



Team Update 10

02/12/2016

GENERAL

- **Robot Lockup Form:** Based on feedback from the Lead Robot Inspectors, the [Robot Lockup Form](#) has been updated to include some of the relevant rules from the Admin Manual in the notes at the bottom of the form.
- **Radio Utility Update:** An update has been posted for the [FRC Radio Configuration Utility](#). This new version fixes an issue with NetConsole\rioLog communication over the radio wireless. It also contains a workaround for users seeing the “NPF” error when loading firmware on Windows 10. To use the workaround, make sure all other network adapters (even if not connected) are Disabled in Windows.
- **WPILib C++\Java Update:** Updated Eclipse plugins are available for C++\Java that fix a number of bugs that users have encountered and reported this season. This update does contain one minor breaking change for custom implementations of the SpeedController interface. Please see the [C++\Java Plugin Changelog](#) page for complete details.
- **Field Lighting Change:** In this Team Update, you will notice that we’ve made some changes to the indicator lights on the field. We’ve eliminated the light strings we had planned to put just above the shelf in each player station and adjusted the tower lighting scheme to provide information similar to what those strings would have provided.

We did this because we encountered an unexpected component shortage. When we heard about the shortage, we got together as a group, carefully discussed our options, and developed a plan that let us still reach our overall goals with minimal disruption to our schedule. There were a variety of opinions within the group discussing this at first, but in the end we came to a consensus. The result includes some tradeoffs, but still meets the primary goals of the original design. We recognize that, like in every season, some teams are encountering component shortages themselves this season. We wanted to share that it happens to us, too.

ADMIN MANUAL

- No changes

GAME MANUAL

Section 2.2.3.1 CASTLE WALL

- ~~One (1) Phillips Color Kinetics iColor Flex LMX LED light string. Indicates information as defined in Table 2-2.~~

Table 2-2: Player Station Light String States and Meanings

Light State	Meaning
Green	FIELD is safe to enter
Off	FIELD is ready for the MATCH to begin, all personnel should be off the FIELD at this time.
Yellow	MATCH is in AUTO
ALLIANCE color	MATCH is in TELEOP
Pulsing at 0.5 Hz	MATCH is in its final twenty (20) seconds

Table 2-3: TOWER STRENGTH Light States and Meanings

Light State	Meaning
Off	FIELD is ready for the MATCH to begin, all personnel should be off the FIELD at this time. Or Tower has been completely WEAKENED during a MATCH.
Bottom two-thirds Green	FIELD is safe to enter
Pulsing at 0.5 Hz for three (3) seconds	The final twenty (20) seconds of the MATCH has begun
Top one-third in opposing ALLIANCE color (Red or Blue)	TOWER has been CAPTURED.

Section 3.4.1 Safety Rules

- **G2** DRIVE TEAMS may only enter the FIELD if the ~~PLAYER STATION~~ TOWER LED strings are green, unless explicitly instructed by a REFEREE or an FTA.

Violation: YELLOW CARD

Section 3.4.2 Pre and Post-MATCH

- **G8** Blue Box

DRIVE TEAMS are expected to stage their ROBOTS for a MATCH, and remove it from the FIELD afterwards, safely and swiftly. DRIVE TEAM efforts that either intentionally or unintentionally delay the start of a MATCH or the FIELD reset are not allowed. Examples include, but are not limited to:

- A. Late arrival to the FIELD
- B. Failing to exit the FIELD once the ~~PLAYER STATION~~ TOWER LED strings have turned off (indicating MATCH ready)
- C. Installing bumpers, charging pneumatic systems, or any other ROBOT maintenance, once on the FIELD
- D. Use of alignment devices that are external to the ROBOT
- E. Failing to remove OPERATING CONSOLES from the PLAYER STATIONS in a timely manner

Section 3.4.6 ROBOT to ROBOT Interaction

- **G22**

There is no *FIRST* Robotics Competition specific definition of pin, so a general definition applies; “to prevent or stop something from moving.” As a result, contact is not required for pinning to occur. For example, a ROBOT parked right behind an opponent that is on the BATTER could be considered pinning because the dividers on the BATTER and the parked ROBOT prevent the opponent from moving.

Section 3.4.8 Human Actions

- **G35** A ROBOT shall be operated solely by the DRIVERS and/or HUMAN PLAYERS of that Team, and/or an ALLIANCE partner within the SPY BOX.

Violation: Offending ROBOT will be DISABLED

Section 4.2 General ROBOT Design

- **R4** In the STARTING CONFIGURATION (the physical configuration in which a ROBOT starts a MATCH), no part of the ROBOT shall extend outside the vertical projection of the FRAME PERIMETER, with the exception of its BUMPERS and minor protrusions such as bolt heads, fastener ends, rivets, etc.

Section 4.7 BUMPER Rules

- **R21-D** be covered with a rugged, smooth cloth. (multiple layers of cloth and seams are permitted if needed to accommodate R27, provided the cross section in Figure 4-7 is not significantly altered).
The cloth must completely enclose all exterior surfaces of the wood and pool noodle material when the BUMPER is installed on the ROBOT. The fabric covering the BUMPERS must be a solid Red or Blue in color. The only markings permitted on the BUMPER fabric cover are the Team number (see R28) and hook-and-loop backed by the hard parts of the BUMPER.
- **R27** Each ROBOT must be able to display Red or Blue BUMPERS to match their ALLIANCE color, as assigned in the MATCH schedule distributed at the event (reference Section 5 (5.1.1 MATCH Schedules)). BUMPER Markings visible when installed on the ROBOT, other than those explicitly allowed per R21-D or required per R28, are prohibited.

Section 5.5.3 REFEREE Interaction

- **T19** If a DRIVE TEAM needs clarification on a ruling or score, one (1) pre-college student from that DRIVE TEAM should address the Head REFEREE after the ARENA Reset Signal (e.g. ~~PLAYER STATION~~ TOWER LED strings turn green). A DRIVE TEAM member signals their desire to speak with the Head REFEREE by standing in the corresponding Red or Blue Question Box, which are located on the floor near each end of the scoring table. Depending on timing, the Head REFEREE may postpone any requested discussion until the end of the subsequent MATCH.