Team Update 03

General

- **Game Data Details:** The 2018 Game Data Details article has been updated with additional information about initial states and to match the game updates below.
- **Drawing Updates:** The Layout and Marking Diagram has been updated with the following changes:
  - FE-00041-02 has been added.
  - FE-00041-03 has been added.
- **3D CAD Models Updates:** Field Graphics have been added to the CAD Models download.

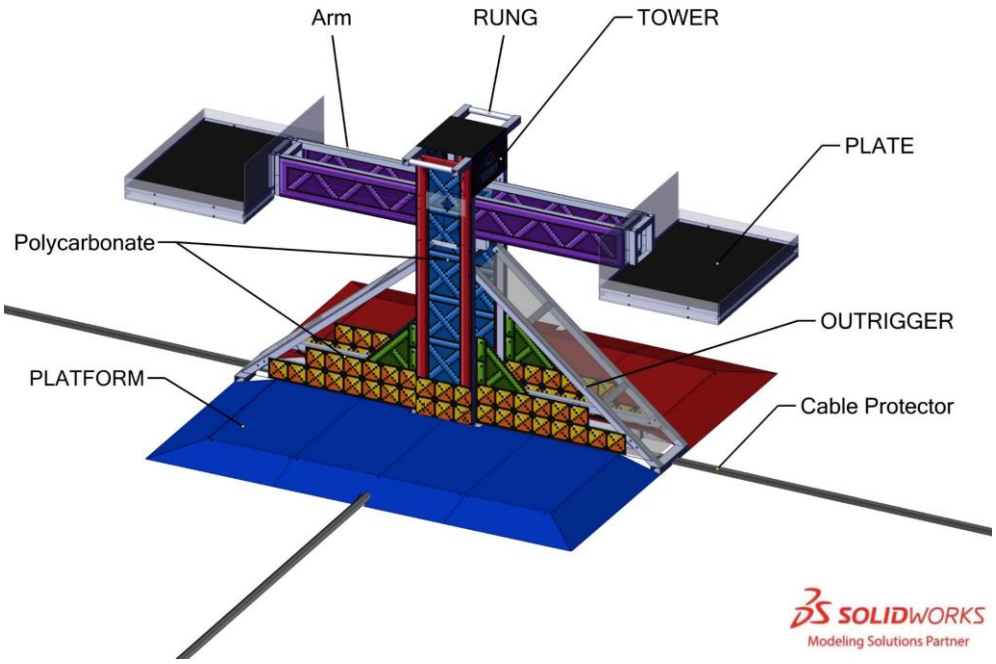
Rules & Expectations for *FIRST* Robotics Competition Events

No changes.

Game and Season Manual

Section 3.3 SCALE

Figure 3-4: The SCALE (Note, cable protectors are shown, but are not part of the SCALE)

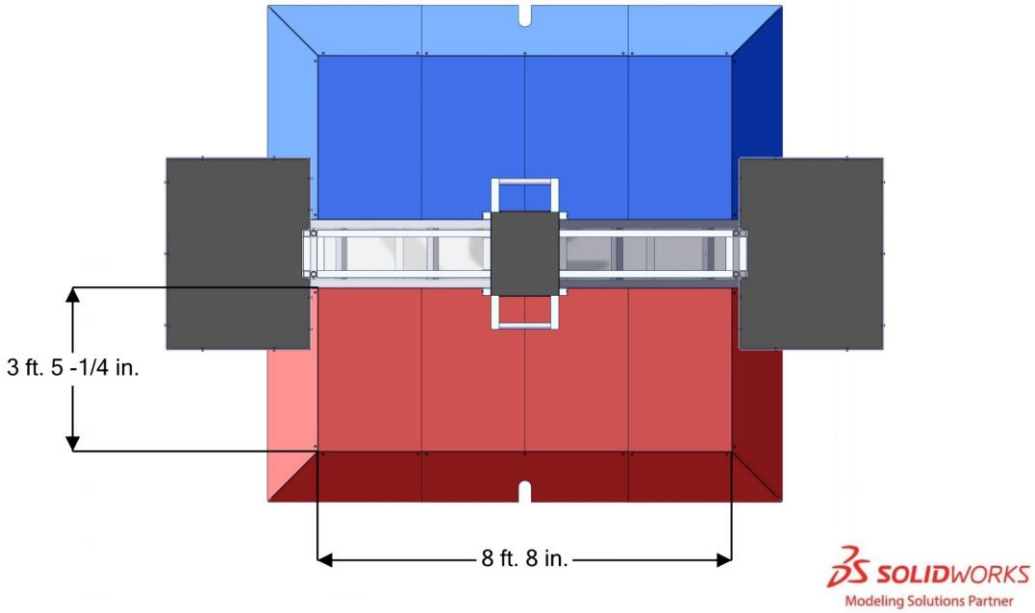


The BRICKS are graphics depicting golden squares surrounded by a black outline that extends 12 in. (~30cm) above the horizontal surface of the PLATFORM.

Section 3.3.5 PLATFORM

Located at the base of the SCALE, on each side, is a PLATFORM covered with ALLIANCE colored HDPE. The TOWER and OUTRIGGERS separate one PLATFORM from the other. Each PLATFORM top is 8 ft. 8 in. (~264 cm) wide by 3 ft. 5 ¼ in. (~105 cm) deep and 3 ½ in. (~9 cm) tall. The ~~ramps leading to the~~ PLATFORM includes ramps with a ~~are~~ 1 ft. ~~1~~ ¾ in. (~~33~~ 32 cm) run and ~~long with~~ a 15.35 deg. angle. The ALLIANCE colored tape that abuts the PLATFORM ramps is part of the PLATFORM.

Figure 3-11: PLATFORM top length and width dimensions



Section 3.9 Vision Targets

Vision targets are located on the SWITCH FENCE facing the ALLIANCE WALL using 2 in. (~5 cm) strips of 3M 8830 Scotchlite Reflective Material and are used to highlight the locations of the PLATES on the SWITCH.

Section 3.10 The FIELD Management System

FMS alerts participants to milestones in the MATCH using audio cues. Please note that audio cues are intended to be a courtesy to participants and not intended as official MATCH markers. If there is a discrepancy between an audio cue and the FIELD timers, the FIELD timers are the authority.

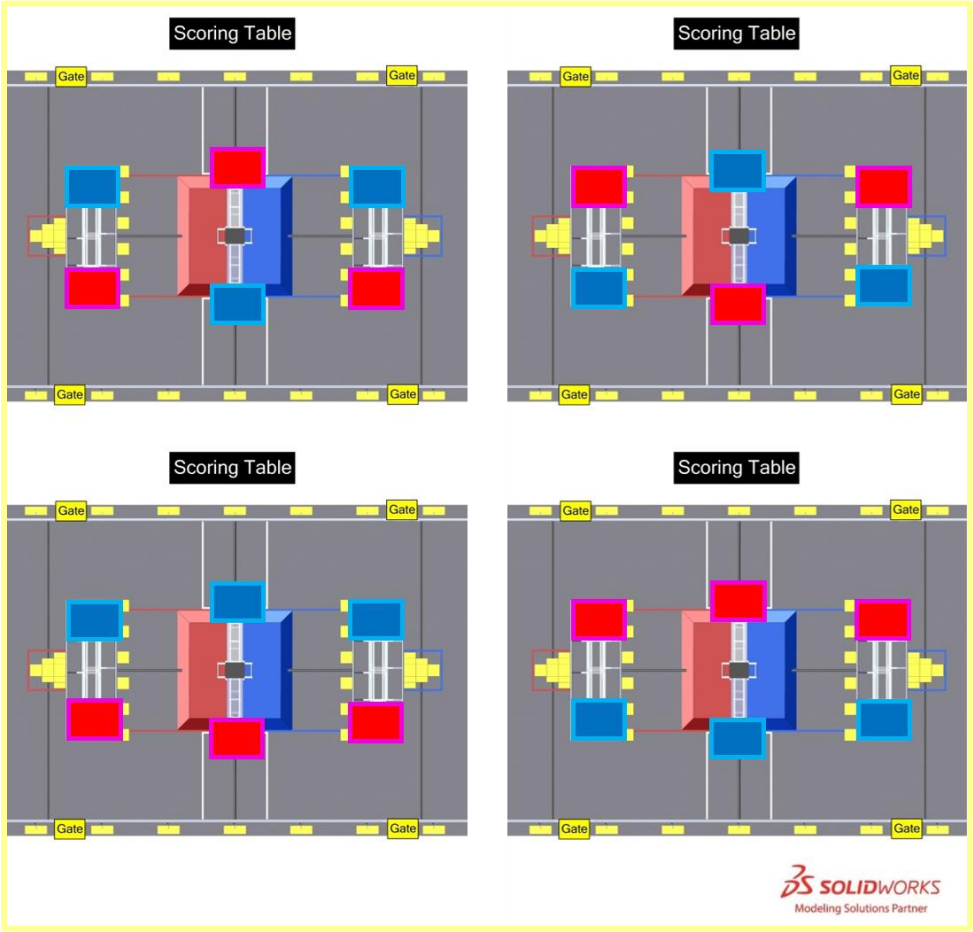
- MATCH Start: “Cavalry Charge”
- T=0 for AUTO: Buzzer
- Start of TELEOP: Three (3) Bells
- T-30 seconds in TELEOP: Train Whistle
- T=0 for TELEOP/MATCH end: Buzzer
- MATCH stopped: Foghorn
- POWER UP activated: “Linear Popping"

Section 4.1.1 Stages

Each MATCH is divided in to two stages. The first stage, called Autonomous (AUTO), is the first fifteen (0:15) seconds of a MATCH in which ROBOTS operate without any DRIVE TEAM control or input. Prior to the start of AUTO, the assignments of ALLIANCE colors for SWITCH and SCALE

PLATES are randomized among the four states in Figure 4-1 and transmitted to the OPERATOR CONSOLE by the Field Management System (FMS). During AUTO, ROBOTS attempt to deliver preloaded POWER CUBES to PLATES, retrieve additional POWER CUBES from around the FIELD, and cross their AUTO LINE any time before the end of the stage.

Figure 4-1 Possible PLATE assignments



Section 4.6 Logistics

There will not be an ARCADE FAULT called for MATCHES that accidentally begin with an incorrect number of, incorrectly positioned, or damaged POWER CUBES. Damaged POWER CUBES will not be replaced until the next FIELD reset period. DRIVE TEAMS should alert the FIELD STAFF to any missing or damaged POWER CUBES prior to the start of the MATCH.

Section 7.1 Before the MATCH

G04. Leave the POWER CUBES alone. Prior to the start of the MATCH, DRIVE TEAMS may not rearrange the POWER CUBES within a PORTAL, staged on the FIELD (that are not staged inside a ROBOT), or transfer POWER CUBES from one PORTAL to another.

Violation: MATCH will not start until the situation is corrected.

Section 8.4 Budget Constraints & Fabrication Schedule

R22. At ~~an~~ each Event, Teams may have access to a WITHHOLDING ALLOWANCE.

Section 8.5 BUMPER Rules

R28.

A. consist of Arabic numerals at least 4 in. (~11 cm) high, at least ½ in. (~12.7 mm) in stroke width, and be either white in color or outlined in white with a minimum 1/16 in. (~1.6mm) outline

Section 8.8 Control, Command & Signals System

R65. The roboRIO Ethernet port must be connected to the Wireless Bridge port labeled "18-24 vPOE," closest to the power connector (either directly, via a network switch, or via a CAT5 Ethernet pigtail).

Section 8.9 Pneumatic System

R83. The only pneumatic system items permitted on ROBOTS include the items listed below.

E. Solenoid valves with a maximum ⅛ in. (nominal, ~6 mm) NPT, BSPP, or BSPT port diameter,

R89. Only the compressor, relief valve ~~(P/N: 16-004-011 or 16-004-003)~~, pressure switch, pressure vent plug, pressure gauge, storage tanks, tubing, pressure transducers, and connecting fittings may be in the high-pressure pneumatic circuit upstream from the regulator.

Section 10.8 MATCH Replays

Over the course of the Tournament it may be necessary for a MATCH to be replayed. Typical causes for replays are MATCHES that end in a tie during the Playoffs or if there is an ARCADE FAULT. An ARCADE FAULT is an error in ARCADE operation that includes, but is not limited to:

A. broken FIELD elements due to

i. normal, expected game play or

ii. ROBOT abuse of FIELD elements that affects the outcome of the MATCH for their opponents.

A broken FIELD element caused by ROBOT abuse that affects the outcome of the MATCH for their ALLIANCE is not an ARCADE FAULT.

B. power failure to a portion of the FIELD (tripping the circuit breaker in the PLAYER STATION is not considered a power failure)

C. improper activation by the FMS

D. errors by FIELD staff (except those listed in Section 4.6)