> are required to be remediated and pass a rule <RG08> inspection before participating in another official Match.

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02-11-2021, 02:51 PM

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02-01-2021, 08:50 PM

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02-16-2021, 07:52 PM

#6

*Originally posted by **FTC18369***

Subject: May We Remove Rings Stuck in the Gap Between the Playing Field Tiles and Wall?

Question: Our field tiles have a slight gap between the wall and the edge of the field surface. At times a ring will become lodged (vertically) between the wall and the field tile. Is someone allowed to pick the ring up and set it down on the field, or pick it up and take it back to the return rack?

Answer: For safety reasons, Field Personnel and Drive Teams are not allowed to enter the Playing Field after a Match starts. The Game Manual Part 2 restricts Playing Field Access for the Drive team in rules <G12> and <G22>.

For Remote Events only, to accommodate the variety of allowed Playing Field walls and floor surfaces, Teams may fill the gap between the Playing Field Tiles and wall with an appropriate filler material (for example, sections of PVC pipe or strips of wood).

.....
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02-18-2021, 01:34 PM

#7

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Originally posted by **FTC16461**

Subject: Power Shot Target Dynamics

Statement 1: *The Ultimate Goal Field's power shot structure has been extremely finicky throughout the season, with power shots occasionally falling when a power shot next to them is hit or bouncing back from the scored position immediately after being scored. Our team has been experiencing trouble with this since the very beginning of the season, as well as many other teams (9527, 14531, 16461, 10641 have all proofread this forum post). 10641 kindly provided this example match video, at 3:01 you can see some of the issues with power shots occur: https://youtu.be/t-VwyFs__TI?list=PL...9iy_o-ya&t=181*

Statement 2: *Due to the ruling of GS13, these issues result in many teams receiving major penalties often due to the unpredictability of the power shot structure, which leaves them feeling unfairly penalized, and we feel that some sort of change is needed. The advice given in the Remote Field Guidelines document for securing the power shot structure very slightly assists in reducing major penalties, but seems to increase the chance of power shots descoring. Our team personally has tried securing the power shot assembly to a chair, a weighted box, and a cinderblock assembly padded with foam, but none of these solutions have prevented major penalties and descoring entirely. Our team also has complete compliance to RG08, with rings shooting approximately 12 feet at the velocity we use to score power shots. **As far as we understand, GS13 was primarily updated to counteract intentional scoring of power shots by shooting into the frame: the wording and implementation of the rule seems to unjustly penalize teams for normal scoring actions.***

Now, onto our specific questions:

Question 1: *Are teams permitted to attach foam to the power shot reset bar as a mitigation tactic for descoring?*

Question 2: *Can a change be considered to **GS13** and/or **Game Manual 2 4.5.4 3d** that would enable teams to score power shots without worry of an undeserved and unpredictable major penalty?*

*We suggest an approach be taken where **only power shots directly scored by a ring score, but teams are not penalized for indirect scoring** (we feel that the penalty of being unable to score that power shot again is enough). An alternate approach could be **reducing the penalty for indirectly scoring a power shot to a minor penalty**, which effectively negates 2/3rds of your points for that specific power shot, which also seems sufficient. It would also be wonderful if power shots were scored solely by being hit, similar to the DIY field: this would fix any issues with descoring that teams have. This would require a change to 4.5.4 3d in Game Manual 2, which we understand may be too much to ask, but we'd like a change to power shot penalties and scoring to be considered in order to prevent unwarranted penalties for all teams: **it's a horrible feeling when you did everything right and implement a routine to do power shots, but you get penalized due to the unpredictability of remote fields.***

Answers 1 and 2: No, the requested modifications affect gameplay.

Note: Rule <RG08> Launching Game Scoring Elements comes into play when a Referee at a Traditional event or Field Personnel at a Remote event believe that launched Scoring Elements have excessive velocity to achieve the Scoring task. The distance and elevation constraints in rule <RG08> provide an objective measure of what the Game Design Committee designates as the maximum safe and sufficient "launching" ability to accomplish the game's Scoring tasks. These linear distance constraints do not guarantee that the resulting launch energy does not cause, in the Team's viewpoint, undesired outcomes.

Recommendation: Reducing the Robot's Ring Launch energy and adjusting the launch angle will likely prevent the scenario described in this post. By design, *FIRST* Tech Challenge Game Element dynamics should be a major consideration when designing and operating a Robot to play the game.

.....

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03-02-2021, 02:38 PM

#8

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Originally posted by FTC12533

Subject: <GS6> Control/Possession Limits of Scoring Elements - Robot Arms that Aid Ring Collection

Question: Recently there have been some questions about penalties for a strategy of blocking rings so that they are in the front of the field to shoot. So the question is if a robot sits where rings come out of the return rack but also shoots in that position does the robot get a penalty if another ring from the return rack is blocked by the 18" of the robot and/or an arm designed specifically to block rings when the robot already possesses/controls 3 rings? Such as seen here: <https://youtu.be/JCv7zwYPTOs>. The reason for this question is that rings are deflected on the bot when driving to and shooting from a single spot but the strategy of deflecting them is intentional. (Permission was granted by 6323 to use their video for the example).

Answer: There is nothing inherently illegal in the usage of Robot arms. How the arms are used determine potential rule violations. The risks are different for each rule, but managed by the Drive Team, the arms could be used without Penalty.

In this scenario, Rings returning to the Playing Field that impact the "core" of a Robot that hasn't extend its arm(s) are not subject to the rule <GS6> Ring Control/Possession constraint.

A Robot that deploys part of its mechanisms [arm(s)] into the path of Rings is subject to rule <GS6> Control/Possession Limits of Scoring Elements. Ring impacts anywhere on a Robot with its arm(s) extended are subject to the rule <GS6> constraints.

.....

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04-14-2021, 11:14 PM

#9

Join Date: Sep 2010
Posts: 526

Originally posted by FTC18369

Subject: Rule <G22> Drive Team Contact with the Playing Field or Robot - Intentional Robot Contact

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According to <G22>, a warning is issued if a member of the drive team contacts the field, robot, or game elements. If it happens again, a minor penalty is given.

Question: *Does this mean that if our robot has a ring get jammed, provided we haven't touched the field, robot, or any game elements yet during the meet, we can drive the robot over and remove the stuck ring without a penalty?*

Answer: No. This is a reasonable interpretation for applying rule <G22> if we don't consider other parts of the Game Manual. Section 4.5.1 states that once the Match Manager gives the Playing Field set-up complete signal, the Drive Team may no longer touch their Robot until the conclusion of the Match. Rule <G12> states that Drive Team members cannot enter the Playing Field for any reason. An immediate Minor Penalty is assessed for violating rule <G12>.

The Game Design Committee believes that Drive Team contact with a Robot during Match play is a safety hazard and is therefore not allowed. Your valid question will prompt us to consider clarifying our intent and adjusting the Penalty value for future seasons.

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Pre-Match

09-22-2020, 10:52 AM

#1

Answers to questions about Pre-Match setup.

Tags: None

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10-19-2020, 06:35 PM

#2

Originally posted by FTC12533

Subject: Pre-Loading a Wobble Goal - Is Completely Supported by the Robot Allowed?

In Game Manual 2, rule 4.5.1, it states that the robot needs to pre-load the wobble goal at the start of the match. Looking at the definition of "pre-load", it says that the robot only needs to be touching the game element. However, I feel like it is unclear on whether or not the wobble goal needs to also be in contact with the ground.

Question 1: *Does the wobble goal need to be touching the ground at the beginning of the match?*

Question 2: *Can it be completely supported by the robot?*

Answer 1: No
Answer 2: Yes

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10-23-2020, 01:17 PM

#3

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*Originally posted by **FTC12789***

Subject: Section 4.5.1 Pre-Match - Placement of the Three Rings that are not Used During the Autonomous Period

Section 4.5.1 does a great job of describing the setup for a Remote match for the Robot, Wobble Goals, Starter Stack Rings, and YOUR Robot's pre-load Rings. However, there is no mention of your "Ghost Partner's" Rings - the Rings that WOULD have been optionally pre-loaded onto your partner's Robot if you actually had a partner playing. Your partner's Wobble Goal is specifically mentioned and accounted for, but nothing about what happens to their optional Pre-Load Rings. Without mention of these Rings, it seems that there are only seven (7) total Rings available for play during the Driver-Controlled period in Remote play - the three (3) you may optionally pre-load, plus the four (4) that randomly get configured for the Starter Stack. However, under the definition of Game Element in Section 4.4, it lists a quantity of 10 Rings.

Question: *Do the three (3) Rings that your "Ghost Partner" would have optionally pre-loaded get placed in the Low Goal during Pre-Match setup along with any Rings not pre-loaded onto YOUR Robot or used in the random Starter Stack? This seems to be the only means to account for the disparity in Rings between sections 4.4 and 4.5.1.*

Answer: Yes. Thank you for identifying this pre-Match setup step that is missing from the Game Manual Part 2 - Remote Events. A future release of the Game Manual will include instructions for the three Rings referenced in the question.

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11-04-2020, 05:20 PM

#4

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*Originally posted by **FTC12533***

Subject: Operation of Motors and Servos during Pre-Match Setup

Question 1: *Are robots allowed to have motors and servos powered during initialization in order to fit within the 18 inch cube starting size requirement?*

Question 2: *Are teams allowed to manually operate motors and servos with the gamepad (such as pressing a button to activate a motor PID loop or move a servo) during the initialization period, in order to grasp game elements and/or ensure robot mechanisms are within the 18x18x18" sizing cube, provided that manual control would cease before randomization?*

Answer 1: Yes, provided that the Robot is motionless while the Robot and Driver Station are in the required hands-off state before the start of the Match.

Answer 2: Yes

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12-15-2020, 03:51 PM

#5 *Originally posted by **FTC8397*****Subject: Section 4.5.1 Pre-Match - Robot Controller Initialization**

Game Manual Part 2, 4.5.1 (Pre-Match) states: "Pressing the driver station init button is not required unless it is needed for the Robot to satisfy the Match start size constraint." There are other reasons why a team might wish to press the init button during pre-match setup. For example, this could be useful to ensure that the BNO055IMU in the Rev Expansion Hub initializes successfully (we have seen occasional failures).

Question 1: *Is it legal to press "Init" during pre-match setup to ensure successful initialization of a hardware item (such as the BNO055IMU), and to re-initialize if there is a failure?*

Question 2: *if (1) is legal, would it be legal, during pre-match setup, to confirm successful initialization by "wiggling" the robot slightly (to confirm changes in gyro readings) before leaving it in its final setup position?*

Answer 1: Yes

Answer 2: Yes, provided that the test can be performed safely. Nearby humans should be aware that the Robot is going to move before the "wiggle" test is performed.

For a Traditional Competition, additional requirements are that the Robot must be Completely Inside the Playing Field Wall and the test does not delay the start of the Match.

Last edited by Air Jordan; 12-15-2020, 03:55 PM.

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02-08-2021, 04:31 PM

#6 *Originally posted by **FTC12762*****Subject: USB-powered display to view the output of a Robot Mounted UVC Camera During Pre-Match Setup**

Our team switched to the new REV Control Hub for this season. One major difference between the Control Hub and the Android Robot Phone options is the lack of screen on the Control Hub compared to the phone.

Question: *Our team would like to be able to align their camera during the pre-Match portion of a match. With the Android Robot Phone option, they would have used the display on the phone to do so. Without a display on the Control Hub, is it legal to attach a USB-powered monitor during the pre-Match, then remove it after aligning the camera (still during pre-Match)? Rule <G15> states in part "The Drive Team may align its Robot during pre-Match setup if they do so with legal components that are part of the Robot and can be reset to*

be within the 18-inch (457.2 mm) cube starting volume constraint", however there is no mention of monitors in Game Manual Part 1 Section 7.3.3. Small commercially-available monitors (~phone screen size) that we could mount permanently inside of the robot are not generally available. Not using a monitor at all would seem to put teams with the REV Control Hub at a disadvantage compared to teams with the Android Robot Phone option.

Answer: As stated in the question, rule <G15> requires Robot alignment devices to be constructed with legal components. The legality of a USB-powered monitor is determined by Robot Electrical rule <RE18>. A USB-powered monitor is not specifically addressed by other rules, therefore it is not allowed.

Drive Teams may legally view the output of the onboard UVC camera during pre-match setup by using the Driver Station App's built-in camera preview capability. The *FIRST* Tech Challenge Robot Controller Github Wiki describes how this is done: [https://github.com/FIRST-Tech-Challenge...th-Control-Hub](https://github.com/FIRST-Tech-Challenge/Robot-Controller/wiki/Using-the-Android-Robot-Phone-Option).

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Join Date: Nov 2013
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Autonomous Period #1
09-22-2020, 10:52 AM
Answers to questions about the Autonomous Period.

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Tags: None

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Game Design
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Join Date: Sep 2010
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09-29-2020, 08:38 PM #2

Originally posted by FTC2901
Subject: Ring Returns to the Playing Field After it Impacts a Power Shot Target

Question: During the Autonomous period, after the robot uses a ring to shoot down a power shot target, if that ring bounces back onto the playing field, is the robot allowed to shoot that ring again?

Answer: Yes

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09-29-2020, 08:44 PM #3

Originally posted by FTC2901
Subject: Are Rings in the Starter Stack Eligible to be Scored during the Autonomous Period?

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Question: During the Autonomous period, can the robot use rings from the Starter Stack to either shoot down Power Shot Targets for points or to score in the Tower Goal?

Answer: Yes. Keep in mind that the Ring Control/Possession limits described in rule <GS6> apply to all periods of gameplay.

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10-28-2020, 11:48 AM

#4 Originally posted by **FTC2901**

Subject: <G20> Parked at End of the Period - Unpowered Flywheel Motion

Question: Is it alright for a flywheel to continue on unpowered motion between the Autonomous and Driver-Controlled periods?

Answer: Yes

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11-10-2020, 08:12 PM

#5 Originally posted by **FTC8397**

Subject: Wobble Goal Target Zone Scoring - Playing Field Wall/Foam Tile Gap

Two of the three target zones (for a given Alliance Color), are located adjacent to at least one playing field wall. On most fields there is a gap of a millimeter or so between the floor tiles and the playing field wall. So a literal interpretation of the Game Manual Part 2 definition of "Completely In", would indicate that a wobble goal that contacts the perimeter wall is (in most cases) not completely in its target zone. We are uncertain whether it is intended that this strict interpretation be applied. The question below assumes a field that includes an allowed COTS playing field perimeter wall and tiles, and assembled according to the field setup guide.

Question: If a wobble goal abuts the perimeter wall (and for that reason may extend a few millimeters beyond the vertical plane of the wall-adjacent tape), but is otherwise located completely within its target zone, should it be considered completely inside of the target zone for scoring purposes?

Answer: Yes, in this scenario, the Playing Field Wall marks the border of the Target Zone Goal Area.

Last edited by Air Jordan; 12-15-2020, 09:25 PM. Reason: Added bold formatting to the subject line.

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01-12-2021, 02:06 PM

#6 *Originally posted by **FTC5143*****Subject: Possessed Wobble Goal Outside the Launch Zone**

Question: *If the robot is holding a wobble goal during the autonomous period and the robot is completely in the launch zone, but the wobble goal is over the line, is it still legal to launch rings into the Mid and High Tower Goals? The robot itself is completely in the launch zone, but the wobble goal is over the line.*

Answer: Yes, per rule <G4>.

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01-20-2021, 12:47 PM

#7 *Originally posted by **FTC16031*****Subject: Power Shot Scoring**

In recent remote league meet, my team experienced two situations that we would like to clarify with the Game Design Committee:

Question 1: *Our ring hit the power shot, and it moved from Forward to Back, but then bounced back to Forward position, does it count as scored? It happened more than once during our game, and especially on the 2nd power shot target. Our question is mainly raised by the sentence in the game manual: "Power Shot Targets are Scored at Rest."*

Question 2 *The 3rd power shot (far from the tower) sometimes is stiff to move (you can feel by hand), and there is one case, our ring hit it, but was only be able to move it to vertical position (not exactly Back), and it stayed in that status util the end of autonomous period. Does it count as scored?*

Answer 1: No.

Note: Reducing the Robot's Ring Launch energy is likely to prevent the scenario described in the question.

Answer 2: The Power Shot Target must be oriented away from the field to count as Scored. Any orientation beyond vertical in the direction away from the field should be counted as Scored. It is not necessary for the Power Shot Target to be in the full back orientation to count as Scored.

Note: The "stiff" movement of the Power Shot Target described in the question is not normal. Adjust the Power Shot Target assembly so that it easily moves between the Forward and Back states.

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01-25-2021, 01:20 PM

#8

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Originally posted by **FTC8397**

Subject: Is this Scenario Legal Plowing or Illegal Herding of the Starter Stack Rings?

In the autonomous period, with a stack of four rings, after launching the three preloaded rings, the robot does a series of turns and drives to deliver the preloaded wobble goal to the target zone goal, pick up a second wobble goal, and deliver the second wobble goal to the target zone goal. In so doing, the robot happens to run into the stack of four rings twice: once during a turn (this just kind of knocks the stack over), and once during a straight drive to get the second wobble goal (this displaces all four rings by about three feet). There is no attempt to pick up these rings during the autonomous period. The movement of the rings is incidental to the attempt to deliver and pick up wobble goals. It also is not intended to place the rings in a favorable position for the subsequent driver-controlled period.

Question: *Should this be interpreted as legal plowing of the four rings, or illegal control of more than three rings (i.e., herding)?*

Thank you.

Answer: The Robot actions in this scenario are legal Plowing.

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Driver-Controlled Period #1
09-22-2020, 10:52 AM

Answers to questions about the Driver-Controlled Period.

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09-29-2020, 08:15 PM #2

Originally posted by FTC13474

Subject: Ring Stuck in the Return Rack Question: During the Driver-Control Period, if a ring is placed by the Human Player in the Return Rack AND it gets stuck (does not fall out of playing field side), is the Human Player allowed to reach into the Return Rack to retrieve the stuck ring and attempt to return it again?

Answer: Yes

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Posts: 526

09-29-2020, 08:33 PM #3

Originally posted by FTC13474

Subject: <G27> Removing Game Elements from the Playing Field and <G16> Human Player Station - Returning Rings to the Playing Field

Question: For Remote Events, what will occur with the Rings that go

outside the field perimeter either by robot launching, or when a match is played without a solid side perimeter barrier?

Answer: The answer that you seek is found by reading rules <G27> and <G16> in the Game Manual Part 2 - Remote Events. Field Personnel and the Human Player may return Rings from outside the Playing Field back into the Playing Field.

Rule <G27> states that Rings that go outside the Playing Field Boundary will be returned to the Playing Field by Field Personnel at the earliest safe and convenient opportunity at a non-Scoring location approximately where it left the field. The intent of this rule is to apply to Rings that exit the Playing Field and are out of reach by the Human Player Station.

Rule <G16> allows the Human Player to leave the Human Player Station to retrieve Rings. The Human Player shall use the Return Rack to introduce Rings into the Playing Field.

.....
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11-24-2020, 03:04 PM

#4

Originally posted by FTC1999

Subject: Blocked Return Rack

Question: *In the event that a human player's ring return were no longer a viable method of getting rings back into the field (i.e. zip tie breaks, disabled robot it, etc.), then what would be the best recourse for them to return their rings to the field? Would they be allowed to toss them back in one at a time from the same height as the ring return? Should they pass them over to the opposing human player to let them return them?*

Answer: In the highly unlikely case that a Ring Return Rack is rendered unusable/blocked, the Head Referee can declare the Ring Return Rack **obstructed**. Once this declaration has taken place, the Human Player may drop/gently toss the Rings back into the Playing Field with a couple of constraints:

- the Ring needs to land in the back portion of the field (i.e. not in the Launch Zone)
- the Ring needs be dropped/tossed with the minimum force required
- the Ring should not be directed towards any Robot or Wobble Goal
- the Ring should be returned in approximately the same location on the field as the Ring Return Rack

Violations of the above constraints should be treated as violations of <GS4> ... i.e. a warning followed by Minor Penalty per infraction for subsequent violations.

.....
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12-15-2020, 08:05 PM

#5

Originally posted by FTC7303

Join Date: Sep 2010
Posts: 526

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Subject: <GS6> Control/Possession Limits of Scoring Elements - Deflecting a Ring that Exits the Return Rack.

Question 1: *If a ring rolls from the return rack, hits the ground, and bounces off the robot, would it be considered herding/controlling? The game manual's definition of "herding" is "pushing or impelling one or more Game Elements to a desired location or direction that gains a strategic advantage beyond moving the Robot around the Playing Field," however the robot would not pushing the ring(s) to a location; it would be blocking their path.*

Question 2: *If our robot is in possession of 3 rings and intentionally moves to block the path of another ring rolling from the return rack, would a penalty be incurred?*

Answer 1: For a Remote competition, no Penalty is assessed if the Robot is Possessing or Controlling two or fewer Rings when Ring contact occurs.

Answer 2: Yes, the action described violates rule <GS6>.

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12-16-2020, 09:59 PM

#6

Originally posted by FTC14433

Subject: <GS6> Control/Possession Limits of Scoring Elements - Inadvertent Contact with a Ring Entering the Playing Field

Based on answer at <https://ftcforum.firstinspires.org/f...trolled-period>, it said "If our robot is in possession of 3 rings and intentionally moves to block the path of another ring rolling from the return rack, would a penalty be incurred?", answer is "Yes, the action described violates rule".

Question: *What if the robot does not intentionally moves to block the path of another returned ring, but happens to sit in a location preparing to shoot for the goal with 3 rings on robot, then a returned ring hit the robot. Will that violate the rule and get penalty? It is really hard to avoid hit by returned ring in that case.*

Answer: The scenario described in the question is Inadvertent contact between the Robot and Ring that does not violate rule <GS6>.

.....
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Join Date: Sep 2010
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12-23-2020, 03:37 PM

#7

Originally posted by FTC12611

Subject: Control/Possession Limits of Scoring Elements

Question 1: *If a team implements auto ring detection and ejection, does it violate GS6 if the excess ring momentarily stays inside the intake but gets ejected right away?*

Question 2: *If a team accidentally picks up 4 rings, and scored all of them within 5 seconds, how many minor penalties do they get?*

Question 3: *If a team drives the robot close to the return rack, and one or more rings touch the robot first, then bounce to the floor, is this action legal? If not, what's the penalty?*

Question 4a: *If a team has an arm on their robot sticking out, that is designed to block rings passing by? Is this design legal?*

Question 4b: *If not, what about the arm is only sticking out when the robot controls less than 3 rings, and as soon as the robot is in possession of 3 rings, the arm is raised up, is this legal?*

Answer 1: The action described does not violate rule <GS6>, provided that the fourth Ring Possession is brief, Inadvertent, and Inconsequential.

Answer 2: One (1) immediate Minor Penalty for Possessing one (1) Ring over the three Ring limit plus one (1) Minor Penalty for Scoring a Ring while the Robot Controls or Possesses more than the allowed three Ring maximum.

Answer 3: In general, this scenario is Inadvertent and Inconsequential Ring to Robot contact and not a violation of rule <GS6>. A rule <GS6> violation should be assessed if the Robot Controls or Possesses the maximum allowed three Rings and this is a deliberate strategy to Herd or direct Rings for an advantage.

Answer 4a: In general, a Robot arm design feature does not violate Robot Construction rules. How the Robot arm is used during gameplay may violate game rules. For example, rule <GS6>b states that Controlling or Possessing a Ring by a Robot before the Ring has been Supported by the Playing Field Floor earns a Minor Penalty for each occurrence [independent of how many Rings are Controlled or Possessed].

If Ring Herding or deflection is the Robot's strategy, a rule <GS6> Penalty should be assessed if a Ring exits the Ring Return Rack, contacts the Playing Field Floor, then contacts the Robot when the Robot already Possesses or Controls three or more Rings.

Answer 4b: For a Remote Competition Match, no <GS6>a Penalty is assessed in this scenario for non-<GS6>b contact if the Robot is Possessing or Controlling two or fewer Rings.

.....
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Air Jordan
 Game Design
 Committee Member

Join Date: Sep 2010
 Posts: 526

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01-20-2021, 03:01 PM

#8

Originally posted by FTC12533

Subject: Human Player Manipulation of the Ring Return Rack

Question: *Is it legal for the human player to apply pressure to the return rack to control where rings fall?*

Answer: No

.....
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Air Jordan
Game Design
Committee Member

02-23-2021, 02:56 PM

#9

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Posts: 526

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*Originally posted by **FTC14129***

Subject: Is the Transitive Property Applied to Stacked Rings?

Question 1: *If a ring leaves the return chute, is completely supported by the playing field, and then ends up completely supported by another ring, is that ring still eligible for scoring? (Rule GS6, 1B)*

Question 2: *If a ring is placed by the robot on top of another ring, is that ring still eligible for scoring?*

Answer 1: Yes

Answer 2: Yes, provided that the top Ring was eligible to be Scored before the Robot placed it on top of another Ring that is on the Playing Field Floor..

.....
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Committee Member

03-02-2021, 03:28 PM

#10

Join Date: Sep 2010
Posts: 526

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*Originally posted by **FTC12533***

Subject: <GS4>c Human Player Ring Handling - Returning Rings to the Playing Field as Quickly as Practical

Question: *Is the intent of <gs4>(c) to prevent teams from hoarding rings from other teams or is it about holding them until it's strategic to intake them? If the former, how does this apply to remote events?*

Answer: The intent of the rule is to address both scenarios. The Human Player is required to return Rings to the Playing Field as quickly as practical for both Traditional and Remote Events.

.....
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Committee Member

03-22-2021, 05:03 PM

#11

Join Date: Sep 2010
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*Originally posted by **FTC14106***

Subject: <GS4>c Human Player Ring Handling - Robot Directly Under the Return Rack

In the clarification to rule <GS4>(c), you stated "The Human Player is required to return Rings to the Playing Field as quickly as practical for both Traditional and Remote Events." However, for remote events, we see different teams interpreting this rule differently and many human players are holding rings for 5+ seconds at times before putting them into the return rack. We have a few follow-up questions:

Question 1: *Is the human player allowed to hold rings if the robot is directly under the return rack so as to avoid <GS6>(b) penalties? If so, how long can the human player hold those rings?*

Question 2: *If the answer to #1 is yes, then is the human player*

allowed to hold rings if the robot is driving up to/near the return rack but is not actually on the field tile directly below the return rack?

Question 3: *If the answer to #1 is no, then when should the penalty be assessed? Rule <GS4>(c) says "Penalties will be assessed per Ring with additional Penalties per Ring for every five seconds the violation continues." Does this mean that the first penalty is assessed after the first five seconds or is the penalty assessed earlier? If earlier, then how long can the human player hold rings before putting them into the return rack before being penalized?*

Answer 1: Yes. The Human Player may wait as long as necessary to avoid a rule <GS6> violation. The intent of <GS4>c is to prevent the hoarding of Rings, not to force a Human Player to drop a Ring into their Robot.

Answer 2: Yes, if there is a reasonable risk of causing the Robot to receive a rule <GS6> Penalty.

Answer 3: Not applicable.

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Senior Member

Join Date: Nov 2013
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End Game

09-22-2020, 10:51 AM

#1

Answers to questions about the End Game.

Tags: None

Stuck

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10-18-2020, 10:29 PM

#2 *Originally posted by **FTC9999*****Subject: Wobble Goal and Wobble Goal Ring Scoring***Game Manual Part 2 - Remote Events, Section 4.5.4 End Game, 1) Wobble Goal Delivery says: b) **Drop Zone** - Each Wobble Goal placed over a Barrier and Supported by the Drop Zone at the End of the Match earns twenty (20) points ...***Statement 1:** *Thus, the Drop Zone achievement is not possible in the case where the "Playing Field Boundary" is a taped line.***Statement 2:** *Nevertheless, each ring Completely Supported by a Wobble Goal or another Ring Completely Supported by a Wobble Goal earns five (5) points. A ring could be BOTH Inside the Drop Zone AND Inside the Playing Field yet still earn 5 points for the "Wobble Goal Rings" achievement.***Question 1a:** *In the case where the "Playing Field Boundary" is a wall, one or more of the rings could be in contact with a wall, but would otherwise be Completely Supported by a Wobble Goal or another Ring Completely Supported by a Wobble Goal. How would a ring that is in contact with a wall be scored?*

Question 1b: *How would a ring that is in contact with a ring that is in contact with a wall be scored?*

Response to Statement 1: The Wobble Goal Delivery to the Drop Zone task requires placing the Wobble Goal over a Barrier. A Team using a taped Playing Field Boundary must add a physical Barrier to the Playing Field Boundary if the Wobble Goal Delivery to the Drop Zone task is part of the Team's Scoring strategy. See the definition of Barrier in section 4.4 of the Game Manual Part 2 - Remote Events. The DIY Field Element Guide published on the *FIRST* Tech Challenge website contains instructions for building a legal Barrier using cardboard and tape.

Response to Statement 2: The End Game Wobble Goal Ring task description in the Game Manual Part 2 clearly states that "any Wobble Goal location and orientation are allowed for this achievement."

Answer to Question 1a: A Ring contacting a Playing Field Boundary wall is eligible to be counted as Scored for the End Game Wobble Goal Ring achievement if it satisfies the Scoring requirements. For example, to count as Scored, the Ring must be Completely Supported by a Wobble Goal or another Ring that is Completely Supported by a Wobble Goal. Keep in mind that a Ring Supported by a Playing Field Boundary wall is not able to be Completely Supported by a Wobble Goal and therefore has zero Score value.

Answer to Question 1b: If the Ring contacting the Playing Field Border wall is Completely Supported by the Wobble Goal (i.e., it is not Supported by the Playing Field Boundary wall), additional Rings that it supports are eligible for the End Game Wobble Goal Ring achievement.

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10-23-2020, 12:41 PM

#3

*Originally posted by **FTC12789***

Subject: Section 4.5.4.1 - Wobble Goal Delivery - Starting End Game Tasks

Question: *As per Section 4.5.4, "End Game tasks started and/or completed prior to the start of the End Game will earn zero (0) points for those tasks." At what point is an End Game task considered "Started"? Specifically, I'm concerned about the Wobble Goal Delivery task. If the Robot were to pick up the Wobble Goal above 18 inches and be poised just outside the Launch Zone prior to End Game to make a beeline for the Barrier as soon as End Game started (or better yet timed it so that the robot is in motion but would not allow the Wobble Goal to cross into the Launch Zone until after End Game has started), is that considered "Starting the End Game Task" prior to End Game? All other rules up to this point can be considered to be faithfully adhered to.*

Answer: The Robot actions described in the question are not starting the Wobble Goal Delivery End Game task early. A Possessed Wobble Goal that is Outside the Launch Zone or In a Target Zone when the End Game Period starts is eligible for the End Game Wobble Goal Delivery tasks.

.....
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Committee Member

10-24-2020, 09:38 PM

#4 Join Date: Sep 2010
Posts: 526

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*Originally posted by FTC9808***Subject: May a Robot move a Wobble Goal Into a Target Zone or to Outside the Launch Zone Any Time up Until the Start of the End Game Period?****Question:** *The End Game rules state that a wobble goal in a target zone or NOT in the launch zone is eligible for scoring during the end game. If our robot scores the wobble goal that we preload during autonomous, can we move the other wobble goal at any time before the end game? In other words, can it also be moved during autonomous? Can it be transported across the launch line during driver-controlled (before the start of the end game) in order to be eligible for scoring during the end game?***Answer:** Yes to all three questions.

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11-16-2020, 12:27 PM

#5 Join Date: Sep 2010
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*Originally posted by FTC12789***Subject: Ring Return to the Playing Field Path = Ring --> Return Rack --> Ring Completely Supported by a Wobble Goal****Question:** *We've been debating on whether or not this scenario is 100% penalty-free:*

- (1) *During Endgame, the Robot brings a Wobble Goal to directly under the Return Rack.*
- (2) *The Human Player feeds Rings through the Return Rack*
- (3) *One (1) Ring somehow manages to fall perfectly onto the Wobble Goal such that it is perfectly skewered and supported by the Wobble Goal. Note that this Ring NEVER becomes directly supported by the Floor, as described per <GS6>(1)b.*
- (4) *The Robot then grabs the loaded Wobble Goal, and drags it to the Start Line for additional points.*

Since Support/Supported does not have the concept of "transitive support" included in the definition, the Rings are never actually supported by the floor (the Wobble Goal is supported by the Floor, but the Wobble Goal supports the Ring, so the Ring is supported by the Wobble Goal but not the Floor). Therefore, when the Robot controls the Wobble Goal the Robot is technically in control of a Ring that has not yet been supported by the floor, and should get a penalty.

However, if there is no "transitive support" allowed then there's another problem - only one ring in a perfect stack on the Wobble Goal can ever be fully supported by the Wobble Goal. If there are multiple rings, the ring on the bottom of the stack is fully supported by the Wobble Goal, but the ring above it is supported by the Bottom Ring, and not the Wobble Goal, and thus the second ring (and all rings above it) cannot score.

However, if "transitive support" is definitely allowed, then it breaks the

intent of <GS6>(1)b without a Robot exception - if a Robot catches a Ring coming out of the Return Rack, the robot is fully supported by the Floor so the Ring is technically fully supported by the Floor, too.

So which is it? I'm betting the whole "supported by the floor" sounded like an easy win, but transitive support is a stinker. <grin>

Thanks!

Answer: First of all, thank you for the very clear description of your thought process and the specific game manual references. The scenario described in steps 1 through 4 result in a violation of rule <GS6>(1)b. Rings returned to the Playing Field are required to be directly Supported by the Playing Field Floor before they are eligible to be Controlled by a Robot. If the subject Wobble Goal and Ring(s) are Controlled by a Robot, the Penalties described in rule <GS6>(1)b should be applied per Ring.

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Committee Member

Join Date: Sep 2010
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12-10-2020, 10:52 AM

#6

*Originally posted by **FTC14320***

Subject: <GS13> Illegal Power Shot Scoring - Ring Impacting a Power Shot Target Causes a Second Target to Change Scoring State

Hello!

Due to the nature of the Power Shot structure, 2 Power Shot Targets are often knocked down with one shot that contacts a singular Power Shot Target. This occurs because the force of one Power Shot Target being knocked over and hitting the reset bar causes another Power Shot Target to unintentionally fall.

Question 1: *Are both of these Power Shot Targets scored with no penalties? (+15, +15)*

Question 2: *Is the singular contacted Power Shot Target scored with no penalties? (+15)*

Question 3: *Are both Power Shot Targets scored with a penalty accrued under GS13? (+15, +15, - 30)*

Question 4: *Is the singular Power Shot Target contacted scored with a penalty under GS13? (+15, - 30)*

Question 5: *If, under reasonable assumptions, the trajectory of a later shot would have hit the now unintentionally knocked down Power Shot Target, what would the scoring be?*

Thank you!

Note 1: The scenario described in the question is less likely to occur when the new guidance provided in the Remote Event Requirements Guide, Appendix B - Power Shot stability is followed. Appendix B was added to the document in the November 24, 2020 update. The document is located here:
<https://www.firstinspires.org/sites/...quirements.pdf>

Note 2: Consider reducing the Robot's Ring Launch energy to reduce the likelihood of this scenario.

Answer 1: No

Answer 2: No

Answer 3: Yes

Answer 4: No

Answer 5: No additional effect on Scoring and Penalties. The original Score and Penalty assigned are the only points attributed to the actions described in the scenario (+15, +15, -30).

.....
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Game Design
 Committee Member

Join Date: Sep 2010
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12-15-2020, 09:31 PM

#7

Originally posted by FTC13474

Subject: Section 4.5.4 End Game - Wobble Goal Location

Question: *At the start of end game (Section 4.5.4), "At the start of the End Game, Wobble Goals In a Target Zone or not located in the Launch Zone are eligible for the following..." Launch Zone "A" has the Launch Line going through the middle of that Target Zone. Does a Wobble Goal within Target Zone "A" have to be beyond the Launch Line (Goal side of Launch Line)?*

Answer: No.

.....
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Air Jordan

Game Design
 Committee Member

Join Date: Sep 2010
 Posts: 526

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01-20-2021, 12:47 PM

#8

Originally posted by FTC16031

Subject: Power Shot Scoring

In recent remote league meet, my team experienced two situations that we would like to clarify with the Game Design Committee:

Question 1: *Our ring hit the power shot, and it moved from Forward to Back, but then bounced back to Forward position, does it count as scored? It happened more than once during our game, and especially on the 2nd power shot target. Our question is mainly raised by the sentence in the game manual: "Power Shot Targets are Scored at Rest."*

Question 2 *The 3rd power shot (far from the tower) sometimes is stiff to move (you can feel by hand), and there is one case, our ring hit it, but was only be able to move it to vertical position (not exactly Back), and it stayed in that status util the end of autonomous period. Does it count as scored?*

Answer 1: No.

Note: Reducing the Robot's Ring Launch energy is likely to prevent the scenario described in the question.

Answer 2: The Power Shot Target must be oriented away from the field to count as Scored. Any orientation beyond vertical in the direction away from the field should be counted as Scored. It is not necessary for the Power Shot Target to be in the full back orientation to count as Scored.

Note: The "stiff" movement of the Power Shot Target described in the question is not normal. Adjust the Power Shot Target assembly so that it easily moves between the Forward and Back states.

.....
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Billie Jean
Senior Member
Join Date: Nov 2013
Posts: 220

Competition Rules #1

09-22-2020, 12:10 PM

Answers to questions about Competition Rules.

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Tags: None

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Billie Jean
Senior Member
Join Date: Nov 2013
Posts: 220

11-02-2020, 09:45 AM #2

Originally posted by **FTC9978**
Subject: Remote Field Size

Q: *Is it required that we use a half field for a remote league meet? (12 x 8)*

A: Remote fields must be 12ft x 8ft to be competition legal.

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Billie Jean
Senior Member
Join Date: Nov 2013
Posts: 220

11-02-2020, 09:49 AM #3

Originally posted by **FTC9978**
Subject: Red or Blue Remote Field

Q: *Does it matter which half field we use for a remote league meet, Red or Blue?*

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A: No. Teams may choose either a red or a blue half field.

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Billie Jean

Senior Member

11-30-2020, 12:06 PM

#4

Join Date: Nov 2013
 Posts: 220

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Originally posted by **FTC4950**

Subject: Non-team member as Human Player

Q: *Because of high school and community regulations our students may not enter the robotics lab at school nor may they meet in-person. Are we allowed to use a mentor as the Human Player if social distancing rules affect the amount of students allowed to play a match remotely?*

A: The Game Manual Part 1 - Remote has been updated to reflect that, under circumstances where the whole team cannot gather, thereby decreasing the number of students playing in a match, a mentor or other adult may stand in as the Human Player. This exception is only for remote gameplay.

.....
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Billie Jean

Senior Member

12-08-2020, 08:26 AM

#5

Join Date: Nov 2013
 Posts: 220

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Originally posted by **FTC9999**

Subject: Competing in Concurrent Events

Rule <C05>.c says teams are not allowed to "register and attend concurrent competitions with a second Robot." Would teams be allowed to:

Q1: register and attend concurrent competitions with the same Robot?

Q2: register and attend concurrent competitions that are not completely overlapping in time frame?

A1: No

A2: Yes - ONLY if the dates of the event do not overlap.

Last edited by Billie Jean; 04-22-2021, 04:51 PM. Reason: Edit 4-22-2021 – Answer to the first question was updated to no, with a clarification to answer #2. Teams may not attend concurrent events (events that have the same start and/or end date), even

.....
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Billie Jean

Senior Member

02-18-2021, 10:55 AM

#6

Join Date: Nov 2013
 Posts: 220

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Originally posted by **FTC16617**

Subject: Semi-finals and Final Matches Remote

Q: *Given a Remote event: are we allowed to hold Semifinals and*

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Finals matches? Possibly by creating a second competition window the week after the first?

A: No. Remote competitions do not use the traditional alliance format. Teams competing remotely will be competing for the highest score based on their 6 matches in a given event.

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Billie Jean

Senior Member

03-09-2021, 09:24 AM

#7

Join Date: Nov 2013
Posts: 220

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*Originally posted by **FTC16221***

Subject: Teledrive for Remote Events

Q: *Can teams competing in Remote Events use TeleDrive, or would that violate rule <RS09>? Given the COVID pandemic, TeleDrive is potentially a safe and effective way for teams to be able to participate in matches, particularly when their state discourages or prohibits in-person gatherings of individuals from multiple households.*

A: There are no teledrive methods approved by *FIRST* for this season. *FIRST* must evaluate any teledrive methods for cost, accessibility, response times, etc. prior to approving these methods for use by our entire community.

Requests must be submitted to *FIRST* no later than March 31, 2021 to be evaluated for future seasons. Requests must include required hardware, software, approximate costs, and evaluation of latency or lag in response times for remote match play. Please email requests to ftcteams@firstinspires.org.

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Billie Jean
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Field Setup #1
09-22-2020, 12:21 PM
Answers to questions about Field Setup and Assembly.

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Tags: None

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Big Red Machine
Game Design
Committee Member
Join Date: Sep 2010
Posts: 427

10-20-2020, 11:16 PM #2

Originally posted by **FTC7253**
Subject: Double wobble target in single team remote auton

Q: Are both wobble targets to be placed on the field and available for scoring in auton for single team remote events?
Meaning a single team can deliver the initially "possessed" wobble target and then the wobble target located on the other same-alliance start line?

A: Yes, both wobble goals should be placed on the field and available for scoring.

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Big Red Machine
Game Design
Committee Member
Join Date: Sep 2010
Posts: 427

10-29-2020, 11:09 AM #3

Originally posted by **FTC12762**
Subject: Using net for remote field?

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Q: The GA FTC head ref suggested we ask on this forum: should the net be used for a remote field setup?

A: The net is not required, but it is recommended that it be used to protect people around the field.

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Big Red Machine
Game Design
Committee Member

01-21-2021, 10:55 PM

#4

Join Date: Sep 2010
Posts: 427

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Originally posted by **FTC16140**

Subject: No space for Wobble Goal

Q: Our team realized that our field pace is not long enough to be able to fit a wobble goal on the other side of the perimeter wall. We have attached below some pictures for reference. Would it be possible for our robot to place the wobble over the side wall near the far corner to score the drop zone points?

A: Yes, you can do this in the corner away from the Alliance Station. Prior to dropping the goal over the corner, drive to the front wall of the field as if you were going to drop it over that wall, and then turn to the corner and drive there. Then you can drop the Wobble Goal over the corner. This ensures that you are performing the tasks required to score the goal on a normal field.

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Big Red Machine
Game Design
Committee Member

02-25-2021, 09:32 AM

#5

Join Date: Sep 2010
Posts: 427

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Originally posted by **FTC14320**

Subject: Composition of Remote Fields

Q: After extended usage, some teams (including ours) have broken the power shot targets on our AM Field. The DIY remote field allows for the usage of cardboard cutouts in lieu of actual targets.
Question: Can a team replace their broken official powershot targets with cardboard cutouts? Thanks!

A: Yes, this is allowed for Remote matches only.

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Billie Jean
Senior Member
Join Date: Nov 2013
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Engineering Portfolio
09-22-2020, 12:44 PM #1

Answers to questions about the Engineering Portfolio.

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Tags: None

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Billie Jean
Senior Member
Join Date: Nov 2013
Posts: 220

12-01-2020, 09:23 AM #2

Originally posted by FTC1000
Subject: Engineering Notebook Organization

Q: *Have teams organized their Engineering Notebook by award before? Is it a viable option?*

A: Some teams have presented an engineering notebook organized by award. The notebook can be arranged in a way that makes it easy to show the additional supporting content if the judges have questions.

Last edited by Billie Jean; 12-02-2020, 09:55 AM.

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12-02-2020, 09:57 AM [Manage](#) | [Show](#)

This reply by Billie Jean has been deleted by [Billie Jean](#)

12-01-2020, 09:23 AM

Billie Jean

Senior Member

12-01-2020, 09:29 AM

#3 Join Date: Nov 2013
Posts: 220

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*Originally posted by **FTC1000*****Subject: Engineering Portfolio Size Rules****Q: What are the rules for the Engineering Portfolio? Are the 15 pages and the Portfolio separate categories?****A:** The 15 pages is the entire engineering portfolio. Teams may use on side of the first page as a cover sheet. In total, the engineering portfolio would amount to 8 sheets of 8.5 inch x 11 inch paper (U.S.) or 210mm x 297mm (EU), if printed on both sides of the paper.

For remote events, this content must be saved as a PDF file.

Edit Quote Comment Flag Like **Billie Jean**

Senior Member

12-01-2020, 10:32 AM

#4 Join Date: Nov 2013
Posts: 220

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*Originally posted by **FTC1000*****Subject: Think Award Judging****Q: How will Think Judging be different with the introduction of the Engineering Portfolio?****A:** Judges will rely heavily on the quality of the engineering portfolio to make their decisions about the Think Award. The criteria is listed in Game Manual Part 1 and from the perspective of the judges, the portfolio should cover examples and narrative to cover the criteria (this is true for all awards).*Last edited by Billie Jean; 12-02-2020, 11:01 AM.*Edit Quote Comment Flag Like **Billie Jean**

Senior Member

12-01-2020, 11:35 AM

#5 Join Date: Nov 2013
Posts: 220

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*Originally posted by **FTC1999*****Subject: Preferred Engineering Portfolio Format****Q: Is there a preferred format for the engineering portfolio that is most helpful for the judges?****A:** The judges are looking for evidence of the award criteria in the portfolio. Organizing the portfolio with a focus on award criteria is helpful and makes it easier for the judges to locate in the portfolio. Making it easy to read (e.g. font size, font or paper color can help or hinder readability) is also helpful to consider.*Last edited by Billie Jean; 12-02-2020, 10:57 AM. Reason: Added recommendations for format*

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Billie Jean

Senior Member

12-01-2020, 11:39 AM

#6

Join Date: Nov 2013
Posts: 220

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Originally posted by **FTC1999**

Subject: Uploading the Engineering Portfolio

Q: *When should my team upload the engineering portfolio for our remote event?*

A: After a team is invited to an event, the Lead Coach 1 of the team will receive instructions on how, when, and where to upload the engineering portfolio.

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Billie Jean

Senior Member

12-01-2020, 11:44 AM

#7

Join Date: Nov 2013
Posts: 220

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Originally posted by **FTC1999**

Subject: Meeting Entries in the Engineering Portfolio

Q: *Would you encourage that we continue to do meeting entries in the engineering portfolio?*

A: Teams will have better content for their engineering portfolio if they continue to create entries in their engineering notebook. Remember, the engineering portfolio should be made up of the best examples of content from the engineering notebook.

Last edited by Billie Jean; 12-02-2020, 01:27 PM.

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Billie Jean

Senior Member

12-01-2020, 11:47 AM

#8

Join Date: Nov 2013
Posts: 220

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Originally posted by **FTC1999**

Subject: Judge Requests for Additional Info

Q: *In what situations might the judges need more information from my team?*

A: Judges will ask for more information in the same situations that they would request more information at a traditional event. For example, if the portfolio and interviews are not sufficient to help answer the questions to determine which teams are most deserving for an award.

Last edited by Billie Jean; 12-02-2020, 01:29 PM. Reason: Added example

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Billie Jean
Senior Member

12-01-2020, 11:51 AM

#9

Join Date: Nov 2013
Posts: 220

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Originally posted by **FTC1999****Subject: Engineering Notebook Requests**

Q: Will judges still request to see our engineering notebook as well as our engineering portfolio?

A: The judges may request specific pages of content from the engineering notebook, but it is highly unlikely that judges will request the entire engineering notebook.

.....

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Billie Jean
Senior Member

12-01-2020, 11:54 AM

#10

Join Date: Nov 2013
Posts: 220

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Originally posted by **FTC1999****Subject: Engineering Portfolio Requirements**

Q: Are things like cover pages, table of contents, and the summary page part of the 15 pages? Or is it 15 pages of documentation plus the cover page and table of contents?

A: The engineering portfolio can include a table of contents and a summary page, and those pages are counted as part of the 15 pages.

.....

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Billie Jean
Senior Member

12-01-2020, 12:05 PM

#11

Join Date: Nov 2013
Posts: 220

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Originally posted by **FTC1999****Subject: Engineering Notebook/Portfolio**

Q: I was looking through the remote game manual and I see two sections. One for the engineering notebook and the other for engineering portfolio. I sort of understand the difference, but do we do both? Are they supposed to be separate or in the same file/binder?

A: The engineering notebook is used to capture the entire season in detail. The engineering portfolio is a concise subset of the information included in the engineering notebook. You could think of the engineering portfolio as the executive summary of the engineering notebook. Most awards require a team to turn in the engineering portfolio to be considered for the award. The engineering notebook is highly encouraged. Teams will pull the best content from their engineering notebook to create the engineering portfolio. Also keep in mind that the judges may request more details from the engineering notebook that aren't included in the engineering profile.

.....

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Billie Jean
Senior Member

12-01-2020, 12:25 PM

#12

Join Date: Nov 2013
Posts: 220

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Originally posted by **FTC1999**
Subject: Sections of Portfolio

Q: *Are there any recommendations for the amount of pages in each section (engineering, team plan, etc.) for the portfolio?*

A: There are no recommendations for the amount of pages in each section.

.....
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Billie Jean
Senior Member

12-02-2020, 01:51 PM

#13

Join Date: Nov 2013
Posts: 220

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Originally posted by **FTC1999**

Subject: What is more important, content or formatting?

Q: *Aside from what FIRST sets as minimum requirements for both the engineering notebook and the engineering portfolio, are the judges more concerned with the format requirements and presentation, or the content?*

A: The judges who review the engineering portfolio are instructed that content is most important. Teams should still ensure the engineering portfolio is well formatted. If the portfolio is hard to read, not well organized, etc., it could make it difficult for judges to adequately focus on the content.

.....
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Billie Jean
Senior Member

12-07-2020, 12:12 PM

#14

Join Date: Nov 2013
Posts: 220

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Originally posted by **FTC1999**

Subject: Engineering Portfolio for Future Seasons?

Q: *Do you think the engineering portfolio will be a permanent change for future seasons?*

A: We expect that the engineering portfolio will continue to be the content submitted to the judges in future seasons.

.....
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Billie Jean
Senior Member
Join Date: Nov 2013
Posts: 220

Judges Interview
09-22-2020, 12:45 PM #1

Answers to questions about the Judges Interview.

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Tags: None

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Billie Jean
Senior Member
Join Date: Nov 2013
Posts: 220

12-01-2020, 09:13 AM #2

Originally posted by **FTC1000**
Subject: Remote Robot Presentation - Videos

Q: *Can a team show videos of the robot in the presentation to the Judges? Are there rules about the presentation?*

A: The presentation portion of judging interview is exactly 5 minutes, and must be presented "live". Teams may show a video of their robot during the 5 minute presentation period, but the video must not include sound and team must narrate the video during the interview.

Last edited by **Billie Jean**; 12-02-2020, 09:43 AM. Reason: Corrected post to allow video during the 5 minute presentation.

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Billie Jean
Senior Member
Join Date: Nov 2013

12-01-2020, 09:16 AM #3

Originally posted by **FTC1000**

Posts: 220

Subject: External Materials

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Q: Will the Judges be able to or allowed to reference external materials (web sites, youtube videos, etc.) that are mentioned in the Engineering Portfolio?

A: Like at a traditional event, judges will not access materials that are not presented as part of the judging interview. Judges are instructed to only use information that is presented to them and are generally instructed not to follow links, etc. The only exception is for the Control Award submission which specifically calls out a video link that will demonstrate the control features that the team wants to highlight.

Last edited by Billie Jean; 12-02-2020, 09:45 AM. Reason: Added exception for Control Award

.....
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Billie Jean

Senior Member

12-01-2020, 09:21 AM

#4

Join Date: Nov 2013
 Posts: 220

Originally posted by FTC1000
Subject: Remote Pit Judging

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Q: Will teams be allowed to reference their own Engineering Portfolio during "pit judging" as if they were referencing their pit display (posters, pictures, etc.)? With remote events, teams won't have the ability to showcase things in their pits.

A: Teams will be permitted to reference their own engineering portfolio, engineering notebook, pictures or video to answer judges questions during the second interview phase of judging.

Last edited by Billie Jean; 12-02-2020, 09:50 AM.

.....
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Billie Jean

Senior Member

12-01-2020, 10:35 AM

#5

Join Date: Nov 2013
 Posts: 220

Originally posted by FTC1000
Subject: Video versus Live Presentation

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Q: Could a team submit a pre-recorded video as their judging presentation?

A: Teams cannot submit a video in place of their live judging presentation.

.....
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Billie Jean

Senior Member

12-07-2020, 11:58 AM

#6

Join Date: Nov 2013

Originally posted by FTC1999

Posts: 220

Subject: Streaming During Remote Interview

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Q: *During the judging interview or pit interview, will students be able to stream video to show or demo their robot?*

A: The technical capability for this will exist, but we do not recommend it. Trying to get the streaming to work during the interview could take up precious time that a team would need with the judges. We encourage using photos or pre-recorded video to show the judges the robot when needed.

.....
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Billie Jean

Senior Member

03-17-2021, 11:04 AM

#7

Join Date: Nov 2013
Posts: 220

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Originally posted by FTC1999

Subject: Length of Control Submission Video

Q: *How long can the control award video submission be?*

A: The control award video submission should show the functions that your team has described on your control award submission sheet. Video's should ideally be a minute or less, but we will view videos up to 2.5 minutes long.

.....
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