

## STEMley 2022 – Rule Changes

rev: June 15, 2022

1. **draft order** 1-8, 8-1, 8-1 (until we run out of teams). No back-ups. Any three robots can play any match. Alliance captains determine who plays and driver station placement. The intent is to allow all attending teams the chance to participate in the playoff round.
2. **tie-breaker in finals:** if the match score of each alliance is equal, the match is replayed.
3. **STEMley Air Freight:** two special STEMley AIR FREIGHT CARGO will be in play at the STEMley Cup Championship. The **yellow**-coloured AIR FREIGHT CARGO will match as closely as possible the size and texture of the original red and blue CARGO balls.



Prior to each MATCH, one AIR FREIGHT CARGO is placed in each of the TERMINALS.

One AIR FREIGHT CARGO per ALLIANCE may be entered into the playing field by the ALLIANCE's HUMAN PLAYER through the TERMINAL at the opposite end of the field to the ALLIANCE's driver station in the last thirty (30) seconds of the MATCH. AIR FREIGHT may be introduced to the field by the HUMAN PLAYER through the CHUTE or over the CHUTE GUARD. If introduced early (prior to 30 seconds left in the MATCH) as determined by the REFEREES, a TECH FOUL will apply and that AIR FREIGHT CARGO will not be eligible for any BONUS scoring.

The BONUS scoring condition for the AIR FREIGHT CARGO is:

- a. AIR FREIGHT CARGO are not intended to be scored in the HUB. Scoring the **yellow** AIR FREIGHT CARGO in the UPPER or LOWER HUB may or may not be automatically scored by the colour sensor. Whether the colour sensor counts the AIR FREIGHT CARGO as red or blue is not predictable.

No adjustment to TELEOP CARGO points will be made by the referee or scorekeeper due to AIR FREIGHT being scored in the HUB.

- b. at the end of the match (plus 5 seconds), every robot completely supporting an AIR FREIGHT CARGO will upgrade the HANGAR points for lowest climb-score robot on their ALLIANCE to the RUNG achieved by the AIR FREIGHT supporting robot, up to a maximum of an additional fifteen (15) points per ALLIANCE.

example 1: a **red** ALLIANCE robot climbs to the TRAVERSAL RUNG and is supporting one AIR FREIGHT CARGO at the end of the match (plus 5 seconds). No other **red** robot has earned HANGAR points. One of the non-climbing robots on the **red** ALLIANCE is upgraded to a TRAVERSAL RUNG climb and receives a BONUS to their score equivalent to a TRAVERSAL RUNG climb ( $15 - 0 = 15$  points).

example 2: a **blue** ALLIANCE robot climbs to the MID RUNG and is supporting one AIR FREIGHT CARGO at the end of the match (plus 5 seconds). The second **blue** robot has climbed to the HIGH RUNG. The third **blue** robot has climbed to the LOW RUNG. The lowest climb-point robot on the **blue** ALLIANCE receives a BONUS to their score equivalent to a MID RUNG climb ( $6 - 4 = 2$  points).

example 3: two **red** ALLIANCE robots climb to the TRAVERSAL RUNG and are each supporting their own AIR FREIGHT CARGO at the end of the match (plus 5 seconds). The third **red** robot has climbed to the HIGH RUNG. The **red** ALLIANCE receives a BONUS to their score equivalent to a TRAVERSAL RUNG climb ( $15 - 10 = 5$  points).

example 4: a **blue** ALLIANCE robot is contacted by a defender in the last 30 seconds of the match when their BUMPERS are partially in their HANGAR ZONE. At the end of the match (plus 5 seconds), the same **blue** robot is supporting one AIR FREIGHT CARGO. The other two **blue** ALLIANCE robots have climbed to the MID RUNG. Due to rule G208 the contacted **blue** robot is granted a TRAVERSAL climb (15 points). Due to the AIR FREIGHT CARGO rule, one of the other **blue** ALLIANCE robots receives a BONUS to their score equivalent to a TRAVERSAL RUNG climb ( $15 - 6 = 9$  points)

BONUS points due to AIR FREIGHT CARGO (if any) will be added to the MATCH SCORE prior to the posting of the official final MATCH SCORES. The ruling of the HEAD REFEREE is final.