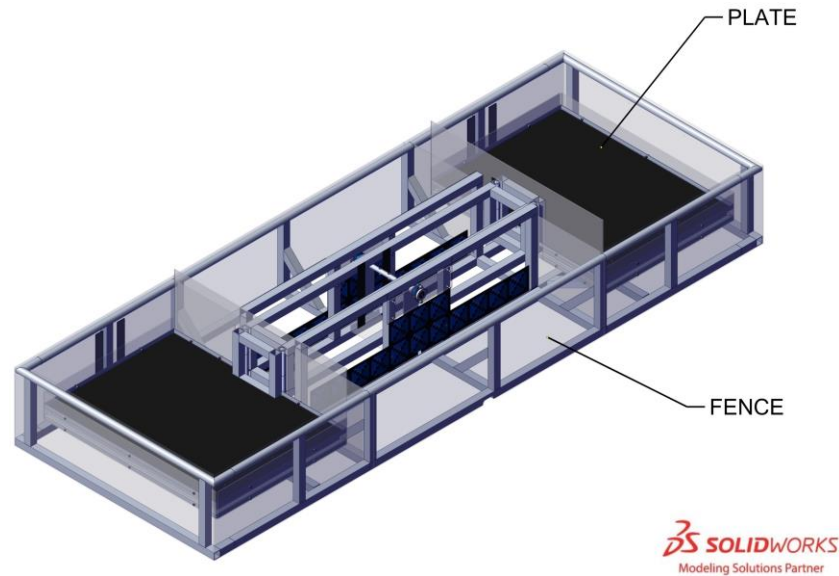


3.4 SWITCH

There are two (2) SWITCHES on the FIELD, one per ALLIANCE. Each SWITCH is centered across the width of the FIELD, with the center of the SWITCH located 14 ft. (~427 cm) from the ALLIANCE STATION. Each SWITCH is surrounded by a [FENCE](#). An ALLIANCE'S SWITCH is the one located closest to its ALLIANCE STATION.

Figure 3-13: SWITCH



3.4.1 SWITCH PLATES

Each SWITCH features two (2) PLATES which are 3 ft. (~91 cm) wide and 4 ft. (~122 cm) deep. The outside edges of the two PLATES are 12 ft. (~366 cm) apart. Each PLATE has four polycarbonate walls which contain Philips Color Kinetics LED lights. The wall closest to the center of the FIELD extends 1 ft. 3 in. (~38 cm) above the PLATE surface. The other walls extend up 3 ½ in (~9 cm) above the PLATE surface

The PLATES are 9 in. (~23 cm) above the carpet when the SWITCH is level. Like the SCALE, the SWITCH tilts and rests in different positions based on the placement of POWER CUBES. During the MATCH, the SWITCH is in one of three (3) states based on the magnitude of its tilt:

1. OWNERSHIP by the Red ALLIANCE, or
2. OWNERSHIP by the Blue ALLIANCE, or
3. neither ALLIANCE has OWNERSHIP

If the outside edge of an ALLIANCE colored PLATE is positioned between 3 in. (~8 cm) and 6 in. (~15 cm) above the FIELD carpet then the ALLIANCE has OWNERSHIP of the SWITCH. If the outside edge of an ALLIANCE colored PLATE is positioned between 12 in (~30 cm) and 15 in. (~38 cm) above the FIELD carpet then the opposing ALLIANCE has OWNERSHIP. When neither ALLIANCE has OWNERSHIP of the SWITCH, the outside edges of the PLATES are between 6 in (~15 cm) and 12 in. (~30 cm) above the FIELD carpet. See Figure 3-15. The time required to move between states is dependent on the weight difference and the distribution of the weight on the SWITCH PLATES. Details on OWNERSHIP can be found in [Section 4.2 Scoring](#)

Figure 3-14: SWITCH PLATE dimensions

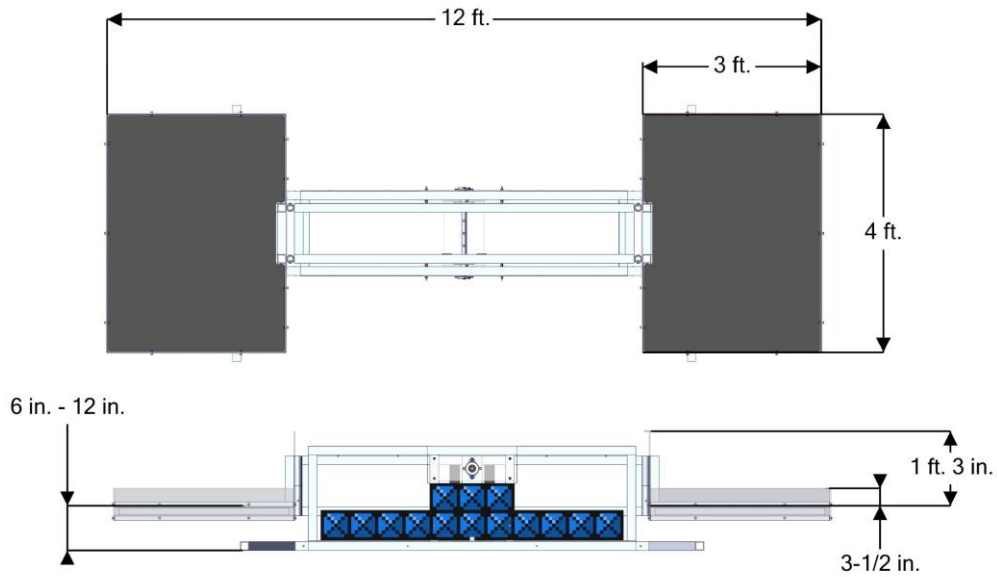
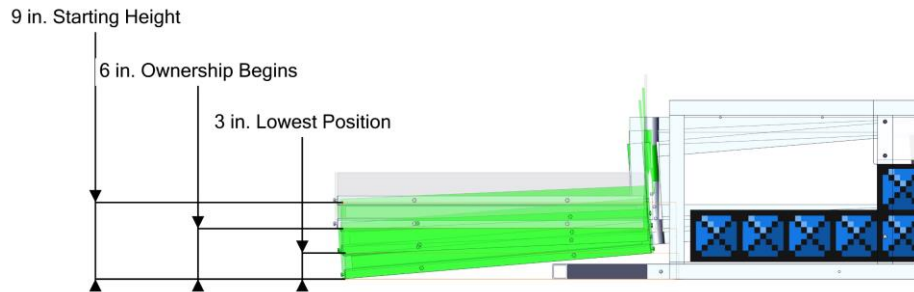


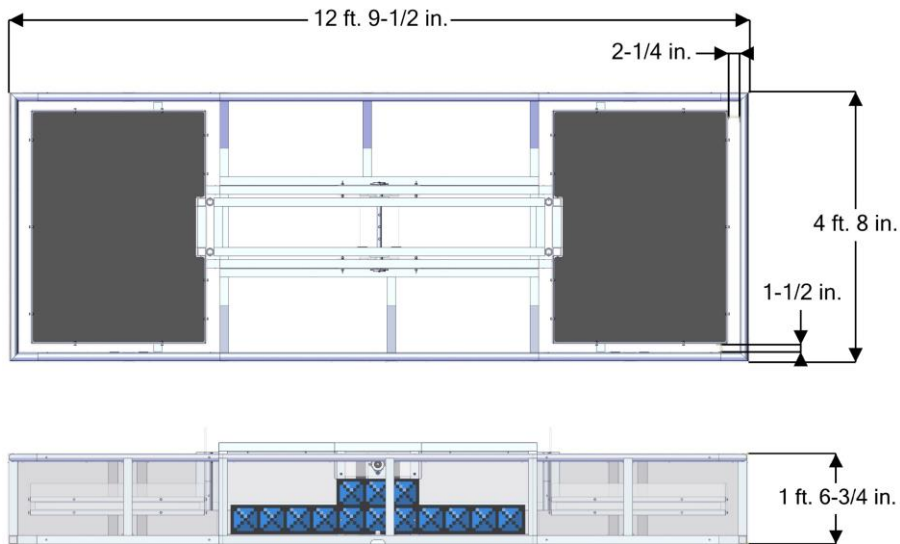
Figure 3-15: SWITCH range of motion



3.4.2 FENCE

Each SWITCH is surrounded by a FENCE constructed from aluminum shielded by polycarbonate. The FENCE is 12 ft. 9 1/2 in. (~390 cm) wide by 4 ft. 8 in. (~142 cm) deep by 1 ft. 6 3/4 in. (~48 cm) tall. The gap between the FENCE and the sides of the PLATES is approximately 1 1/2 in. (~4 cm). When the SWITCH is level, the gap between the FENCE and the outer edges of the PLATES is approximately 2 1/4 in (~8 cm).

Figure 3-16: FENCE



3.5 PLATE Lighting

Each PLATE is highlighted by Philips Color Kinetics Flex LED light strings. These lights indicate ALLIANCE color and OWNERSHIP. The lights have the following states:

Table 3-1: PLATE Lighting

Color	Pre-MATCH	AUTO	TELEOP	Post-MATCH
Blue at 100% brightness	N/A	ALLIANCE color	ALLIANCE color	N/A
Blue (pulsing)	N/A	Blue OWNERSHIP	Blue OWNERSHIP	N/A
Blue (pulsing) with solid red corners	N/A	Blue FORCE POWER UP is active	Blue FORCE POWER UP is active	N/A
Blue at 25% brightness	N/A	Red OWNERSHIP	Red OWNERSHIP	N/A
Blue (chase pattern)	N/A	N/A	Blue BOOST POWER UP is active	N/A
Red at 100% brightness	N/A	ALLIANCE color	ALLIANCE color	N/A
Red (pulsing)	N/A	Red OWNERSHIP or FORCE POWER UP is active	Red OWNERSHIP or FORCE POWER UP is active	N/A
Red (pulsing) with solid blue corners	N/A	Red FORCE POWER UP is active	Red FORCE POWER UP is active	N/A
Red at 25% brightness	N/A	Blue OWNERSHIP	Blue OWNERSHIP	N/A
Red (chase pattern)	N/A	N/A	Red BOOST POWER UP is active	N/A



Purple (pulsing)	N/A	N/A	N/A	FIELD is safe for FIELD STAFF
Green	N/A	N/A	N/A	FIELD is safe for all
OFF	MATCH ready to start	N/A	N/A	N/A

ALLIANCE color of the PLATES is provided to the Driver Station software by the Field Management System. More details are in [Section 3.10 The Field Management System](#)