



## CREATE Open – Rules Addendum 2017-2018

1) All VRC “In the Zone” rules for the game and robot apply unless expressly stated otherwise below.

### 2) Game Modifications

1. Skills will start with no power from the Reoffs to the robots. So getting your robot "booted" and active (i.e. linked quickly) is an important consideration.
2. Matches will start with power on from the Reoffs to the robots.
3. Matches will start with a 20 second autonomous mode, followed by a 5 seconds pause, ending with a 100 second driver mode. Remotes must be placed on the ground to start the match. A button(s) may be pressed only on the remote, to start the autonomous mode, however the remote must stay on the ground and no contact is allowed to either remote or robot, after 3 seconds of the autonomous mode has elapsed..
4. At the end of autonomous a button(s) may again be pressed on the remote to stop the autonomous program, however the remote must stay on the ground and no contact is allowed after the button(s) have been pressed until driver mode begins.
5. All team members must be standing tall, except for those brief times when they might be bending down to start/stop autonomous, or to pick up their remotes to begin driver mode
6. There will be a five(5) second pause between autonomous and driver control. The duration of this pause can be changed by the tournament Event Partner. We expect this to be a rare occurrence, but ultimately it will left up to the event partner running the event.
7. The Open version of this game introduces a Negator cone.
  1. The Negator will be denoted by a black base.
  2. The Negator will take the place of one of the normal VRC match loads. Thus you will have one less match load than VRC teams.
  3. The Negator will begin the match located on the two stationary goals.
  4. The Negator will completely negate any scoring base, stationary or moveable, if it is the highest cone on a goal.
  5. The Negator will also negate the stationary goal if it is the lowest cone on the goal.
  6. Removal of the Negator will be one of the tasks used to determine the autonomous bonus winner.
  7. The Negator can be removed from an opposing alliances stationary goal. It is the only cone that an opposing alliance will be allowed to “de-score”. Thus it is possible for one alliance to control/use both Negators.
  8. Although it is legal for teams to remove regular cones from their own goals, it is NOT legal for a team to remove a Negator once it has been scored on a goal.
  9. A Negator must be the highest cone on a moveable goal at the end of the match to be effective. To be effective on the stationary goals it may be either the lowest or highest cone at the end of a match. Effective Negators will cancel all cones on the goal. The goal will be scored as if there are no cones on that goal.
  10. If a regular cone is placed on top of the Negator, the Negator is nullified. (Except when it is the Negator is the lowest on the stationary goals..) It will have no affect on scoring, either by negating that goal, nor being included in the count of cones to determine the total cones on the goal.
8. The autonomous bonus will be determined by specific tasks. The Alliance that successfully completes the most tasks will be awarded the autonomous bonus. Each task is weighted the same. The tasks are as follows:
  1. Remove the Negator from the stationary goal of your alliance color.
  2. Score a regular cone on the stationary goal of your alliance color. NOTE: The negator negates tasks in autonomous. For instance if you score a cone on the stationary goal without first removing the negator, that task is negated.

3. Move one of your alliance's Moveable Goals into your alliance's 10 point Zone.
4. Park a robot. (Robot must be parked at the end of the autonomous period.)
5. Park a second robot. (Robot must be parked at the end of the autonomous period.)
9. Teams touching their remotes, or even bending down to pick up their remotes, outside of designated times may receive a 5 point penalty for their alliance. Egregious infractions may result in disqualification. The one exception to this rule is if a robot has not left it's starting position a team may touch their remote (NOT their robot) in an effort to start their robot. If such a team starts their robot during autonomous mode they must stop touching their remote prior to their robot leaving it's starting tile. However at all times the remote must be flat on the ground and may not be held.
10. Teams must have a license plate on each side of their robot which is clearly visible to the refs. The license plate must use the template found here: <http://create-found.org/CreateOpen.php>
11. In addition to the regular parking bonus, the Open has an additional parking bonus, the Outside Parking Bonus. Any robot that can park OUTSIDE of the arena on a parking pad placed outside the field of play, opposite the interior parking tile closest to the audience, will earn 20 bonus points. For a robot to have scored an Outside Parking Bonus the robot must be on the tile, not touching the ground and not touching a perimeter wall. Additionally the robot must exit in control at all times. i.e. the robot cannot "fall" out of the field of play.
12. Teams are not allowed to interfere in any way with a robot attempting to park outside the field.
13. Opposing teams are not allowed to park on the tile used to exit the field, or block the path of robot trying to exit the field. A disabled robot will not be considered a valid excuse for violating this rule. If the referee considers this game changing, it may result in disqualification of the alliance.

### 3) Skills Modifications

1. There are no Negator Cones in skills. Instead all 12 match load cones will be regular, scoring cones. (NOTE: The cone with a black base may be used in skills. It will simply be treated as a normal cone.)

### 4) Robot Build modifications

1. Any control system or material may be used to build the robot. This includes all VEX parts, electronics, motors, etc., but also allows Arduino based control system (or any other) as well as 3D printed/laser cut parts, hand made parts, etc.
2. A maximum of 2 pneumatic tanks per robot may be used.. (Again a desire to keep the playing field level.) Also for this year only VEX pneumatics (pistons and tanks) are allowed.
3. VEX 9v batteries, used to maintain the link between the remote and control system are NOT legal. By following the rules/recommendations on Open Program battery usage you will not need this battery.
4. Up to 3 of the batteries listed below may be used. The following is a complete list of competition legal batterieschargers:
  1. Tenergy NiMH 9.6V 2000mAh High Capacity Battery Pack --- Item No. 11401-01
  2. Tenergy NiMH 8.4V 1600mAh Flat Battery Pack --- Item No. 11328
  3. Tenergy NiMH 7.2V Flat Battery Pack 3000mAh --- Item No. 11204-01
  4. Tenergy NiMH 9.6V 3800 mAh battery --- Item No. 11408
  5. VEX 9.6V Remote Battery NiMH – Discontinued
  6. Venom NiMH 9.6V 3000mAh battery --- Model 1532-8
  7. Venom NiMH 9.6V 4200mAh battery --- Model 1546-8
  8. Venom NiMH 9.6V 5000mAh battery --- Model 1548-8
  9. VEX 7.2V Robot Battery NiMH 2000mAh --- P/N: 276-1456
  10. VEX 7.2V Robot Battery NiMH 3000mAh --- P/N: 276-1491
  11. Tenergy Universal Smart Charger for HiMH/NiCd Battery Packs (6V – 12V) --- Item No. 01025
  12. VEX Smart Charger v2 w/ Power Cord Options --- P/N: 276-2519
5. All parts, EXCEPT pneumatics and the Reoffs, may be modified from their original factory condition. This includes all motors and electronics. Please keep in mind however that safety is a primary concern. Any robot deemed unsafe by the inspectors/referees will not be allowed to compete until the safety issue is resolved or may be disqualified from the tournament. The one exception for Reoff is, teams may use unmodified 3 wire connectors to connect their light bars.
6. No rare earth magnets or electromagnets, other than those used in shielded motors, may be used as these pose an interference hazard with both electronics and metal.
7. No control system, part or set of parts can act in a fashion that inhibits the normal operation and/or communication of other robots is allowed.
8. No power sources other than pneumatics, batteries or compression (rubber bands, springs, etc.) are allowed.
9. CREATE officials reserve the right to restrict any material or part that interferes with the normal operation of the field or another robot. If you are unsure, ask first.
10. Voltage may not be combined. (i.e. you cannot double your voltage and halve your current.)
11. All battery power must be plugged directly into the Reoff.

12. It is **HIGHLY recommended** that a single battery be plugged into circuit A and the output of that circuit power only the controller/brain. If this is not done you risk the possibility of a brown out (voltage drop) resetting (restarting) your control system and/or Reoff in the middle of a match.
  13. The output of circuit A may not be combined in parallel with either circuit B or C.
  14. Any Reoff (Remote On/Off Switch) must be installed such that the Reoff LED strips are clearly visible from all 4 horizontal sides of the robot.
  15. Any Reoff must be installed such that the Ethernet port of either the base unit, or Practice Module unit is very easily accessible when placed on the field. The port should be positioned such that the driver can plug the Ethernet cord into the port directly, without bending the Ethernet cord. Referees, during inspections will determine if the port is properly positioned. After your robot passes inspection, should you change the position of the Ethernet port you will need to get re-inspected. A robot that comes to the field with a port in a non-approved position will be warned the first time. Subsequent infractions may result in disqualification at the discretion of the referee.
  16. Although it is legal to use both the Reoff base unit and the Practice Module unit during matches, it is highly encouraged to use **ONLY** the base unit. Using only the base unit will prevent teams from accidentally starting their robots in practice mode.
  17. Once the field Ethernet cable has been attached to the robot, it may not be touched again until the light bars on your robot indicate the match has been launched.
  18. The Ethernet cable must be pulled out within 3 seconds of the launch of a match. If the cable is not pulled out within that time all power will be cut from the robot. Power will not be turned back on until 2 seconds after the cable is pulled. Matches will **NOT** be restarted if this happens. It is up to each team to pay attention and pull the cable out when the match is launched. Failure to do so will result in lost time.
  19. A team license plate must be:
    1. Displayed on two opposite horizontal sides of their robot.
    2. Must be easily identified by judges, referees and announcer
    3. Must have numerals/letters that are at least 1.5" high, at least 1/2" stroke width, and are in a contrasting color from their background.
- 4) Awards - CEATE Open awards share many similarities to awards at events you are accustomed to with one significant exception. Great focus will be given to innovation. i.e. Using new methods of construction (3D printing, etc.) and different types of motors, controllers, etc. We really want to spur creativity.
- 5) Translations – Any translation of any of the CREATE Open Program documents are to be considered and used as a courtesy. The English version of any/all documents will be considered the final authority on rules, guidelines and recommendations for the CREATE Open Program.