Team Update 02

General

ALGAE Update

The ALGAE inflation spec has been updated. The SCORING ELEMENTS (Drawings, CAD) and ALGAE Inflation Jig (Drawings, CAD) have all been updated to reflect this change. Please see this blog with more details about the need for this change.

FIELD Drawings

The Full drawing package and REEFSCAPE specific drawings files have been updated to adjust ALGAE sizing.

CAD Models

The SOLIDWORKS and STEP files have been updated to reflect the change in ALGAE size and to add the CORAL holders.

Game Manual

Section 5.2 Areas, Zones, & Markings

ALLIANCE AREA: a ~~18 ft. 1¼ in.~~ 30ft. wide by ~~13 ft. 10⅜ in.~~ 13 ft. 8⅜ in. deep (~~~552 cm~~ ~914 cm by 423 cm) infinitely tall volume formed by, and including the ALLIANCE WALL, CORAL STATION AREAs, the edge of the carpet, and white colored tape perpendicular to the DRIVER STATIONS ~~Driver Stations~~.

CORAL STATION AREA: a 5 ft. 10⅞ in. wide by ~~13 ft. 10⅜ in. ft~~ 13 ft. 8⅜ in. deep (~180 cm by 423 cm) infinitely tall volume bounded by the CORAL STATION, edge of carpet, and ALLIANCE AREA and white colored tape.

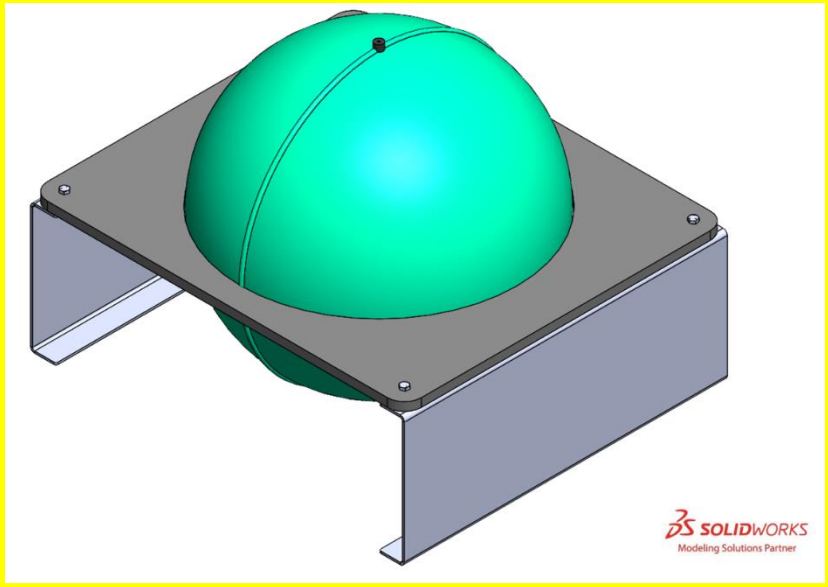
Section 5.7.2 ALGAE

Each ALGAE is a 16.25 in. (~413 mm) ± ¼ in. (~6 mm) ~~16 in. (41 cm) ±⅛ in. (~12 mm)~~ diameter rubber playground ball. The ball is custom made for *FIRST* by Baden Sports and sold by AndyMark am-5602.

At events, ALGAE will be inflated using a sizing gauge so that the diameter measures between ~~15.5 in. (~39 cm)~~ 16 in. (~406 mm) and 16.5 in. (~419 mm ~~~42 cm~~). The ALGAE and the jig will both be placed on a flat surface, and the ALGAE will be inflated with the valve sticking up vertically so that the seam is perpendicular to the large hole in the jig. It will be inflated until the two opposite points along the seam are contacting the top edge of the hole in the jig, which is 16.25 in. (~413 mm) diameter.

> The tolerances to which ALGAE are manufactured allow for variances in diameter, wall thickness, weight distribution and overall weight. They may not always be uniformly spherical, roll straight, or bounce as expected.

Figure 5-21: ALGAE Inflation Jig



All subsequent figures numbers in Section 5 have been updated to reflect numbering change.

Section 6.2 DRIVE TEAM

If an ALLIANCE does not have at least 2 HUMAN PLAYERS, 1 of the ALLIANCE'S teams must substitute a STUDENT TECHNICIAN as a HUMAN PLAYER to be compliant with Section 6.3.1 for that MATCH only. In this case,

- the Head REFEREE must be notified,
- all HUMAN PLAYER rules now apply to this DRIVE TEAM member, and
- this DRIVE TEAM member is no longer considered a TECHNICIAN for that MATCH.

Section 6.5.3 *Coopertition* Bonus

In Qualification MATCHES, ~~if both ALLIANCES score at least 2 ALGAE in their PROCESSOR~~, if at least 2 ALGAE are scored in each ALLIANCE'S PROCESSOR, all teams earn 1 Coopertition Point, and the threshold for the CORAL RP decreases as described in Table 6-2.

Section 6.5.4 Point Values

	Ranking Points	
AUTO RP - all ~~enabled~~ non-BYPASSED ROBOTS LEAVE and at least 1 CORAL scored in AUTO	1	

Section 6.8 Other Logistics

SCORING ELEMENTS that leave the FIELD, other than ~~ALGAE~~ via the PROCESSOR, are placed back into the FIELD approximately at the point of exit by FIELD STAFF (REFEREES, FTAs, or other staff working around the FIELD) at the earliest safe opportunity.

Section 7.4.1 AUTO

G402 ***Let the ROBOT do its thing**. In AUTO, a DRIVE TEAM member may not directly or indirectly interact with a ROBOT or an OPERATOR CONSOLE unless for personal safety, OPERATOR CONSOLE safety, or pressing an E-Stop or A-Stop. A HUMAN PLAYER feeding CORAL to a ~~their~~ ROBOT is an exception to this rule

G403 **Limited AUTO opponent interaction.** In AUTO, a ROBOT whose BUMPERS are completely across the BARGE ZONE (i.e. to the opposite side of the BARGE ZONE from its ROBOT STARTING ~~ZONE~~LINE) may not contact an opponent ROBOT (either directly or transitively through a SCORING ELEMENT CONTROLLED by either ROBOT and regardless of who initiates contact).

Section 7.4.2 SCORING ELEMENTS

G409 **1 of each at a time.** A ROBOT may not simultaneously CONTROL more than 1 CORAL and 1 ALGAE either directly or transitively through other objects. A ROBOT is in CONTROL of a SCORING ELEMENT if:

A. the SCORING ELEMENT is fully supported by or stuck in, on, or under the ROBOT or
B. the ROBOT intentionally pushes a SCORING ELEMENT to a desired location or in a preferred direction (i.e. herding).

A ROBOT pushing scored CORAL on level 1 while attempting to score other CORAL is an exception to this rule.

Section 7.4.5 Human

G435 **The PROCESSOR AREA has a storage limit.** HUMAN PLAYERS may not store more than 4 ALGAE in the PROCESSOR AREA (up to 3 in the holders on top of the PROCESSOR and no more than 1 at the end of the PROCESSOR exit ramp). HUMAN PLAYERS making a good-faith effort to immediately enter additional ALGAE is an exception to this rule.

Violation: MAJOR FOUL per additional ALGAE.

10.6.1 ALLIANCE Selection Process

If there are multiple ALLIANCE CAPTAINS that have received ~~pick clock~~ T605 violations, they are revisited in the same order in which they received their violations.

> The ALLIANCE CAPTAIN with the last selection of a given round may not be the ALLIANCE CAPTAIN scheduled to have the final pick. For example, imagine in round 1 that ALLIANCES 1-6 have all made valid selections and ALLIANCE Lead 7 receives a ~~pick clock~~T605 violation. If ALLIANCE Lead 8 makes a valid selection, then ALLIANCE Lead 7 now has the final selection of round 1.

Section 14.6 Practice Areas

~~Teams are also expected to provide and place their own AprilTags if they would like to use them.~~ *FIRST* is providing a small set of production run AprilTags for the Practice Field. The tags provided for the 2025

Practice Field will include tags 1, 3, 5, and 6. Teams that wish to use other AprilTag IDs for the Practice Fields may print copies of other tags to bring with them to events. Printable copies of the field AprilTags can be found on the 2025 Playing FIELD webpage.