FIRST® DIVE

PRESENTED BY Qualcomm

SoCal FIRST Tech Challenge Kickoff and Welcome! 2024

Theresa Klemme, Patrick Brophy

SoCal FTC Program Delivery Partners

Welcome to SoCal FTC!

In–person, Traditional Game Play
13 Leagues with 4 Meets each
7 Inter-League Tournaments (1 per team)
A WILDCARD Tournament
and a SoCal Championship Event

We span 9 Counties! 300 miles from San Luis Obispo to San Juan Capistrano, and 100 miles from Santa Monica to Palm Springs and Lancaster! 100+ schools, 30+ community groups!

- 2022-23: 169 teams, 44 were Rookies (26%!)
- 2023-24: 182 teams, 33 were Rookies (18%)
- *2024-25: 48 teams started to register (33 Rookies), expect 200 teams!*

GRANT OPPORTUNITIES check https://socalftc.org/grants/#page-content

Panasonic Foundation is again awarding $300 grants to 30 SoCal FTC Teams.
Applications are open **Friday Sept 13, 2024** through Thursday**, October 25, 2024**.
Questions should be directed to info@SoCalFTC.com

Rapid Axis 15% Off Sheet Metal and Machining for all student robotics projects in the
SoCal region. https://rapidaxis.com/get-a-quote/teamhorizon/

DonorsChoose and 3M is awarding Educators cover the cost of important materials to
support their FIRST® teams. Teachers create a classroom project funding request.

Agenda

9:00 AM	Intro Welcome, Season Overview *Theresa Klemme and Patrick Brophy,* **FIRST** *Program Delivery Partners for SoCal FTC*
9:20 AM	Game Reveal Video
9:30 AM	Field Open (until 12pm for teams to look and see)
10:00 AM	Workshop Session #1
10:45 AM	Break Out/Transition
11:00 AM	Breakout Session #2
11:45 AM	Kickoff Over

Our Committee (Thank you!!)

- Theresa Klemme – FIRST Program Delivery Partner, Event Mgr
- Patrick Brophy – FIRST Program Delivery Partner, Event Mgr
- Amanda Sullivan – Kickoff Coordinator, Event Coordinator
- Abigail Rehard – Team Registration, Website Management, Admin
- Brian Bugert Sr – Head Scorekeeper, Event Host
- Bob Meinhard – Regional Head Judge Advisor
- Corey Porter – Regional Head Judge Advisor
- Eddie Shek - Deans Award, Social Media
- Ellen McIsaac – Committee Member
- Ian Johnson - Head Referee
- Kenneth Wah – Event Host
- Nathan MacPherson – Head Referee
- Rachel Johnson - Regional Head Judge Advisor
- Stacey MacPherson – Committee Member, Event Host
- Tom Dobson – Committee member, Event Host
- Sung Choi - Committee Member

Theresa Klemme Patrick Brophy

Amanda Sullivan Abigail Rehard Brian Bugert Bob Meinhard

Eddie Shek Ellen McIsaac Ian Johnson Kenneth Wah

Sung Choi Nathan MacPherson Rachel Johnson Stacey MacPherson Tom Dobson

Are you over 21 and want to be part of the Committee? Contact info@socalftc.org

Breakout Sessions

Workshop Title	Room Number (Monrovia)
Outsourcing: Lessons from BattleBots	901 1st Floor
FTC Java Beyond AP CSA	902 1st Floor
Curiosity's Guide to Acing the Engineering Portfolio	904 1st Floor
Intro to Blocks Programming	905 1st Floor
Winning the Dean's List Award	906 1st Floor
Intro to CAD - OnShape	921 2nd Floor
Autonomous Navigation for INTO THE DEEP	922 2nd Floor
How to Guide Your Team Through the 2024-2025 Tournament Structure	923 2nd Floor
Reaching Out to Industry Professionals	924 2nd Floor
Free Online Resources to Make Your Team Better	926 2nd Floor
Understanding the FTC Awards	Auditorium (S1)
Ask a Ref: Rules Explained	Auditorium (S2)

Zoom Meeting ID: 852 0821 7869 Passcode:246207

Workshops - MAP

The **900s** building will have workshops on the upper and lower levels.

We will have 1 workshop during each session in the **auditorium**. No capacity limit.

The field will be located right outside the **auditorium in front of the 100s building**.

*Bathrooms are located outside the auditorium and on the 1st floor of the 900s building.

Schedule/Rooms/Map

Reminder - 1 team member per session in the classrooms to make space for others. There is a second session on the same topic in case you can't fit in.

** Several changes in Event Structure this year**

SoCal Season Structure Changes - Summary

- League Scores do not follow you to your Tournament
    - start fresh
- Hosts will run the Tournaments, including staffing volunteers
    - (you still need to volunteer at the League Level)
- There is 1 Wildcard Event for the next 4 advancements from the 7 Tournaments to complete for remaining 7 slots at Champs
    - Give more teams a chance at a 2nd play without forcing the top teams to do a 3rd play (they go straight to champs).
    - Provide advancement incentive to hosts for all the work to put on an event.

SoCal FTC (red font- changes!)

- League Play:
    - 4 Meets, 5 matches per meet, half days Saturdays or Sundays from October 14 to January 30
    - Team must be fully paid (both FIRST and SoCal FTC) to play
- Inter-League Tournament (ILT) Play:
    - 7 ILTs, full day Saturdays or Sundays, late January to February
    - 1 ILT per team, 30-34 teams in an ILT, **your Tourney date is assigned**
    - League scores **DO NOT** follow you to ILT
    - Judging, advancement to Championships
- Wild Card! (see next page)
- Championship:
    - March 8 Saturday, Monrovia High School
- FIRST Worlds – Houston: April 16-19

NEW this year is the WILDCARD Tournament

1 – Inspire 1
2 –Winning Alliance Captain
3 – Winning Alliance Partner
4 – Inspire 2
5 – Inspire 3

Top 5 advancing teams (not host)

7 ILTs

+ 1 Wild Card Host

Next 4 teams + 1 host

1 Champs

Top 7 Teams (not host)

1 Wild Card QT

9 + 1 host advance from ILTs

4x7 ILT performance
7 ILT hosts
1 Wild Card Host

36 teams Max

5x7 from ILTs
7 from Wild card

42 Teams

To WORLDS: Number TBD
1 – Inspire 1
2 –Winning Alliance Captain
3 – Winning Alliance Partner??

2nd Plays

36 @ Wild Card
35 @ Champs

71 2nd Plays

6 – Finalist Alliance Captain
7 – Think
8 – Finalist alliance partner
9 – connect
+ 1 Host team

Direct to Champs:
- Top 5 teams (based on FIRST criteria) from each of the 7 ILTs proceed to the SoCal Championships.
- if a team wins both Winning Alliance and Inspire we will drop down farther to get the 5 teams)

To Wildcard:
- The next 4 teams (per award advancement order) from each of the 7 completed ILTs will be invited
- if a team wins both a Finalist Alliance Think or Connect, we will drop down farther to get the 5 teams)
- The hosts from ILT 1-7 will advance one team to the WILDCARD.
- This event will have judging, awards and advancement, similar to ILTs 1-7.
- To Champs: The top 7 teams (based on FIRST criteria) will advance to SoCal Championships.

HQ Season Structure Changes- Summary

- Game Manual – Formatted like FRC – easier to see changes
- Robot Rule Changes
  - More legal electronics options, team numbers, alliance markers and robot expansion changes – read the Game Manual
- Awards
  - Promote Video eliminated, Control form part of Portfolio, Portfolio not mandatory for every award
- Playoffs – double elimination

More detail in the Breakout session!

Team Assignments

- Leagues:
    - Teams are assigned to your previous League. If new, you will be assigned to a nearby League
    - Read and know the rules, follow the FTC Forums – there WILL BE referees at League Play
- Interleague Tournaments:
    - To Be announced no later than Nov 3.
    - If you are a Host of a Tournament, your teams must play a Tournament

Your Commitment as a Team:

At League Meets: 1 volunteer per Team for each Meet to work the event [1]

At Inter-League Play: requested not Required [2]

At Championship: Requested not required [2]

Show up and play at each League Meet,

even if you are not 100% ready – you Will Learn!!

And it helps others learn!

Provide a volunteer and take the HQ training.

(1) Roles needed : 1 volunteer coordinator, 1 team and volunteer check-in, 4 referees, 1 head referee, 1 field manager, 1 FTA, 1-2 querers, 1 scorekeeper, 2 robot inspectors, 2 field inspectors, 1 field reset, set up and clean up.

(2) In addition to (1), need pit manager, game announcers, judges, and volunteer food planners

Know your League and your League Host https://socalftc.org/leagues/

A1 – Los Angeles (Andrew W)

B – Compton / Inglewood (David P)

C1 – La Canada (Brian M)

C2 – Monrovia (Tom D, Brian B)

D – Sherman Oaks (Sabitha C)

E – Webb (Maria S, Steve W)

F1 – Perris am (Josh K)

F2 – Perris pm (Josh K)

G - Carson (Ted H)

O1 – Orange County (Shane V)

P – Palmdale (Patrick B)

V – Ventura (Chris W)

W – Westside (John L, Chris J, Deborah D)

*** Red - NEW*

If you want to change Leagues - email info@socalftc.org

Our Season

September 7th	SoCal FTC Kickoff and registration opens
October 12th	Latest point for Registration due
Oct 5 - Jan 19	League Play (check website for League dates or call your Host)
Jan 25-Feb 23	7 - InterLeague Tournaments (ILTs)
	All day either Saturday or Sundays
March 8 (Sat)	SoCal Championship, 42 Teams
April 16-19, 2025	Worlds – Houston ; TBD

RAFFLE TIME!

SoCal FIRST Tech Challenge

Changes to Gameplay

Theresa Klemme, SoCal FTC Program Delivery Partners
Ellen McIsaac, SoCal FTC Board Member

HQ Changes for the 2024-25 Season

- Event Variance Requests
- Manual Organization
- Robot Rule Changes (recap)
- Awards
- Playoff Structure and Closing Ceremonies
- Advancement

Manual Organization

- Is defined in section 1.6-1.9 of the [Competition Manual](#)
  - Bi-weekly manual updates
  - Q&A is supportive of the manual, but doesn't override manual
- The rules are exactly what they say—within reason. If it's not otherwise specified, it's assumed to be allowed. ("show me the rule")
- The rules are the contract between the teams and the organizers—so the rules apply to you too!

Manual Organization

- Sections are organized to collect rules together based on when they will be enforced and who or what they apply to.

- Robot Rules (R) – only describe how to make a legal ROBOT

  - You will not see any penalties (fouls) for violating these rules because that happens in game play, not robot design or inspection

- Game Rules (G) – describe the game play violations and penalties by role.

  - a human player can read the "HUMAN" section of Game Play and know all the rules they need to understand to avoid fouls
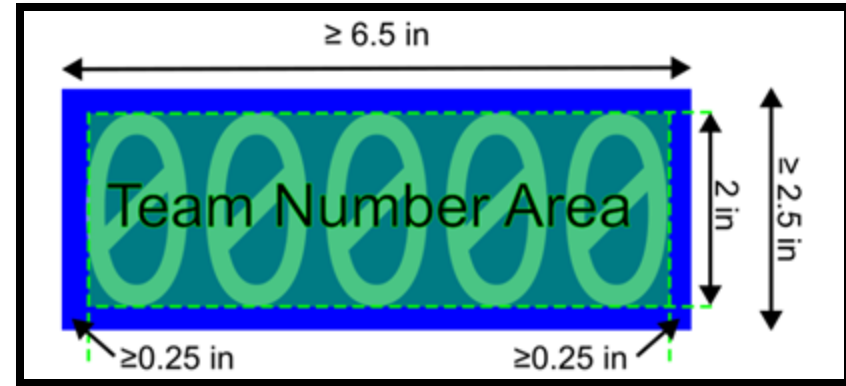
Robot Rules

- More legal electronics options
- Servo Power Limits – almost all servos previously being used are still legal!
- Software Minimum Versions – recommended not required

- We will have an update quick reference including new devices available (legal and illegal parts list)

Robot Rules – Team SIGNS

Goals of this change:

- Reduce the complexity of rules around team numbers and alliance markers

- Reduce the advantage of short team numbers and other incentives to make skinny unreadable numbers

- Make team alliance identification easier for field staff

Robot Rules – Team SIGNS

- Successfully Beta tested at a North Carolina Off-Season Event
- A template which uses red and blue markers will be available to print for events
- It must be white numbers on a solid rectangular alliance-colored background
- If there issues at an event, the Head Referees are explicitly empowered to make exceptions as long as they believe they can properly identify the team and alliance

Robot Rules - Expansion Limits

NEW! Robots cannot infinitely expand during the match

- Why make this rule?

    - Reducing subjective fouls

    - Encouraging more active (driving) game play

    - New team design challenge

- We have gotten some good feedback on how to make the rule as written more clear so expect:

    - Updated language in the manual

    - Some more clear examples in manual and on blog

R104 – Expansion Limit
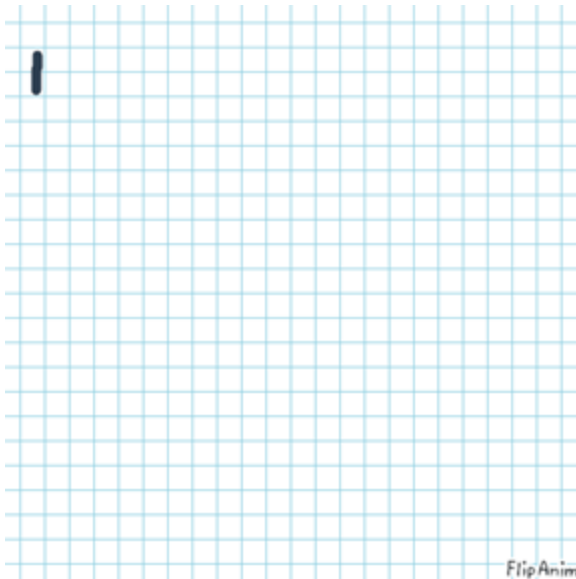
Made by FTC 23511

R104 **There is a horizontal expansion limit.** After the MATCH has started, ROBOTS may expand beyond the STARTING CONFIGURATION but must stay within an overall working ARENA TILE footprint. The overall working footprint has the following constraints:

A. has no vertical height limit
B. is a 20" x 42" (50.8cm x 116.8cm) rectangle measured parallel (coplanar) to the TILE floor
C. is always a vertical projection relative to the TILES, so robots which change orientation (drive, tip, spin, etc.) during the match are still subject to the horizontal expansion limit measured parallel (coplanar) to the TILES.
D. [game specific exception may be added at kickoff on 9/7/2024]

This rule is intended to limit the amount of floor area each robot can cover with the maximum mechanical range of motion of all extensions.

Teams should be prepared to show compliance with this rule and demonstrate their robot expansions during the inspection process. During inspection each ROBOT will need to demonstrate that the full mechanical range of motion of all extensions outside of STARTING CONFIGURATION will be contained within a fixed 20 in by 42 in working area.

Teams are subject to penalties listed in [G###] for any violations during the MATCH.

Alliance Playoffs and Awards Changes

2024-2025 Alliance Structure
Playoff Structure – Double Eliminations - each alliance keeps playing until they have lost twice.
Alliance Selection is teams of 2 instead of 3

| 2024-2025 Award Changes |
| --- |
| Control Award content is included within the 15-page limited Portfolio |
| Promote Video is discontinued, Compass Award optional and at Championship level only |
| Portfolio is no longer a hard requirement for all awards. All teams at an event eligible to win awards and be recognized. |
| Advancment order: Inspire #1, Winning Captain, Winning Alliance partner, Inspire #2 |
| |

Playoff Structure – Double Eliminations 🎉

Lightning Summary:

- Double Elimination Tournament with no bracket resets
- Number of Alliances in the Playoffs scales with event size
- 2-Team Alliances
- No Back-up robots
- Awards will be given out in some of the breaks between matches
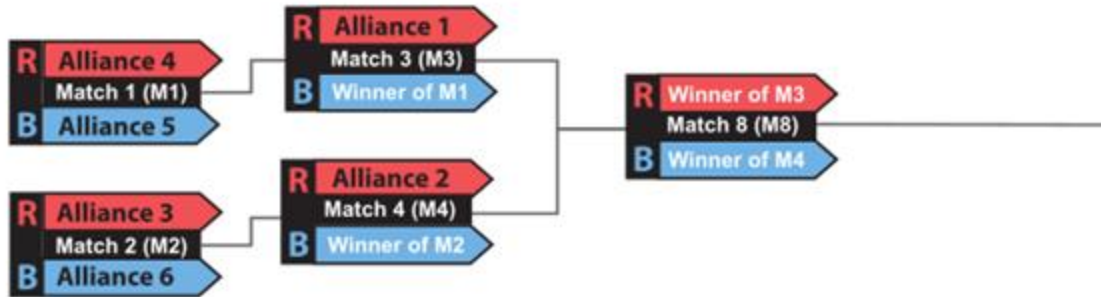
Why? What are the drawbacks to our current Playoffs

- Best 2 out of 3 format can create a sense of impossible chances when Rank 4 Alliance faces Rank 1 Alliance
- The "impossible odds" for Alliance 4 is exacerbated by straight draft order
- Complexity in rules around 2 or 3 team alliances to cover all scenarios
- This format has an inconsistent playoff schedule length - between 6-9 matches
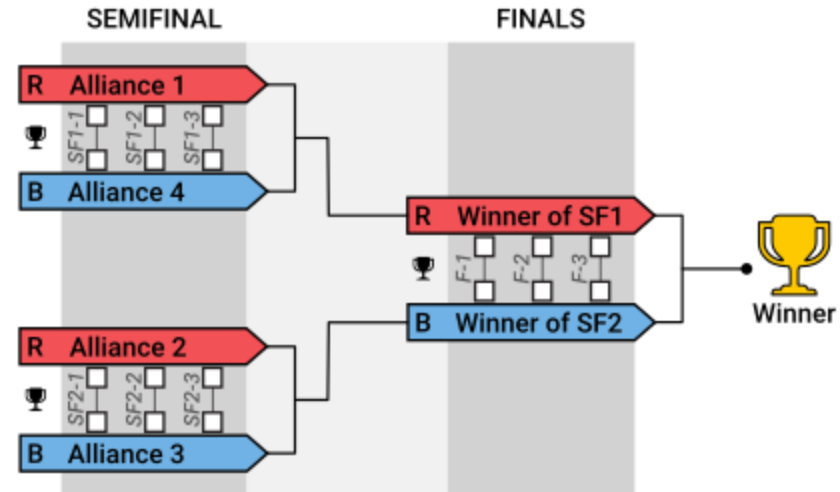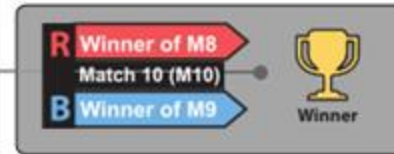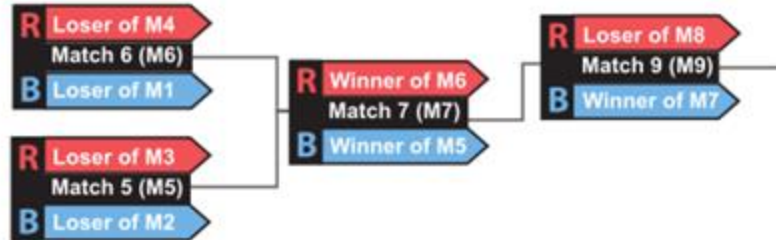
What is a Double Elimination?

In short, each alliance keeps playing until they have lost twice.

# Teams	Playoff Alliances	Playoff Matches
4-8	2	2-3
9-20	4	6-7
21-40	6	10-11
41+	8	14-15

UPPER BRACKET

R	Alliance 4
Match 1 (M1)	
B	Alliance 5

R	Alliance 1
Match 3 (M3)	
B	Winner of M1

R	Alliance 3
Match 2 (M2)	
B	Alliance 6

R	Alliance 2
Match 4 (M4)	
B	Winner of M2

R	Winner of M3
Match 8 (M8)	
B	Winner of M4

LOWER BRACKET

R	Loser of M4
Match 6 (M6)	
B	Loser of M1

R	Loser of M3
Match 5 (M5)	
B	Loser of M2

R	Winner of M6
Match 7 (M7)	
B	Winner of M5

R	Loser of M8
Match 9 (M9)	
B	Winner of M7

R	Winner of M8
Match 10 (M10)	
B	Winner of M9

Winner

If Winner of M9 wins M10, one more Match (M11) will be played.

Why Double Elims?

- Lower seeding alliances are not eliminated in the first round
  - Better chance for the two strongest alliances to meet in the finals regardless of seeding rank
- Determines the 1st, 2nd, 3rd etc., place finishes (single division event)
- Offers a more consist timing for events
  - Est. 2 hours for 6-Alliance Playoffs and Awards
- As many or more teams get Playoff experience than today
- Tested at CRI Off-Season Event
- More consistent with *FIRST* Robotics Competition Experience
  - 2 years of experience with double elims
  - Extremely and overwhelmingly positive feedback teams and volunteers
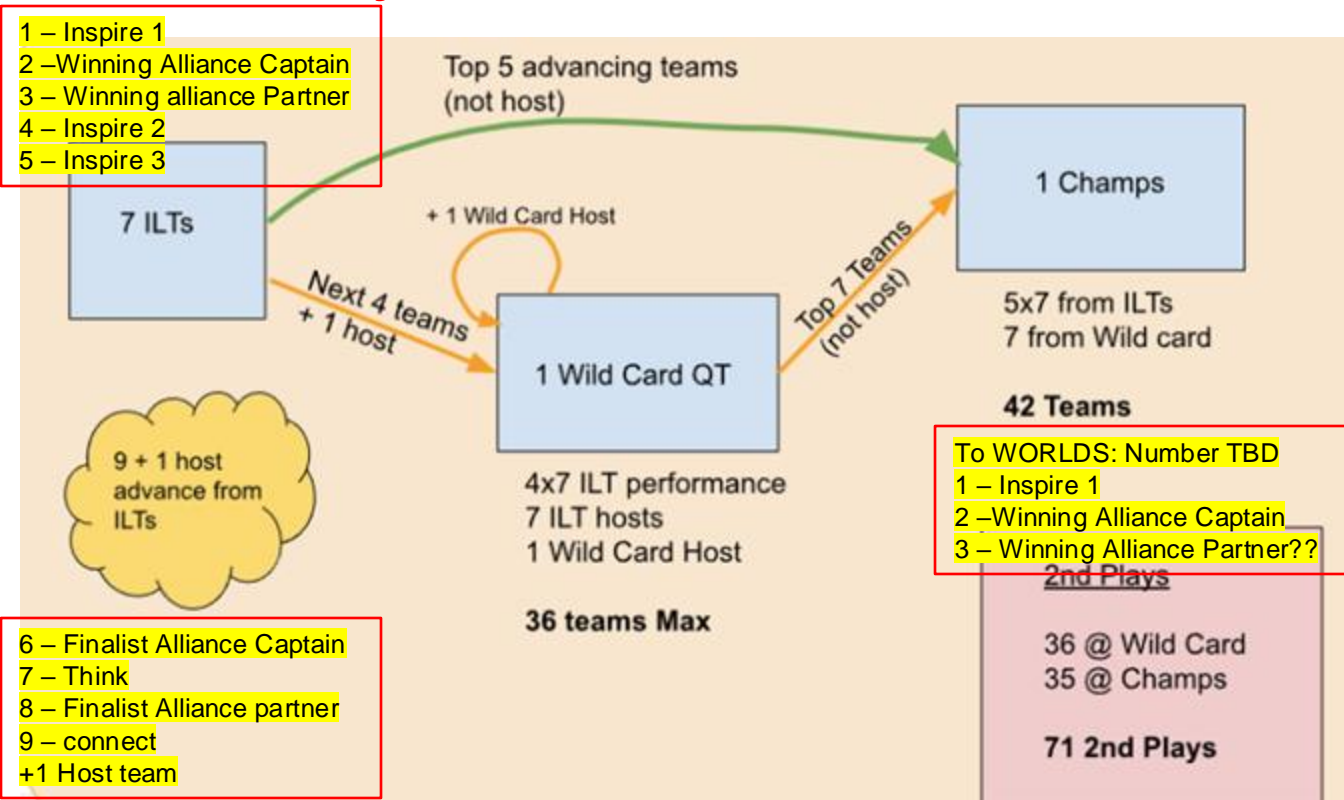
Advancement

Changes to the advancement order to:

- Prioritize advancing Alliances together when possible (in yellow)

Advancement Order (Partial)
1 Inspire 1
2 Winning Alliance Captain
3 Winning Alliance Partner
4 Inspire 2, or Next Highest Award
5 Inspire 3
6 Finalist Alliance Captain
7 Think
8 Finalist Alliance Partner
9 Connect

NEW this year is the WILDCARD Tournament

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7 ILTs

9 + 1 host advance from ILTs

Top 5 advancing teams (not host)

+ 1 Wild Card Host

Next 4 teams + 1 host

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Top 7 Teams (not host)

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7 ILT hosts
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36 teams Max

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Okay... that was a lot. Thank you!

Questions?