

Massachusetts FLL 2018 Referee Guide

Author: Jack Gregory, Last updated: 15-Nov-2018

This guide is unofficial, but as precise as I can make it. It represents my understanding of the rules that I will apply at the state championships in Worcester and Newton on December 15, 2018. If you find errors, omissions, or just want to discuss, contact me at Jack.G.Gregory@gmail.com. John Pilvines is the Head Referee for Newton, and has helped update this document for 2018.

This document is not private or secret; I see no reason to exclude any information from teams, and it may be shared with anyone. The sole goal is to get everyone on the same page regarding handling the rules at all tournaments in Massachusetts.

Every year, I am faced with teams at the championship who are doing something that is not permitted, and they insist they are correct, and that it was never disallowed or mentioned at their qualifying tournament. This document is an attempt to reduce the number of such discussions.

This document is divided into two sections: those things that apply at all times, and those that are mission-specific. This document does not overrule any official FLL rules, just advises on their application in certain cases we have seen. In no way is it a complete picture. For a Head Referee, there is no excuse for not knowing all of the official documents covering the robot game.

General Table Referee Guidelines

1. Only make a call when you are certain. If you are going to make a “close” call, or a judgement call, only make it if you are certain. If you aren’t willing to defend it in a calm manner knowing that you are right, don’t make the call.
2. If you aren’t certain about how a certain call should be made, talk to the Head Referee in between matches to update your understanding so that you can use it in future matches.
3. Never let the robot perform an illegal action. Physically stop it if necessary. This should be the ONLY time a ref has hands over the table surface during a round. Examples are:
 - Proceeding after an illegal start, such as robot being out of base at start.
 - Team touches robot, then decides to let it run
 - Robot continues to move after the end-of-round signal
4. WATCH the robot and team at all times. Do not score during the round. Do not talk during the round.
5. Make penalty actions (such as putting a Red penalty disk onto the field) obvious to all observers; it is not OK to merely mark on the score sheet. The audience needs to know you caught the infraction and took appropriate action.
6. KEEP CLEAR. The operators at the table have priority, and should have free run around their 3 sides without having to dodge refs.

Into Orbit Referee Guidelines

1. Mat curling. We are not taping down the mats! They will be unattached at the state tournament. If you absolutely must, you can tape down an edge section per the instructions, but teams should not expect this and in fact they should expect lose mats. If you won’t have the time let the mats settle, then roll them upper-side-out the night before so they curl down toward the table.

2. Penalty taking. We are keeping 6 red disks on the wall near the southeast corner. When a penalty is taken, take one and put it on the table in the designated triangle. The team is not allowed to recover them, either to reduce their penalty, or score more points.
3. “Completely In” is the headline rule this year. All in or out calls now say “completely in”. Note that things are not allowed to be partially in at the base boundary. They are either in, out, or taken away by the ref for the rest of the match.
4. Note that “on-field, outside base storage” is not legal.
5. Note that it is not legal for a robot to overhang the base walls at the start OR the return.
6. Note that the in-base height limit at mission start is maximum 12 inches. You should have a height gauge handy. Note that the height of the Escape Velocity tower is roughly twelve inches – anything well over it is illegal (at the start only).

Into Orbit Mission Guidelines

M01 Space Travel. Sometimes the wheel carts bind. Check the cart before each round. If it doesn’t get all the way down, slightly separate the beams and it should roll freely. If the start cart (the one on the platform at the start) doesn’t make it down during the round, and it should have, then give them the score. This does not apply to the ones in base, since they handle them.

M02 Solar Panel Array: It is legal to manipulate the other side’s panel.

M03 3D Printing: No issues seen.

M04 Crater Crossing: The updates on this allow the team to declare ANYTHING they bring is the crossing equipment. They can launch a 1x1 brick through the uprights (as long as they get the gate down at some point in during the match) and score. The robot can even partially cross and stick an arm holding (but not CONNECTED to) a brick to score. The object does not need to be clear at the end of the round – just has to clear it when it crosses.

M05 Extraction: No issues here.

M06 Space Station Modules: Any level “into” is scoring here, but the module must be in enough to not be resting on anything else.

M07 Space Walk Emergency: No real issues. Note that keeping Gerhard alive is apparently not important.

M08 Aerobic Exercise: No issues seen.

M09 Strength Exercise: No issues seen.

M10 Food Production: No issues seen.

M11 Escape Velocity: Updates that cleared things up, and only a bang-zoom with the spacecraft on the top is scoring.

M12 Satellite Orbits: Note that the satellites are fragile, and often will have missing pieces. Only use pieces actually on the model to score.

M13 Observatory: No issues seen.

M14 Meteoroid Deflection: Note that “west” of the line is general, but that the balls must cross the line, not any virtual extension of it.

M15 Lander Touch-Down: No issues seen.