

Q: Are continuous rotation servos, such as the REV Robotics REV-41-1097 legal for use in FRC?

A: Specific servos and features are not allowed/prohibited. Table 9-1 specifies that "PWM COTS servos with a retail cost < \$75." If a servo does not meet those criteria, it's not permitted.

(Asked by 4466 at Feb 28th 20)

Q328 Control Panel Manipulation

Q: Is it legal to rotate the control panel disk by putting a wheel on top of the control panel disk instead of on the outside edge of the disk?

A: There is no specified way to interact with the CONTROL PANEL.

(Asked by 2523 at Feb 27th 20)

Q329 Exceptions to R76

Q: Can the clevis attachment threads on the end of a piston be filed if there is no clevis attachment?

A: Filing of attachment threads is not one of the exceptions in !R76 and is not permitted. Please see the blue box under !R76 for further details.

(Asked by 291 at Mar 2nd 20)

Q330 Power cell compression

Q: What is the standard deviation for power cells from normal? What is considered a good power cell?

A: We believe !Q136 answers your question. If it does not, please rephrase your question and resubmit. Please use the Search Q&A button on the navigation bar before posing a new question.

(Asked by 5436 at Mar 2nd 20)

Q331 Can you make a card to facilitate connections on roborio

Q: Is it possible that you want to make the card to facilitate connections on roborio?

A: As indicated in !R14-D: "passive PCBs such as those used to adapt motor terminals to connectors are considered connectors" and therefore comply with !R68 and !R69. Any custom board or "card" with active components could not be used to connect the devices specified in !R68 or !R69.

(Asked by 7444 at Mar 2nd 20)

Q332 Colors on the robot

Q: We are using red bumper material on our robot as a chute and I was wondering if this would be a problem when identifying what team color our robot is?

A: There are no rules prohibiting the use of BUMPER fabric on other areas of the ROBOT.

(Asked by 6484 at Mar 2nd 20)

Q333 Pneumatic Valves

Q: Per R77, may a team configure legal solenoid valves in a manner such that their "OFF" position pressurizes a pneumatic actuator, rather than requiring the valve to be energized by the PCM for actuator pressurization?

A: There are no rules against this.

(Asked by 8262 at Mar 2nd 20)

Q334 G14 and G15 -- transitively through robots?

Q: G14 and G15 prohibit contact "transitively through a POWER CELL" with robots entirely in the Rendezvous Point or contacting the Generator Switch. In those rules is a power cell merely just an example of prohibited transitive contact? For example, could Blue Robot 1 push Red Robot 2

(which is not entirely in the RP) into Red Robot 3 (which is entirely in the RP) without violating this rule since there was no power cell involved?

A: !G14 and !G15 specify transitive contact through POWER CELLS. Transitive contact through other ROBOTS is not a violation.

(Asked by **5607** at Mar 3rd 20)

Q335 Soft guards on bumpers

Q: In effort to relieve the destruction of PCs we are looking to add a "soft" member beneath the bumper (AKA a brush) that would be fixed in place with the "soft" portion extending beyond the noodles to dissuade PCs from entering under the bumpers Below the 1" max for any "hard" parts Fig 9-6 of the manual is met Noodles/wood would still be covered (but not the attachment) R24 D is met R23 weight restriction is met Is this an acceptable build to be considered part of the bumpers and not the frame

A: No, a brush is not a described part of the BUMPERS per !R24 and is therefore not permitted.

(Asked by **4549** at Mar 3rd 20)

Q336 Robot cart usage while on the field

Q: Would we be allowed to utilize a small cart(like a furniture dolly or hand truck) to help transport the robot on/off the field, in addition to through the gates, provided that rule C7 is not violated?

A: There are no rules prohibiting this.

(Asked by **469** at Mar 5th 20)

Q337 H1 and ROBOT mounted passive signaling devices

Q: H1 prohibits the use of passive signaling devices in the ARENA by DRIVE TEAMS that, to a reasonably astute observer, mimic the vision targets used on the FIELD. Does this restriction also prohibit such devices mounted on a ROBOT?

A: !H1 does not restrict the use of such a device on a ROBOT. !R8 (specifically !R8-C) does restrict the use of devices or decorations on a ROBOT such as those that mimic the retro-reflective features of vision targets used on the FIELD.

(Asked by **900** at Mar 5th 20)

Q338 2019 formatted code in 2020?

Q: Are we allowed to use wpilib library 2019 for the 2020 frc game?

A: There are no rules that require a specific version of WPILib. To ask questions about how this would work, please visit the [FIRST Forums] (<https://forums.firstinspires.org/forum/general-discussions/first-programs/first-robotics-competition>).

(Asked by **8262** at Mar 9th 20)

Q339 Are electro magnets legal?

Q: Can we use electro magnets to hold our intake system in an upright position so it stays inside the frame restrictions?

A: An electromagnet that operates without causing readily discernible motion would not be considered an actuator and would therefore not need to meet the requirements of !R27. Such a device would be considered a CUSTOM CIRCUIT, and must follow all the rules required of that classification.

(Asked by **8399** at Mar 9th 20)

Q340 Bumper/Ball Sanitation

Q: Would we be allowed to apply ample amounts of sanitizer to bumpers and or power cells, in order to ensure proper sanitation of the field?

A: Teams may use sanitizers on their ROBOT BUMPERS if they do not leave a residue, but there will be no opportunity to sanitize individual POWER CELLS. As always teams may wear gloves when handling their ROBOT or POWER CELLS.

(Asked by **469** at Mar 11th 20)