Match Play

Setup

Robots
Each DRIVE TEAM stages their ROBOT such that at least part of its BUMPERS are contacting their ALLIANCE’s DRIVER STATION WALL.

Field Elements
A. Thirty-four (34) HAY BALES are staged as follows:
   a. Five (5) behind each of the four (4) LOADING STATIONS
      i. Each of the six (6) teams may preload up to one (1) HAY BALE from the LOADING STATIONS onto their ROBOT, such that they are fully and solely supported by that ROBOT.
   b. Fourteen (14) in the HAYSTACK in the center of the FIELD, stacked in a pyramid.
**Scoring**

ALLIANCES are rewarded with points and Ranking Points (RP) for accomplishing various actions throughout the course of a MATCH, including ROBOT movement during the AUTONOMOUS PERIOD (AUTO), storing the HAY BALES by loading and lifting PALLETS, loading their BARN, returning to their CHARGING STATION at the end of the day, and winning or tying MATCHES.

<table>
<thead>
<tr>
<th>Award</th>
<th>Award for...</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO Bonus</td>
<td>each ROBOT whose BUMPERS break the vertical plane defined by the AUTO LINE during AUTO</td>
<td>3</td>
</tr>
<tr>
<td>AUTO Point Multiplier</td>
<td>all points that would be scored by placing HAY BALES in a PALLET or BARN are doubled during AUTO</td>
<td>x2</td>
</tr>
<tr>
<td>BARN Placement</td>
<td>each HAY BALE partially or completely in a BARN</td>
<td>2</td>
</tr>
<tr>
<td>BARN Pair Bonus</td>
<td>each completed pair (one in each orientation) of HAY BALES partially or completely in a BARN. <strong>Progress is indicated by two (2) sets of LEDs corresponding to the upper and lower STORAGE. Once both are lit, they will blink three (3) times indicating the point bonus, then reset</strong></td>
<td>2</td>
</tr>
<tr>
<td>PALLET Placement</td>
<td>each HAY BALE partially or completely in a PALLET (no more than one HAY BALE per level on the PALLET)</td>
<td>2</td>
</tr>
<tr>
<td>PALLET Hoist</td>
<td>each HAY BALE partially or completely in a hoisted PALLET <strong>Indicated by small LEDs behind each PALLET (They only light up if the PALLET is full of three (3) HAY BALES)</strong></td>
<td>2</td>
</tr>
<tr>
<td>ENDGAME Bonus</td>
<td>the highest level of climb each ROBOT achieves as measured five (5) seconds after the MATCH</td>
<td></td>
</tr>
<tr>
<td>PARK</td>
<td>each ROBOT contacting the CHARGING STATION</td>
<td>3</td>
</tr>
<tr>
<td>LOW</td>
<td>each ROBOT fully supported by the CHARGING STATION</td>
<td>9</td>
</tr>
<tr>
<td>HIGH</td>
<td>each ROBOT with BUMPERS above the plane defined by the WOOD and fully supported by the CHARGING STATION</td>
<td>12</td>
</tr>
<tr>
<td>Fully Charged</td>
<td>earning at least eighteen (18) ENDGAME bonus points</td>
<td>1 RP</td>
</tr>
<tr>
<td>Filling the SILO</td>
<td>hoisting three (3) separate PALLETs that are each completely filled (a HAY BALE in each of the three (3) levels of PALLETS) <strong>Indicated by LEDs in center of each SILO</strong></td>
<td>1 RP</td>
</tr>
<tr>
<td>Tie</td>
<td>Completing a MATCH with the same number of points as your opponent</td>
<td>1 RP</td>
</tr>
<tr>
<td>Win</td>
<td>Completing a MATCH with more points than your opponent</td>
<td>2 RP</td>
</tr>
</tbody>
</table>

An ALLIANCE can earn up to four (4) Ranking Points per Qualification MATCH. There are no Ranking Points or comparable point bonuses in Playoff MATCHES.
Rule Violations
Upon a rule violation, one or more of the penalties in the table below will be assessed.

<table>
<thead>
<tr>
<th>Penalty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOUL</td>
<td>a credit of three (3) points towards the opponents total score</td>
</tr>
<tr>
<td>TECH FOUL</td>
<td>a credit of ten (10) points towards the opponents total score</td>
</tr>
</tbody>
</table>

Game Rules: Robots

Only During AUTO

No defense. During AUTO, a ROBOT’s BUMPERS may not be fully contained by the opposing ALLIANCE’s FARM.

Violation: TECH FOUL.

HAY BALE Interaction

No more than one (1) HAY BALE at a time. ROBOTS may not have greater-than-momentary CONTROL of more than one (1) HAY BALES at a time, either directly or transitively through other objects.

Violation: FOUL per additional HAY BALE. If strategic, YELLOW CARD.

A ROBOT is in CONTROL of a HAY BALE if:

A. The HAY BALE is fully supported by the ROBOT
B. The HAY BALE travels across the FIELD such that when the ROBOT changes direction, the HAY BALE travels with the ROBOT
   a. This is intended to prevent plowing through the HAYSTACK
C. The ROBOT is holding a HAY BALE against a FIELD element in an attempt to guard or shield it

Don’t mess with scored HAY BALES. A ROBOT may not remove a HAY BALE from the SILO or BARN. HAY BALES which become dislodged because of incidental contact with the SILO or BARN are not considered a violation of this rule.

Violation: FOUL per opponent HAY BALE de-scored, and one (1) Ranking Point if opponents have not hoisted three (3) full PALLETs.

Use HAY BALES as intended. ROBOTS may not deliberately use HAY BALES in an attempt to ease or amplify the challenge associated with FIELD elements.

Violation: FOUL per HAY BALE. Repetition will escalate to YELLOW or RED CARDS.

Examples include but are not limited to:

A. Shooting HAY BALES into the air
B. Corralling HAY BALES in front of an opponent’s LOADING STATION to make it harder for them to retrieve HAY BALES
Zone-Specific Restrictions

During ENDGAME, don’t touch charging ROBOTS. During ENDGAME, a ROBOT who is contacting their CHARGING STATION may not be contacted by opponent ROBOTS, regardless of who initiates contact.

Violation: FOUL. The contacted opponent ROBOT, and all partner ROBOTS it’s fully supporting, are considered to have climbed to the HIGH level and awarded the according points and ranking points.

Give Opponents some space. A ROBOT whose BUMPERS are intersecting their BARN ZONE or completely inside their ALLIANCE’s LOADING ZONE may not be contacted by opponent ROBOTS, regardless of who initiates contact. (See image →)

Violation: TECH FOUL per instance.

Don’t climb on each other before ENDGAME. A ROBOT may not be fully supported by a partner ROBOT unless that partner ROBOT is contacting their CHARGING STATION and it is during the last thirty (30) seconds of the match.

Violation: TECH FOUL.

Field Interaction

Hoist your PALLETs as intended. ROBOTS may not hoist PALLETs in any other way than pulling on the corresponding CHAIN until they lock in the upper position. ROBOTS may not hoist PALLETs belonging to the opposing ALLIANCE.

Violation: TECH FOUL. Repetition will escalate to YELLOW or RED CARDS.

PALLETs are not considered hoisted until they lock in the upper position.

Once a PALLET is hoisted, leave it be. ROBOTS may not score more HAY BALES in hoisted PALLETs or attempt to lower PALLETs after they have been hoisted and locked in place.

Violation: TECH FOUL.

ROBOT Restrictions

Starting configuration rules. ROBOTS STARTING CONFIGURATION may not have a FRAME PERIMETER greater than 120 in. (~304 cm) and STARTING CONFIGURATION height greater than 4 ft. (~121 cm). Additionally, ROBOT weight must not exceed 125 lbs. (~56 kg).

Violation: DISQUALIFICATION.

Don’t overextend yourself. ROBOTS may not extend more than 30 in. (~76 cm) beyond their FRAME PERIMETER and may not extend above the ALLIANCE STATION WALL, i.e. more than 6 ft. 6 in. (~198 cm) above the carpet.

Violation: FOUL. If strategic, RED CARD.